Organising & Scientific Committee
Professor Khurshid Ahmad
Dr Margaret Rogers
Professor Gunilla Anderman
Mr David Cheng
Dr Bassey Antia

Co-opted Scientific Committee
Professor Wolfgang Teubert
Professor Christer Laurén
Professor John Humbley
Dr Maria Teresa Musacchio

Editorial Assistant
Sophie Gautier O’Shea, University of Surrey
Previous Publications: European Symposia on LSP

Articles based on papers given at the European symposia on LSP have been published in the following volumes:


Contents List

Foreword ................................................................................................................................. 1

1 Evidence-based LSP: Corpora as evidence of language use ...................................................... 1
  1.1 Lead Articles: .................................................................................................................... 1
       1.1.1 John Sinclair ........................................................................................................... 1
       1.1.2 Joanna Channell ................................................................................................. 13
  1.2 Case Studies: .................................................................................................................... 23
       1.2.1 Federica Scarpa ................................................................................................. 23
       1.2.2 Maria Teresa Musacchio .................................................................................. 31
       1.2.3 Khurshid Ahmad, David Cheng and Hayssam Traboulsi ......................... 38
       1.2.4 Konstantin Averboukh and Olga Karpova .................................................... 44
       1.2.5 Betiina Bajaj ..................................................................................................... 47
       1.2.6 Peter H Ragan .................................................................................................... 54
       1.2.7 Hajime Terauchi, Judy Noguchi and Shigeru Sasajima ............................. 64
       1.2.8 Chris Handy and Khurshid Ahmad ................................................................. 71
       1.2.9 Viktor Smith ....................................................................................................... 77
       1.2.10 Paivo Laine ........................................................................................................ 85
       1.2.11 Pilar Sánchez-Gijón ......................................................................................... 89
       1.2.12 Shima Nabifar .................................................................................................. 101
       1.2.13 Savka Balgojevic ............................................................................................... 104
       1.2.14 Øvin Andersen .................................................................................................. 111
       1.2.15 Lisbet Pals Svendsen and Margrethe Smedegaard Mondahl ................... 118

2 Constructing LSP Texts: Citation patterns .............................................................................. 124
  2.1 Lead Articles: .................................................................................................................. 125
       2.1.1 Robert Wilkinson ............................................................................................... 125
       2.1.2 Merja Koskela .................................................................................................... 133
  2.2 Case Studies: .................................................................................................................. 140
       2.2.1 Irena Vassileva ................................................................................................... 140
       2.2.2 Tiina Männikkö .................................................................................................. 147
       2.2.3 Kjersti Fløttum ................................................................................................. 153
       2.2.4 Barbara Hemais ............................................................................................... 160
       2.2.5 Trine Dahl .......................................................................................................... 167

3 Dichotomies in LSP Research .................................................................................................. 172
  3.1 Lead Articles: .................................................................................................................. 174
       3.1.1 Johan Myking ..................................................................................................... 174
       3.1.2 Christer Laurén .................................................................................................. 181
       3.1.3 Heribert Picht .................................................................................................... 185
  3.2 Case Studies: .................................................................................................................. 190
       3.2.1 Larissa Alexeeva ............................................................................................... 190
       3.2.2 Sylvie V Vandaele ............................................................................................ 195
       3.2.3 Larissa Manerko ............................................................................................... 201
       3.2.4 Ingrid Simonnes ............................................................................................... 208
       3.2.5 Riina Kosunen ................................................................................................. 215
       3.2.6 Carolina Popp and Ana María Pereuilh ........................................................... 221
       3.2.7 Marie J. Myers ................................................................................................. 227
       3.2.8 Heike Elisabeth Jüngst ..................................................................................... 235
       3.2.9 Marita Kristiansen ............................................................................................ 241
       3.2.10 Nina Pilke .......................................................................................................... 248
       3.2.11 Aud Solbjørg Skulstad ................................................................................... 254
       3.2.12 Richard J Alexander ......................................................................................... 260
       3.2.13 Mahmood Reza Atai and Mohammad Hassan Tahririan ......................... 269
       3.2.14 Klaus-Dieter Baumann .................................................................................... 276
       3.2.15 Michael Wittwer ............................................................................................... 284
       3.2.16 Guadalupe Aguado de Cea and Inmaculada Álvarez de Mon y Rego .......... 289
       3.2.17 Giuditta Caliendo ............................................................................................ 296

4 Terminology and Knowledge Management ............................................................................ 302
  4.1 Lead Articles: .................................................................................................................. 304
       4.1.1 Bassey Antia, Yaya Mahamadou and Tioguem Tandjo .................................. 304
       4.1.2 Alexandra Lavrova ............................................................................................ 311
       4.1.3 Giuseppina Cortese .......................................................................................... 314
  4.2 Case Studies: .................................................................................................................... 322
       4.2.1 Marta Chroma ..................................................................................................... 322
       4.2.2 Dorrit Faber and Mette Hjort-Pedersen ......................................................... 330
       4.2.3 Suzanne Ballansat-Aebi .................................................................................... 338
       4.2.4 Stanislaw Gożdż-Roszkowski ........................................................................ 347
5 Challenges in LSP Translation.............................................................................................................................. 415
5.1 Lead Article: ........................................................................................................................................................ 417
5.2 Case Studies: ...................................................................................................................................................... 425
5.2.1 Mall Stålhammar .......................................................................................................................................... 425
5.2.2 Marco Fiola ................................................................................................................................................... 431
5.2.3 Felix Mayer and Susanne Mühlhaus ........................................................................................................... 437
5.2.4 Anastasia Parianou and Panayotis I Kelandrias ......................................................................................... 442
5.2.5 Anne Kari Bjørge ......................................................................................................................................... 448
5.2.6 Marella Magris and Lorenza Rega .............................................................................................................. 454
5.2.7 María del Carmen Acuyo-Verdejo ............................................................................................................... 461
5.2.8 Vassilis Korkas and Pantelis Pavlides ...................................................................................................... 468
5.2.9 Catherine Histon .......................................................................................................................................... 474
5.2.10 Larissa Alexeeva ....................................................................................................................................... 480
5.2.11 Giuseppe Palumbo and Khurshid Ahmad ............................................................................................... 484
5.2.12 Martin Nielsen ............................................................................................................................................ 491
5.2.13 Ioannis E Saridakis and Georgia Kostopoulou ......................................................................................... 499
5.2.14 Cristina Vertan .......................................................................................................................................... 503
6 Workshop Synopses.............................................................................................................................................. 508
6.1 Core Vocabulary Of Primary School Students: Iranian Experience............................................................. 508
6.3 Variation of a target language as a result of different source languages: an Italian case study ...... 512
6.4 The English language as “hypercollective good”. Competences gained, competences lost ............. 514
6.5 Constructive acquisition of domain specific language competence ......................................................... 516
6.6 Le droit en ligne: Présentation d’un projet de développement d’un e-cours du français juridique pour des apprenants norvégien ......................................................................................................................... 517
6.7 Comparison of the theoretical foundations of terminology in Eastern Europe and the Western countries 520
6.8 Analysing vagueness and indeterminacy in normative legal texts......................................................... 521

4.2.5 Nicola M Langton ............................................................................................................................................. 353
4.2.6 Heinz Lechleiter .............................................................................................................................................. 364
4.2.7 Shahin Nematzadeh ....................................................................................................................................... 370
4.2.8 Nasrin Parvizi ................................................................................................................................................. 376
4.2.9 Jafar Alaghemandan ...................................................................................................................................... 381
4.2.10 Akram Tayeby .............................................................................................................................................. 387
4.2.11 Susanne Göpferich ...................................................................................................................................... 393
4.2.12 Khurshid Ahmad, Pensiri Manomaisupat and Bogdan L Vrusias ............................................................... 400
4.2.13 Mall Laur ..................................................................................................................................................... 405
4.2.14 Niina Nissilä ................................................................................................................................................. 410
Foreword

Over 150 delegates attended the 14th European Symposium on Language for Special Purposes from 40 countries at the University of Surrey, Guildford, Surrey, during 18th-22nd August 2003. The Symposium included the discussion of major issues in LSP which have been organised under five major headings in these Proceedings of the Symposium: Evidence-based LSP; Constructing LSP Texts; Dichotomies in LSP Research; Terminology and Knowledge Management; and Challenges in LSP Translation. Each chapter has one or more lead articles followed by short papers. The lead articles were selected from the Proceedings on the basis of their breadth. The papers that follow the articles in each chapter have been referred to as case studies due to their situated nature. Most of our case studies deal with a specific specialism in a given language relating to a clearly identified reader/writer. In addition, we had a number of colloquia: the synopses of eight of the colloquia are included in these Proceedings.

These Proceedings comprise 76 papers and we would like the authors and the reviewers for their hard work. We are particularly indebted to Sophie Gautier O’Shea for the layout and editorial co-ordination of these Proceedings. Our thanks are also due to the conference Web Master, David Cheng, who has been uploading and downloading these papers from the various databases.

Happy reading.

Khurshid Ahmad
Margaret Rogers

December 2004.
1 Evidence-based LSP: Corpora as evidence of language use

Linguistic investigations have over the last 50 years moved between introspective and observational methods with experimental methods much less in evidence. It is clear from the contributions in this chapter that the observation of language-in-use through the use of text corpora, including electronic corpora, is buoyant in current LSP studies. The advent of computers on the research scene focused attention on the old debate of theory-driven versus data-driven approaches to the study of ‘grammars’. It is the legacy of some of that early work in corpus linguistics that we now see in the current chapter.

The chapter is introduced by lead articles contributed by John Sinclair, one of the pioneers of corpus linguistics since the 1960s, and by Joanna Channell, one of the few truly applied linguists with extensive consultancy experience. Starting with a review of the use of computers in the analysis of natural languages, Sinclair describes and evaluates its development through formal models, early ‘natural’ language processing, to the current situation. He points out the difficulties which the processing of ‘open text’ poses for explaining the way that words make meaning, at the same time indicating a way forward through the construction of what he calls ‘local grammars’ based on observed patterns in textual data. Illustrating the local-grammar approach in relation to the word trouble based on the evidence of the 500m. word Bank of English, he demonstrates that neither NLP techniques nor conventional grammatical and semantic constructs are necessary to the analysis. The reader may also begin to imagine the possibilities of local grammars for the analysis of LSP texts such as definitions, as suggested by Sinclair. The sources of evidence on which Joanna Channell draws in her consultancy research includes written texts classified by genre, interviews, electronic corpora, observation of meetings, and so on. Using 15 case studies, ranging from cross-cultural problems experienced by employees of a multinational company to assessment criteria for UK National Vocational Qualifications, she illustrates how a range of approaches from applied linguistics can be employed with LSP data in order to identify the source or sources of communication problems and to propose—in non-technical terms—concrete solutions in a non face-threatening way. The role of the evidential base in validating the solutions recommended is argued by Channell to be crucial from the perspective of the client who has commissioned the research.

In order to investigate whether English has, as often claimed, influenced Italian scientific writing, Frederica Scarpa undertakes a diachronic study of extracts from textbooks on dermatology over 60 years, focusing on one particular dermatological process. Within a Hallidayan framework, her analysis suggests a qualified yes, but it is also argued that such developments should be seen as a ‘positive step towards a true internationalization of the paradigms of science’. The influence of the source text language in specialist translation is the topic of Maria Teresa Musacchio’s paper on information structure, which is explored using a parallel/comparable corpus of English source texts, their Italian translations and Italian original texts in the domain/genre of popular physics articles. She concludes that the translators in her sample do to some extent reproduce the information structure of the original English texts, resulting in a degree of ‘unnaturalness’.

The use of metaphor in LSP texts is particularly productive in financial language.: Khurshid Ahmad, David Cheng, Hayssam Traboulsi examine the use of metaphor in their contribution on the extraction of ‘market sentiments’, as well as named entities, from news articles with the purpose of gauging the mood of investors and, possibly, traders. In their analysis of Reuters’ newswire articles, based on a 3.63m word corpus, a local grammar of the word rose is successfully mapped out. The team plans to extend their work to Arabic and Chinese, facilitated by the fact that local grammars can be devised without recourse to tagging or other NLP techniques (see Sinclair, this chapter, and other contributions to this volume).

Maintaining the financial theme, Konstantin Averboukh and Olga Karpova discuss the development of an LSP for sub-fields of the market economy in Russian, based on a comparison with terms in English. They argue that knowledge of an LSP can be regarded as knowledge of another language, meaning that LSP users are like ‘bilinguals’. This is perhaps particularly the case where new systems and concepts are emerging in society generally, as with the transition from a planned to a market economy in Russia since the break up of the Soviet Union. A communicative perspective is adopted by Bettina Bajaj in her analysis of a bilingual German-English corpus of aircraft accident reports. Based on a three-tiered analysis linking linguistic and conceptual levels, Bajaj attempts to explore the topic of temporal relations from a lexical and grammatical point of view. She concludes that such relations are not unambiguously and explicitly expressed in texts and makes some recommendations for systematic textural clarification in this safety-critical area i.e. for a limited kind of controlled language with respect specifically to the expression of temporal relations. Bajaj’s paper is nicely complemented by Peter Ragan’s contribution on the role of cross-cultural factors in pilot-controller communication based on three case studies. Ragan demonstrates that cultural factors do influence interactions and decisions, meaning that ‘Airspat’ as a controlled language needs to be studied on the evidential basis of available corpora in order to better understand its use and how this relates to prescribed forms and meanings.

The use of so-called ‘semi-technical’ words in legal texts is the topic of the contribution by Hajime Terauchi, Judy Noguchi and Shigeru Sasajima. Their 83.5m.-word corpus is made up of 14.5k constitutional cases from the US legal system. Noting that it is often general words such as charge (N, V) used in a legal sense—what they call ‘semi-technical’ words—which cause the most comprehension problems for ESP learners, they propose to compile an English-Japanese bilingual dictionary, focusing on those English words which do double duty in general and legal language.

The intersemiotic relationship between text and image and its automation is of growing importance in modern communications. The research project reported by Chris Handy and Khurshid Ahmad investigates how the consistency of the ‘manual’ indexing of
images through linguistic means may be subject to less variability when carried out by domain experts rather than by lay viewers, in so far as they more consistently select and name the physical characteristics of the image for indexing purposes. Handy and Ahmad’s domain of investigation is the ‘collatoral text’ accompanying images of a crime scene investigation conducted by the police. They conclude that the linguistic performance of the experts studied can be characterised by a local grammar which is not applicable to the text produced by novices. They suggest, however, that the production of such collateral texts is responsive to training.

The multilingual corpus of texts studied by Viktor Smith relates to the sugar industry. Starting from the typologically-based claim that certain languages can be characterised as so-called PATH languages (e.g. French), others as so-called MANNER languages (e.g. Danish), he sets out to characterise Russian. The difference between these two types is said to be that verbs of the former type tend to lexicalise a state (or a change of state), the latter activities or processes, leading to certain difficulties in translation between contrasting language types. Smith concludes that Russian ‘works both ways’.

The data for Päivo Laine’s study of ‘electronic stores’ are the homepages of English-language companies selling consumer goods, or more specifically, the words, phrases and utterances used to label hyper-links and buttons. She concludes, echoing contributions elsewhere in this volume concerning non-linguistic signs, that non-linguistic features play a more important role than textual elements in urging website users to interact. In our internet age, a question which frequently arises concerns the evaluation of material accessed via the Word Wide Web. In her paper, Pilar Sánchez Gijón addresses this issue in the context of the translation of scientific texts, exploring expert and non-expert search strategies and proposing a typology of web sites on the basis of an exercise to compile an ad hoc corpus using the WWW. Of particular interest is her attempt to correlate certain types of website with the type of information each provides. In her contribution on the practical difficulties of operating with a different orthographic system (Persian) while using text processing tools, Shima Nabifar draws attention to the intensive pre-processing work that is necessary when compiling electronic corpora. The context for her description is the Iranian core vocabulary project (see also, chapter 4, this volume).

Addressing the intercultural topic of contrastive rhetoric, Savka Balgojevic discusses a corpus of academic writing in English from two points of view: the first language and cultural background of the author (English native speaker, Norwegian and Serbian), and the discipline/content of the articles studied (Sociology, Philosophy, Psychology). In so doing, she focuses on two sets of linguistic features: those which are intended to guide the reader (e.g. sequences) and those which express an attitude to the content (e.g. hedges). It is concluded that discipline-based factors influencing members of a discourse community result in similarities of discourse style which are more notable than any differences attributable to first language and cultural background. Balgojevic’s conclusion resonates with that of Scarpa’s paper (this chapter) where it was argued that scientists are motivated by the need to communicate with their peers, accepting the medium of a lingua franca, in this case, English. Moving to the broad genre of technical writing Øivin Andersen investigates the hybrid phenomenon of deverbal nouns—which exhibit characteristics of both verbs and nouns—in a Norwegian manual used on oil platforms and concerned with steam generation and distribution. Following a morphological analysis of the 154 types (not tokens) of deverbal nouns identified, Andersen discusses some ways in which these are not typical nouns as a word class. It is also pointed out that such ‘nouns’ frequently exhibit ‘logical polysemy’ i.e. have a dynamic and a static sense, and some can also be shown to have an argument structure. Extending the analysis to a pragmatic level (information structure), Andersen concludes that this under-researched area (in relation to LSP) is promising for future research, particularly in terminology.

A rather different kind of corpus of videoed spoken ESL data is described by Lisbet Pals Svendsen and Margrethe Smedegaard Mondahl in connection with their ongoing project FOCAL: Free Oral Communication in Adult Learners. Focusing on selected discourse elements such as uptakers and fillers, they describe how the behaviour of the advanced learners in their study changes between pre-test and post-test, during which time consciousness-raising and awareness-raising methods are used in the classroom.

This chapter demonstrates through a very wide range of projects the fruitful use of corpora in LSP studies. Applications of the work described—in the commercial and educational worlds, in specialist translation and in terminology planning, in safety-critical areas of communication, for relating linguistic and non-linguistic signs, bilingual lexicography, writing in a second language—are illustrative of the way in which the field is currently developing and expanding, 40 years after its inception in general linguistics.
1.1 Lead Articles:

1.1.1 John Sinclair

Language and computing, past and present
© John Sinclair, 2004

The use of computers in the study of language is almost as old as computers. The first computer applications were, as the very name suggests, concerned with numbers, though Turing's original designs would apply equally well to character strings. However, despite the handling difficulties and the defensive ring of mathematicians, computational linguistics was under way by around 1960.

It was originally powered by early Chomskian theory and the simple generative-transformational grammars of the era. Unlike traditional linguistics, which was not very rigorous in notation, Chomsky adopted the conventions of mathematical logic, and his grammars looked – and were – eminently computable.

Soon the profession was listening to messages which have become all too familiar - the trumpeting of success which turns out, on closer inspection, to be failure. For example, Thorne, Bratley & Dewar (1967):

In this paper we describe a program which will assign deep and surface structure analysis to an infinite number of English sentences [and] which also, to some extent, simulates the way in which [the native speaker] perceives this structure.

Chomsky is rightly respected for insisting that grammars must be finite since they fit into people's heads, and that there is no limit to the number of well-formed sentences that the grammars can recognise as well-formed. A grammar containing a single "recursive" rule (where the same symbol appears in both halves of a statement and therefore the rule can be re-applied any number of times) is enough to comply with this requirement, but a grammar of that specification will not necessarily generate all and only the well-formed sentences of any natural language. Nor does Thorne, Bratley and Dewar's program. Nor do any subsequent software systems, as we shall see.

With this as my starting-point, I would like to review the development of the computer analysis of natural language, starting just after the middle of last century.

Early theory

Although Chomsky's perspective on language, his formalism, his notation, his style of argument and his descriptive priorities were all novel and refreshing, he made little innovation at the level of the description of English, and defended his rather conservative position stoutly, for example opposing the motion in a debate in 1968 entitled "That traditional grammar should be ended, not mended" (Chomsky 1969). His concentration was always on the formal properties of grammars rather than the nuts and bolts of text samples, and this is clear from his identification of three types of adequacy (Chomsky 1964). Although he abandoned these after a few years, probably because he could not define them with his normal standard of explicitness, they reveal a lot about his priorities. The first level is observational adequacy, which means just making sure that the grammar fits the facts, and all the facts. The second level is descriptive adequacy, which is making sure that the description is a comprehensive account of the way in which the language operates. The third level is explanatory adequacy, where the design of the grammar explains how this language, and all other languages, are organised.

Forty years later, no-one has reached even the level of observational adequacy for any natural language, and there are no signs of anyone getting near. Since there is no limit to the number of well-formed sentences of a language, it would actually be difficult to judge when observational adequacy had been achieved. We can look at splendid efforts to attain this state, like LGSE1 and see immediately how far they fall short. Chomsky, however, is only concerned with the top level, explanatory adequacy, and takes the other two for granted, which puts him well beyond the reach of scientific assessment. The evaluation of grammars to choose the best one will take place once there are lots of grammars of lots of languages, all of which have explanatory adequacy (and therefore also descriptive and observational adequacy). This will be some time in the very distant future, and only optimists in good health should wait for it.

These issues were either not clear to, or were ignored by, the early computational linguists such as Thorne, Bratley and Dewar, who treated Chomsky's fragments of English grammar as the basis of an entirely practical, coal-face parser, and proceeded to implement it. But the two intellectual arenas of Chomskyan abstraction and computational applications parted company in the early seventies, particularly when it became clear that the control over the types of rules and their ordering became hopelessly over-complicated in practice. One indication of the change in the wind came with Terry Winograd, who used a non-formal grammatical model, Halliday's Systemic Grammar, on which to base his outstanding work of moving objects around a three-dimensional space using English sentences (Winograd 1972).

---

1 The Longman Grammar of Spoken and Written English. See Biber et al (1999) and my review, Sinclair (2001a)
Natural Language Processing

Computational linguistics no longer had a theory. This is a serious matter for a technologically oriented discipline, because the theory is the basis of the interpretation of results. Theories relate through descriptions to the data of the discipline, which in the case of linguistics is languages. But in this case, because of the hostile stance of Chomsky in relation to data, there was no externally validated data, and the potential of the computer to process large text files was ignored.

It is difficult to imagine the predicament of a discipline without either a theory or data – both headless and legless at the same time. It was a desperate situation. However, around this time Artificial Intelligence was very fashionable and had clear affinities with the study of languages, so for some years most of the computational linguistic effort was confined to the illustration of specimen cases of ambiguity, "garden-path" structures, and the like. Although the discipline was now called "Natural Language Processing" (NLP) this did not signify any surge of interest in naturally occurring language. The unfortunate use of the term "natural" was not a pre-emptive strike against data-oriented linguists, because the computational linguists of the time had no reason to suppose that such people existed. It was – perhaps insensitively – used to distinguish research into what was deemed likely to occur in ordinary language from work in the structure of artificial languages for computer operations.

What happened was that the discipline turned in on itself; researchers became absorbed in the technology for its own sake, the mechanisms whereby things were achieved, regardless of whether it was worthwhile to achieve them. Goals were specified in terms of interim results, without reference to wider horizons; so making a part-of-speech tagger that "worked", that was "XX% accurate" etc., became freestanding aims, and the rationale for wanting a part-of-speech analysis was not argued through.

About this time - the middle eighties - the new age of applications dawned. Information Science came of age, and needed all sorts of repositories of information and all sorts of methods of retrieving it. "Fuzzy matching" became the pride of the packages, but unfortunately fuzzy matching was too fuzzy to be of much use. Language text appeared to be intransigent and much too volatile and unpredictable to be an acceptable medium for storing and handling information. The massive web search engines of today are still seriously hampered because most of the information that is in electronic form is in the form of texts, and always will be – and texts cannot be understood by existing search engine software.

After an early acquaintance with corpora, the NLP community judged that the most urgent need was for lexicons – word lists which specified for each word some constraints upon its occurrence. Very considerable resources were expended on this kind of work in the nineties, and continue today. To begin with, they followed the usual NLP procedure of concentrating on any technique that seemed to be effective, like type-feature-structure, without consideration of the theoretical model it projected, and more recently the work has developed into various ontologies which are often attractive abstract structures, but which, since they do not accurately reflect the way in which people use words, have no obvious applications.

Present-day NLP

The following is illustrative of the concerns of the community of computational linguists; it was sent to the Corpora list on 9.10.2003:

I am trying to develop a tagger for a highly agglutinating language known as Manipuri, falls under Tibeto Burman class of language. I want to develop a POS tagger for this language. There is no previously developed tagger for this language. I also think that for a language like Manipuri, morphological analysis will be an important task for assigning POS category to each word in a corpus. which one of the two approach - rule based or stochastic based will be appropriate for my task.

Please let me know your comments. If stochastic approach is appropriate please advice me how to proceed.

The reason why the correspondent wishes to develop a tagger is competently taken for granted. I know of no member of the NLP community who would question the need, the value, the priority of this considerable expenditure of resource. There is no tagger for Manipuri, and so there should be one. Also, a tagger without any delimiter means a POS tagger – part of speech. All languages should have one, it is implied. Whether there is any consensus about the parts of speech appropriate for Manipuri is obviously not an issue.

The notion of parts of speech is clearly a theoretical postulate – it rests on the assumption that all the words of a language can be classified into a reasonably small number of classes, based on the relationships they contract with the surrounding words. But there are problems, even for English, the most studied language in the computer era. For one thing, current POS taggers for English waver between a dozen and four hundred parts of speech. Some of this can be accounted for by subcategorisation, but by no means all of it. Secondly, an EC-sponsored project some ten years ago demonstrated vividly that there is no correspondence at all among the POS tags of even the closely related languages of western Europe (and the Finnish representative was always on hand to sabotage any prospect of common ground). In a recent paper (Sinclair 1999) I suggest that the hypothesis of part-of-speech classification should be limited to exclude certain words and types of word. In any case, the labelling of parts of speech is of no value in itself, and is only justified either theoretically, as part of a fully articulated descriptive apparatus, or practically, if it is an essential step either in a satisfactory description or in a successful application.
The writer of the Manipuri query lives in an ordered world where there are two, and only two, approaches to POS tagging – the rule-based and the stochastic. A mixture of the two is not envisaged. The researcher either devises a set of rules which correctly assigns tags to each word, or trains a stochastic tagger with a sample of hand-analysed data from which it works out the likelihood of certain words matching certain tags.

Neither of these procedures is able to deliver a satisfactory result; while margins of error are claimed to be miniscule, they are in fact substantial. The high frequency of small and simple words means that claims of 97% accuracy and more are routine, but "accuracy" means simply assigning the tag that the researcher thinks is correct. There is a circularity here, but everyone seems to be so happy with it that one can hardly call it a vicious circularity.

The attitude of not looking outside the toolkit continues in NLP. There is no appeal to theory, nor any to practical utility. No justification is offered for strategies, categories and concepts other than the solving of technical problems, the assumption being that these solutions will lead to breakthroughs in performance in the real world. But despite the practical aims, everything is still measured within the discipline. Typically there are perpetual signs of progress and encouraging developments; the technological barriers are said to be falling all the time, and vast areas of potential applications are forever opening up. Sometimes the linguistic naiveté is breathtaking. The Appendix to this paper contains a few typical assessments of work in progress, culled from the announcements of events in the last year or two. They speak for themselves.

Current problems
Some commentators will disagree with this sketch of half a century of development of a discipline, and indeed it is an oversimplification. The theory, while long decoupled from the practice, still has a strong influence on the thinking. It cannot play the support role that is normally expected of theories, nor bring clarity to difficult interpretations, but for many it still guides the style of research, and it still dominates the attitudes to data. In particular, there is no expectation of insights from the data – only problems that have to be solved at a sub-theoretical level. The general attitude, which clouds the judgement of many in the profession, is that we know all we need to know about the major languages, and all that is required is to overcome a few low-level problems and apply this knowledge to the betterment of mankind.

The problems, however, are proving to be intractable. Techniques of analysis, honed over decades and tested on extremely tricky invented sentences, have a poor success rate with corpora. While individual programs for a certain kind of tagging or analysis may claim high accuracy and coverage, no grammar claims to be able to provide a satisfactory analysis of "open text" – that is, text which is just copied from current usage, without preprocessing. No lexicon is near explaining the way words make meaning in open text, no automatic translation routine is anywhere near satisfactory with open text.

At present, when an application requires a good standard of performance, the difference is made up by human intervention, and this is recognised as costly and restrictive. Where the scale of an operation makes it impossible to make use of human skills, for example the search engines on the world-wide-web, the performance of the software is so bad it is a standing joke. As usual, however, we are offered wonderful new resources just around the corner, where the "semantic web", powered by ontologies that are not in contact with open text, will at last deliver intelligent answers to search questions.

When a problem is viewed from an inappropriate perspective it may look excessively complicated, more complicated than it actually is; so when problems turn out to be more tricky than expected, the reason for the difficulty could either be in the problem itself or in the viewpoint of the observer, who will be guided by a model of explication. So when we encounter increased complexity, as well as marshalling the resources to tackle it we should also investigate the role played by the theory. Computational resources are nowadays so powerful that they may divert attention from the best way of viewing a problem in favour of massing computer power to solve it. We are now in the era of deploying terascale resources, but even those will not solve problems if they are (a) poorly-understood and (b) to do with the creation of meaning.

Pinning down the text
Throughout the development of computational approaches to linguistics there has been a series of tactics to avoid the horrors of open text. Constraints, limitations, sublanguages, controlled languages, domain specific varieties, etc. Here the apparent needs of those working in applications chimed in with those who had a broader perspective. Most of the early applications of computers to texts concerned technical manuals and highly specialised forms of the language, and so – apparently – reduced the scope of the problem even though some extra complications might be added because of the specialised nature of the material.

There was a hidden agenda here also. The language of scientific statement was thought to be particularly clear, simple, economical, objective, unbiased and important; amid the clamour of the media, what is now called "spin", the irresolvable arguments of the soft sciences and the vague and contorted transcripts of conversations, the quiet statements of eternal truth found in the sciences stood out as attractive models for communication, especially in the context of machines both needing crisp information and showing great potential for storing and retrieving it. From a practical point of view also, such simple and direct sentences would probably be easier to incorporate into a Chomskyan grammar, sharing as they do many features of the "kernel sentences", the central constructs of early generative grammars.

---

8 See the Appendix, e.g. items 4 and 9.
Unfortunately, the sort of Platonic discourse that was envisaged as the ideal sublanguage was not found; nor were any other sublanguages of any extent. The writer of scientific statement has at his or her command all the normal resources of the language, plus often some extra features that have developed for the special communication needs. True, some applications requiring only small changes in revising or "relocalising" a document can benefit from memories that use previous states of the documents as support for human editors, and speed up routine jobs. These can be beneficial to the users, but their lack of generalisability means that they have no impact whatever on the description or understanding of languages.

The role of ordinary language in computers
We are left in a difficult stand-off position. We cannot make descriptions of languages which are adequate for the uncompromising needs of current computers, their architecture, their assumptions, their conventions. So we cannot use our ordinary languages in computers, either for communication with the computers or for the efficient storage of information in text files. The simulations that we are familiar with in operating systems and programming languages are very superficial disguises for machine instructions, and of course do not mean what they would mean in a human language. Information scientists regard texts as virtually unstructured containers of vague and partial information, and think that they require an external scaffolding to be built to give the information some recognisable shape and retrievable organisation.

We do not at present know if such an expensive and inefficient strategy is necessary. Human beings work with texts, spoken and written, and find them adequately organised, in fact often very helpfully structured, flexible too. The needs of computers appear to be quite alien to the human world, and we do not know if in other circumstances computers might not have been designed to be more amenable to the human way of communicating. Digitisation, for example, the key weapon of information science, puts information well beyond the reach of humans, but readily manipulable in machines.

An alternative position
It is at least arguable, given the background of computational approaches to language, that part of the problem lies in the lack of theoretical underpinning to the tools of description, and that the received attitudes to data hamper the search for a means of understanding how meaning is created in texts. Perhaps ultimately the human language faculty will turn out to be just too human to be replicated (not simulated) in a machine, and we will return to external organisations and aids to get as close as possible to the structure of texts, in order to retrieve information from ordinary language. But the difficulty of a task is not an excuse for avoiding it, and it is now a priority to model language structure as revealed by insights directly derived from data, without external analytical schema being imposed on the data.

Starting with large amounts of language data, such as are now readily acquired and routinely processed in computers, recurrent patterns can be identified, initially without reference to any particular language. This is a pivotal point, because it offers a starting point which contrasts sharply with the rich awareness of the language that characterises NLP searches.

This approach is called nowadays corpus linguistics. It is almost as old as any other kind of computational linguistics, beginning in the early sixties in USA (Francis and Kučera 1979) and UK (Sinclair et. al. 1970) at around the same time. It was slow to develop, for several reasons. One was that the figure of one million words – the size of the Brown corpus – mesmerised a generation of researchers, and there was no impetus to build larger corpora. A second reason was that the technology required for corpus research contrasted in several respects with that required for fast numerical processing, and the latter had priority until the 1980s. It is important to stress that text processing was regarded as a strange occupation until the popularity of computer typesetting made large collections easy to acquire. The digitisation of libraries came later.

Another reason for the slow rate of development was that for many years the study of corpora was unacceptable to linguists who adhered to Chomskyan doctrine for the reason that the dogma held that no “interesting” information could be acquired from the study of language in use. Even now corpus linguistics is still derided by Chomsky himself and many of the faithful (Aarts 2000).

In the first stages of corpus building, the perspective is that of the computer scientist managing a data stream. The fact that the data stream is language text has no meaning in the beginning – it is a linear string of characters, and as such it can be exhaustively described. The alphabet of characters can be compiled, and recurrent sequences of various lengths can be identified. Constraints on the occurrence of characters or strings can be worked out.

Tokenisation
The first step in modifying the character string into a language text is called tokenisation. Certain characters are designated as boundary markers of tokens – principally the space character in alphabetic scripts, but also some punctuation marks, e.g. in English the apostrophe and the hyphen. The token is held to be a rough guide to the units of meaning, but not a definitive one.

Note that the linguistic information supplied is the minimum to enable the job to be done. Note also that the correspondence between tokens and viable units of meaning in a language is assumed to be faulty from the start. Nevertheless such a tokenisation will result in a string of tokens most of which are at least contenders for components of meaningful units. And, of course, the tactical decisions made at this stage have a profound effect on the view of the language that is achieved later on. The handling of other punctuation marks, capital letters, numerals and other non-alphabetic characters during the tokenisation process will have an influence on the final appearance of the text, and the results will be non-negotiable. Corpora tokenised by different methods are only very roughly comparable; the same corpus tokenised by different methods will yield different statistics.

---

6 There is some discussion of these points in Sinclair (1999b, 2001b, 2003)
7 An extended discussion of this point can be found in Sinclair (2004).
A moment's consideration of the role of the period character ".", will suffice to illustrate the job of tokenisation. Its function at the end of sentences has a knock-on effect on the initial capitalisation of the next word; its function in various kinds of abbreviation and its optionality in different styles ("r.p.m." or "rpm." or "rpm" ?) gives it an uncertain status. One period in a row of periods has another set of functions entirely.

So tokenisation is at best a low-level practical task that allows study to commence, yet once tokenised in one way a corpus is rarely tokenised a second time. There are no principles of tokenisation, and judgement is by results only, a typical NLP task – if it seems to work, give thanks and leave it alone. It is not surprising, then, that all sorts of problems loom for the researcher who thinks that the tokens are actually linguistic units.

The cautious approach to corpus research assumes that several more steps in analysis will be necessary before the linear units into which the corpus is divided correspond accurately enough with meaning-bearing entities. It was easily demonstrable that combinations of tokens are often closer to meaning-bearing units than individual tokens, which are often undifferentiated with respect to meaning because of being incomplete. I use the term lexical item for one or more words which together realise a single unit of meaning.

**Idiomaticity and lexical items**

The idiomaticity of language now takes centre stage; formerly it had two loosely related meanings: idiom referred to one of a small number of unusual combinations that were fairly stable multi-word lexical items, and idiomatic referred to well-written text that flowed freely and used the characteristic phraseology of the language. These two ideas are now seen in the context of a continuum of coselection; at one end, where coselection is relatively fixed, are the idioms⁸, and next to them are lexical items with internal variation, then collocations which are not regular enough to form part of the items. At the other end of the continuum are single-word lexical items which attract little or no collocational patterns – like technical terms, perhaps.

From a computational point of view the lack of a reliable unit of meaning complicates the issue; if each successive string of up to seven or so words can realise one lexical item in its entirety, or seven separate lexical items, or any number in between, perhaps with some discontinuity thrown in, the job of identifying the units is a major one. Also the frequency information that arises initially from counting the tokens must gradually be replaced by figures derived from counting the lexical items. So each time a multi-word lexical item is identified, the whole corpus should be retokenised and all the frequencies recalculated, all the collocations revalidated.

In addition to the computational problem of gathering and evaluating the evidence for multi-word units, we must also concede that it is unlikely that the lexical items will be reliably identified by automatic process. In the first attempts at compiling a corpus-driven lexicon, many of the decisions will have to be made by lexicographers on a provisional basis, gradually refined by the cyclical process of retokenisation.

**Local grammars**

We return to the question of language variety, sublanguages and the difficulty of providing a theory and descriptive framework for the range of variation that is observed in texts. Attempts up to date have mainly added complications to an ever-growing general grammar on the assumption that all sentences must be fully explained in a single-pass grammar. This could be too restrictive an assumption.

Ever since it became possible to store documents in electronic form it has been clear that many of the patterns and combinations that appear in the texts are not capable of being described by any grammar of the language. Some are small-scale tokens like sums of money, dates and measurements; others are more substantial multi-token strings like placenames, titles and addresses⁹; still larger are semi-codes like descriptions of chess matches or knitting patterns, stock movements and currency fluctuations. As well as these obvious ones, there are many where superficially the sentences are mainly familiar but where there are some special features or strange phraseology. Of the former, the language of full-sentence dictionary definitions is a clear and well-described exemplar (Barnbrook 2002). In these the only unusual feature is that one or more words is in bold face, but there are two other points to note, first that all the sentences are declarative, and the other that regardless of their "normal" grammar they each divide into a definiens and a definitum, as definitions traditionally do. Faced with alternative analyses, by normal grammar or by the special grammar of definitions, the second seems altogether more appropriate (Barnbrook and Sinclair 2001).

We have thus proceeded by stages to describe a form of English, full sentence definition, which is almost identical to the rest of the language, and which is readily understood by any competent reader; we are suggesting that, while it can be accounted for in a general grammar in the usual way, there is an alternative grammar, written just for this variety, which interprets the sentences in a way that "knows" from the beginning that they are definitions. Sentences which have a similar form to a definition, like "A mortgage is a stone round your neck." must not of course be sent to this special grammar, or nonsense will result – a mortgage will be classed as a hypernym of "stone", like granite or basalt, and the phrase "round your neck" will be understood as a discriminator – how you distinguish this kind of stone from the others.

⁸ Some newer writers in the field are using formulaic for heavily coselected passages. I am not happy with this term, because it draws attention to the aspect of fixity in coselection. This focus on fixity also characterised early attempts to bring coselection into language teaching. The other aspect – variation – is at least as important. Terms like coselection and idiomaticity are neutral, and I prefer them.

⁹ There are already a number of projects which research into these areas; what is called named entity recognition in NLP is a process of finding named entities, classifying them and parsing them; as in most of NLP there is no theoretical place for this important work, and only limited practical value.
We must recognise the need for a large number of these local grammars, as they are called. Small and large, petty or profound, they are necessary because a general grammar cannot in principle do what they do – it cannot provide totally different interpretations of the same sentence, and it cannot handle all the details and byways of the full spread of a language. If a general grammar was extended to cover the second point it would essentially incorporate the local grammars inside itself.

A wide portfolio of local grammars is the simplest design option at present. They would have first chance at an incoming sentence, and they would consist of two components: an input filter to admit only appropriate sentences, and a parser to show the way the sentence makes its meaning. Where there is no real difference between the local grammar and a general one, like the discriminators in a definition, the segments concerned can just be referred to the general grammar (after any local significance has been recognised, like matching sequences in a definition grammar). So after contact with any relevant local grammars, the residue of the sentence would be handled by a simple general grammar – which if local grammars handle most of the meaning of a sentence might be a very basic one.

A portfolio of local grammars might overlap with each other, criss-cross and offer interpretations at all levels of language description. There is no limit to the number and type of them, and there is no requirement for them to be comprehensive; they only offer to do things that are impossible, inconvenient or weakly-handled in a general grammar.

Such a model is messy and could be complex in operation compared with a single general grammar, but it seems to be closer to the way language is used. The utopian scene is of a large computer into which texts are introduced, and which outputs descriptions of them which are regarded as satisfactory accounts of how the patterns in the language of the texts gives rise to reasonably stable meanings. There is little hope of that happening in the foreseeable future. However, very basic grammars can be replicated on machines, and the distributed model of local grammars offers some chance of improving the present state of the machine “understanding” of text.

Word and lexical item
I usually finish a general discussion with an example taken directly from a corpus, because there is still very little replicable research that has been published. These examples have frequently been misunderstood as instances of practical lexicography, but – while they often are relevant to lexicography – they are principally intended to demonstrate a relationship between meaning and form which is established before any division into grammar and lexis is imposed on the data. A multi-word lexical item such as those below usually conforms superficially to grammatical norms, but the tokens that appear in it do not deliver grammatical information. They are as physical components of the item. This argument is supported by the fact that some sequences do not conform to the expected grammatical norms (e.g. after borders on the an adjective can appear without a noun head, such as surreal, excessive, eccentric). In the same way some lexical items include unique tokens of a lexical nature, e.g. loggerheads in at loggerheads, kith, plight and truth. Some accounts of idioms use such deviations as criteria for the identification of an idiom, and they certainly point to the likelihood that within a lexical item the conventions of both grammar and lexis are suspended.

The word-form trouble in English is quite common: at the time of writing, February 2004, there are 43,405 instances of it in the Bank of English which stands at a little over 500 million words.

The principal collocates by t-score are in and was. Other forms of the verb BE are also prominent, giving a summary picture as follows:\footnote{For an account of t-score see Stubbs (1996). In this section a word-form is printed in italics and a lemma is in small caps; so trouble refers to that string of seven characters between spaces, while BE refers to am, are, is, was, were, be, being, been.}

\begin{itemize}
  \item in 11210
  \item BE 5214
\end{itemize}

Since many of the co-occurrences of in and trouble are not in the sequence in….trouble, the prominence of the verb BE is much greater than it looks. The next set of collocates are the personal pronouns, especially he and I, but they are not very strong numerically.

By far the commonest positioning of in and trouble is adjacent, i.e. in trouble, but sometimes another word intervenes. The main words are the adjectives deep, serious, big, real, dire and financial.

This evidence suggests a lexical item in English whose most characteristic realisation is: BE in trouble

The adjectives that are attracted to this item suggest that to be in trouble is an unfortunate situation, and that it often is to do with money.

At this point I would like to remove this item from the concordance, and see what is revealed in the remainder of the data. Unfortunately there is no precise way of doing this with the software at my disposal, and the best I can do is to remove all the instances of in trouble, leaving over a thousand discontinuous forms among the remaining 38428 instances.

The second layer of collocation is into and verb forms get, got, ran, run, which can be summarised as follows:
A form of get or run appears in 81% (2399 occurrences) of the occurrences of in trouble, so we can postulate a lexical item realised by GET\(\text{run into trouble}\).

There is a question whether this is the same lexical item as the first one, especially since there are a number of instances of GET in trouble, mainly in American English. The collocating adjectives, serious, deep etc. and financial, are the same, so we could see in trouble as mainly indicating a state, and into trouble a direction. A composite lexical item would consist of:

**Lexical item 1.**
BE in trouble
GET in trouble
GET into trouble
RUN into trouble

At this point we now remove into trouble, in the same crude way as before. This leaves 36306 instances of trouble, though we know that quite a number of them should really have been taken out.

The picture changes, and we now have collocations as follows:

1. is 6455
2. the 4886
3. that 1589

This tells us that within five words of trouble, these three words are prominent. An English speaker's intuition will probably suggest straightaway the phrase:

**the trouble is that**

and that is indeed the almost invariable pattern. It is a lexical item used to introduce a complication or a counterattack on a position in a discussion.

We can explore this item through another perspective to reach another item:

**Phraseological item 2.**
The X is that...
where X is one of: problem, fact, truth, trouble, result, reality, point, idea, reason, irony

Here is another kind of multi-word item - the phraseological item, or phrase item for short. Instead of having a constant core of one or more "vocabulary" words, these items have as their core one or more of the common words, often called "grammatical words", though that would be a misnomer on this occasion. These words provide a quasi-grammatical frame within which selections are made from lists of vocabulary words, often quite long lists, and with the possibility of various subsidiary choice sets; so trouble and problem go together, and perhaps fact and truth, point and idea. There is as yet no established method of classifying these semantic preferences.

At this point we now make the best attempt at removing instances of this item, in this case by deleting the sequence trouble is wherever it occurs, leaving 33521 instances. Looking at the collocation profile of these, the result is that another two words come to the top:

1. had 3207 (HAVE 7977)
2. with 4578

There is also a strong tendency to colligate with an ing-word, a present participle. This is a new lexical item; the typical phrasings are:

**Lexical item 3.**
had trouble X-ing and had trouble with X;

We now remove as many instances of this item as we can, by deleting all cases of forms of HAVE trouble.

This has not accounted for all the instances of trouble with, and when we explore these more closely, another pattern emerges:

---

11 See Renouf and Sinclair (1991) for the introduction of this category.
12 Colligation is Firth's (1951) term for the co-occurrence of words realising grammatical categories.
This pattern recalls the previous phraseological item 2, and could be regarded as a variant of it:

**the trouble (with X) is that**

It is difficult to find the collocates because of the possible overall length of the pattern; the best probe I can do suggests that only one other word, *problem* alternates with *trouble*, so it is probably a minor variant.

We now remove all instances of *trouble with*, leaving 27704 instances. The word that comes to the top is *no*, with 1711 occurrences, and *HAVE* again, making a basic pattern *HAVE no trouble* followed frequently by an –*ing* form. The chances are that this is a variant of the previous lexical item 3, *HAVE trouble X-ing* and the contexts should be examined for overlap. Before that we should note that *at all* is a frequent internal collocate, and that *in* often comes before the –*ing* form. So some realisations of this item can be quite long:

**HAVE no trouble at all in X-ing**

Seven choices are taken simultaneously in this variant of the item.

We now remove all instances of *no trouble*, leaving 26581 lines. Now the top collocate is *out*, and the familiar phrase *out of trouble*. This, while much less frequent, is related in meaning to *in trouble*, lexical item 1, and a careful analysis of the two contexts would be needed to make a case for merging the two as variants of the one item.

We now remove *out of trouble*, and see what comes to the top in the remaining 25713 instances. It is *any*, and on inspection this seems not to be a new item in itself, but part of the consequence of making one of the other items negative. So we do not delete it, but pick the next most prominent collocate, which is *cause*. There are 1371 occurrences of the lemma *cause*, indicating the strong presence of a lexical item that is quite familiar:

**Lexical item 4.**

**CAUSE trouble.**

We now remove *CAUSE trouble* from the concordance, leaving 25092 lines, and look at the collocational profile of this remainder. The pattern is beginning to break up, partly because of the inefficient tools for removing instances of an established lexical item. Several of the collocates realise small optional variations of frequent items, like the adjectives *serious, financial, and much and a lot of.*

The most prominent new word is *there*, signalling an item which has the form:

**Lexical item 5.**

**there be trouble <location>**

Here there are some interesting extras like *afoot, ahead, looming and brewing.*

For the last few details we just move down the list of significant collocates, without attempting to remove new items. The new items to emerge are compounds, *trouble-free* (LI 5) and *trouble spots* (LI 6), small items like the two with *worth, worth the trouble* (LI 7) and *more trouble than X be worth* (LI 8).

The two verbs *started* and *began* lead to another pattern, *the trouble began/started*, usually followed by *when* (LI 9). We have found several kinds of prefatory phrase including *the trouble*.

To assess what proportion of the overall occurrence of *trouble* has been accounted for in these multi-word lexical items, we will now attempt to delete all the instances of words that seem to be mainly left-over variations of lexical items we have already accounted for. Again this is rough justice, and we delete all instances of the following tokens: *there, serious, lot, free, spots, deep, big, little, worth, financial, started, began*

At this point we can note that well over half the instances have been assigned to one or other of the items. Of the original 43,405 there are only 18945 left.

New collocates include a few more compounds like *heart trouble* (LI 10), *crowd trouble* (LI 11), *trouble-makers* (LI 12), and *asking for trouble* (LI 13), *trouble flared <timing>* (L I 14), *TAKE the trouble to* (LI 15), *sign of trouble* (LI 16) and *spell trouble* (LI 17). These have only a hundred or two occurrences, and so they do not appear until the large patterns have been removed.

---

13 I use a sans-serif typeface within angle brackets to indicate – informally – general semantic preferences.
The patterns, even this far inside the patterns for trouble, are strong and complex, as we can see from sign of trouble, LI 17 above. The most common usage of this core phrase is in at the first sign of trouble, and there are cases without at and without the; likewise there are alternatives to first, e.g. superlatives like least, or a or no.

What emerges from this brief probe, using tools that were not designed for the job, is a picture not unlike a dictionary entry. The main formal difference is that each lexical item has its own unique compenence, and is in no way "a meaning of 'trouble'." Indeed the semantic subtlety of the notion of "trouble" is exposed in this analysis, and no dictionary would be likely to analyse the word in this way.

This sketch of trouble has not been comprehensive nor very precise. But how successful has it been in describing the characteristic usage of the word? There are still around 20,000 instances that we may not have accounted for. One way to check – another rough and ready device – is to take an unbiased sample of the whole concordance and see how much of it is adequately covered. I have taken, for the sake of time and space, only 25 instances, evenly spaced arithmetically from the whole concordance. There is no guarantee that this list, or any other, is representative of the concordance as a whole, but equally there is no reason to believe that it is not a fair reflection.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sabaru’s wheels were worth £2,000.</td>
</tr>
<tr>
<td>2</td>
<td>that knowledge in that time.</td>
</tr>
<tr>
<td>3</td>
<td>them alone. They don’t cause any #</td>
</tr>
<tr>
<td>4</td>
<td>and digital TV channels such as</td>
</tr>
<tr>
<td>5</td>
<td>Soviet Union or in any way causing</td>
</tr>
<tr>
<td>6</td>
<td>hopes today and storing up economic</td>
</tr>
<tr>
<td>7</td>
<td>in his cabin to sort out some engine</td>
</tr>
<tr>
<td>8</td>
<td>his own business was in financial</td>
</tr>
<tr>
<td>9</td>
<td>much space out wide was asking for</td>
</tr>
<tr>
<td>10</td>
<td>a heavy West Indian accent who had</td>
</tr>
<tr>
<td>11</td>
<td>care to know that the writer had</td>
</tr>
<tr>
<td>12</td>
<td>I’m pitching poorly, if I’m having</td>
</tr>
<tr>
<td>13</td>
<td>a week off work because he is having</td>
</tr>
<tr>
<td>14</td>
<td>you get there, will lead you into</td>
</tr>
<tr>
<td>15</td>
<td>Another forgotten horse, Looks Like</td>
</tr>
<tr>
<td>16</td>
<td>Puck (Stanley Tucci) to make</td>
</tr>
<tr>
<td>17</td>
<td>she would surely have started making</td>
</tr>
<tr>
<td>18</td>
<td>before the car developed mechanical</td>
</tr>
<tr>
<td>19</td>
<td>on Walsall fighting their way out of</td>
</tr>
<tr>
<td>20</td>
<td>was the very knowledge of possible</td>
</tr>
<tr>
<td>21</td>
<td>At worst, they are storing up real</td>
</tr>
<tr>
<td>22</td>
<td>I think that invariably stops the</td>
</tr>
<tr>
<td>23</td>
<td>any bad news. I asked him what the</td>
</tr>
<tr>
<td>24</td>
<td>the RSA Inquiry see this page). The</td>
</tr>
<tr>
<td>25</td>
<td>it was true. And this was the</td>
</tr>
</tbody>
</table>

Two of these instances show Trouble as part of a proper name, and so can be ignored henceforth. Most of these are familiar enough from the analysis above. The ones that we have missed and that occur more than once are:

6. **storing up economic trouble**, also 21, **storing up real trouble for**

This is a smallish pattern, but should be recorded, especially in the form with for. There are indications that it is quite complex, with up obligatory, for normal, and very often a modifier of trouble. What follows for is interesting – a reflexive like herself, later or the future.

16. **make trouble**, also 17 **making trouble**
This is a more substantial omission. A rough search suggests that there may be over 400 instances of such a pattern, very often with for.

Single occurrences that are familiar phrasings:

9. asking for trouble
There are more then 200 instances that follow this pattern, almost all with asking as the realisation of ASK, and many showing that this phrase is almost nominalised, in examples like This is asking for trouble.

14. will lead you into trouble.
This is a minor and quite elaborate item, requiring a pronoun (usually) or a noun phrase, and with a small variant LEAD X out of trouble.

18. the car developed mechanical trouble
With 7. some engine trouble this instance points to a small cluster of patterns. You can develop engine trouble or something related to it, or develop a health problem like heart trouble or kidney trouble. There is still not much evidence on which to propose lexical items, because most of the patterns occur with a frequency of less than 50.

22. stops the trouble
There is a small item here, STOP the trouble.

For instances nos. 19 and 20 there is very little repeated pattern. There are a few instances of FIGHT X's way out of trouble, and some of possible trouble, but on present evidence we are now scraping the bottom of the barrel.

**Conclusion**
The practical exercise indicates that some twenty-plus multi-word items account for most of the patterning of the word trouble. Most of these were found in the collocational searches, and the only one that seems to have slipped through the net is MAKE trouble. That it to say, it is a reasonably prominent phrasing and we are left wondering why it did not make the top of the significance list.

Only two of the 23 instances picked to check on the coverage were not fairly clear instances of one of the lexical or phrasal items. It would be sensible to repeat this checking operation because we might have picked an odd selection; after two or three selections it is very unlikely that we will encounter anything else that the procedure has missed.

This is a single, "thin" exploratory probe into a large and complex lexical organisation, and it only shows some of the distinctions that have to be made. Work on other items will no doubt gather and consolidate as well as atomise – there are signs even here, in the phrasal item 2, that some of the uses of trouble will be dispersed into other items altogether.

Note that each item is associated with a unique componence of words, even though the variations, which are plentiful, may occasionally overlap with each other. So instead of a multiplicity of "meanings" of trouble we have a number of meaningful items each of which contains trouble as one of its components.

Note also that this analysis has been carried out without recourse to the normal descriptive arsenals. There has been hardly any need for grammatical or semantic terminology. Also there are no tags, no annotations, nothing but plain text; the only statistics are a simple significance test, that is used a matter of convenience until a more appropriate measure is devised. In other words, we have arrived at a fairly comprehensive and accurate description of the role of trouble in English without requiring the resources of NLP nor of conventional grammar and semantics.

There was no attempt to avoid using these resources; they are available on my computer whenever I need them. For this exercise I would argue that I achieved better results without using them – and without making the semantic assumptions of lexicographers either.

This claim takes us back to the underlying contention of the paper. The axioms and apparatus and traditions of linguistic theories that were devised before corpus evidence became available need to be revised in the light of that evidence, because it shows that a language in use does not behave in the ways predicted by the theories. Where the theory has slipped away long ago, as in the case of NLP, new links with corpus-informed theoretical positions need to be formed so that the power and sophistication of the software tools of NLP can be applied both to the development of the theories and to applications that work in the world.

**References**


Chomsky, N. 1969 "Should Traditional Grammar be ended or mended?" *Educational Review* vol.22 no.1. Pages 5 – 17


Mair, C. and M. Hundt (eds.) 2000 *Corpus Linguistics and Linguistic Theory*. Amsterdam and Atlanta, Rodopi.


Stubbs, M. 1995 "Collocations and semantic profiles" in *Functions of Language* 2.1; 23-55


**Appendix**

Note: These are quotations that have appeared on the Corpora List in the last few years that are indicative of NLP attitudes to research and applications. I have left them anonymous, but I expect that their authors would in the main stand by them.

1. Automatic summarization and question answering (QA) are now enjoying a period of revival and they are advancing at a much quicker pace than before.

2. The increasing importance of Corpus Linguistics is mainly due to its contribution to practical applications in Computational Linguistics.

3. As natural language products play an increasingly more prominent role in the market for knowledge management, information extraction, search and navigation….

4. The ultimate goal of the Semantic Web is to allow machines to share and use knowledge worldwide in a scalable, adaptable and extensible manner, without any central authority and just a few basic rules.
5. Linguistic engineering and language processing is confronted with new issues. Indeed, it is now necessary to work not only on isolated sentences or utterances, but on entire structured or unstructured texts too.

6. Moreover, texts are rarely tagged or digitised. However, text processing requires pre-processing in order to conduct syntactical, semantic and pragmatic analysis.

7. During last years, some generic ontologies become available and a lot of research projects tried to take into account semantic aspects to obtain more precise results for IE systems. Meanwhile, important efforts concentrate on developing tools for semi-automatic building of domain-specific ontologies, based on IE and text-mining techniques.

8. MWUs [multi-word units] are used frequently in everyday language, usually to express precisely ideas and concepts that cannot be compressed into a single word. A considerable amount of research has been devoted to this subject, both in terms of theory and practice, but despite increasing interest in idiomaticity within linguistic research, many questions still remain unanswered.

9. Attention is being drawn to new aspects of ontology research such as ontology coordination and mapping – aspects that are particularly relevant for distributed environments such as Knowledge Grid and Semantic web.

10. From this perspective, lexicographers, lexical semanticists and ontologists are joining forces to build innovative systems for integrating ontological knowledge with lexical and semantic resources.

11. Although XML is a useful representation language, its use alone does not solve all the problems and choices with respect to the representation style.

12. Recent years have seen the development of techniques and resources to support robust, deep grammatical analysis of language in real-world domains, for instance in flexible human-computer dialog systems … and speech-to-speech translation …. The demands of these types of tasks have driven significant advances in areas such as parser efficiency, hybrid statistical / symbolic approaches to disambiguation, and the acquisition of large-scale lexicons. In response to these successes deep language processing is starting to be deployed in commercial applications such as automated email response.

13. Corpus-based methods both in linguistics and NLP need breakthroughs for further development. … Combining corpus-based methods with linguistic formalisms may give rise to a new type of linguistics.

14. Due to recent advances in statistical methods and machine learning approaches for NLP and in efficient processing algorithms for high-level grammar formalisms, there are now highly promising attempts to combine shallow and deep processing techniques.
1.1.2 Joanna Channell

The other side of the LSP fence: Commercial language consultancy and research

Joanna Channell
Channell & associates

1 Introduction

LSP research, in common with applied linguistics generally, has a low profile as a problem-solving approach in the public arena. When leaders in an organisation, be it business, governmental or public, identify a communication issue, their first instinct is to phone for a management consultant or an occupational psychologist. Even if they are aware of LSP research they are unlikely to know anything of the kind of problems it can tackle and the ways that linguistic analysis can add value to their business. This means that many opportunities for the application of the theories and methodologies of LSP research are being lost, and as a consequence that LSP is not fulfilling its potential.

When conducting consultancy research, there are two challenges for the consultant linguist: first, to understand how non-linguists understand and try to tackle language issues; and second, to find ways to communicate the insights of research in usable and understandable forms. This paper therefore focuses on how LSP issues are understood by non-linguists in businesses and organisations; with the aim of helping practitioners to promote the practical application of LSP research worldwide. Specific questions include:

• What types of LSP issues do non-linguist business and organisational language users focus on or problematize?
• How do they conceptualise and articulate “language” as an “issue”?  
• What outcomes do business and organisational users seek from specialist consultancy?
• Which theoretical and methodological approaches are relevant?
• How can we promote LSP research in organisations and businesses?

Before looking at these questions, I will first clarify the distinction between consultancy and academic research and give an overview of the projects which I will use to provide illustrations and data.

2 Definition of the distinction between consultancy research and academic research.

Academic research is inspired by the wishes and interests of the researcher; in contrast, consultancy research is inspired by the needs, wants and beliefs of the client who commissions it: the client defines the research agenda. Unlike the case of academic research, it is the client who has the idea and then seeks a researcher or consultant to carry out the work. Many types of consultancy research require an open competitive tender to win the contract. Once the contract exists, the client pays for the research and usually insists on complete control of the data and results.

3 Overview of projects used as case studies

For the purpose of this paper, I have selected, from my last 15 years of consultancy and research, 15 pieces of work which fulfil certain criteria:

First, that they were consultancy as defined in (2);
Second, that they are pieces of consultancy that included language and communication research and advice.
Third, that they were commissioned by an organisation or by individuals who do not have specialised knowledge about the nature of language.

This set of examples is therefore not a controlled sample, but rather a set of case studies. The list below is intended to give a sense of the scope of the types of organisations, issues raised and approaches used. Some client organisations have published, or given permission for publication of, accounts of the research carried out for them, others have wished to preserve anonymity. Further reading about some of these projects can be found in Campanelli, Channell et al (1994), Campanelli and Channell (1996), Channell and St John (1996), Channell (1997), Channell (2000), St John and Channell (1996).

---

1 I am grateful to the following groups and individuals who helped to shape the arguments and ideas in this paper: the audience at LSP 2003, Margaret Rogers, Vijay Bhatia, Anthony Johnson, Michael Stubbs, Martin Cutts, the participants at Birmingham English Language Postgraduate conference 2003, and all the people involved in the consultancy, training and research projects mentioned.
<table>
<thead>
<tr>
<th>Client company or organisation</th>
<th>Questions and issues</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multinational manufacturer of cleaning products</td>
<td>cross-cultural communication between employees from different countries</td>
<td>company memos, videos of meetings, recordings of phone calls</td>
</tr>
<tr>
<td>UK Government (Employment Dept)</td>
<td>How can we collect accurate data about training? What do people understand by the term training?</td>
<td>Cobuild corpora, focus groups, survey questionnaire</td>
</tr>
<tr>
<td>UK Government (Employment Dept)</td>
<td>How can we collect accurate data about qualifications?</td>
<td>Cobuild corpora, focus groups, interviews</td>
</tr>
<tr>
<td>UK Government (Employment and learning)</td>
<td>Why does everybody tell us that National Vocational Qualifications are hard to understand?</td>
<td>Corpus of NVQ texts, Cobuild corpora, focus groups, interviews</td>
</tr>
<tr>
<td>Burton on Trent Community Partnership</td>
<td>Evaluation of TESOL provision</td>
<td>Classroom observation, analysis of policy documents, interviews</td>
</tr>
<tr>
<td>Local authority (City Council)</td>
<td>What are the most effective ways for our receptionists to direct phone calls and visitors to the right place?</td>
<td>Participant observation; audio recordings, development session</td>
</tr>
<tr>
<td>Local authorities (different ones)</td>
<td>We want to have a plain language policy - so we need to agree what that is and train people to do it</td>
<td>Policy documents; samples of letters, information sheets, memos.</td>
</tr>
<tr>
<td>City Council (large British city)</td>
<td>Our auditors needs to communicate their technical findings to people in all the Council’s departments</td>
<td>current audit reports.</td>
</tr>
<tr>
<td>City Council, Transport Department (large British city)</td>
<td>How can we best communicate and consult with the public about road schemes?</td>
<td>letters, circulars</td>
</tr>
<tr>
<td>Social Services Inspectorate</td>
<td>What are the best ways of responding to enquiries from the public?</td>
<td>sample of letters, emails, revisions to letters</td>
</tr>
<tr>
<td>National consumer body</td>
<td>Can you help an inspector whose reports do not match our usual format and style?</td>
<td>examples of reports, drafts of the individual’s reports</td>
</tr>
<tr>
<td>EPSRC Engineering Doctorate programme at University of Surrey</td>
<td>The standard of letters going out from the complaints staff is not high enough.</td>
<td>samples of letters, existing templates, existing ‘boilerplate’ text.</td>
</tr>
<tr>
<td>South Yorkshire Widening Participation Partnership</td>
<td>We want our engineers to be better prepared for writing up the portfolio for the Eng.D</td>
<td>‘best example’ portfolios, published articles.</td>
</tr>
</tbody>
</table>

This list consists mainly of projects where the resources for them came from public funds, some via departments of the UK government, some via local authorities or other agencies. There is also, of course, language issue research being commissioned by private sector organisations. However my specialisation and my network of contacts has mainly been in the public sector.
The first overarching theme is that of written texts which do not fulfil their communicative purposes. In some cases, this would be from the originators’ point of view in the sense that text writers produce a text or texts which do not lead to the desired result. One example given by staff in a large British City Council’s Transport Department is where they need to inform people that the road outside their house is going to be resurfaced. So they would produce a circular letter and deliver it to each house, conveying the information that the road was to be resurfaced, and the request to park cars elsewhere while this was being carried out. When the engineers arrive to carry out the work, the majority of residents have apparently not read this letter, and have not moved their cars, and it causes difficulties for all concerned. Events like this led the Transport Department to approach language specialists at the Plain Language Commission (see website reference, and Cutts 1996). The PLC team, of which I was a member, organised workshops and training sessions looking at how the local government officers could produce letters which would have a better chance of being read and thus produce the action from recipients that the writers wanted.

The second way in which texts do not fulfil their communicative purposes is from the readers’ point of view. This is where the people who are the intended readers or users of particular documents complain of difficulties of understanding. An example of this would be the British Government’s vocational qualifications initiative of the early part of the 1990s, where a new policy set in train a comprehensive review and standardisation of all vocational qualifications, including the development of new NVQs for areas of work which had not previously had qualifications, and in all cases, the development of a competency framework for assessment (for more on NVQs and competency-based assessment, see Mansfield and Mitchell 1996).

Almost immediately, the Confederation of British Industry produced a report from a survey of members which showed that employers welcomed the whole NVQs initiative but found the documentation difficult. Trade unions, colleges and learners groups reported difficulties in understanding and working with the texts. As a result, the relevant government department, then called the Employment Department, commissioned a large-scale piece of research which aimed to find out why people found the VQ documentation difficult to understand (see Channell and St John 1996).

A second theme in several pieces of work is cross-cultural communication issues. These could be intercountry or interlingual, one example being the multinational chemical company which moves their people around from country to country, so people with a number of different language backgrounds work together, to some extent using English as a lingua franca. Some people in the company had begun to feel that while everyone’s English was at an appropriate level, there were still some issues of misunderstanding and ineffective communication and they wondered if LSP analysis could help them to understand the nature of the miscommunication they observed.

More often, though, the cross-cultural communication issues that I have encountered have been about an institutional or group culture which is effective within the organisation but is not understood outside. So, for example, taking again the example of the City Council, there was a need for highways engineers to communicate cross-culturally by sending out letters to the public which avoided technical terminology about road design or traffic management.

The third overarching issue would be that we often found ourselves looking at individuals’ repertoire of communicative skills. Using the transport engineers again as an example, they would need to discuss a road design and to present this technically at the relevant council committee. They might also need to explain the same material in a non-technical way to a resident living in a particular street. So I would analyse this as two different aspects of their repertoire of communicative skills.

The fourth theme is that very often the issues of text are about genre. Sometimes what we have looked at has been texts which are poor and communicatively ineffective examples of a particular genre, so for example, looking at letters to customers which respond to complaints, that is a recognisable sub-genre of letters and there are effective and ineffective ways of writing those kinds of letters. Another category of research would be the case where a whole genre fails to be effective for its communicative purpose. An example of this is the work on National Vocational Qualifications (mentioned previously). The teams who developed the new NVQs created a novel genre which had not existed before. However, it initially developed as a genre which instead of communicating a clear idea of what the qualification was about, and what a learner needed to do to gain it, was judged as difficult to read and use.

The final and critical issue that comes up in all of this type of consultancy is the issue of prescription versus description. While an applied linguist always must approach data using a descriptive approach and set of techniques, it is necessary in consultancy research that eventually the researchers would move on to saying “you need to do this”. That is to say, that they would move to being prescriptive (see Shuy 1998 and Channell 2001 for the importance of giving clear advice).
5 Which theoretical and methodological approaches are relevant?

Applied Linguistics (AL) provides an underlying ethical and philosophical approach to language research (exemplified by, for example the British Association for Applied Linguistics 1994 Recommendations on Good Practice in Applied Linguistics; see also Stubbs, 1996 section 1). AL and LSP also provide a set of tools and approaches which can be used to analyse any aspect of language and language behaviour. Among all of the possible approaches, my work has repeatedly drawn on a small number which have proved their worth as durable, effective in producing results and understandable by the non-linguist clients they were used with. Table 3 shows these.

Table 3 Approaches from AL and LSP

<table>
<thead>
<tr>
<th>Needs analysis</th>
<th>10 projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Genre analysis</td>
<td>8</td>
</tr>
<tr>
<td>Pragmatics</td>
<td>7</td>
</tr>
<tr>
<td>Conversation Analysis/DA</td>
<td>6</td>
</tr>
<tr>
<td>Thematic analysis</td>
<td>4</td>
</tr>
<tr>
<td>Error analysis</td>
<td>4</td>
</tr>
<tr>
<td>Corpus linguistics</td>
<td>3</td>
</tr>
</tbody>
</table>

Needs Analysis here is used in the broadest sense of analysing what is needed in order to provide recommendations, or training and coaching. However, it has its roots in the LSP-style needs analysis for language teaching, associated with the rise of communicative language teaching in the 1970s.

While this is not the place to attempt a definition of genre analysis, I can say that the reason that genre approaches are so relevant to consultancy research is that they approach texts in context and ask “why” questions. Thus Bhatia (personal communication) identifies 3 levels or perspectives on discourse:

- Discourse as text
- Discourse as genre
- Discourse as social practice

and poses the question, relevant to any consultancy project on language: “why do people write the way they do and what makes this possible?”.

Closely related to genre-based approaches are approaches from pragmatics, which have been relevant in seven projects. The three main areas drawn from pragmatic theory are the maxims of conversation originating in the work of Paul Grice (1967, 1968, 1981). The second is Brown and Levinson’s (1987) framework looking at politeness and analysis of power relationships in spoken interactions, and also between writers and readers of documents. The third area is that of cross-cultural pragmatic failure, a term first used by Jenny Thomas in her 1983 article of that name which was about foreign language speakers. However the concept is equally useful and applicable to institutional cross-cultural communication such as that between a large organisation and people outside it: its customers, or service users, or clients.

Research methods drawn from other disciplines have been used alongside approaches from AL. The main approaches are listed in Table 4.

Table 4: Research methods and approaches drawn from other disciplines

<table>
<thead>
<tr>
<th>Focus groups</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey questionnaires + statistical analysis</td>
<td>2</td>
</tr>
<tr>
<td>Job analysis</td>
<td>6</td>
</tr>
<tr>
<td>Evaluation metrics</td>
<td>1</td>
</tr>
<tr>
<td>Structured or semi-structured interviews</td>
<td>7</td>
</tr>
</tbody>
</table>

Sections 3, 4 and 5 have attempted to provide an overview of the case studies, viewed from the LSP practitioner’s perspective. I now turn to the other perspective, that of the clients who seek help with language issues.
6 Why do organisations seek consultancy or research and what outcomes do they seek?

The reasons for seeking specialist support from an LSP analyst are often one or more of the following:

$ People in the organisation feel that it needs to improve communication or they want to influence another organisation or individuals to improve their communication.
$ They have received complaints, or negative media coverage, or an external body is putting pressure on them to evaluate or improve.
$ They are stuck and they wonder if applied linguistics can help, even though they do not really know what it is.
$ LSP analysis has been helpful to them before (or they have heard that it was helpful to another organisation).

Having sought specialist research and consultancy, generally the organisations reviewed here would be looking for a report with four main areas of content:

a) Explain why the present situation is as it is. Do not give us technical language.

b) Justify your analysis but do not overwhelm us with academic detail.

c) Tell us what is working and what is not working.

d) Give us something we can use to improve (although we might easily ignore your recommendations, cf Shuy 1998).

At this point, two developments may occur. On the one hand, the organisation may welcome the report and recommendations and set about making changes. Shuy (1998) sets out a paradigm case of a positive response:

“... [the organisation] admitted its weakness, co-opted the linguist who had been working against them in a lawsuit, asked for help, created a well-protected administrative entity that nurtured the project, took the advice of the trainers, and implemented a new language policy that had at least the strong potential for continuation.”

(Shuy 1998:45)

On the other hand, the organisation may react negatively. People may misunderstand what LSP consultants have done, fail to value the insights of their approaches, or specifically work against implementation of their suggestions (again, see Shuy 1998 for some examples). It is useful to recognise two sources for potential resistance: some will be the general resistance to change, to outside evaluation, to self-examination which has been well identified in the management literature on organisational change (for a review of the literature on this in a higher education context, see Blackwell and Preece 2001); and some will be specifically around the different beliefs about language which specialists and non-specialists hold, to which I now turn.

7 Conceptualisation of “language” by non-linguists

To ensure the success of consultancy research, it is important for LSP practitioners to remember that their specialist knowledge and experience of language lead them to have a conception of the nature of language which is very different from that held by non-linguists (See Shuy 1998 pp 120ff for similar points). Roberts (2003: 145) says that at this point in the research relationship, “the unremarkable and naturalised ways of doing and being an Applied Linguist are confronted by the ‘other’.” To draw on a current popular metaphor, it sometimes feels as if “LSP consultants are from Mars and clients are from Venus”. The main differences of perception would include:

<table>
<thead>
<tr>
<th>LSP practitioners (from Mars)</th>
<th>Clients/non-linguists (from Venus)</th>
</tr>
</thead>
<tbody>
<tr>
<td>everything about language is negotiable and changeable</td>
<td>we all know a language, so we are our own experts</td>
</tr>
<tr>
<td>every use of language is situated</td>
<td>there are correct and incorrect ways of writing and speaking</td>
</tr>
<tr>
<td>we separate form from function as a matter of course.</td>
<td>language is the way it is and it can’t be done differently or better.</td>
</tr>
</tbody>
</table>

The different perspectives on and conceptions about language held by linguists and non-linguists pose specific issues in the establishment of a productive working relationship and that topic alone could fill the rest of this paper (see Shuy 1998, Channell 2001, Roberts 2003 for ideas about how to establish such a relationship). However, here I continue with the theme of “the other side of the fence” by looking in more detail at the conceptualisation of language by non-linguists as exemplified in the 15 research projects under review. Experience suggests that non-linguists:

$ see language as “a bunch of discrete units” which can be put together in any way the writer likes (Shuy 1998)

$ can recognise a successful text but cannot explain why it is successful

$ confuse brevity with simplicity and clarity
I will now use a particular project as a source of examples of some of these points, as well as a case study which demonstrates effective communication between the research team and the client.

8 The language of occupational standards and vocational qualifications

This project is an example of good practice in that the client (the UK Government) recognised the existence of a specific language issue and sought specialist research and consultancy in order to learn more about the problem and to move towards a solution. “National Vocational Qualifications” (usually known as NVQs and in Scotland, Scottish Vocational Qualifications) is the unified system of vocational qualifications developed in the United Kingdom during the first part of the 1990s. The National Vocational Qualification “Statement of competence” details the outcomes that an individual has to be able to achieve in order to be considered competent in the occupation covered by the NVQ. Documentation was designed which was (and is) used by learners, tutors and assessors. The introduction of NVQs/SVQs was a revolutionary and important step forward in the delivery of vocational education in the UK (see Mansfield and Mitchell 1996 for more on the development of vocational qualifications).

As mentioned earlier, Government research had shown that users/readers reacted negatively to the language of NVQ texts. A research team based at the University of Birmingham², and also including expert occupational standards developer Bob Mansfield, was commissioned to identify the features of the texts which caused users’ negative reactions. Part of the research involved analysis of a corpus of NVQ texts (2 million words), looking for frequent patterns and comparing them with patterns in the Cobuild Bank of English. The research identified 16 different language features which made the texts difficult for their readers and then suggested ways to avoid these features and create more accessible texts. Example 1 shows an extract from the level 1 qualification for hairdressing (as it was before revision).

Element: Cutting hair into a layered form so that the inner hair is shorter than the outline hair length

Range: On straight and curly hair, wet and dry hair. With and without partings and fringes.

Performance criteria:

a) Established natural hair fall and movement by examination
b) Determined natural hair growth characteristics by checking hairline
c) Combed or brushed hair into position for cutting
d) Positioned client's head at the appropriate angle for efficient operation
e) Made small neat sections
f) Combed sections to control the hair
g) Followed guidelines throughout the cut
h) Achieved style blending short layers into longer edges
   i) Club (blunt) cut to achieve maximum weight
   j) Tapered hair using scissors or razor to reduce bulk and length
   k) Thinned hair using scissors or razor to reduce bulk
   l) Used mirrors to check balance throughout
   m) Showed client the effect of the cut using a back mirror
   n) Followed safety and hygiene procedures
   o) Completed cut within 30 minutes

Example 1 Text: NVQ level 1 in hairdressing, 1996. UK Government, National Vocational Qualifications and Scottish Vocational Qualifications. (text has since been revised) (see Channell & St.John 1996)

This text would be used by an assessor who is assessing (in this case) a trainee hairdresser, to check that this trainee can do the things that they need to be able to do to be a competent hairdresser. Each qualification is divided into elements which cover different aspects of doing the job. Then for each element there is a listing of exactly what someone needs to demonstrate to show their competency. So this is a competency based system of assessment. The research questions here were first “why is it that people found this text difficult to use?” and then “why did the authors of this text write it the way they did?”.

² Members of the research team were: Alice Deignan, Neil Drave, Malcolm Coulthard, John Sinclair, Error! Reference source not found. and Joanna Channell
This extract exemplifies a number of linguistic features which the researchers identified as the cause of the general negative comment about NVQ/SVQ texts. These included:

- Presence of unknown collocations (e.g. “performance criteria”)
- The VQ texts contained many combinations of words which did not appear in the Cobuild Bank of English and which we therefore concluded were likely to be combinations which readers would never have previously seen. If there are a few of these in a text, there is not a problem because readers use their knowledge of constituent lexical items to work out what the collocation means but if a text contains hundreds of never-before-seen collocations we believed it leads to difficulties with understanding.
- Missing words/note form
- The performance criteria in this example are not full sentences. Material has been omitted to make them shorter. The absence of reference to agents, patients or context makes it difficult to understand who is doing what and to whom. Partly this came from a drive for brevity, in the mistaken belief that if a text was shorter, then it was also easier to understand. Now, a text with elements missing is fine if the reader knows what the text is about, but if the reader is trying to learn about something new from the text, then they cannot reconstruct the missing elements.
- Non-standard use of lexis (e.g. “range”)

There were many instances in NVQs of lexis being used with a special, often technical, meaning. In this text, an example would be the word range.

9 Confusing brevity with clarity and simplicity

A competency-based description of a particular job-task produces a detailed and complex text. The amount of text needed to specify precisely all the aspects of a particular task is lengthy, as we see with the hair-cutting example. There was therefore a drive, as NVQs developed, to keep the texts as concise as possible. Attempts to make texts shorter often had the effect of making them much more difficult to understand.

The following examples from the text of the (then) qualification in retailing/store management show difficulties with texts which have been abbreviated into a type of note form.

Stock quality not meeting specification identified and reported

Example 2: Performance criterion from retailing

Here the passive voice verbs disguise who is to do what and to whom. Agentless passive voice verbs were pervasive in the VQ texts (the frequency was even higher than in scientific writing), and our focus group participants picked this feature out as something which they found offputting.

The amount of material omitted to produce the note form make recovering meaning challenging, even with cotext. The recovered meaning would be something along the lines of:

Stock of a quality which does not meet its specification is identified and reported to an appropriate person.

The drive for brevity in these texts also led writers to omit logical stages in an argument. While this can be a perfectly legitimate device for making a text more concise, it may cause difficulties for readers who are not familiar with the topic material. They are expected to infer logical stages, rather than having them made explicit. For example:

(g) displays are constructed safely by staff and are completed within the required time limits

Example 3: Performance criterion from retailing

is more difficult to understand than the longer version with more of the relevant text present:

While displays must be constructed safely by staff, they must also be completed within the required time limit

In the original text the contrast between the two requirements, and the difficulty of complying with both at the same time, is left implicit.

To make matters worse, the logical connections are obvious to someone who already has expertise in an area. So the designers seemed to fail to appreciate that someone learning about this as a new topic might miss the absent logical connections.

Another method for packing information which occurred in the NVQ texts at that time was to put information into large nominal groups. So a large nominal group would be used to describe entities or refer to processes, rather than using a full sentence to do this:

assembled displays are constructed...

(above) is more difficult than:

When you assemble displays you must construct...

because in the original text the agent, the person who assembles the displays, is left implicit.

Details of stock received and held accurately recorded

Example 4: Performance criterion from retailing

has a six-word noun phrase which is the patient of the verb recorded. It is harder to process than the longer version:
So again we have a complex set of concepts packed down by writers who believed that if they could make the text shorter then it would be easier to understand and what they actually achieved was the opposite.

10 Vague language

Given the requirement to describe as precisely as possible the various job tasks for occupations, the researchers hypothesised that the presence of vague language might be another source of difficulties in understanding (for a general description of vague language, see Channell 1994 and on writing, Channell 1999). One example was the presence of the number approximator *at least* + a number.

**element: Communicate effectively**

Performance criteria:
1. Collect full data to compose *at least 3* messages to specified individuals
2. Receive *at least 3* telephone calls for self and others, passing on the message immediately
3. Pass on *3* messages by telephone to specified individuals
4. In a simulation call to the emergency services impart all the necessary information including-correct emergency service; name and job title; location of accident problem; nature of accident problem
5. Receive *at least 3* simple job instructions (either oral, written or diagrammatic) and carry out the job
6. Complete *at least one* relevant form, writing accurately and legibly
7. Receive & direct *at least 1* visitor ensuring: visitor greeted promptly & courteously; needs identified; only disclosable information given; *all* visitors directed/escorted appropriately; reasons for delay/non-availability explained politely; security & safety procedures followed
8. Produce *at least 1* simple sketch to satisfy an identified need

Example 5 Element from Office Administration Level 1 (1996 version, since revised)

In example 5, the developers of this Standard mostly fixed on three as the number of occurrences required to demonstrate competence, though in two cases, they decided that one is enough. It is notable that performance criterion 3 does not say “at least”. The potential problems of understanding which can be seen here are:

*at least* can be interpreted vaguely

the assessor can ask for a larger number

in some cases it appears to be redundant

Arguably, *at least* is redundant in most of these occurrences. Furthermore, it will lead to different individual assessors interpreting the element in different ways. Some might decide that the specified number is what they require; while others might think that if the text says *at least* then that means that they should require more than the number specified.

In this piece of consultancy research the team was able to do three things which were helpful to the Government department which commissioned the work. We

- showed that NVQ texts are a distinctive genre
- identified 16 different linguistic features which were causing problems to readers
- recommended strategies for rewriting and redevelopment of the texts.

Our results and recommendations were persuasive to the client because we backed our findings with the presentation of quantitative data from our comparative analysis of different corpora. So they could see that these were not our subjective opinions about the texts. Apart from making the results convincing, this had the positive outcome that we avoided alienating the writers and developers of NVQs by criticising their work (our suggestion for clearer writing are in StJohn and Channell 1996; for the specific response of one of the training organisations (the Construction Industry Training Board), see the Plain Language Commission website, and for general material on clearer writing see Cutts 1996). We showed that we understood the constraints of the writing task which they had been set and the strategies they had used to accomplish it.

11 Conclusions

I would like to see a world in which, if someone is heading an organisation which identifies an issue with language, the first strategy they think of is to call on an applied linguist; and that they do this as readily as they would reach for any other type of management or financial or human resources consultant. The 15 case studies on which this paper is based all demonstrate the practical value of LSP consultancy to organisations, businesses, consumers, writers and readers. My conclusion is therefore that it is essential that AL and LSP get better known (as well known as occupational psychology or management sciences).
I believe there is a need for a major international effort to raise the profile of applied linguistics and within this, the LSP perspective. Currently much organisational consultancy is carried out either by people applying psychology or applying management sciences. I am clear that applied linguistics has a legitimate and needed place alongside these two.

Roberts described her 2003 paper as a “call to arms” (2003:133) to the applied linguistics community to ‘bring practical relevance and problem solving to the centre of our work.” I would go further, in suggesting that the relevant professional associations might do more than they currently do to promote AL.

I therefore conclude with some suggestions for how LSP practitioners might, individually and collectively, promote their work to a wider audience. These are to:

- raise the profile of applied linguistics in commercial and public sector arenas, nationally and internationally (individually, by publication and presentation, collectively by organising events and conferences designed to communicate LSP to potential users and beneficiaries)
- follow the model of other professional areas (e.g. applied psychology) - psychology has been immensely successful in selling itself outside academic psychology to organisations, to governments, to businesses as having a range of expertise that they can make use of. So psychology has a high profile in public perception and I think, particularly in a British context, that it is a good model to follow, in terms of how the psychology profession has achieved that.
- network with other types of “expert” consultants
- use concrete examples of useful analysis
- use communication failures as a way to “pitch” for consultancy business
- be available and easy to find
- adopt and maintain a neutral rather than a “critical” stance.

Much has been achieved in the arena of linguistics applied to education and language learning; there remains much more to do in other areas of language in working life.

References


Grice, H. P. (1968) “Utterer's meaning, sentence meaning and word meaning”, Foundations of Language 4, 1 - 18


The Plain Language Commission, recent projects. [http://www.clearest.co.uk/recentproj.htm](http://www.clearest.co.uk/recentproj.htm) [accessed 18 January 2004]

1.2 Case Studies:

1.2.1 Federica Scarpa

Using an Italian diachronic corpus for investigating the "core" patterns of the language of science*

Federica Scarpa
SSLMIT, University of Trieste

1 Introduction

The influence of English on the Italian LSPs – especially at the lexical level – is a well-documented phenomenon (among others, cf. Dardano 1994 and Cartago 1994). Such an influence has been postulated also on the patterns of text production in terms of a higher level of linearity and comprehensibility, at least for the special language of economics (Cozzi 1996: 327). To a certain extent, this would also entail that, in the last 30 years or so, under the influence of the English language of science, a variation has occurred in the meaning-making practices of the Italian scientific community (cf. Lemke 1991). In this paper I tentatively aim to test the true extent of the influence of scientific English on its Italian counterpart at linguistic levels other than terminology. In so doing, I also hope to provide a small contribution to the hypothesis of "core" patterns in scientific discourse across different languages, which is implied in Halliday’s "prototypical syndrome of features that characterizes scientific English" (1993: 54). To this end, I have monitored over a 60-year time span the evolution of the Italian language of the specialized subject field of dermatology by investigating a small corpus (60,411 words) of texts, mainly on the topic of acne, written by a variety of authors and belonging to the genre "textbook on dermatology". The specific patterns of scientific language which have been monitored for development over time are mainly by-products of "grammatical metaphor", the process whereby meanings are multiply-coded at the level of grammar, which Halliday and Martin (1993) see as the most characteristic feature of the written "discourse for doing experimental science". These patterns are: simple structure of clauses and sentences, choices realizing the Theme, nominalization and cohesive devices of conjunction.

The basic assumption underlying my study is that, under the influence of English, the Italian language of science has varied its patterns of text production in terms of a higher level of technicality and abstraction (cf. Martin 1991). To monitor this hypothesized evolution, I investigated the lexicogrammatical patterns used for organizing information in portions of the different texts 'doing the same things', ie. describing the age of onset of acne, and defining and classifying the terms "comedone" and "acne".

2 The corpus

According to the typology of corpora proposed by Laviosa (2002: 33-38), this is a written corpus which is sample (portions of texts selected according to the topic of interest, ie. acne), diachronic (texts produced over a relatively long time span, ie. 1939-2000), terminological (texts originating within a specialized subject field, ie. dermatology), and single monolingual (one set of texts all in Italian).

Looking in more detail at the "sample" category, the sample texts contained in the corpus can really be considered to be full texts because of the very nature of the textbooks they were taken from, which are divided into various chapters/sections, each centred on a different topic.

The corpus is also predominantly (18 out of 20 texts) non-translational, consisting of Italian texts by authors – highly reputed university professors whose textbooks were very influential in their own time – writing in their native language. The only texts which are translational (Andrews and Manganotti 1964; Fitzpatrick, Johnson, Polano, Surmond and Wolff 1992), ie. not originally produced in Italian but translated from English, make up between the two of them only 2,489 words out of the total 60,411 (4.1%) and have been included to provide a benchmark for the comparison between the predominantly non-translational element of the corpus and two original English textbooks (Rook, Wilkinson and Ebling 1979; Caputo, Ackerman and Sison-Torre 1990).

However, there are at least two discrepancies in the design of the corpus, which are both due to the subjective difficulty of finding in both private and public libraries medical textbooks dating before 1980, because of the obvious problems linked to the relatively quick 'ageing' of their contents:

* My heartfelt thanks to my father for his invaluable help in suggesting most of the textbooks included in the corpus, for finding them – in a few cases in his personal library but more often in public libraries in Rome – and, in many cases, photocopying the relevant parts for my use. A dermatologist himself, as his father was before him, he was only too glad to give me his advice and support, and I to benefit from both.
1) the texts published in 1939 have a much lower level of similarity concerning the topic, because they do not deal specifically with acne but much more generally describe diseases manifesting themselves via dermatological signs (e.g. chicken-pox, rubella);
2) the word counts of the sub-corpus for the 1960s/1970s and the sub-corpus for the 1990s are considerably smaller than the size of the other two sub-corpora:

### Word count of each sub-corpus

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total word count</td>
<td>24,988</td>
<td>6,526</td>
<td>19,102</td>
<td>9,795</td>
</tr>
</tbody>
</table>

Moreover, of the three texts published in the 1960s/1970s, one is a translation (Andrews and Manganotti 1964) and one more strictly belongs to the genre "compendio" (Tagliavini 1973), i.e. a small guide on the morphology of dermatological diseases, where the text is only ancillary to the illustrations. The corpus has been investigated both automatically, by using the suite WordSmith Tools by Oxford University Press, when looking for lower-level features in individual words and word-clusters (e.g. cohesive devices and nominal groups), and manually, when searching for higher level patterns in and between clauses and sentences.

### Sentence and clause structure

Different languages present information in a different order and therefore vary quite considerably in the way their syntax encourages different types of sentence structure and thematization, even though some genres are more different than others (cf. Maia 1997). Given that Italian syntax, just like other Romance languages, allows for a greater complexity of structure than English, I started my analysis by considering the average sentence and paragraph lengths in the texts of the corpus, expecting to find a progressive shortening of both over time:

### Word count of mean sentence and paragraph length

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean sentence length</td>
<td>53.76</td>
<td>25.64</td>
<td>37.85</td>
<td>32.16</td>
</tr>
<tr>
<td>Mean paragraph length</td>
<td>545.70</td>
<td>130.21</td>
<td>212.42</td>
<td>140.11</td>
</tr>
</tbody>
</table>

As shown from the table above, sentence and paragraph lengths have indeed reduced over time, though not in the gradual way I expected. The sharp drop in the figures for the 1960s/1970s, however, can be at least partially explained by the imbalance in the corpus design mentioned earlier. Interestingly, without the translational text (Andrews and Manganotti 1964) the values for the 1960s/1970s sub-corpus have a slight increase in both parameters (sentence length = 26.62 and paragraph length = 136.56), which somehow corroborates my prediction of a progressive shortening of sentence and paragraph length over time, given the well-known tendency of translators to maintain the sentence structure of the source text. However, in this word count a sentence has been typically considered as ending with a full stop, question mark or exclamation mark (and followed by a capital letter), a constraint which does not take into account the possibility that some functional changes may have occurred in Italian punctuation rules over the 60 years spanned by the corpus, possibly also under the influence of English discourse. For example, let us consider the following four instances, all dealing with the age of onset of acne, where such a functional evolution of punctuation seems in fact to emerge:

La malattia compare frequentemente all'epoca della pubertà (di qui il nome di acne giovanile); ha deciso molto cronicamente e con alternative di miglioramenti e di esacerbazioni: scompare qualche volta spontaneamente con l'avanzare dell'età, oppure sotto cure opportune generali e locali; ma si ripresenta con facilità. In alcuni casi si vede la malattia presentarsi per la prima volta nella età adulta: spesso sono in gioco in questi casi eventi interni speciali (vedi eziologia). (Radaelli 1948)

L'acne è una condizione molto comune nell'adolescenza: nella sua forma coniugata interessano il 40-50% dei giovani; questa incidenza aumenta notevolmente se si tiene conto della occasional presenza di comedoni e pustole soprattutto nei maschi della stessa fascia anagrafica. Compare alla pubertà tra gli 11 e i 13 anni e raggiunge la più alta incidenza tra i 15-17 anni. Le forme più gravi si osservano in circa il 3% dei maschi, meno frequentemente nelle donne. (Angelini and Vena 1985)

L'acne volge colpisce in genere soggetti con un range di età variabile da 13 a 24 anni con ampie oscillazioni individuali. L'acne può persistere o anche comparire oltre questa età e ad essere colpita, in questi casi, più di frequente è la donna. (Vena and Cassano 1998)

Essendo all'pubertà con un picco di incidenza e gravità fra i 14 e i 17 anni nelle femmine e fra i 16 e i 19 anni nei maschi. E' rara l'insorgenza in età più precoce e la durata oltre i 30 anni. (Rebora and Marchesi 2000)

While all four excerpts consist of paratactically related clauses (both below and above the clause complex level), there is a progressive reduction in the use of colons and semi-colons, which in the two most recent excerpts have been substituted by full-stops. In this respect, Angelini and Vena's excerpt provides an intermediate link in this gradual shift between Radaelli's use of colons and semi-colons – where commas could have in fact been more congruently used (all first three clauses have the same grammatical Subject malattia) – and the two most recent excerpts.

Closely linked to the greater length of sentences is the issue of their grammatical intricacy, with clause complexes in earlier texts tending indeed to contain more clauses than later texts but with no comparable shift from a hypotactic to a paratactic type of
relation between clauses. Though the earlier Italian texts contain undoubtedly more hypotactical links than the later ones\(^1\), their level of grammatical intricacy is still relatively low compared to contemporary non-specialised texts.

A more fundamental shift is exemplified in Text 1 (Appendix) and is the transition to a progressively more technical and abstract scientific discourse, as reflected in the gradual building up of that "taxonomizing focus" which Martin (1991) sees as distinguishing scientific discourse from other types of texts. Though Martin's observation is of course valid for other scientific discourses than English, as far as the Italian corpus on acne is concerned in the earlier texts such taxonomies do indeed exist\(^2\) but tend to be "implicit" in Trimble's sense, i.e. where "all of the classifying information is included but is not stated as such" (Trimble 1985: 90). As such they are not "complete" classifications, which are explicit in that they provide three kinds of information: the item being classified, the class to which the item belongs and the basis (or bases) for classification (Trimble 1985: 86).

While the first excerpt (Radaelli 1948) in Text 1 is merely a physical description of the comedone, in the second (Monacelli and Nazzaro 1967) the relational process (costituiscono) introducing comedones in the very first clause establishes some level of abstraction by identifying comedones as the *lesioni elementari primitive* of acne and then roughly distinguishing them into two subclasses on the basis of the differences between them (incassati in un orifizio follicolare and disposti alla sommità di una piccola rilevatezza biancastra rotondeggiante). The classification of comedones becomes progressively more explicit and elaborate in the later texts until, in the most recent one (Rebora and Marchesi 2000), the taxonomy is built first by establishing a superordinate (*Il comedone è una dilatazione dell'infundibolo del pelo...*) which is then broken down in two subclasses (*comedoni aperti* and *comedoni chiusi*), both elaborated by the appositions "punti neri" and "punti sottopelle" and defined in terms of the differences between them (*con orifizio dilatato di colore scuro vs. con orifizio molto piccolo (...), vere microcisti follicolari*).

Such an evolution makes it not unreasonable to hypothesize that, under the influence of the English pedagogic discourse of medicine, its Italian counterpart may have acquired a standardized pattern for constructing explicit (complete) taxonomies. The tendency to taxonomize and, more generally, to heavily organize and classify information in checklists, seems in fact to be a feature of the English discourse of science and, in the case of acne, in both the English textbooks taken as reference (Rook *et al*. 1979 and Caputo *et al*. 1990) comedones are classified very explicitly indeed.

Turning now to definitions, the rhetorical organization of the texts of the corpus does not show an equally clear evolution as in the pattern of classification. Text 2 (Appendix) consists of the definitions of "acne" in all the texts of the corpus but two (Radaelli 1948 and Ribuffo 1987), where the pathology is never formally defined. In all cases, the definition of acne is also the first sentence of the text\(^3\) and consists of a Token (the technical term to be defined)\(^4\), an identifying relational process (*è, si intende, si definisce*) and a Value (the information needed to define the term) (cf. Martin 1991: 311-313). The ten definitions vary in terms of the amount and precision of the information they provide: in Trimble's sense (1985: 75-79) most are simple, i.e. made up of one sentence, (Anders and Manganotti 1964; Monacelli and Nazzaro 1967; Panicconesi 1982; Binazzi 1985; Sapuppo 1986; Fitzpatrick *et al*. 1992; Rebora and Marchesi 2000), as opposed to complex (or expanded), i.e. definitions incorporating a description and/or classification (Angelini and Vena 1985; Cerimele and Saccabusi 1988; Vena and Cassano 1998). The simple definitions are either (overwhelmingly) formal, i.e. containing all three basic defining elements – the term being defined, the class of which it is a member and the sum of the differences distinguishing this term from all other members of the class – or, in only one case (Sapuppo 1986), non-formal (there is no clear statement of the differences).

Definitions, however, provide a very good example of the evolution of some of the choices which realize the Theme in the texts of the corpus. From a comparison and between the two earliest definitions of acne in the corpus (Anders and Manganotti 1964; Monacelli and Nazzaro 1967), in the translational text (1964) the term to be defined is Subject-Theme in an unmarked topical position (*L'acne volgare è...*), whilst in the non-translational text (1967) the term *acne giovane* is encapsulated in a prepositional phrase (*Adjunct*) (*Con il nome di acne giovane ... si intende...*) in a marked pre-topical position. Assuming that the translation (1964) has maintained the same word order as the original,\(^5\) such a difference is consistent with Evangelisti's (1994) findings in her contrastive analysis of Italian and English textbooks on psychology: in English definitions, the term to be defined was introduced straight away and functioned as Subject-Theme (*X is...*), whilst in Italian definitions there was a preference for the less linear and compact structure *Con X ci si riferisce a...*, where the term to be defined was encapsulated in a prepositional phrase in a marked pre-topical position followed by an impersonal verb functioning as topical Theme (cf. *si intende* in Monacelli and Nazzaro 1967 and *Si definisce* in Binazzi 1985). As all the later texts in the corpus except Binazzi (1985) and Rebora and Marchesi (2000) use the pattern *X is...*, it is not unreasonable to speculate an influence of English on Italian definitions in the choice of the Token as realizing the Theme.

Turning now to the choice of the characteristic elements which realize the Theme outside definitions, rather expectedly in later texts the most recurrent Themes are nominalizations, whilst in earlier texts there was a wider variation of thematization in relation

---

1. See for example in Radaelli (1948) the hypotactical clause (*se il follicolo viene...*) in the second line of the definition of "comedone" in Text 1 (Appendix).
2. See for example the extended classification of different types of jaundice taking up to three-quarters of the whole text in Ferrari (1939).
3. In both the texts where acne is not formally defined, the first sentence focuses instead on the symptoms and signs of acne: "Nella sintomatologia dell'acne volgare busogna portare l'attenzione sopra due ordini di fatti: le alterazioni della secrezione e della eliminazione del sebo cutaneo ed i fatti infiammatori follicolari e perifollicolari" (Radaelli 1948); "Il quadro inizia con seborrea e comedoni (acne comedonica), i quali si presentano come punti neri localizzati a livello dell'orifizio follicolare. Compiono successivamente, sempre in sede follicolare, lesioni a carattere infiammatorio sotto forma di rilievi papulosi e di pustole (acne papulo-pustolosa)" (*Ribuffo 1987*).
4. In Caputo *et al*. (1990), where the Token is referred to anaphorically as *cosi*, the technical term "acne" is the title of the section, only one line above the definition.
to a higher flexibility of word order of Italian compared to English. In partial accordance with Nwogu and Bloor’s (1991: 380) findings relating to medical research articles, I found a progressive increase of the following two syntactical items functioning as Theme: “simple/complex nominal group” (functioning as non-agent Subject of passive clauses) and "prepositional phrase (Adjunct) plus nominal group". As for the third typical realization found by the two researchers, ie. "adverbal group (Adjunct) plus nominal group", an analysis of the adverbs ending in the suffix -mente has yielded the following results:

### 3 Word count of adverbs ending in -mente

<table>
<thead>
<tr>
<th>Year</th>
<th>Sentence-initial adverbial groups</th>
<th>Total hits</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1939-1948</td>
<td>16</td>
<td>260</td>
<td>6.15</td>
</tr>
<tr>
<td>1964-1973</td>
<td>4</td>
<td>105</td>
<td>3.80</td>
</tr>
<tr>
<td>1982-1988</td>
<td>255</td>
<td>219</td>
<td>11.41</td>
</tr>
</tbody>
</table>

Looking at the percentage column of the Table above, an increase of adverbs in thematic position seems indeed to emerge, though not as progressively as expected, whilst the low percentage for the 1964-1975 set could once again be partially explained by the discrepancy in the corpus design relating to the 1960s/1970s texts. The high percentage of sentence-initial adverbs in the 1982-1988 set could be ascribed to a particularly marked influence of English word-order rules on Cerimele and Saccabusi’s (1988) language, whose text, in fact, also happens to be the longest for this time span (7,745 words). Interestingly, however, at the level of individual texts, the one having the lowest percentage of hits per 1,000 tokens (3.58%) in the whole corpus is the translational text by Fitzpatrick et al. (1992), with the possible exception of the even lower percentage (1.89%) relating to the very brief compendium (550 words) by Tagliavini (1973).

I also found a very slight but rather consistent increase in the thematicization and, more generally, in the use of selected conjunction groups functioning as logical connectors between clauses and sentences:

### 4 Word count of specific conjunctive expressions (s.i. = sentence initial)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>s.i.</td>
<td>other</td>
<td>s.i.</td>
<td>other</td>
<td>s.i.</td>
</tr>
<tr>
<td>In effetti</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>In realtà</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>D’altronde</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5</td>
</tr>
<tr>
<td>In primo luogo</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>In tal modo</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Nonostante</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>D’altra parte</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

The only conjunctive which seems to have clearly shifted its position at the beginning of the message is d’altra parte, whilst in effetti, in realtà and d’altronde seem to have suddenly appeared in the Italian language of dermatology – both as sentence openers and not – in the 1980s. Both the shift in the position of d’altra parte and the rather recent appearance of in effetti, in realtà and d’altronde might once again be not unreasonably explained by the influence of a literal translation of the English adverative conjunctive expressions on the other hand (mostly sentence opening) and in fact.

### 4 Nominal style

Nominalization is the linguistic resource par excellence of technicality and abstraction (Martin 1991: 315). This feature is also to be found in Radaelli’s (1948) text, where the use of grammatical metaphors is more frequent than expected, given the traditional importance allocated by Italian authors to the verbal process; eg. in Text 1 …dovuta ad un aumento di secrezione con secondaria (instead of “al quale ha fatto seguito una”) ipercheratosi dello sbocco follicolare; …è ammissibile che alla determinazione del (instead of “a determinare i”) fatti infiammatori acneici concorra l’azione di micorganismi. Still, in the corpus there is a progressive increase of nominalizations. This shift of emphasis on objects rather than processes – with the resulting grammatical foregrounding of identifying relational processes – can be found especially in the explanatory portions of the texts, which are organized through actions ordered in time (cf. Martin 1991: 323). For example, the material process se il follico lo viene presso fra due unghie si vede che il punto nero si solleva seguito da una specie di vermicia tavello bianco-gial licio untuoso al

---

6 Sentence-initial adverbials are those occurring after a full-stop, a semi-colon, a colon and an open parenthesis sign and can also be pre-modified by grammatical items like più (eg. Più frequentemente) and solo (Solo raramente).

7 Mostly, though not exclusively, in Cerimele and Saccabusi (1988). An interesting observation about the influence of English on Italian punctuation is that in the 1982-1988 texts the sentence-initial adverbial is only occasionally followed by a comma, whilst in the 1992-2000 set it usually is.
tatto (Text 1) is realized verbally as a clause in Radaelli (1948) and, a few lines after the definition of “comedone” provided in Text 1, in Panconesi (1982)\(^8\), but – if referred to at all – in later texts is realized nominally (la spremitura)\(^9\):

- La spremitura del follicolo pilosebaceo corrispondente lascia uscire un filamento biancastro, untuoso e molliccio, di 2-3 mm di lunghezza (...)
  (Monacelli and Nazzaro 1967);
- La spremitura del follicolo fa uscire (...) il comedone, formazione biancastra cilindrica, costituita da sebo, cellule cornee (...) (Binazzi 1985);
- La sua spremitura dà adito alla fiorusscita di un corpiceolo vermiforme biancastro (Sappudo 1986);

Con la spremitura dei comedoni aperti si ottiene l’uscia di materiale grasso vernicolare (Cerimele and Saccabusi 1988).

This shift towards the nominal style is closely connected to a corresponding depersonalization and objectification of discourse, entailing the gradual disappearance of the researcher as participant. In particular, concerning the use of personal reference, this is one of the aspects of cohesion distinguishing earlier from later texts. For example, the first person personal pronoun noi has been found only in De Filippi (1939) (2 hits) and Radaelli (1948) (1 hit); the clitic ci has been found in Ferroni (1939) (3 hits), De Filippi (1939) (5 hits) and Radaelli (1948) (2 hits), and only once in Vena and Cassano (1998); the possessive pronoun nostro\(^*\) occurs once in Ferrari (1939), twice in Radaelli (1948) and once in Andrews and Manganotti (1964). The fact that personal structures are so scarce in later textbooks\(^10\) points to a progressively lower focus on the researcher as a participant and, more generally, on individuals\(^11\), which I think is a rather unfortunate evolution in the discourse of this field. After all, if what Sacks (1985, quoted by Francis and Kramer-Dahl 1991: 340) wrote about neuropsychology can be applied to medicine in general, medicine is a discipline on the borderline between the natural ‘hard’ sciences and the human ‘soft’ sciences, and therefore its scientific rigour should be tempered by the fact that it has the human subject at its centre.

5 Conclusions

There are three speculative conclusions that can be drawn from this study. The first is related to the question: To what extent has English influenced Italian text production patterns in this particular genre? Based on my findings, I believe that the increase over time of any of the patterns taken into account can indeed be correlated to the influence of the norms and conventions of scientific English on its Italian counterpart. Of course these results should be further substantiated in the same corpus by similar findings in different patterns, such as the investigation of generic organization, aspects of modality and the use of the passive voice. Another possible field of enquiry could be opened up by the cross-checking of these results against findings from searches conducted on a bilingual comparable corpus made up of the Italian texts considered in this study and a number of English textbooks on the same topic, possibly published over the same time span. However, one important fact that has emerged from this study and should not be overlooked is that the discursive patterns of different authors writing in the same years (especially in the 1982-1987 texts) can be more or less anglicised, a lack of consistency that could be investigated not only in relation to the authors’ personal style and mastery of the Italian language, but also in terms of more objective factors such as the age of the author and the pedagogic function of the text he is writing.

The second conclusion relates to the question: To what extent does such an influence entail a shift toward higher comprehensibility? Going back to Cozzi’s (1996: 337) observation for the Italian LSP of economics that the influence of English has resulted in a higher level of linearity and comprehensibility, it could be argued that the rise in the level of cohesion (higher degree of cohesion), syntactic simplification (higher frequency of parataxis and nominal style) and explicitness (of classifications and definitions) found in the diachronic corpus could result in a discourse which is more easily accessible by learners. However, it must also be said that, as for its English counterpart, the massive – and occasionally excessive and inappropriate – use of grammatical metaphor in the resulting Italian discourse makes it so lexically dense and ‘incongruent’ that at times – as Halliday (1993: 70, 84) himself remarks – one cannot help feeling that discourse is unnecessarily made more difficult to understand than it need be. In this sense, ‘learning science’ is not strictly the same thing as learning the language of science and the authors of textbooks should be motivated not only by the functional constraint of purpose (higher objectivity) but also by the contextual constraint of the assumption that the level of knowledge of their readers is relatively low (cf. Nwogu and Bloor 1991: 382-383).

The third and last conclusion relates to the question: To what extent do the results of the study confirm Halliday’s postulation of “core” patterns in the discourse of science across different languages? The specific patterns of scientific discourse which I have monitored for development over time (simple structure of clauses and sentences, choices realizing the Theme, nominalization and conjunctives) are all by-products of grammatical metaphor and therefore have all – to a greater or lesser extent – characterized the Italian texts of the corpus well before the 1960s-1970s\(^12\), the decades when English supposedly started to exercise its influence. This is true also for other features such as a “taxonomising focus” and the preference of both languages for building definitions through relational processes of the identifying type. A clear pattern that seems to emerge from the study, however, is that through

... dà origine alla formazione del cosiddetto filamento seborroico (che può essere osservato macroscopicamente sprendendolo ad esempio dalle ali del naso di un soggetto “seborrhoico”) considerato il pre-comedone (Panconesi 1982).

As further evidence of the progressive nominalization of the Italian medical language, in the first two excerpts of Text 1 the material verbal process lascia uscire (plus Object) becomes an abstract relational process realized by the structure Empty verb (dà adito/lo ottiene) plus nominal group in the last two excerpts.

Of course a more thorough search could be conducted, eg. for items in the first-person plural ending in -amo and -emo.

A further example of such a progressive depersonalization is provided by the count of the occurrences of the inanimate item studi as Theme-Subject of a predicate usually referring to an animate agent (eg. evidenzia, indichia, presentare etc.). The influence of English can once more be hypothesized on the basis of the increase over time of such pattern: out of a total of 11 hits in the corpus for the item studi (1 in Ferrari 1939, 1 in Angelini and Vena 1985, 1 in Ribuffo 1987, and 8 in Vena and Cassano 1998), the specific pattern under consideration occurred 5 times, 4 of which in the 1998 text (and the remaining one in the 1987 text).

cf. Halliday and Martin (1993: 15) seeing in Galilei’s Italian an example of instantiation of grammatical metaphor, ie. the union of nominalization with recursive modification of the nominal group that is the semiotic realization of the birth of science.
its influence English has greatly amplified some features of the Italian discourse of science, such as the nominal style and the related progressive depersonalization of prose. Following Lemke's dynamic perspective of text production\(^\text{13}\), such changes should be mostly viewed in the light of the mind-boggling progress made by medical research in the last 60 years and the consequent evolution in the practices and the discourse of the Italian scientific community. The influence of scientific English on other scientific languages like Italian can therefore be considered as the construction of an increasingly technical and abstract scientific discourse across different languages, functioning as a common "semiotic technology" (cf. Martin 1991: 307), because it enacts today's broad consensus about what constitutes scientific practice (cf. Halliday 1993: 67). The evolution of the Italian language of dermatology under the influence of English, therefore, should not be seen in negative terms as a loss of individuality and distinctiveness but rather as a positive step towards a true internationalization of the paradigms of science.

References


The corpus

(1939-1948)


(1964-1973)


(1982-1987)

\(^{13}\) "the text is a product and a record of meaning-making processes which are essentially dynamic. These processes are social semiotic practices, the signifying practices of a community" (Lemke 1991: 36).
Il comodeo si presenta come un punto nero della grossezza di un capo di spillo o di un grano di miglio che occupa lo sbocco dilatato di un follicolo: se il follicolo viene compresso fra due unghie si vede che il punto nero si solleva seguito da una specie di vermicciatello bianco-gialliiccio untuoso al tatto. Il comodeo è costituito da cellule cornee e da sebo. (Radaelli 1948)

I comodeoni costituiscono le lesioni elementari primitive; appaiono come piccoli punti neri più o meno evidenti, incassati in un orifizio follicolare o disposti alla sommità di una piccola rilevatezza biancastra rotondeggiante. La spremitura del follicolo pilosebaceo corrispondente lascia uscire un filamento biancastro, untuoso e mohliccio, di 2-3 mm di lunghezza, con l'estremità biancastra o nerastra in rapporto all'ossidazione dei lipidi della cheratina e all'accumulo di polvere sulla parte scoperta. (Monacelli e Nazzaro 1967)

Il comodeo così formato (miscela di strato corneo, di germi, di lieviti, di lipidi e di pelo) può essere aperto verso l'esterno con il quale parzialmente comunica attraverso il tappo ipercheratosico-pigmentato (punto nero) o chiuso perché il poro residuo del follicolo è divenuto solo virtuale. (Panconesi 1982)

La più semplice è l'acne comedonica, caratterizzata dalla presenza di un rilievo papulo-nodulare biancastro miliare, del diametro di 1-2 mm, sulla cui superficie, con l'aiuto di una lente, si può riconoscere lo stoma accollato (comodeo chiuso) oppure dilatato ed ostruito da materiale nerastro (comodeo aperto). La spremitura del follicolo fa uscire, in entrambi i casi, il comodeo, formazione biancastra cilindrica, costituita da sebo, cellule cornee, detriti e germi: la zona nera nella parte distale del comodeo aperto è costituita da polvere e da melanina. (Binazzi 1985)

La massa cheratinica e lipidica piuttosto compatta che in questo modo viene a formarsi, riempendo il lume dell'unità pilosebacea, forma un tappo a livello della apertura dilatata, dando così origine ad un comodeo chiuso ("punto bianco"). Se invece questa massa comedonica protrude dal follicolo, si ha un comodeo aperto ("punto nero"): il colore è legato all'ossidazione dei lipidi. Con l'ulteriore distensione del follicolo le pareti si fissurano e si rompono: ciò porta al passaggio nel derma di sebo, cheratina e batteri ed alla conseguente formazione delle lesioni infiammatorie (papule, pustole, noduli, cisti). (Angeli e Vena 1985)

L'epitelio in tale sede mostra infatti un'esaltata attività proliferativa ed un turnover cellulare accelerato; la conseguente ipercheratosi provoca l'obstruzione del dotto pilosebaceo. In tal modo insorge il comodeo chiuso, che, attraverso processi infiammatori, può evolvere nelle altre lesioni tipiche dell'acne; il comodeo aperto, invece, si forma quando le alterazioni della cheratinizzazione interessano anche l'acroinfundibolo; in quest'ultimo caso però il suo contenuto può essere agevolmente eliminato. (Vena e Cassano 1998)

Il comodeone è una dilatazione dell'infundibolo del pelo contenente soprattutto cheratina, ma anche lipidi, pigmenti melanici, batteri microaerobici (specialmente Propionibacterium acnes) e peli. Si distinguono comodeoni aperti con orifizio dilatato di colore scuro ("punti neri") e comodeoni chiusi con orifizio molto piccolo ("punti sottopelle"), vere microcisti follicolari. (Rebora e Marchesi 2000)
eventualmente di noduli e cisti, localizzata al volto e al torace di giovani di entrambi i sessi, dal decorso prolungato e, nei casi più gravi, dal trattamento assai difficile. (Panconesi 1982)

L'acne è una dermatosi cronica infiammatoria del follicolo pilosebaceo a patogenesi multifattoriale. Essa è clinicamente caratterizzata dalla formazione di comedoni aperti e chiusi, papule, pustole, papulo-pustole, noduli e cisti ed interessa le aree ricche di ghiandole sebacee, quali il viso, le spalle e le regioni mediatoraciche. L'affezione risolve spontaneamente nei primi anni della seconda decade di vita. (Angelini and Vena 1985)

Si definisce così (ακνή in greco significa fioritura) una dermopatia caratterizzata da lesioni del follicolo pilo-sebaceo nelle sedi della seborrea. (Binazzi 1985)

L'acne volgare o giovanile è una forma morbosa estremamente frequente che senza predilezione di sesso insorge in genere alla pubertà e tende a risolversi verso il 20o-25o anno di età; non raramente si evidenzia familiarità. (Sapupo 1986)

**Definizione.** L'acne volgare è una malattia del follicolo pilo-sebaceo che inizia con cheratinizzazione anomala della porzione più bassa dell'infundibolo (infrainfundibolo), con accumulo di materiale sebaceo e cheratinico e conseguente dilatazione del follicolo stesso (comedone), che secondariamente va incontro a flogosi. È caratterizzata dalle seguenti lesioni che possono essere tra loro variamente associate: comedoni, papule, pustole, noduli, cisti. Tale molteplicità giustifica la denominazione di acne polimorfica; in genere primo a comparire è il comedone che è lesione non infiammatoria. Esito non obbligatorio è la cicatrice che può essere atrofica o cheloidea. (Cerimele and Saccabus 1988)

L'acne è un'infiammazione cronica dell’unità pilo-sebacea di alcune aree (volto e tronco); compare nell’adolescenza e si presenta sotto forma di comedoni, papule, noduli, cisti o papulo-pustole; spesso, ma non sempre, esita in cicatrici atrofiche o ipertrofiche. (Fitzpatrick et al. 1992)

L'acne è una patologia che interessa l'unità pilosebacea. A dimostrazione di ciò depone anche il fatto che i follicoli pilosebacei rappresentano l'unica struttura follicolare reperibile nella cute acneica e che il loro numero risulta molto più elevato nei soggetti affetti da acne. (Vena and Cassano 1992)

Per acne si intende un processo infiammatorio delle unità follicolo-sebacee caratterizzato da papule, pustole e talvolta noduli ed esiti cicatriziali, la cui lesione elementare è il comedone. (…) Le acni si distinguono in acni endogene e acni esogene. (Rebora and Marchesi 2000)
1.2.2 Maria Teresa Musacchio

The distribution of information in LSP translation. A corpus study of Italian

Maria Teresa Musacchio
University of Padova/University of Trieste

1. Introduction

Research in LSP translating has shown that in science and technology target texts are expected to sound natural and idiomatic – that is, to leave readers under the impression that they are originals. On closer inspection, the assessment of how natural an LSP translation sounds often rests on an evaluation of quality and consistency of terminology – in particular “extended” or compound terms, subtechnical vocabulary and specialised phraseology. Yet terminology only makes up a small part of a technical or scientific text: corpus analysis has shown that in these areas too the most frequent words are mainly closed-class, general-language words. It is clear, then, that the naturalness of LSP translations derives from a blend of different elements, lexical as well as syntactic – not to mention stylistic conventions as to text types. Moreover, if special language texts are considered that are not drafted in English – the international lingua franca of science and technology – they are supposed to reproduce the information structure that is typical of their language. Based on the extent of adherence to target-language specific norms and conventions, researchers have variously concluded that translation gives rise to a “third code” (Frawley 1984), that it is has to be studied as a genre of its own (Baker 1993) and that translating as a process is subject to source language interference (Toury 1995). Pursuing the idea of linguistic features that are typical results of translating, Baker (1993: 243-245) has classified them in six categories – explicitation, simplification, normalisation of grammar, avoidance of ST repetitions, naturalisation (exaggerating features of the target language), and distinctive distribution of lexical items. Subsequent research has identified other possible categories such as natural linear order and structural weight of sentences, (possible) ambiguity, limits to sentence reordering, separating and linking of clauses (Doherty 1997a and 1997b). It can be argued that these classifications are overlapping to a greater or lesser extent. For example, simplification is a way to reduce structural weight, while separating or linking clauses can be regarded as a process of naturalisation and normalisation of grammar reflects attempts to re-create the natural linear order of TL sentences. In this paper, Doherty’s terminology will be preferred because it focuses more on the syntactic and textual aspects of the influence of a source language on a target language.

Considering the nature of the corpus analysed in this paper – popular science articles – another relevant perspective to this kind of investigation is the one offered by Myers (1992: 142) who points out that in scientific journal articles the material is organised hierarchically according to the scientist’s argument and to an arrangement of time in parallel series of events. This creates a narrative of science, whereas popular science articles construct a chronological narrative of scientific facts, focus on the observation of nature following the natural history tradition and therefore provide a narrative of nature. On a textual level, then, popular science articles – compared to scientific journal articles – show a distinctive organisation, syntax and vocabulary. In Scientific American, for example, editorial changes in syntax to fit the conventions of the genre take three forms “(1) rephrasing of introductory statements as questions and answers; (2) rephrasing of compound and complex sentences into several more simple sentences; and (3) rephrasing passive and impersonal constructions in active voice” (Myers 1990: 175).

2. The distribution of information

Linguistic research in the distribution of the elements making up a message in different languages shows that the representation of the information is language-specific and that there are language-specific focus-attributing positions within the syntactic structure of sentences. With reference to the language pair that will be compared and contrasted in this paper – English and Italian – it should be pointed out that in English right-branching clauses are easiest to comprehend. Extensive clause embedding renders sentences awkward and indeed incomprehensible if the clauses are positioned initially in the sentence, where the length and complexity of the clauses contravenes the principle of end-weight (Quirk, Greenbaum, Leech & Svartvik 1985: 49-52). In Italian the principle of end-focus also applies as the most important information is usually placed at the end of the sentence (Benincà, Salvi & Frison 1991: 121). However, Italian exhibits several structures where constituents are extracted and moved to the initial position of the sentence in a sort of “free zone” (Benincà 1993: 255) in order to reduce structural weight. Further, according to Halliday and Martin (1993: 16) languages have a distinctive way to construct reality in science; English follows empiricist lines, French rationalist ones. If French is taken to be a typical example of a Romance language, it is even clearer that there is a language-specific distribution of information. In translating, then, awareness of the different distribution of information in SL and TL is important for successful communication as it is “a function of optimal processing conditions, varying according to language specific parameters” (Doherty 1997b: 72). In LSP translating this is even more important as adequate transfer of contents is essential.

3. Method

This corpus-based investigation is carried out in two stages. In the first stage, features of information structure and focus-attributing positions are studied in a corpus of English-Italian translations of popular physics articles to identify examples where wording does not appear to reflect the natural Italian word order. In the second stage these features are compared with those of a
corpus of original Italian articles on the same topic to see if the Italian information structure is used in translation or whether target texts reproduce the original English information structure. Corpus analysis is partly computer-assisted using dedicated software – WordSmith Tools (Scott & OUP 1998). The corpus is also compared with the contemporary Italian component of a larger corpus of nuclear physics jointly developed by the University of Surrey and the University of Trieste (Ahmad & Musacchio in print). The aim of analysis is to trace strategies that can be implemented in LSP translating and translation revision (1) to balance information structure or (2) reduce structural weight of sentences, (3) to improve cohesion and (4) re-instate the typical Italian construction of reality along logical lines in popular science. Given the relevance of content in science these aspects will also be studied with a view to detecting possible ambiguities.

4. The corpus

The corpus developed for investigation consists of popular science articles on particle physics published over a 10-year period. Articles are taken from the American monthly Scientific American and from the Italian monthly Le Scienze. Scientific American has a general readership, though many of its readers have some kind of scientific or technical training (Myers 1990: 144). Articles are written by research scientists by invitation or by the magazine staff and are close in form to scientific articles. Le Scienze started off as the Italian translation of Scientific American, but in the last decades it has published both translations from Scientific American – which still make up most of the articles in the magazine – and articles written by Italian research scientists and scientific reporters. Its readership is very similar to that of Scientific American. There are two components to the corpus: (1) a parallel component made up of 9 English articles published by Scientific American from 1993 to 2003 and their Italian translations published by Le Scienze over the same period and (2) a comparable component consisting of 9 articles originally written in Italian and published by Le Scienze in the same 10-year period. The number of articles selected for inclusion in the corpus was dictated by the translations published by Le Scienze on the topic and thus determines corpus size. Corpus size and composition are summarised in Table 1 below. A list of the articles in the corpus is given in the Appendix.

Table 1. A parallel/comparable corpus of popular science articles

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Scientific American</td>
<td>Le Scienze</td>
<td>Le Scienze</td>
</tr>
<tr>
<td>Tokens</td>
<td>40,633</td>
<td>41,414</td>
<td>41,147</td>
</tr>
<tr>
<td>Sentences</td>
<td>1,765</td>
<td>1,802</td>
<td>1,516</td>
</tr>
<tr>
<td>Sentence length</td>
<td>21.57</td>
<td>22.52</td>
<td>26.21</td>
</tr>
<tr>
<td>Paragraphs</td>
<td>172</td>
<td>166</td>
<td>188</td>
</tr>
<tr>
<td>Paragraph length</td>
<td>236.24</td>
<td>251.89</td>
<td>220.54</td>
</tr>
</tbody>
</table>

5. Analysis

The corpus has been first analysed using WordSmith Tools. Statistical information about the three components of the corpus given in Table 1 above reveals what follows:

1. Though the number of articles is the same, Italian translations and original Italian articles tend to be longer than the original English texts. In particular, translations are longer even if in some cases they are abridged versions of the source texts.

2. Sentence length is roughly comparable in the English and Italian parallel sections of the corpus; sentences are slightly longer in the Italian comparable sections of the corpus. This may point to an influence of English on Italian translations, especially considering that sentence length is as high as 31.51 and 35.82 in the popular science and secondary-school textbook component of the Italian corpus of nuclear physics developed by the University of Surrey and Trieste (Ahmad and Musacchio in print).

3. Translated Italian articles tend to reproduce the paragraphing of the English source texts. The shorter number of paragraphs in the parallel Italian component is a consequence of text abridging during the process of translating, revising or editing. On the contrary, original Italian articles alternate short and long paragraphs so that overall number of words per paragraph is lower – 220.54 compared to 236.24 of original English articles.

Myers’ remarks (1990: 175) about editorial changes in textual organisation in popular science are also worth investigating in a preliminary stage. As to rephrasing of introductory statements, questions and answers appear in three of the 9 English articles, in two of their translations and in two of the comparable Italian articles. Most articles, though, start with some kind of historical background or background information on the topic. This confirms Myers’ view (1990: 188) that research in particle physics is not so amenable to being turned into a narrative of nature than – say – biology. Rephrasing of passive and impersonal constructions in active voice can be gleaned at by running concordances of words designating people involved in research and mentioned in the articles to emphasise the activity of the scientists. In the parallel Italian component there are 104 occurrences of words such as fisico (physicist = 5), fisici (physicists = 52), teorico (theorist = 1), teorici (theorists = 29), sperimentatore (experimenter = 1) and sperimentatori (experimenter = 16). In the comparable Italian component there are 35 occurrences of these words (fisico, 3; fisici, 29; sperimentatore, 2; sperimentatori, 1). Clearly, in this case Italian translations are influenced by the source text.

These preliminary data warrant further investigation into popular article organisation and structure in English and Italian.

5.1 Information structure

1 The total size of these components of the corpus is 185,985 tokens.
The typical, subject-verb-object (SVO) word order in English is to start with given information and then move on to new information. This order of given-new information or theme-rheme makes it easier for receivers to understand the message. New information is normally to be found at the end of the clause. When an initial element is the focus, it is prominent – this creates emphasis. As in English, the unmarked word order in Italian is SVO and the information structure is based on the information-flow principle of given and new and the principle of end-focus.

To promote an unmarked theme to marked theme, however, Italian has the same options as English – fronting, left and right hand dislocation, cliffting, and inversion, but may resort to them more or less frequently. A simple way to promote the verb to marked theme is subject-verb inversion. In English inversion is a relatively rare phenomenon, especially in academic prose – approximately 500-600 occurrences per million words (Biber, Johansson, Leech, Conrad & Finegan 1999: 926). As a consequence of greater morphological inflection, Italian has a freer sentence structure and inversion is more common. For example, verbs of happening such as accadere, succedere, avvenire usually cause the subject-verb order to be inverted. As can be seen in the following example, the natural Italian word order one expects when accadere was used was not re-created in the translation.2

Before the advent of the Standard Model, physicists had become used to experiments producing unexpected new particles or other signposts to a new theory almost before the chalk dust had settled on the old one. They have been waiting 30 years for that to happen with the Standard Model. (Kane 2003)3

Prima dell’avvento del modello standard i fisici si erano abituati al fatto che gli esperimenti producessero particelle inattese o altri indizi che puntavano verso una nuova teoria, quasi prima che la precedente fosse stata completata. Da 30 anni si aspetta che una cosa del genere accada con il modello standard. (Kane 2003)

In other cases the reasons why information flow is impaired in Italian translations are more complex. In the example below the two sentences are joined by the coordinating conjunction e (and), but very well tested is translated using explicitation in the form of a very long relative clause which sits clumsily in the middle of the sentence and makes information focus more difficult to identify. This form of explicitation is reinforced by the adjunct correttamente:

The Standard Model is very well tested. It predicted the existence of the W and Z bosons, the gluon and two of the heavier quarks (che charm e “top”). (Kane 2003: 73)

Il modello è stato sottoposto a innumerevoli verifiche, che ne hanno immancabilmente confermato la validità, e ha correttamente previsto l’esistenza dei bosoni W e Z, dei gluoni e di due dei quark più pesanti (“charm” e “top”). (Kane 2003: 42)

Considering that Italian tends to move peripheral information to the left, an implicit relative clause at the beginning of the sentence could balance information structure in Italian. Further, the information provided in the relative clause is redundant and can be more concisely expressed by the adjunct correttamente:

Sottoposto a innumerevoli verifiche, il modello ha correttamente previsto l’esistenza dei bosoni W e Z, dei gluoni e di due dei quark più pesanti (“charm” e “top”).

Similarly, in the following example, the long noun group followed by two relative clauses and used as theme in the original English text forces the translator to resort to parataxis in Italian to simplify the sentence, but information focus – progress made in the construction of the accelerator – is lost as indeed is part of the information (which will take the major responsibility for constructing the accelerator itself), probably because it is thought to be redundant in Italian.

This vast and technologically challenging project, coordinated by CERN (the European laboratory for particle physics), which will take the major responsibility for constructing the accelerator itself, is already well under way. (Smith 2000: 71)

Questo progetto, di eccezionale livello tecnologico, è già in fase avanzata di realizzazione ed è coordinato dal CERN, il Laboratorio europeo per la fisica delle particelle. (Smith 2000: 63)

Again, fronting the relative clause would help restore information balance:

Coordinato dal CERN (il Laboratorio europeo per la fisica delle particelle), questo progetto di eccezionale livello tecnologico è già in avanzata fase di realizzazione.

5.2 Structural weight

In English, the preferred distribution of elements follows the principle of end-weight: long and complex elements are placed towards the end of the clause so that receivers can decode the message more easily. In Italian, new information comes at the end of the sentence while more peripheral information is moved to the “free zone” on the left. Somewhat conflicting strategies are used in English and Italian and should be handled carefully in translating from one language to the other.

In the following English sentence, the specification so far to no avail is added at the end of the sentence according to the principle of end-weight. In Italian the English word order is preserved contravening the idea of end-focus. The problem is compounded by keeping the long adjunct at their highest-energy colliders in mid- rather than left-peripheral position and what the comparable corpus confirms to be two unusual collocations in popular physics, massime energie and cercare la presenza di qc. The comparable corpus further indicates that active forms with subjects such as experimenters are not common in Italian popular science articles, where an impersonal form introduced by si or a passive is preferred.

Experimenters, however, have searched at their highest-energy colliders for particles predicted by supersymmetry, so far to no avail. (Jolie 2002: 71)

I fisici sperimentali, però, hanno cercato alle massime energie raggiungibili negli acceleratori la presenza di particelle previste dalla supersimmetria, finora senza successo. (Jolie 2002: 47)

2 Underlining indicates parts that are relevant to current discussion.
3 For references of corpus articles see the list in the Appendix.
Senza successo is a literal translation of to no avail which is used here instead of the standard equivalent adverb invano as in the proposed revision of the translation below:

Pur sfruttando le più elevate energie raggiungibili dagli acceleratori, finora si sono purtroppo cercate invano tracce delle particelle previste dalla supersimmetria.

Another problem is created by clauses between brackets or dashes, which do not take the same position in Italian as they do in English. Preservation of the English structure violates the natural word order of Italian:

Third, CP symmetry – essentially, the symmetry between matter and antimatter – must be violated. (Quinn & Witherell 1998: 79)
Infine, la simmetria CP – essenzialmente la simmetria tra materia e antimateria – deve essere violata. (Quinn & Witherell 1999: 69)

Explicitation of the link between the main clause and the clause between dashes and subject-verb inversion would help to keep structural weight under control:

In the following example structural weight in the Italian translation is increased by positioning peripheral information – introduced in English by although – in mid-sentence and by the implicit concessive clause where the gerund rappresentando, which refers cataphorically to the subject of the mentre-clause, coppie di quark. After a concessive clause introduced by pur one expects to find the subject – either explicit or implied. In this case, however, the subject is further removed by subject-verb inversion.

Whereas quarks do not exist freely in nature, mesons do – although they are often unstable. (Cline 1994: 45)
Va ricordato che i singoli quark non esistono liberi in natura mentre – pur rappresentando stati spesso instabili – esistono coppie di quark, i mesoni appunto. (Cline 1994: 51)

In Italian the position of the clause between dashes makes the contrast quarks do not exist – mesons do less sharp. To reduce structural weight and keep information focus on the contrast, subject-verb inversion can be used:

In natura non esistono quark liberi, mentre sono presenti coppie di quark, cioè i mesoni, anche se spesso rappresentano stati instabili.

Similar problems originate from the position of adverbs or adverbials. In the following Italian translation the adjunct individualmente is placed after the operator and before the main verb as individually is in English. The Italian equivalent of the adverb, individualmente, is ambiguous and così followed by a sebbene-clause makes for heavy reading of the sentence:

So although charge and parity symmetry are individually broken by neutrinos, in combination their dictates would seem to be obeyed. (Quinn & Witherell 1998: 77-78)
Così, sebbene le simmetrie di parità e di carica siano individualmente violate dai neutrini, sembra che vengano rispettate quando sono applicate in combinazione. (Quinn & Witherell 1999: 68)

In the proposed revision of the translation below così at the beginning of the sentence is replaced by dunque, a more frequent cohesive device in the comparable Italian component of the corpus (see 5.3 below); individualmente is substituted by the unambiguous adjunct in singoli casi and se takes the place of quando as the more frequent subordinating conjunction used in the comparable Italian articles to introduce what are actually hypothetical and not temporal clauses:

Per quanto in singoli casi siano violate dai neutrini, le simmetrie di parità e carica paiono dunque rispettate e si applicano in combinazione.

5.3 Cohesion
Compared to English, Italian is known to prefer longer, more complex sentences where complexity is often the result of hypotaxis. As can be seen from Table 1, corpus analysis of sentence length confirms that sentences are longer in the comparable, original Italian component. As to sentence complexity, a comparison of subordinate clauses in the parallel and comparable components of the corpus by looking at occurrences of subordinating conjunctions – such as perché, poiché, affinché, sebbene, anche se, se, quando, mentre, senza, etc. – shows that frequencies are broadly similar. There is, however, a difference in the distribution of some coordinating conjunctions as shown in Table 2.

| Table 2. Occurrences of some coordinating conjunctions |
|---------------------------------|-----------------|-----------------|
|                               | Parallel Italian component | Comparable Italian component |
| Dunque                        | 8                | 27              |
| Quindi                        | 27               | 49              |
| Ma                            | 140              | 97              |
| Cioè                          | 10               | 35              |
| Infatti                       | 6                | 25              |

The higher frequencies of dunque, quindi, cioè and infatti in the comparable component suggest that in popular physics translations the number of conclusive and explicative cohesive links should be increased. On the contrary, the higher frequency of
but in the parallel component may point to a preference for a different text organisation based on contrast as highlighted by adverative conjunctions and reflected in Italian translations.

According to Halliday and Hasan (1976) cohesion is created by reference, substitution, ellipsis, conjunction and lexical cohesion by collocation or reiteration – repetition, synonymy or near-synonymy, superordination or use of general words. In English science cohesion is often created by reiteration. In Italian reiteration by means of repetition is avoided for stylistic reasons unless it causes ambiguity. In technical and scientific texts it is particularly important to avoid involuntary ambiguities as this impairs adequate text decoding. In the following example, cohesion is achieved in English by noun repetition. In this case repetition is not necessary in Italian and can be replaced by ellipsis:

Little ripples in these fields carry energy and momentum from place to place, and quantum mechanics tells us that these ripples come in bundles, or quanta, that are recognized in the laboratory as elementary particles. For instance, the quantum of the electromagnetic field is a particle known as the photon. (Weinberg 1999)

Piccole increspature in questi campi trasportano energia e impulso da un luogo a un altro, e la meccanica quantistica ci dice che queste increspature arrivano a pacchetti, o quanta, identificati in laboratorio come particelle elementari. Per esempio, il quark del campo elettromagnetico è una particella ormai ben nota: il fotone. (Weinberg 1999: 50)

In other cases English repetition at the end of a sentence and at the beginning of the following sentence is reproduced in Italian. This does not improve cohesion in Italian while it increases structural weight.

Up and down, strange and charm, and bottom and top are closely related to each other and are paired into “families”. Up and down, for instance, are the two lightest quarks and belong to the first family. In each family one quark has an electric charge of 2/3 (up, charm and top), and the other has an electric charge of –1/3 (down, strange and bottom). (Cline 1994: 41)

Le coppie su e giù, strano e incantato, basso e alto, che sono costituite da quark strettamente correlati, rappresentano tra “famiglie”. Su e giù, per esempio, sono i quark più leggeri e appartengono alla prima famiglia. In ogni famiglia uno dei due quark ha carica elettrica pari a 2/3 (su, incantato e alto), mentre l’altro ha carica –1/3 (giù, stano e basso). (Cline 1994: 47)

At least one repetition could be avoided by Italian re-organisation and ellipsis:

Up and down, strange and charm, and bottom and top are closely related to each other and are paired into “families”. In each family, one quark has an electric charge of 2/3 (up, charm and top), and the other has an electric charge of –1/3 (down, strange and bottom). (Cline 1994: 41)

Le coppe su e giù, strano e incantato, basso e alto, che sono costituite da quark strettamente correlati, rappresentano tra “famiglie”: alla prima appartengono per esempio su e giù, i quark più leggeri. In ogni famiglia uno dei due quark ha carica elettrica pari a 2/3 (su, incantato e alto), mentre l’altro ha carica –1/3.

As can be seen, fronting of the anaphoric alla prima...makes the paratactic sono … e appartengono unnecessary. As a result the sentence is more concise.

Another frequent type of cohesion is given by substitution. In the following example, such a decay in the English original refers back to a previously mentioned decay. Cohesion is further created by conjunction as sentences 2 and 3 of the original text are connected by the conjunction e in Italian. However, in these sentences the English SVO structure is closely rendered in Italian:

In late 1993 such a decay was seen at the Cornell electron-positron storage ring. Only a few such events have been detected so far. Calculating the likelihood of this process is quite difficult. (Cline 1994: 46)

Alla fine del 1993 si è osservato un tale decadimento nell’anello di accumulazione elettroni-positroni di Cornell. Pochi di questi eventi sono stati finora rivelati e calcolare la probabilità di un tale processo è molto difficile. (Cline 1994: 52)

In the example, a slight ambiguity is created by simile as a translation of such. When simile is used as a premodifier it is a synonym of tale, another equivalent of such in Italian. In the comparable component of the corpus, however, it is always used as a postmodifier meaning similar to. Further, in this component of the corpus simile has 9 occurrences and tale 46, whereas in the parallel component occurrences are 26 and 7 respectively. A concordance of simile from the comparable component of the corpus shows how it is used in popular physics:

| Table 3. A concordance of simile from the comparable component of the corpus |
|---------------------------------|-----------------|-----------------|
| e adottando un dispositivo     | simile          | Realis~1.txt 89 |
| sperimentale concettualmente   |                 |                 |
| miliardi di kelvin. Si ipotizza | simile          | Ilplas~1.txt 80 |
| che una transizione di fase     |                 |                 |
| in alto nella pagina a fronte, | simile          | Modell~1.txt 48 |
| la QCD (o qualunque teoria)     |                 |                 |
| ad esempio, le proprietà        | simile          | Modell~1.txt 45 |
| del protone si calcolano in modo|                 |                 |
| ha sfidato i fisici nella sua   | simile          | Laviol~1.txt 32 |
| comprensione, ha una intensità  |                 |                 |

Taking all these aspects into consideration leads to formulate the following alternative translation where cohesion is increased by making the link between sentence 3 and 2 more explicit using quindi rather than e and placing finora in its standard position according to the comparable component of the corpus, i.e. in clause-initial position. Finally, demonstrative reference in the English original (this process) is rendered by the periphrasis un processo del genere to avoid repetition of tale (tale decadimento/tale processo):

Alla fine del 1993 si è osservato un tale decadimento nell’anello di accumulazione elettroni-positroni di Cornell. Finora sono stati rivelati pochi di questi eventi, quindi è molto difficile calcolare la probabilità di un processo del genere.
5.4 Construction of reality in Italian popular science

Halliday and Martin (1993: 16) that different languages construct reality in science in distinctive ways. Further investigation in this area will be needed to prove the validity of the idea. If we consider the following sentence taken from the parallel Italian component of the corpus:

Uno dei principali scopi della fisica, forse il primo in assoluto, è quello di comprendere l’affascinante varietà della natura in modo unificato. (Weinberg 1999: 376)

It is clear that the problem is not so much the close rendering of the English SVO word order:

One of the primary goals of physics is to understand the wonderful variety of nature in a unified way. (Weinberg 1999)

The sentence does not sound quite natural in Italian, though it is not an example of a “third code” in Frawley’s sense. The following sentence from the comparable Italian component of the corpus shows how reality is constructed in Italian popular physics and may help to identify what went “wrong” in the translating process:

Uno degli sforzi della fisica moderna è quello di cercare di descrivere queste forze in modo unificato, come aspetti diversi di un’unica interazione. Ma una teoria unificata non c’è ancora (…). (Gruppo Athena 2002: 58)

In Italian then, one cannot comprendere (understand), but can descrivere (describe) in a unified way. Another important clue is provided by the second sentence in the comparable Italian text where una teoria unificata (a unified theory) sums up the concept expressed in the preceding sentence: by the time Italian readers get to the verbal group (è quello di comprendere) they have formed expectations as to how the sentence will unfold and an adjunct such as in modo unificato is not very likely to take clause-ending position. A more readily understandable Italian version would be as follows:

Uno dei principali scopi della fisica, forse il primo in assoluto, è quello di ricondurre a una teoria unificata/descrivere tramite un’unica teoria l’affascinante varietà della natura.

As can be seen, the problem does not only lie in the choice of words and collocations, but also in the position of the adjunct in modo unificato. To sum up, English presents the process as the discovery of unity behind the variety of nature. Italian prefers to look at it as the formulation of a theory that can account for different phenomena in nature.

Another example of the interplay between syntax and semantics in the construction of reality in Italian popular science is the following:

In the 1980s nuclear theorists proposed that superviolent collisions were not necessarily the only way to see supersymmetry; they predicted that a different form of supersymmetry could exist in certain atomic nuclei. (Jolie 2002: 71)

Negli anni ottanta alcuni teorici ipotizzarono che le collisioni ad altissime energie non fossero necessariamente l’unico modo per rivelare la supersimmetria; secondo le loro previsioni, una forma di supersimmetria differente poteva esistere in certi nuclei atomici. (Jolie 2002: 48)

The comparable component of the corpus shows that Italian prefers an impersonal form or a passive to active sentences such as alcuni teorici ipotizzarono unless the difference between the work of theoretical and experimental physicists is foregrounded. In other words, in this case Italian takes for granted that in physics a theory can only be put forward by a physicist and the explicitation is considered redundant. Moreover, the anaphoric secondo le loro previsioni is ambiguous because in the preceding sentence theorists did not predict but ipotizzarono (proposed or hypothesised). Finally, the rather clumsy, close rendering of the English SVO suggests that fronting of the adjunct in certi nuclei atomici improves information balance and reduces structural weight:

Negli anni ottanta fu avanzata l’ipotesi che le collisioni ad altissime energie non fossero necessariamente l’unico modo per rivelare la supersimmetria; secondo tale ipotesi, in certi nuclei atomici poteva esistere una diversa forma di supersimmetria.

6. Conclusions

Analysis of the parallel and comparable components of the corpus suggests that in translation reproducing the natural linear order of the target language implies an awareness of information structures and focus-attirbuting positions of elements in the sentence, a feeling for structural weight and knowledge of cohesive strategies and typical ways to construct reality in Italian in the field and genre. The illustration of translation problems by contrasting sentences from translated articles with similar sentences in the original Italian articles shows how a comparable corpus can help in the process of translating and revising. In short, results indicate that translating and revising popular physics articles are not just a question of care in the selection of terminology, subtechnical vocabulary and specialised phraseology, but also require consideration of the interplay between syntax and lexis and make it necessary to take into account factors affecting the ways in which clauses are adapted to context or varied for adequate focus and emphasis in the target language.

References

Appendix

**Scientific American articles**


**Italian translations published by Le Scienze**


**Italian comparable articles published by Le Scienze**

1.2.3 Khurshid Ahmad, David Cheng and Hayssam Traboulsi

Special Language and Local Grammar: Analysing Financial News Streams

Khurshid Ahmad, David Cheng and Hayssam Traboulsi
Department of Computing, University of Surrey, Guildford, Surrey, GU2 7XH, UK
{ d.cheng, h.traboulsi, k.ahmad } @surrey.ac.uk

1. Introduction

Market sentiments are terms used to express the feelings of the market on certain events (Gillam et al. 2002). These sentiments could have different uses. Consider for example the use of *rose* and *fell* in the British National Corpus (BNC). In financial news reports and specialist texts, related to urban planning, *rose* is mainly used as a verb as shown below:

- “at Y142.25 to the dollar and sterling *rose* by 0.57 cents to &dollar;1.6102” Newspaper
- “accidents involving motor vehicles *rose* from 373 in 1909 to 1154 in 1913” Book

 Whereas, in fiction and popular magazines, *rose* appeared as proper noun as well as the name of a flower:

- “*Rose* helped Maggie to write away for the” Fiction
- “the fragrance of *Elizabethan rose*, flower of love, permeates each book” Magazine

 While *fell*, it is used as a verb in both financial and other specialist texts in BNC as shown in the following examples:

- “ended 30 June pre-tax profits *fell* from £7m to just £5.1m, and” Newspaper
- “I only *fell* that time because of those steps” Fiction

Quirk et al. (1985) defines Proper Nouns (PN) as names of persons, places, and dates which “may also be expected to lack number contrast, determination and modification”. However, there are exceptions, usually found in general texts, like the Simpsons (PN with number mark), The Thames (determination) and boring Guildford (modification). According to Choi and Nam (1997), PN can be viewed as labels, which have no apparent meaning, are used to refer to different entities and distinguished by the initial capitalised letter or the fact that they are not translated. However, nouns such as *sun*, *earth* or *moon*, semantically covered by the rules of proper nouns, are always translated and regarded as common nouns. In contrast, PN, especially names of famous people, are used, metonymically, as common nouns as in *I read some Shakespeare or poems of Shakespeare*. In addition, adjectives derived from proper nouns like Elizabethan, Belgian, German, Brazilian, or British are not considered as PN despite the fact they are initially capitalised. Finally, Satoshi et al. (2002) differentiates between NE and PN themselves and states that named entities look like proper names if the names of artefacts or classes are excluded.

Thus, having taken into consideration the exceptions related to MS and PN briefly detailed above and other related issues that we could have missed, one could easily notice the uncertainty of the generative grammar analysing the use of such entities. In this paper, we present an LG-based approach to extract MS and PN from English financial news articles. First we cover topics in Information Extraction (IE) and sub-languages in order to show the former and current techniques being used in IE and to emphasize areas where LG was first used (Section 2). Secondly, the language of financial news wire is investigated with two aims in mind: a) to examine how changes in the perceived values of financial instruments are reported and how PN are introduced b) to find both lexical and grammatical patterns of MS and PN which are used with some consistency and minimum ambiguity. These patterns could be used as the basis of a computer program that can extract MS and PN based on the analysis of their LG (Section 3). Thirdly, in section 4 we discuss the methodology used to discover and build the LG of MS and PN within a corpus of financial news texts. Finally, section 5 summarizes the work done so far and highlights some future aims.

2. Information Extraction and sub-languages

2.1 Information Extraction

The availability of online news wire services and the online newspapers have led to a profusion of studies of language based on collections of news reports. These studies on the whole relate to the extraction of information about specific topics: terrorism, drug trafficking, sports are amongst the popular topics. The automatic analysis of the news reports for gathering information about specific topics has been the basis of substantial amounts of work undertaken by the US Defence Advanced Projects Agency (DARPA) and the US National Standards Institution (NIST). The main goal for an information extraction system is to transform text into a structured format. The expectation is to reduce the information in the text to a tabular structure. Eikvil (1999) provides a good survey of such systems.

Newer information extraction systems are being developed. There is considerable interest in the so-called adaptive information extraction systems. These systems are expected to learn how to extract information. Poibeau and Balvet (2002) have discussed how to “dynamically develop lexicons and grammars for Information Extraction” from a corpus of texts. They have specified a
number of ‘pattern automata’ for extracting ‘a lexical set of semantically related patterns directly from a corpus’. The notion of local grammars, used extensively in corpus-based lexicography studies; however no mention is made of this notion.

Grishman (2002) argues that information extraction researchers can benefit from work in the “studies of sublanguage and of sublanguage information structures”. He stresses the need for better quality linguistic analysers for going beyond the frequency-based metrics for building information extraction systems.

2.2 Sublanguages and local grammars

Zellig Harris and Maurice Gross have suggested that in certain types of texts one may find local grammars in operation. The argument is that certain phrase structures occur more frequently in one type of text, or one set of text fragments than in the language as a whole. Harris (1991) illustrated this point by citing examples of recursive noun-phrases used in biochemical literature to either refer to complex biochemical compounds or complex biochemical processes. Gross (1993) focussed on how we specify time and date and showed cardinal numbers used to denote time and calendrical expressions (day / month / year, century) embedded in their own local grammar. Barnbrook and Sinclair (1995) have used this notion to argue that dictionary definitions have also their own local grammar.

3. The language of the financial news wire

Major corpora of English and other languages do have a substantial proportion based on newspaper reports. We have performed a corpus-based examination of a specialist register of news reports, the financial news reports, for examining how changes in the perceived values of financial instruments are reported and how named entities are introduced. In particular we are interested in diachronic change of one or more financial instruments as well as the names of related persons and organisations. Our aim is to find, both lexical and grammatical, patterns, which are used with some consistency and minimum ambiguity.

We have exclusively used Reuters Financial News Service as the basis of our corpus. Reuters has privileged access to financial news released by a number of monetary authorities and has a long reputation. Our Reuters Corpus comprises 9,063 texts, in turn, comprising around 3.63 million words of text, published during Jan – Dec 2002. The average length of the news reports is 400 tokens. The subjects typically covered by Reuters Financial News Service are: Company Outlooks, Company Results, Economic Indicators, Funds and Initial Public Offering News.

We have selected the most frequent 200 words from the Reuters Corpus; this selection comprises nearly 60% of the total texts. We have noticed that the keywords and prepositions are included in the 200-most frequent list. It is not to deny that there would be other important words, which are less frequent but may contribute reporting of change and figures. However, our focus is to see how we can derive some information from sentences describing players and changes in the market. We will investigate now how the most frequent words, that is the most frequent open class words we found in our Reuters corpus, said and percent, actually behave in relation to other words. There are many different ways to do it, the computational linguists and semanticists most favoured method is that of exploring the grammaticality of the sentences that may comprise said and percent, more specifically may comprise told, add, rose fall, up and down. Sinclair (1991) views such approach as an open choice principle. Alternatively, Sinclair suggested “the idiom principle” where he argues that the recursive use of some words and phrases shows a tendency to occur in a certain semantic environment. We have opted for this principle as we have noticed that figures and changes in the market are reported in an idiomatic fashion in financial news.

Collocation illustrates the idiom principle for Sinclair. He suggested words appear to be chosen in pairs or groups and these are not necessarily adjacent. What we envisage is to compute his so-called downward collocation pattern, which is the collocation of a more frequent token a with a less frequent token, say b. This is a part of a method we will outline below.

Table 1 shows the frequency (56.34%) of the first 200 most frequent tokens in our Reuters Financial Corpus. The most frequent token group (rank 1-10) contains said and percent. Another notable point about the 200 most frequent tokens in our corpus is the appearance of prepositions like up and down together with the derived noun growth, some saying verbs like told, reported and added as well as some keywords like profits and some profession titles like chief and executive. These tokens might throw some light on the mood of the market and help finding out keywords where MS and PN could appear.

---

7 This section is based on a paper written jointly with other colleagues. “The mood of the (financial) markets: In a corpus of words and of pictures”, presented on Corpus Linguistics 2003 (28-31 Mar), at Lancaster University (UK)
It would be interesting to see how these two thirds (56.34%) of the texts, or rather the tokens in the two thirds of the texts, co-occur with each other. Our approach will be to take the most frequent keyword used in the text and see how it correlated with other words (keywords). The most frequent open class words are percent for market sentiments and said for saying verbs. The word percent is very pervasive; occurs nearly 44,000 times, making it 1.19% of the total texts. It is a keyword for financial texts specifically, and scientific texts generally. Normally, changes are measured in percentage term. In scientific texts, the “%” symbol is used to indicate percentage. While in financial texts, we have noted the preponderance of the word itself. As percentage refers to change, we noted that the most significant collocates are the numbers which are found. When we look at the key collocates of the term percent, we found 10 most frequent collocates: up, year, down, shares, rose, fell, pence, points, group and rise. The word said is even more pervasive than percent; occurs nearly 46523 times, making it 1.25% of the total texts. Said is mainly used with narrative texts, the case of financial articles, to express persons’ sayings. While in financial texts, we have observed said appearing with organisation names though. The salient issue with said is that it most frequently collocates not only with words but with punctuation marks as well. How can we make such claims? This will be explained next.

4. Collocations

This section follows a method outlined by Smadja (1994) for retrieving collocations from text. What we got is significant word pairs along with some statistical information about how strongly the words are connected, and how rigidly they are used together. Coming back to the most frequent collocates of percent and said, we see from Table 2 and

<table>
<thead>
<tr>
<th>Rank</th>
<th>Token</th>
<th>Cumulative Relative Frequency</th>
<th>No. of Open Class Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-10</td>
<td>the, to, of, in, a, and, %, said, on, percent</td>
<td>21.70%</td>
<td>2</td>
</tr>
<tr>
<td>11-20</td>
<td>for, it, its, that, by, at, was, is, as, with</td>
<td>7.30%</td>
<td>0</td>
</tr>
<tr>
<td>21-30</td>
<td>from, year, has, but, be, million, which, after, have, market</td>
<td>4.44%</td>
<td>3</td>
</tr>
<tr>
<td>31-40</td>
<td>would, up, pounds, shares, will, are, reuters, had, this, an</td>
<td>3.37%</td>
<td>3</td>
</tr>
<tr>
<td>41-50</td>
<td>were, London, not, u, he, we, company, group, last, billion</td>
<td>2.71%</td>
<td>4</td>
</tr>
<tr>
<td>51-60</td>
<td>bank, more, than, over, also, one, been, new, down, about</td>
<td>2.08%</td>
<td>1</td>
</tr>
<tr>
<td>61-70</td>
<td>FTSE, they, sales, index, first, firm, bst, growth, their, some</td>
<td>1.81%</td>
<td>7</td>
</tr>
<tr>
<td>71-80</td>
<td>or, business, there, two, points, could, expected, pence, quarter, UK</td>
<td>1.55%</td>
<td>6</td>
</tr>
<tr>
<td>81-90</td>
<td>out, share, stock, sector, financial, investors, profits, analysts, off, three</td>
<td>1.32%</td>
<td>8</td>
</tr>
<tr>
<td>91-100</td>
<td>while, price, since, may, half, month, prices, months, if, into</td>
<td>1.19%</td>
<td>7</td>
</tr>
<tr>
<td>101-110</td>
<td>week, trading, around, profit, chief, fell, economic, no, interest, rose</td>
<td>1.10%</td>
<td>8</td>
</tr>
<tr>
<td>111-120</td>
<td>cut, higher, news, years, next, earnings, rates, european, rise, industry</td>
<td>1.05%</td>
<td>8</td>
</tr>
<tr>
<td>121-130</td>
<td>second, british, low, deal, world, government, time, end, back, investment</td>
<td>1.00%</td>
<td>6</td>
</tr>
<tr>
<td>131-140</td>
<td>added, executive, his, thursday, stocks, when, markets, results, other, biggest</td>
<td>0.95%</td>
<td>7</td>
</tr>
<tr>
<td>141-150</td>
<td>britain, still, banks, told, i, wednesday, all, economy, tuesday, before</td>
<td>0.90%</td>
<td>5</td>
</tr>
<tr>
<td>151-160</td>
<td>september, now, tax, five, rate, lower, companies, europe, says, services</td>
<td>0.86%</td>
<td>6</td>
</tr>
<tr>
<td>161-170</td>
<td>six, euro, early, strong, like, who, vodafone, fall, t, reported</td>
<td>0.82%</td>
<td>5</td>
</tr>
<tr>
<td>171-180</td>
<td>cash, any, gmt, telecoms, third, high, debt, earlier, bid, so</td>
<td>0.77%</td>
<td>5</td>
</tr>
<tr>
<td>181-190</td>
<td>analyst, statement, united, monday, four, country, data, top, oil, value</td>
<td>0.72%</td>
<td>6</td>
</tr>
<tr>
<td>191-200</td>
<td>under, our, just, friday, recovery, largest, states, further, hit, consumer</td>
<td>0.69%</td>
<td>6</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>56.34%</td>
<td>103</td>
</tr>
</tbody>
</table>
Table 3 that the tokens that occur most frequently with percent and said in ten different positions are the word up and the punctuation mark “,” respectively. Up itself occurs 13465 times, the words up and percent co-occur with each other 4473, of which, 64% of the time the word up occurs with percent - not next to percent, but a token away from percent. For instance, up 2 percent. This is closely followed by 680 of its co-occurrence with the token percent, but with 2 tokens in-between (for example, up by 2 percent, up nearly 2 percent). Note that the right collocation of percent and up, percent x up, etc have significantly lower frequency than the left ones. Similarly, the punctuation mark “,” occurs 168313 times, in which 29632 times appear in the neighbourhood of said. More specifically, the comma collocates most frequently at a distance of two words on the left of said (35%) with person or organisation name of one word length in between e.g. “, ABB said” or “, George said”. Note that when moving further away (left or right) from said, longer names or names together with other words like organisation types or a combination of person and organisation names are found with lower frequency. For example, “, Abbey National said”; “, airports operator BAA said”", “, CSFB’s Shiret said” or “said Anita Maerkli,”. Similar observations can be drawn for other collocates of both percent and said.

<table>
<thead>
<tr>
<th>neighbourhood of percent</th>
<th>f</th>
<th>-5</th>
<th>-4</th>
<th>-3</th>
<th>-2</th>
<th>-1</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>percent</td>
<td>43698</td>
<td>13465</td>
<td>22008</td>
<td>7971</td>
<td>13229</td>
<td>4257</td>
<td>4558</td>
<td>5759</td>
<td>5996</td>
<td>9827</td>
<td>3993</td>
<td>4473</td>
</tr>
<tr>
<td>up</td>
<td>13465</td>
<td>22008</td>
<td>7971</td>
<td>13229</td>
<td>4257</td>
<td>4558</td>
<td>5759</td>
<td>5996</td>
<td>9827</td>
<td>3993</td>
<td>f</td>
<td></td>
</tr>
<tr>
<td>year</td>
<td>22008</td>
<td>7971</td>
<td>13229</td>
<td>4257</td>
<td>4558</td>
<td>5759</td>
<td>5996</td>
<td>9827</td>
<td>3993</td>
<td>f</td>
<td></td>
<td></td>
</tr>
<tr>
<td>down</td>
<td>7971</td>
<td>13229</td>
<td>4257</td>
<td>4558</td>
<td>5759</td>
<td>5996</td>
<td>9827</td>
<td>3993</td>
<td>f</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>shares</td>
<td>13229</td>
<td>4257</td>
<td>4558</td>
<td>5759</td>
<td>5996</td>
<td>9827</td>
<td>3993</td>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rose</td>
<td>4257</td>
<td>4558</td>
<td>5759</td>
<td>5996</td>
<td>9827</td>
<td>3993</td>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fell</td>
<td>4558</td>
<td>5759</td>
<td>5996</td>
<td>9827</td>
<td>3993</td>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>pence</td>
<td>5759</td>
<td>5996</td>
<td>9827</td>
<td>3993</td>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>points</td>
<td>5996</td>
<td>9827</td>
<td>3993</td>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>group</td>
<td>9827</td>
<td>3993</td>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rise</td>
<td>3993</td>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The first conclusion one can draw from this discussion is that rose and fell are generally used to describe percentage changes in the value of instruments, as compared to up and down and that said is used more than other saying words, told or reported, to introduce figures declarations and the surround of said most often contains named entities. Similar technique was used to find out other key market sentiments like rose, fell, up and down and saying verbs like told, announced and so forth.

<table>
<thead>
<tr>
<th>neighbourhood of said</th>
<th>f</th>
<th>-5</th>
<th>-4</th>
<th>-3</th>
<th>-2</th>
<th>-1</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>said</td>
<td>46523</td>
<td>168313</td>
<td>172072</td>
<td>63804</td>
<td>66460</td>
<td>86544</td>
<td>2844</td>
<td>16859</td>
<td>15454</td>
<td>4282</td>
<td>4907</td>
<td>29632</td>
</tr>
<tr>
<td>,</td>
<td>168313</td>
<td>172072</td>
<td>63804</td>
<td>66460</td>
<td>86544</td>
<td>2844</td>
<td>16859</td>
<td>15454</td>
<td>4282</td>
<td>4907</td>
<td>f</td>
<td></td>
</tr>
<tr>
<td>.</td>
<td>172072</td>
<td>63804</td>
<td>66460</td>
<td>86544</td>
<td>2844</td>
<td>16859</td>
<td>15454</td>
<td>4282</td>
<td>4907</td>
<td>f</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;</td>
<td>63804</td>
<td>66460</td>
<td>86544</td>
<td>2844</td>
<td>16859</td>
<td>15454</td>
<td>4282</td>
<td>4907</td>
<td>f</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-</td>
<td>66460</td>
<td>86544</td>
<td>2844</td>
<td>16859</td>
<td>15454</td>
<td>4282</td>
<td>4907</td>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a</td>
<td>86544</td>
<td>2844</td>
<td>16859</td>
<td>15454</td>
<td>4282</td>
<td>4907</td>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>analyst</td>
<td>2844</td>
<td>16859</td>
<td>15454</td>
<td>4282</td>
<td>4907</td>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>but</td>
<td>16859</td>
<td>15454</td>
<td>4282</td>
<td>4907</td>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>after</td>
<td>15454</td>
<td>4282</td>
<td>4907</td>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>chief</td>
<td>4282</td>
<td>4907</td>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>analysts</td>
<td>4907</td>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The grammatical environment of these collocates will be discussed in the following subsection.

4.1 The grammatical environment of sentiment and saying words

John Sinclair (1991) has pointed out that the grammatical environment is quite important in terms of establishing the evidence of use. The domination of one word form over others with related meanings shows perhaps the precision, which came from a lack of imagination some would argue, in the language of financial journalists. The initial results related to the preponderance of one word form over others together with a preponderant lexico-grammatical pattern in which the word form is found, suggests to us that when the word forms rise and fall, or rather rose and fell, are used, especially followed by a number and 'percentage', then they indicate an upward or downward movement in the financial market and when the word form said or told are preceded or followed by some words and then a comma what is in between most often is a named entity.

Following Gross’s approach (1993), local grammars, describing the use of the sentiment rise (lemma), and the saying verb said are identified. Figure 1 and

Figure 2 illustrate examples of the LGs of rose and said respectively.
Figure 1: The LGs of *rose* in the neighbourhood of *percent* represented by FSA.

Figure 2: The LGs of *said* appearing in the neighbourhood of the *comma* represented by FSA$^8$.

In addition, proper names, mainly organisation names, could also appear just before the market sentiment *rose* as illustrated in Table 4 below.

<table>
<thead>
<tr>
<th>Organisation Name</th>
<th>Rose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vodafone</td>
<td>rose</td>
</tr>
<tr>
<td>Shares of Philip Morris</td>
<td>rose</td>
</tr>
<tr>
<td>Shares in Royal Bank</td>
<td>rose</td>
</tr>
<tr>
<td>Royal Bank of Scotland</td>
<td>rose</td>
</tr>
<tr>
<td>Brewer Scottish &amp; Newcastle</td>
<td>rose</td>
</tr>
<tr>
<td>Mobile phone company mmO2</td>
<td>rose</td>
</tr>
<tr>
<td>Land Securities ’s shares</td>
<td>rose</td>
</tr>
<tr>
<td>Prudential ’s shares</td>
<td>rose</td>
</tr>
</tbody>
</table>

Table 4: organisation names before *rose*.

Having taking such an observation into account one can use an expanded FSA for *rose*, shown in Figure 3, to identify, for example, the market leading companies on certain date.

Figure 3: The most frequent LGs of proper names in the neighbourhood of *rose*.

---

$^8$ ORG = organisation name.  
PN = person name.  
PT = profession title.  
PTs = the plural form of PT.  
ORG/PN = organisation or person name.
5. Conclusions and future work

So far we discussed how a special grammar, local grammar was built and used to recognise the MS and PN within English financial news articles that was difficult for normal grammar to handle. Representing LG using FSA provides flexibility to substitute or expand individual elements within the FSA. The fact that this approach operates at the word forms level makes it able to be expanded to any other languages. Our future aim is to deal with Arabic and Chinese texts. Moreover, the encouraging results we obtained extracting NE from a corpus of financial texts, we intend to take this point further and try to apply the LG approach to other type of natural language documents like scientific papers.

REFERENCES


1.2.4 Konstantin Averboukh and Olga Karpova

The LSP of the market economy

Konstantin Averboukh
Moscow, Russia
Olga Karpova
Ivanovo State University, Russia

It is traditionally believed that the development of an LSP and of its terminology in particular as its semantic nucleus, is a lengthy process and takes if not centuries, then at least decades. An example of this never-ending development of the terminology could be in LSPs which describe different crafts. Some of these LSPs have remained as sub-languages of such arts as pottery, knitting and crochet, tanning, etc, whereas others, such as the language of nursing, has, in the process of its development turned into the language of medical science, with all the characteristics of a complex scientific discipline with a developed approach towards its subject matter.

However, both scientific progress and changes in society have greatly influenced the development of the most current subject areas and the dynamics of social processes on the one hand, and language change, reflecting communicative necessities, on the other.

Yet another major factor to be considered in the process of development of a national LSP is a long search for a common means of communication, which has brought us from Latin in the Middle Ages to Esperanto at the beginning of the twentieth century. Nevertheless, irrespective of its remoteness and particular national characteristics, English has become the language of international professional communication.

The world around us is system-defined, which is also true about our consciousness. In the processes of communication this is manifested by the fact that each subject area is incorporated into another at a broader communication level. The latter is, in turn, part of a still broader level of generalization. For example, corporate securities (shares, bonds, bills) as means of financing an enterprise are a part of the systems of concepts of a modern stock market, which is, in turn, included in the subject area of financial activities, being a part of the market economy, etc.

Terminologically this is realised in such a way that in the texts of a particular LSP, alongside the terms of that narrow subject field (about 30%), there are numerous terms from adjacent areas. There are also nominal units from more advanced communicative levels (scientific and technical terms).

Studying how the market economy is developing in Russia— that may also be quite a current issue for the Eastern European states in general, given that they are going through an analogous period of social and economic reforms— it is necessary to point out that the development of a system of economic terms is closely connected with social and political changes in society, changes in the political regime, new approaches to property and an overall change in the structure of the economy. The main definitions for communicating about the market economy are alien to the administrative-command (“planned”) economy, illustrated by such terms as: private property, capitalism, stock market, marketing, bond, stocks, etc.

Nowadays Russia has the status of a country with a market economy. The process of its transition started with the collapse of the Soviet Union in 1992, and at present it is still an ongoing process, for the transformation of the administrative-command economy into a market economy is taking some time and effort; achieving an advanced level of market development may take years. However, the main thing has been achieved: the social structure has changed, private property has become the prevailing factor, and democratic principles have come to dominate in the sphere of social relationships.

The very basic principles of the LSP of the market economy have undergone changes. The communication paradigm has been transformed, for the primacy of the State has been replaced by the primacy of a free individual in a democratic state. In the process of developing a market economy and its LSP as well, we have many similar situations, as for instance, in the USA and developed European countries. All we have to provide is an adequate translation from European languages, English in particular, taking into consideration harmony, so that any given terminology should be well motivated according to the existing norms of the existing conceptual base of society.

It is worth recollecting that we have been down this road before, and have— force majeur— borrowed not only certain terms, but whole term systems, as was the case in the 1980-1990s, when personal computers were first introduced into our lives. But where the formation process of the market economy, based on the ruins of the administrative-command economy, requires a considerable reorientation of basic definitions, in introducing modern computer terminology it has been necessary to adapt the system from scratch, for it is far more developed and different from the terminology of electronic apparatuses that was in use before.

The development of a new subject field is intertwined with elaborating its conceptual scheme, represented in the text by the term system. English market economy terminology and the terminology of the stock market in particular may serve as a basis for the adaptation of new methods of managing the economy and its professional language which serves as a means for communication.

In the process of studying the LSP of the stock market, 300,000 word “applications” (in Russian: “словоупотребление” or “use of words”) were reviewed. By the term “словоупотребление” (slovouputrebienie) Russian lexicographers understand each case of the use of the word. Among these 300,000 examples we identified 1,021 terms resulting in 15,870 “applications”.

44
Contemporary terminology in its present stage of development lacks any unanimity of opinion regarding the physical length of terms and the methodology for selecting them from a flow of specific speech. The two extreme points of view in regard to this are as follows:

- A term is a word.
- A term is a word combination with any number of word positions that does not contain the subject and the object of the utterance simultaneously.

However, a lexi-co-statistical analysis of the Russian terminology of certain subject areas has shown that the majority of terms exhibit a number of rather limited patterns such as: N, N+N, A+N, A+N+N, N+A+N, etc.

Whereas in English, as an analytical language, there is a tendency to be more compact, and one-and two-word terms account for most of the research data: 51.9% and 40.9% respectively, totalling almost 93% (92.8%), in Russian, terminology is far more widespread and explicit. As the results of lexi-co-statistical research show in several Russian LSPs—such as finance, banking, the stock market with similar results in chemistry and some other LSPs—one-word terms account for just 26.7%, two-word terms for 32.6%, three-word terms for 20.7% and four-word terms 9.6% in the texts investigated, totalling about 90% (89.6%).

Thus, there is a current problem of how to translate adequately texts from English into Russian, and—still more important—find the necessary equivalent terms in Russian that could serve as a basis for developing a required term system.

For every kind of LSP the level of its development is very important, since it is clear that well-accepted and established terminology is, as a rule, quite concise and compact. That is, however, not the case for terminology that is ‘under construction’ and still developing. It is quite often the case that instead of the appropriate terms, certain descriptive formulations are used; for example, instead of the term listing, such utterances as a procedure of submitting corporate securities for trading at stock exchange is used.

It is natural to believe that in texts of equal length belonging to the same subject field, the number of definitions is about the same. This implies that the number of terms should be approximately equal as well. This is, of course, true if within the framework of the particular LSP the compared texts comprise equally developed term systems. If, however, the statistical data show the opposite, the conclusion is obvious: the terminology of, say, promissory notes (bills) is underdeveloped compared to the level of the system of terms in finance, etc.

How is this manifested in real-life texts? Firstly, it is accounted for by the fact that the narration is by and large performed with the help of general financial terms (lexico-statistical research has shown the prevalence of such terms over others). And secondly, it is proved by the widely used multi-word terms (terms-descriptions) that are accounted for by the fact that it is critical to re-shape the terms of adjoining subject areas to meet the needs of the subject area under study. With respect to the structure of the LSP of the market economy, it is worth mentioning that its terminology is a manifold phenomenon, including all constituents of contemporary economics: social and political, political and economic, micro- and macroeconomic; monetary, financial, tax, currency, stock market, marketing, managerial etc.

As mentioned above, to deliver certain information—for instance, in a very specific technical field—it is enough to have only one third of the terms belonging to this field. The rest belong to general and technical terminology. As for the LSP of the market economy, the basis of this subject area—because of its manifold nature—could be treated as a flow of rather independent autonomous term systems. No matter if it is about the social and political circumstances of the formation of the market economy, or issues of the tax system, each of these cases has the basis of either social and political or tax terminology respectively, the rest being peripheral.

The comparative study of stock market terminology in Russian and English seems to be worthwhile. As already mentioned, English terminology is much more compact in its nature compared to Russian. Such terms as, for example, финансовый подрядчик are a two-word unit in Russian but a one-word unit in English - broker; the term bull - участник РЦБ, играющий на повышение (бык) is rendered into Russian by a nominal word combination followed by an attributive clause; underwriter - гарантия эмиссии ценных бумаг (андертайтер) is also used in Russian as a nominal word combination consisting of several units while in English it is a one-word unit. A similar situation is observed in the case of terms such as проверка финансовой отчетности (аудит) – audit, and выплата наличными деньгами – cash, while the term ценные бумаги высокодоходных компаний is translated into English by an attributive word combination - blue chips and others are not nearly as concise as they are in English.

However, it is essential to add that there are examples that demonstrate the converse, i.e. where the Russian term appears to be more compact than its English counterpart. For instance, letter of credit – a word combination in English corresponds to one word in Russian - аккредитива (аккредитив); joint stock company is a three-word unit in English which is rendered by a two-word unit – акционерное общество - akcionernoe obshchestvo (AO), and so on. There also exist some notional non-correlatives such as: государственные бумаги - government papers, за фондовой бирже - floor, etc.

Lastly, there is yet another very important layer in the functioning of an LSP, that along with its terminology comprises a substantial part of the specific sphere of application. It is the nomenclature.

It is natural to suppose that these nominal units in LSP play a very important role. If we consider every constituency of the market economy, we will see that there are a number of nomenclature units functioning in the social and political sphere. These include: the names of political parties and movements, and multiple geographic nomenclature bound to the place of a social event. In the banking sphere, alongside the stock market we come across numerous names of banks: Менатеп (Menatep), Империя (Imperial), Сити-банк (Citi-bank), ЮБС (UBS), etc; and various stocks: вексель Сбербанка (a bill of the Central bank), акция Норильского никеля (a share of Norilski nickel), облигация ГКО (GKO bond), etc. Likewise, in all other fields of the market economy, nomenclature is used when such non-abstract, concrete notions like рубль (ruble), доллар (dollar), фунт стерлингов (pound of sterling), франк (frank), etc. are used.

Taking into consideration this rather undetermined character of the subject field, market economy, a rather reasonable question arises: does there at all exist an LSP of the market economy as a whole or are there just its constituents, like the language of banking, the stock market, marketing, etc?
This leads to yet another question: if the LSP of the market economy includes all of the above-mentioned sub-languages, then what is the relationship between them? Is it hyponymic, or part-whole? To suppose that between the market economy and the social and political conditions underpinning its development there are hyponymic relationships would mean that the social and political environment is a kind of market economy. Other constituents of the market economy like banking, marketing, etc, are an integral part. Hence, the answer to the question is as follows: the relationships between the market economy and its constituents, as well as between their respective LSPs, are of a part-whole nature.

The existence of such a fundamental notion as the “market economy” that encompasses a whole complex of necessary social and political, as well as social and economic conditions, lays the groundwork for the formation of such a multifaceted subject field with many components.

It is believed that for a specialist to have knowledge not only of a language of general use but also of an LSP means being bilingual. Considering the fact that nowadays any specialist has to be aware of the basics of economics, taxation, information technology, etc, along with his/her own specific field of knowledge, e.g. engineering, it becomes possible to posit a gradual introduction of multilingualism in everyday social practice.
A terminological investigation of the means of signalling temporal order in aircraft accident reports

Bettina Bajaj, London

1. Introduction

The investigation of the signals for temporal order in English and German aircraft accident reports discussed here forms part of a comprehensive terminological study into temporal ordering relations (Bajaj 2003). These relations can be broadly described as conceptually linking situations of a sequential (e.g. *shortly after turning, the aircraft stalled*) or a simultaneous nature (e.g. *the pilot lost control while flying in cloud*). In the above study, temporal ordering relations have been scrutinized from three perspectives: from a conceptual and linguistic point of view and from the point of view of the links between the conceptual and linguistic realms of the relations. An important part of that study was the proposal of a typology of 14 temporal ordering relation types, out of which 11 could be confirmed.

This paper intends to demonstrate that temporal ordering relations are expressed inadequately in the English and German aircraft accident reports analysed, although temporal ordering information is a salient and intrinsic feature of such reports. The textual signals for these relations, mainly consisting of ‘non-terminologized’ general-language items such as coordinators (e.g. *and*), subordinators (e.g. *before*), adverbs (e.g. *subsequently*), and so on, only indicate that some sort of temporal order is involved but not the precise relation type. Exact identifications of the relations are only possible using extra-linguistic knowledge. In addition, the investigation of the links between the linguistic and conceptual realms of the relations reveals a lack of clear correspondences between both levels as a means of accessing these relations. It is hence argued that ambiguous temporal ordering information in aircraft accident reports may be reduced if they are written using controlled language means which uniquely designate particular relation types. For instance, the expression *and at exactly the same time* may be used for a specific type of simultaneity relation.

The paper is structured as follows. Section 2 provides a brief indication as to why investigating temporal ordering relations and their signals is important. In section 3, a short description of the methodological approach is given. Section 4 then introduces and describes four temporal ordering relation types which have been selected for the purposes of this paper since the presentation of the entire typology would be beyond the scope of this paper. In section 5, it is illustrated how the analysis of temporal ordering relations and their signals, i.e. cues was carried out. Section 6 then first presents and discusses selected results of the analysis of the cues for temporal ordering relations in the chosen texts, before the inadequate linguistic signalling of temporal ordering relations is exemplified using the four chosen relation types. In section 7, suggestions for controlled temporal ordering means to improve the signalling of temporal ordering relations in text are made. Section 8 provides some conclusions.

2. Motivation for the study

The reasons why temporal ordering relations deserve investigation must first of all be seen in the broader context of conceptual relations and the purpose they fulfil in terminological work. Conceptual relations, which are revealed when concepts are analysed, delimited and placed into concept systems, are the basis for understanding how concepts are linked in a particular domain. Without conceptual relations, organizing and representing domain knowledge would therefore be impossible (cf. Felber 1984). They are also vital for acquiring knowledge during text comprehension since this depends, among other things, on the determination and understanding of the relations which connect the concepts and conceptual configurations expressed in texts (cf. van den Broek & Lorch 1993).

There are, however, still deficiencies when it comes to structuring domain knowledge. This is particularly evident in the case of non-hierarchical relations, which are also important for structuring knowledge since not all aspects of knowledge can be ordered hierarchically (cf. Lyons 1993), e.g. by using genus-species and part-whole relations. Among the non-hierarchical relations, temporal ordering relations stand out with regard to being little researched and understood – a fact which is highlighted and criticized by many authors (e.g. Grinev 1990, Ahmad 1993, Nuopponen 1994) – and consequently only two broad temporal ordering relation types are mentioned in the terminological literature: sequence and (complete) simultaneity relations (e.g. Wüster 1974, Nuopponen 1994).

Little is also known in terminology science of how these relations are signalled in text since temporal ordering relations are not included in the few terminological (e.g. Meyer & Mackintosh 1996) and collaborative studies (e.g. Ahmad & Fullford 1992) in which the linguistic realizations of various types of conceptual relation (e.g. genus-species, part-whole) are scrutinized.

---

1 Temporal relations, as they have so far been referred to in the terminological literature, have been renamed temporal ordering relations since they structure phenomena in terms of temporal order, e.g. in legal procedures, reconstructions of accidents and crimes, manufacturing processes, chemical procedures, and so on.
Furthermore, in connection with exploring relevant literature as to the characteristics of LSP texts (e.g. Hoffmann 1985) no LSP-typical features expressing the concept of time or its aspect of temporal ordering were found, which is interesting since the concept of time can indeed be related to specialist knowledge insofar as different fields place emphasis on different aspects of the concept of time, e.g. in physics and engineering (Hall 1989), or, as in this study, in aircraft accident investigation which is crucially determined by its aim of reconstructing the temporal order of events which led to an accident. Hence, expressions which precisely pinpoint the temporal order of events ought to be among the prime features in aircraft accident reports.

3. Methodology

To explore the linguistic perspective of temporal ordering relations, a parallel text corpus of English and German official aircraft accident reports (ca. 22,0002 words in each language) was employed. The parallel text type chosen for the corpus consists of reports describing similar but unrelated aircraft accidents (full translations of these reports are normally not provided, rendering it impossible to collect reports in more than one language dealing with the same accident).

The procedures for analysing the text corpus were split into semi-automatic and manual procedures. The initial semi-automatic processing of the text corpus using a concordancing system3 aimed at selecting relevant text units from the corpus (95 English and 82 German text units). The manual analyses with regard to the linguistic realm of temporal ordering relations concerned three aspects:

- a linguistic analysis of the selected text units in terms of signals for these relations
- an analysis of the linguistic structures conceptually linked by temporal ordering relations (this aspect is not discussed in this paper)
- an analysis of the links between the linguistic and conceptual realms of these relations

The linguistic analysis also involved the use of the proposed typology of temporal ordering relations since the typology helped to determine which relation types were found to underlie the text units. In addition, due to the complex and highly specialist nature of the domain of aircraft accident investigation, the help of two domain experts per language was enlisted (each pair of experts included an aircraft accident investigator and an airline pilot).

4. Types of temporal ordering relation

As already mentioned, the typology of temporal ordering relations proposed in Bajaj (2003) consists of 14 individual relation types. Out of these 14 relations, four types have been selected for illustration purposes in this paper (cf. sections 5 to 7). These four relation types are characterized below. The first two relation types are of a sequential nature whereas the third and forth relation types are characterized by complete and partial simultaneity respectively.

**TORns1:** *sequence-with-gap interval relation*

Description: In this case, two situations, represented below by two time intervals, are linked in such a manner that they follow each other after a temporal gap.

Graphic representation: 

\[ — — \]

\[ — — \]

**TORns2:** *sequence-without-gap interval relation*

Description: This relation type differs from TORns1 since it does not exhibit a temporal gap between the situations. The time intervals which represent the situations do not overlap at their end and starting points – the transition is seamless.

Graphic representation: 

\[ — — \]

\[ — — \]

**TORcs6:** *matching interval relation*

Description: Here, two completely simultaneous situations are connected. The starting and end points of the time intervals ‘match’.

Graphic representation: 

[——]
TORps9: embracing interval relation

Description: This relation type links situations which partly overlap with each other. In other words, a time interval occurs within the temporal boundaries of another.

Graphic representation:

5. The analysis of the signals for temporal order

In what follows, I illustrate how a selected text unit is analysed with regard to the cues for the identified relations and how the links between the relations and the cues are established.

Since the terminological literature provides no formal methods for graphically representing temporal ordering relations (cf. Picht & Draskau 1985, Wright 1997), I have developed what I have termed time maps in order to remedy this situation. A time map involves two time axes in a 90 degree angle: the horizontal axis stretches from the left to the right and indicates the flow of time from earlier to later (sequence relations); the vertical axis extends from the bottom to the top representing the depth of time, as I have termed it, with which any type of simultaneity relation can be represented.

Figure 1 below shows a time map for an English text unit (no. 82) in which three situations are described: (1) pilot is lined up on the runway at Southend en route to Luton; (2) he notices that the first officer’s artificial horizon has not erected properly; (3) he uses the fast slave device. As can be seen here, the relations link structures which are conceptually complex and linguistically realized as non-terminologized clauses.\(^5\)

Text unit no.: 82
Text: AAR 96-2
Text line: 2080
Text unit: [The pilot’s report on the first incident stated] that when he was lined up on the runway at Southend en route to Luton he noticed that the first officer’s artificial horizon had not erected properly so he used the fast slave device, which seemed to function correctly.\]

---

Time Map

---

Since the temporal information in text unit no. 82 is scarce, only by resorting to extra-linguistic knowledge, i.e. by accessing world and domain knowledge (domain experts) was it possible to pinpoint the temporal order of the three situations which, in the time map, are represented by three complex conceptual structures. The complex conceptual structure which started first is labelled with A, the one which began next is called structure B, and the one which began last is structure C.\(^6\) The relation types between the structures are labelled accordingly.

---

5 The research into temporal ordering relations transcended the boundaries of traditional terminological investigations since it went beyond the notions of solitary concepts and terms, and even LSP phrases. Accordingly, the study has had to draw on related disciplines to support the description of complex conceptual structures since terminologists have only been concerned with certain aspects of special languages, i.e. with graphemes, phonemes, morphemes, lexemes, word forms, and phrases.

6 The domain experts argued that A must have begun before B started, since it is during the time after the line up that pilots double-check some of their instruments. With regard to the endings of A and B relative to each other, it can be argued here that the act of noticing something only takes a finite amount of time, which means that B must have occurred within the temporal boundaries of A, because A did not stop when B finished (the pilot and his aircraft are still lined up on the runway, because without a properly erected artificial horizon, a pilot would not proceed from the line up to the take off). Hence, there is the
The temporal information in this example sentence consists of only two items which cue the temporal order: the subordinators *when* and *so*. The word *when* can signal sequences as well as both types of simultaneity, and the subordinator *so* can point at sequences and partial simultaneity (cf. Quirk, Greenbaum, Leech & Svartvik 1994). It is important to bear in mind that in this study the notion of a cue excludes the notion of extra-linguistic knowledge, i.e. the input from domain experts involved in the determination of the relation types as well as the input from the author of this paper, since the temporal functions or meanings of the cues were established using grammars and dictionaries. Whenever cues are viewed in conjunction with domain expertise and world knowledge this is indicated clearly.

Let us now look at the links between the linguistic and conceptual levels of the temporal ordering relations depicted in the time map. It can be seen that the subordinator *when* can be linked to the partial simultaneity relation on the left of the diagram and the word *so* to the sequence relation between complex conceptual structures B and C. It can also be noted that there is no cue present in the text unit for the partial simultaneity relation on the right. These links between the linguistic and conceptual levels of temporal ordering relations have been termed transfer relations (cf. Bajaj 2003), which have so far not been found in any terminological literature.

6. Results of the analysis of the textual realizations of temporal ordering relations

In this section, I report on and discuss the most striking results from the analyses of the lexical and grammatical cues for the relations found in the 95 English and 82 German text units. I will also provide examples using the four relation types introduced earlier.

Among the main findings is that the English and German analyses of the lexical and grammatical cues for temporal ordering relations showed that the cues only signal some sort of temporal order but that they are insufficient for accurate determinations of the relations. Hence, the expectation that temporal expressions indicating precise temporal ordering structures are among the prime features in accident reports could not be confirmed. In all cases, extra-linguistic knowledge was required to precisely identify the relation types.

In both subcorpora, the same types of cue were identified, except for minor differences. The lexical cues only involved general-language words and phrases, such as temporal conjunctions, temporal prepositions, adverbs of time, temporal prepositional phrases, and so on, which clearly shows that the exploration of the textual signals of temporal ordering relations deviates from the traditional type of terminological research (terms and LSP phrases).

The cues identified per text unit were also examined as an interactive whole since temporal order can be realized by several means within a text unit (e.g. Dorfmüller-Karpusa 1985). Viewing the total of cues per text unit means that the entire underlying temporal ordering structure is involved (either one or several relations). It is important to point out that for this step the input from the domain experts and prior to this from the author of this paper was necessary since the verified relation types are involved. Table 1 below shows a selection of the patterns created by the total of the cues per text unit and their underlying temporal ordering structures in the English subcorpus.

### Table 1 Extract of the single cues and cue clusters signalling the temporal ordering structure underlying the individual text units in the English subcorpus

<table>
<thead>
<tr>
<th>Text Unit No.</th>
<th>Relation Types</th>
<th>Single Cues and Cue Clusters</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>TORns1</td>
<td>Coord; and PP after initial examination</td>
</tr>
<tr>
<td>7</td>
<td>TORps9</td>
<td>Coord and</td>
</tr>
<tr>
<td>10</td>
<td>TORns1</td>
<td>Coord and</td>
</tr>
<tr>
<td>40</td>
<td>TORns1, TORns1, TORps9</td>
<td>Coord and</td>
</tr>
<tr>
<td>63</td>
<td>TORns1, TORns1, TORns1, TORps9, TORps9</td>
<td>Sub whilst T lost control : having become disoriented</td>
</tr>
<tr>
<td>74</td>
<td>TORns1</td>
<td>Adv originally</td>
</tr>
<tr>
<td>77</td>
<td>TORns1</td>
<td>Sub after, Adv shortly</td>
</tr>
<tr>
<td>78</td>
<td>TORns1</td>
<td>Sub after, Adv shortly</td>
</tr>
</tbody>
</table>

In both subcorpora, six distinct patterns (transfer relations) between the relations and their cues could be observed:

1. A cue cluster (several cues are present in a text unit) can prompt one relation.
2. A cue cluster signals several underlying relations.
3. A cue points at a temporal ordering structure consisting of more than one relation.

---

*embracing interval relation* (TORps9) present between A and B. The experts were of the opinion that the relation type linking A and C is also TORps9. The use of the fast slave device would have also taken place during the line-up phase, since the pilot would not have gone from the line-up phase to the take-off phase without having used this device to align the artificial horizon. With regard to the relation between B and C, the domain experts concluded that the relation was of a sequential nature and also that some time must have passed between the two situations, because when there is something wrong with the artificial horizon a pilot would need some time to evaluate the situation and would only then decide what to do next. Consequently, the relation type is TORns1, the *sequence-with-gap interval relation*.

Note that there is also a semiotic cue present in this text unit: *iconicity* (a method for representing situations in text in the order in which they occurred). Situations B and C are represented iconically, that is to say in their natural order. The semiotic cues for temporal order are not dealt with in this paper.
(4) A cue signals one relation.
(5) A cue can point at a specific relation in one text unit but at other types in other text units.
(6) A relation can be signalled by a variety of cues.
(7) Some cue clusters always prompt the same relation.

From these patterns, two main types of transfer relation emerge, which I have termed many-to-one (pattern 5) and one-to-many relations (pattern 6). In the case of the many-to-one relation (similarities to polysemy) the linguistic means to express temporal order are limited since most of the lexical and grammatical cues are polyfunctional in terms of the types of temporal order they convey. The one-to-many relation (comparable to synonymy) shows that cue types can be exchanged without affecting the type of temporal order, impeding unique allocations of particular cues to particular relations.

The insights into transfer relations are useful since they alert us to the lack of correspondences between temporal ordering relations and their signals. In order to exemplify this lack of correspondence, I have chosen six text units from the English subcorpus which involve the four temporal ordering relation types described earlier. All the cues in these text units are polyfunctional. In four text units (nos. 13, 27, 28, 36) the coordinator and occurs as the sole cue and in two text units the subordinator when (nos. 89, 91). The word and can signal all types of temporal order, i.e. it can be a cue for sequences as well as for the two types of simultaneity (cf. Quirk et al. 1994). The subordinator when, as we have seen, can also point to all types of temporal order.

Text unit 13: The aerodrome controller passed instructions for a radar heading of 360° and cleared the aircraft to 3,000 feet QNH.
(Relation cued: TORns1, the sequence-with-gap interval relation).

Text unit 27: Both radars were displayed in the control tower and recorded on VHS video tape. (Relation cued: TORcs6, the matching interval relation).

Text unit 28: The wing fuel tank had subsequently ruptured and released the fuel for the ground fire.
(Relation cued: TORns2, the sequence-without-gap interval relation).

Text unit 36: The flight was in visual meteorological conditions (VMC) and the aircraft was recovered safely.
(Relation cued: TORps9, the embracing interval relation).

Text unit 89: When reported as unserviceable the artificial horizon was sent to one of several UK repair agencies for repair or overhaul.
(Relation cued: TORns1).

Text unit 91: When the commander set his artificial horizon in a wings level attitude, the aircraft itself turned to the left.
(Relation cued: TORns2).

The six examples clearly demonstrate that if one relies only on the temporal cues for the relations without adding extra-linguistic knowledge such as world knowledge and domain knowledge it is not possible to determine the exact temporal order of the situations described in these text units.

7. Suggestions for controlled temporal ordering means

Let us now look at one of the implications of the results discussed in the preceding section. Since in specialist texts ambiguities are not wanted, specialist writing may be improved and disambiguated with regard to the description of temporally ordered phenomena if the transfer relations identified are used as the basis for developing controlled language means.

What is a controlled language? It can be defined as a subset of a natural language characterized by restricted grammatical constructions, selected terminologies, and stylistic constraints to minimize ambiguity and complexity and to maximize clarity (cf. Linga Web Page 2003). Some features of a controlled language include the preferred use of the active voice, short sentences, coordinative sentence structures, avoidance of nominal groups made up of more than three words, conveyance of only one meaning per word, and so on (cf. Linga Web Page 2003). Controlled languages are remarkably useful for writing, for instance, user manuals or documents pertaining to particularly complex domains such as law or as in the present case aircraft accident investigation. However, the learning and application of controlled languages is not popular among authors, but it is clear that

“controlled languages do meet their objectives. [...] Despite the challenges faced by users, the market for controlled languages continues to grow.” (Alwarg 2000: 1)

Hence, the writing of texts in which temporally ordered knowledge plays an important role may be facilitated if authors are aware of the ambiguities of the means used to convey temporally ordered information. Consequently, the description of temporal ordering knowledge in aircraft accident reports could be made clearer if aircraft accident investigators were trained in using controlled language for expressing the various types of temporal order. For instance, the creation of approved temporal ordering
means uniquely designating particular types of relation would avoid or at least reduce ambiguous temporal ordering information in these reports, rendering them more comprehensible.\textsuperscript{8}

In the following, the attempt is therefore made to suggest some controlled temporal ordering means for the aforementioned six examples. However, it should be noted that at the time of writing it has not yet been possible to discuss these means with the English and German investigators, and thus the suggestions have to be viewed from that perspective.

As can be seen below, if the relations are cued by controlled means which are applied consistently (as, for instance, in text unit nos. 13 & 89 and 28 & 91), the identification of the relations in text is facilitated, i.e. simplified:

\textbf{Modified text unit 13:}  
The aerodrome controller passed instructions for a radar heading of 360° \textit{and later} [he] cleared the aircraft to 3,000 feet QNH.

In this example, the suggestion is made to use the adverb \textit{later} in conjunction with the coordinator and to make it clear that a sequence relation with a temporal gap between the two situations is involved. Depending on whether the temporal gap is of a short, medium-length or long duration, noun phrases expressing the length of the gap may be added, e.g. \textit{a short time later}, \textit{a few seconds later}, \textit{some time later}, \textit{three hours later}, and so on.

Suggested controlled temporal ordering means for TOR\textit{ns1}; \textit{and later}

\textbf{Modified text unit 27:}  
Both radars were displayed in the control tower \textit{and at exactly the same time} [they were] recorded on VHS video tape.

Here, it is proposed to add the temporal prepositional phrase \textit{at exactly the same time} to the coordinator as a means of signalling two situations which occur wholly simultaneously.

Suggested controlled means for TOR\textit{cs6}; \textit{and at exactly the same time}.

\textbf{Modified text unit 28:}  
The wing fuel tank had subsequently ruptured \textit{and released} the fuel for the ground fire \textit{without delay}.

To make it obvious that the situations in this sentence are sequentially linked without any time passing in between them (no temporal gap), the use of the temporal prepositional phrase \textit{without delay} is suggested. (Another possibility could be the combination of \textit{and} with the adverb \textit{instantly}, i.e. \textit{and instantly}).

Suggested controlled means for TOR\textit{ps9}; \textit{and without delay}.

\textbf{Modified text unit 36:}  
The flight was in visual meteorological conditions (VMC) \textit{during which} the aircraft was recovered safely.

It needs to be clarified here that the second situation clearly occurs within the temporal boundaries of the first situation. Hence, I propose the use of the prepositional phrase \textit{during which} for this relation type.

Suggested controlled means for TOR\textit{ps9}; \textit{during which}.

\textbf{Modified text unit 89:}  
The artificial horizon was reported as unserviceable \textit{and later} it was sent to one of several UK repair agencies for repair or overhaul.

As in text unit no. 13, the relation type is TOR\textit{ns1}. Using the controlled means \textit{and later} suggested earlier for this relation, the subordinative sentence structure changes to a coordinative structure. We can note in this context that one of the aims of controlled language is to simplify syntax by using coordinators (cf. Linga Web Page 2003).

\textbf{Modified text unit 91:}  
The commander set his artificial horizon in a wings level attitude \textit{and the aircraft itself} turned to the left \textit{without delay}.

The same relation type as in text unit no. 28 is involved here, namely TOR\textit{ps2}, for which the controlled means \textit{and without delay} has been proposed. As in the preceding example, the sentence structure changes here from subordination to coordination.

If the means put forward in the above are used consistently in aircraft accident reports, then the communication of temporal ordering information should be easier. Used as part of a controlled language, the cues for temporal ordering may hence be thought of as undergoing a ‘process of terminologization’ since they are transformed from items with wider ‘denotations’ into items with precise references to relation concepts (cf. Bessé, Nkwenti-Azeh & Sager 1997).

\textbf{8. Conclusion}

This paper focussed on the linguistic, i.e. lexical and grammatical realizations of temporal ordering relations. It was shown that in the texts analysed the linguistic signalling of the relations is inadequate and exact identifications of the relations could only take place on the basis of extra-linguistic knowledge. It was argued that the determination of such relations could be improved if texts from domains in which the temporal ordering of phenomena plays an important role are written using controlled temporal ordering means.

\textsuperscript{8} As a result, human or machine-supported specialist translations would also be facilitated because the transfer of time-related domain knowledge into other languages would be easier.
The research into the controlled means for temporal order is on-going. Among the next steps is a feasibility study to see whether reports written in controlled language really display more comprehensibility in terms of temporal ordering knowledge. It will also be examined whether it is actually possible to implement the suggestion of training aircraft accident investigators in writing their reports in a more controlled fashion with regard to temporal ordering means. In other words, it has to be found out whether aircraft accident investigators can be convinced that writing their reports in a more controlled fashion could be beneficial.

References


Cross Cultural Communication in Aviation

Peter H. Ragan
Embry-Riddle Aeronautical University

1. Introduction

The combination of communication, culture, and knowledge is usefully studied with close attention to the context in which the communication takes place. In international civil aviation, flight crews communicate with one another and with air traffic controllers using a specialized and highly contextualized language known as radiotelephony phraseology, pilot-tower or controller communication, among LSP instructors and researchers.

Widespread concern over the significant role of language in aircraft accidents and incidents has led to scrutiny of problematic use of this restricted register of English. However, it has received little attention in accident investigations beyond the evaluation of its function in conveying information. Although aircraft accident reports may contain information that points to the relevance of cultural factors, culture is rarely officially identified as an important variable for a variety of reasons and has not been connected with language use.

Sapir has observed that “we may think of language as the symbolic guide to culture” (1964, 63). Language use on the flight deck of international commercial aircraft presents an opportunity to study how national culture affects flight crew – air traffic controller communications.

This study of cross-cultural communication in aviation argues that it is necessary to promote awareness of as a multi-functional use of language and of the impact of national culture on language use by pilots and air traffic controllers in order to improve flight safety. It presents different perspectives on Airspeak, characterizes the significance of culture in its use, and presents three case studies of the contribution of culture to the breakdown of pilot-controller communication.

2. Perspectives on Airspeak

The International Civil Aviation Organization (ICAO) monitors aviation internationally, including use of this language, as does the Federal Aviation Admission (FAA) in the U.S.A. and other government agencies in various countries. It specified English as the “international language of the air” and is responsible for (1) establishing and reviewing international standards for the licensing of personnel and aircraft operation, (2) developing principles and techniques of international air navigation, including meteorology, radio communications, and rules of the air, and (3) currently requiring that applicants for airline transport pilot rating must “be able to read, write, and understand the English language and speak it without accent or impediment of speech that would interfere with two-way radio conversation.” And the flight instructor is the judge of language proficiency!

This state of affairs is changing, however. The contributions of language to aviation accidents and incidents has led ICAO to recently establish “minimum skill level requirements for language proficiency for flight crews and air traffic controllers, develop an ICAO language proficiency rating scale applicable to both native and non-native speakers language; and recommend a testing schedule to demonstrate language proficiency” (Mathews, 2003:7) to go into effect within a few years time.

Airspeak is a singularly context bound special language with its emphasis on the human-machine interface (HMI) and the safe conduct of air transport. A restricted register like this is associated with distinctive probabilities of language use both of discourse functions and the weighing of choice in lexis and grammar. Figure 1 highlights this situational context:

1. PARTICIPANTS (Who’s involved?) - Pilots and air traffic controllers
2. TEXT (What type of language?) - Airspeak (restricted register of English)
3. MODE (What use?) - Air-ground communication
   a. PURPOSE (Why?) - Direct, inform, question, request, respond
   b. CHANNEL (How?) - Spoken
4. FIELD (What is the focus of the activity?) - Aircraft take-off, flight, landing, etc.
5. TENOR (What is the relation between participants?) - ATC directs/controls pilots

Figure 1. Description of situational context for Airspeak

There is a constant and very pressing concern that the aviation industry has in dealing with the Human Machine Interface (HMI) and the need for safety. For a flight crew communicating on the flight deck of a BOEING 747-400, this translates into the immediate presence of an aircraft weighing in at 396,900 kg (875,000 lb). The presence of this technology causes informational exchange to take priority over social and organizing functions of language and the wording that expresses them. Two studies illustrate this effect that prioritizing the use of language for information exchange has on communication.

John Sinclair (2001) has explored the “deification of information” which he associates with the increasing use of networked computers. He suggests this deification is a consequence of a human – machine interface incorrectly presented as being interactive, and essentially operating as a one-way type of communication. The result is an increasing inability to handle the vast
amounts of information made available by computers. While described as interactive, computer operation in fact transforms users to mere “clickers” who use their mouses to respond to the machine’s agenda. While interacting with the machine, there is virtually no need for social discourse and the linguistic skills it requires.

Similarly, in the aviation context, the increasing computerization of the cockpit of commercial aircraft and demands of technology aboard a commercial jetliner lead to one-way communication. In a study entitled “A Comparison of Cockpit Communication B737 – B757,” Costley, Johnson, and Lawson compared communication on the flight decks of Boeing 37-200, 737-300, and the 757 aircraft, airplanes that display a progressive dependency on the computer. Data (involving 16 captains and 11 copilots) gathered from climb, cruise and descent sequences indicated a significant decrease in inter-pilot communication as the cockpit automation increases, although pilot activity rates on aircraft with fully automated flight decks are equal to that of conventional cockpits. Computer reliance negatively impacted flight crew interaction in general, and interpersonal language use in particular.

The perception of Airspeak that emerges from the demands of the Human-Machine Interface suggests that for flight crew and air traffic controllers, there are:

- a preoccupation in the cockpit with the communication of information and the discourse functions associated with it; and
- a tendency toward isolation of the individual members of the flight crew at work in the cockpit, with little opportunity to use discoursal and lexicogrammatical functions associated with interpersonal and organizing language behavior (or to learn them in the case of non-native speakers with poor English proficiency).

The situational dependence of Airspeak is readily seen through both the personal experience reported by pilots and qualitative and quantitative analyses of the use of Airspeak. Qualitative, content-oriented studies of actual language use, such as those found in NTSB Air Accident Reports substantiate the nature of this language use. So do the quantitative studies derived from compilations such as the Air Traffic Control Corpus of the Linguistic Data Consortium (2002) with its 70 hours of controller and pilot transmissions from three international airports of the U.S.A. All of these data illustrate correct and incorrect, appropriate and inappropriate use of Airspeak. They all bear witness that Airspeak is idiosyncratic, predictable, and problematic. Figure 2 summarizes evidence and gives examples of these specific features of Airspeak.

**Figure 2.** Specific features of Airspeak

<table>
<thead>
<tr>
<th>FEATURE</th>
<th>EVIDENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. IDIOSYNCRATIC</td>
<td>DEPENDENT ON THE SITUATION</td>
</tr>
<tr>
<td>(primarily refers to content outside any written text but known to communicators)</td>
<td>DISJUNCTIVE &amp; ABBREVIATED WORDING</td>
</tr>
<tr>
<td>(discontinuous and leaves out words)</td>
<td>SIMPLIFIED &amp; FORMULAIC</td>
</tr>
<tr>
<td>(relies on prepared phraseology rather than spontaneous speech)</td>
<td>Examples:</td>
</tr>
<tr>
<td>“CLIMB AND MAINTAIN 3000”</td>
<td>“I NEED YOU TO FLY TEN”</td>
</tr>
<tr>
<td>(“I need you to fly ten mile legs in the holding pattern”)</td>
<td>“YOU’RE CLEAR TO LAND ONE TWO ZERO: FIFTEEN”</td>
</tr>
<tr>
<td>(“degrees/ wind knots”)</td>
<td></td>
</tr>
<tr>
<td>2. PREDICTABLE</td>
<td>OPENING AND ANSWERING SEQUENCES</td>
</tr>
<tr>
<td>SITUATION-DEPENDENT</td>
<td>(controller/pilot calls, informs, requests, directs, checks, etc. in response to a “mini-situation,” e.g., take-off, approach)</td>
</tr>
<tr>
<td>Example:</td>
<td>Edinb: “CALEDONIAN NINE FOUR FOUR YOUR CLEARANCE”</td>
</tr>
<tr>
<td>BR944: “NINE FORTY FOUR GO AHEAD”</td>
<td></td>
</tr>
<tr>
<td>3. PROBLEMATIC</td>
<td>MIX OF NON-STANDARD UTTERANCES,</td>
</tr>
<tr>
<td>(potential)</td>
<td>EXCHANGES, AND CULTURAL IMPRINT</td>
</tr>
<tr>
<td>Example:</td>
<td>“NEGATIVE SIR WE JUST RUNNING OUT OF FUEL WE OKAY THREE THOUSAND NOW OKAY”</td>
</tr>
</tbody>
</table>

**3. The significance of culture**

Investigators of the causes of air disasters in the late 1970’s came to the disturbing conclusion that the majority, that is, over 70% of air crashes were caused not by failures of equipment or weather but rather human error (Helmreich and Ashleigh, 1998). Problematic language use contributes to such data. In commercial aviation, the cockpit is an environment, a situational context in which a skilled group of individuals perform work that requires high levels of technical skills, and because they work together as crew, high levels of interpersonal skills as well. A crew forms a culture, most simply defined as that which distinguishes one
group of people from another (Hofstede, Pedersen, and Hofstede, 2002). This culture can be supportive or problematic for the interactions that it affects.

The aviation community responded to the problem of human error in the cockpit by initiating psychological training for flight crews in the early 70’s and 80’s. The evolution of this training since then is relevant to any look at culture manifested in language use. Discussions of group and individual behavior in the cockpit promptly led to the notion of “cockpit culture” and gave rise to the associated “cockpit resource management training”, or CRM, now a large-scale industry within the aviation profession. From this focus on the cockpit crew, CRM expanded to become Crew Resource Management, and now offers a variety of training modules including cabin crew and other system elements. As it developed, it also had to acknowledge the different types of significant cultures involved, notably occupational, organizational, and national.

Initially CRM was only practiced in the U.S. and other westernized countries. Within these relatively homogeneous national cultures, the effect of culture was generally uniform and therefore masked. However, as Helmreich and Merritt (1998) assert, “the potential for misunderstandings in cross-cultural encounters is enormous (56)"...that language is probably the most fundamental source of problems in cross-national cultural groups” (202-203). Since so much of CRM is based on communication and command styles, it is not surprising in retrospect that CRM was not very successful when it was exported to some Asian and S. American countries.

An important question, then, is the extent to which national culture affects pilot training and skills, important because by 2000, CRM was promoted all over the world and was even required of all 185 member states of the ICAO (Merritt, 1998: 283). Merritt describes the prevailing view then, which has persisted for many, claiming that:

within the aviation community [it] has been one of denial or minimization of any national differences – the assumption has been that pilots operate the same types of aircraft and therefore they should be trained to the same standards using the same technique (284).

This question was fully researched and answered in the work of Ashleigh Merritt (2000). She turned to cross-cultural psychology for guidance in the seminal work of Geerte Hofstede (1980, 1991), who studied and derived four dimensions of national culture. Merritt collected data from some 9,400 male commercial airline pilots in 26 airlines in 19 countries in a replication study of Hofstede’s indexes of national culture. The successful replication correlations for the dimensions of individualism-collectivism (IDV: 0.96), power distance (PDI: 0.87), masculinity-femininity (MAS: 0.75), and uncertainty avoidance (UA: .68) (along with additional measures/adjustments relevant to aviation) confirmed that national culture exerts an influence on cockpit behavior over and above the professional culture of pilots, and corroborates that “one size fits all” training is inappropriate. In other words, CRM practices that were held to be universally applicable are indeed culturally influenced.

Given the problematic nature of communication in cross-cultural encounters and language use in cross-national cultural groups, a view of language solely as a conveyor of information is insufficient to capture the manifestations of culture in text: interpersonal and organizational functions of language also need to be analyzed in account for the interplay of Airspeak and culture.

3. Enlarging the perspective

A functional perspective of language acknowledges that texts are responsive to situational contexts and gives rise to the concept of text types (Halliday, 1973). Similarly, Biber (1995:33) uses the term register as a term for a socially perceived text category and text-type, a “grouping of texts defined in strictly linguistic terms” which are finally interpreted in terms of purpose and other characteristics of situational contexts (10). With a systemic-functional model of language, one can move from an extrinsic level, the discourse level of language as purposive behavior, to an intrinsic level, the level of wording, i.e., lexis and grammar. The systemic perspective applied is that the functions of language are reflected in the internal structure: the intrinsic level derives from the extrinsic. This is a parallel interpretation of the concept of functions, which co-occur at the structural level of wording. Biber’s multi-dimensional methodology (1995:136) is based on the premise “that most formal differences reflect functional differences.” He also acknowledges and notes the co-occurrence of functions.

Figure 3 below offers a description of how meaning is communicated in the wording of language from a systemic-functional perspective through these three major functions. It also offers a sample of Airspeak to exemplify the analysis of text using these three functions (see also Ragan, 1997). The three functions apply to both spoken and written modes of expression, and concurrently convey meaning.

The content function communicates information for our understanding of our environment. It is reflective and experiential. Language expresses who/what is involved, what is going on, and under what circumstances. Airspeak, like all language uses, also has an exchange function. This refers to a two-way interaction that is interactive and interpersonal, and has to do with the social use of language – it’s a rich function in the expression of cultural values. We can see this interaction at a simple level in the lexis and grammar of asking questions or making statements about information, and when we make offers or command action of others in terms of behavior involving ‘goods and services’. This function refers to social language use, such as acknowledging relationships, moderating directness, and expressing degrees of politeness.

The third major function is that of ORGANIZATION. Language functions to communicate our sense of the ordering and logic of content and language interaction. Shared meaning is cohesive, coherent and structured. It has a logical structure depending on the type of text it is. A useful way into this function is to think of the features that make language use identifiable according to its text type. For example, a good set of instructions proceeds and is organized in such a manner that we can readily recognize. This is a fascinating area for cultural studies.

1. Understanding our environment (CONTENT)
   - It is reflective and experiential
One needs to be careful with language use, especially during times of stress and emergency: The multiple functions that language serves need to be combined. Airspeak is meant to simplify and focus communication, but lacks the means to do so outside of the content function. Awareness of the co-occurrence of these functions is useful as it clarifies the interplay of language and culture, but in the cockpit environment this does not easily take place without recourse to a less-restricted register of English. The example shown in Fig. 3 above is a short dialogue between a controller at Edinburgh Airport and the pilot of a private plane with the call number BR944. It models the concurrent expression of the three functions in ideal conditions – there is no emergency taking place.

As for content, the controller identifies the plane being called, “Caledonian 944.” He then refers to his purpose for calling, to get “your clearance.” He also expresses and initiates an exchange by offering these two partial statements: the “Caledonian nine four four” and “your clearance” identify the pilot’s airplane.

An exchange takes place as the controller requests that the pilot acknowledge his call by responding to him. The controller initiates the interaction. The pilot responds with content: he identifies by repeating the call sign of his aircraft, “Nine forty four,” as part of the exchange. He then makes a request with the content “go ahead.” This refers to the action going on and is also an exchange in that he directly requests the controller to “go ahead” and give him his clearance. It is vintage Airspeak except for the ‘forty.’

With regard to organization, these words exhibit a logical order common to Airspeak, in this case with an opening and answering sequence between the two participants which includes calling, informing, directing, and checking information (by repeating it). This transaction takes place in a manner fully predictable in this particular mini-situational context, the preparation for takeoff.

Other forms of analysis at discourse and wording levels in other applications are also fruitful. Linde’s quantitative analysis of the role that linguistic mitigation plays in aircraft accidents is an excellent introduction to the exchange function of language, in which language is viewed in its interactive, interpersonal role in communication (Linde, 1988). Mitigation refers to the degree of politeness or directness involved in a spoken communication. Linde builds her investigation on the theory of Brown and Levinson (1978) who describe politeness as the attempt to avoid face-threatening action.

Chapter 6 of Biber’s *Dimensions of Register Variation* (1995) presents an analysis of the relations in Korean among twenty-two registers (10 spoken and 12 written) with respect to six significant dimensions of variation. This is noteworthy because one of these, the “Overt Expression of Personal Stance” “comprises several features reflecting the personal attitudes and feelings of speakers and authors” (193). Another, “Honorification,” “shows the importance of social relations and setting…and confirms the importance of this system as a separate dimension of register variation in Korean” (193). In Biber’s Appendix 1 there is also a grammatical description of linguistic features in Korean which includes the categories of “sociolinguistic indicators” and “stance markers.”

Similar to the systemic-functional perspective, the features described by Linde and Biber are capable of showing nuances of culture in the analysis of intercultural communication. A significant example of this is the use of English in cultures where saving face is highly valued. In the two examples of pilot – controller communication presented below, this is one of many cultural values which potentially affect language use, and ultimately, flight safety.

### 4. Examples of culture and Airspeak

With the lexicogrammatical functions of content, exchange, and organization as wording in mind, two examples are offered here to model the interplay of culture and Airspeak. These are by no means typical events; they are, in fact, worst-case scenarios. The contribution of cultural factors to aircraft incidents and accidents is a sensitive, complicated, and controversial topic (Phillips, 1998), one that is rarely explored in official accident document. Although the overwhelming majority of incidents and accidents have multiple causes, those with cultural components are routinely identified and investigated without reference to culture. Here three examples, one of Avianca, the principal Colombian carrier, and two of Korean Air Lines, offer different insights into the interplay between culture and language.

Figure 4 below offers insight into the interplay between culture and language by looking at the final portion of the transcript of tape recordings made by the cockpit voice recorder of Avianca flight 052 on July 19, 1989. This captures all of the communications among the flight crew and between them and air traffic controllers for the final 11 minutes of that flight.
(National Transportation Safety Board, 1991). The numbers on the left refer to the time of transmission. All Spanish wording has been translated to English as noted. This flight was enroute from Bogota, Colombia via Medelin on the way to JFK Airport in New York. The transmission at 2133.12 hours was the end of communications between crew and air traffic controllers. At approximately 2134 hours, this flight, which had been in a holding pattern over JFK airport, ran out of fuel and crashed in a wooded residential area in Cove Neck, Long Island, New York. Of the 158 persons aboard, 73 died, including the flight crew.

KEY: CAM: cockpit area microphone
      RDO: air-ground communications
      Initial numbers: points on the flight reconstruction diagram
      Numbers in parentheses: time in hours, minutes, and seconds

39 (2123:28) CAM: The Avianca captain declares a missed approach by telling his crew, "Give me landing gear up." (Spanish)
45 (2123:43) CAM: The captain says, "We don't have fue..." (Spanish)
46 (2124:06) CAM: The Avianca captain speaks to the first officer, "Tell them we are in emergency." (Spanish)
47 (2124:08) RDO: The first officer acknowledges an ATC altitude and heading to the JFK controller, adding "...and ah we'll try once again we're running out of fuel."
48 (2124:15) RDO: A controller says, "Okay."
51 (2124:22) CAM: Again the captain tells the first officer to "Advise him we are emergency." (Spanish)
52 (2124:26) CAM: The captain asks the first officer "Did you tell him?" (Spanish)
53 (2124:28) CAM: to which the first officer responds, "Yes, sir. I already advised him." (Spanish)
57 (2125:08) CAM: Again the captain says "Advise him we don't have fuel." (Spanish)
61 (2125:28) CAM: He repeats "Did you already advise that we don't have fuel?" (Spanish)
62 (2125:29) CAM: The first officer answers, "Yes, sir. I already advise him hundred and eighty on the heading we are going to maintain 3000 feet and he's going to get us back." (Spanish)
64 (2126:35) RDO: A controller says, 'I'm going to bring you about fifteen miles NE and then turn you back for the approach. Is that fine with you and your fuel?'
65 (2126:43) RDO: The Avianca first officer answers, "I guess so, thank you very much."
66 (2126:46) CAM: The first officer asks the first officer, "What did he say?" (Spanish)
67 (2126:46) CAM: The first officer answers him, "Fifteen miles to get back to the localizer." (Spanish)
70 (2130:32) RDO: The controller instructs them, "Avianca 052 climb and maintain 3000."
71 (2130:36) RDO: The first officer responds, "Negative sir, we just running out of fuel we okay three thousand now okay."
76 (2132:49) RDO: Then the first officer calls the JFK controller, "Avianca 052 we just lost two-engines and we need priority please."
78 (2132:54) RDO: The controller responds, "Avianca 052 turn left heading five zero..." and "Avianca 052 heavy you're one five miles from outer marker maintain two thousand until established on the localizer cleared for ILS two two left."
79 (2133:12) RDO: The first officer in turn responds, “Roger Avianca.”

Figure 4: Selected dialogue between AVA 052 Flight Crew and Ground Control

We can note the role of multiple functions of language in an excerpt from this dialogue taken at 2130:32-36. This excerpt, between an air traffic controller and the first officer of the aircraft, is shown in Figure 5 and is presented with the wording categorized as features of content, exchange, and organization in Figure 6.

(2130:32) “Avianca 052 climb and maintain 3000"
(2130:36) “Negative sir we just running out of fuel we okay three thousand now okay”

Figure 5. Dialogue excerpt between controller and first officer

CONTENT:
Participants Avianca 052
sir we fuel

Actions climb maintain running out of
3000
Circumstance Negative Just
The selected dialogue in Figure 5 is worthy of close scrutiny for it typifies what can be seen throughout the entire recorded dialogue within the cockpit and between cockpit and tower. Here we will only consider some of the highlights of this dialogue. In all of the recorded communications of this flight, the first officer speaks to the tower on behalf of his captain, for he was the better speaker of English. The language he uses gives evidence of his apparent deferential role, both to the captain and to the controller. In his dialogue with the captain, he does not indicate that he has any problem in communicating to the tower about their emergency as ordered by the captain. The captain repeatedly asks him about this; he responds twice with “Yes, sir, I already advised him (2124:28, 2125:29).”

The NTSB Aircraft Accident Report indicates without specific reference that it was likely that the Captain’s limited English proficiency “prevented him from effectively monitoring the content of the transmission” made to the controllers by his first officer (1991, 58). The report also notes the failure of the flight crew to communicate effectively among themselves. The NTSB also concludes that “the first officer incorrectly assumed that his request for priority handling had been understood as a request for emergency handling” although the NTSB considered him to be sufficiently proficient in English to be understood by air traffic control personnel (74-75). The question of whether cultural factors were involved on boardAVA 052 should have been, but was never asked.

Clearly cultural factors affected the first officer’s communications with air traffic control and with the cockpit crew. The wording evidences what appears to be a deliberate and effective avoidance in his speech of any disagreement or demanding, willful expression of need with the air traffic controllers. He shows an inclination to make polite, submissive responses to the controllers with illogical combinations of concession and emergency, such as in his utterance, “and oh we’ll try once again we’re running out of fuel” (2124:08).

In a question and answer dialogue noteworthy for its limited and problematic use of Airspeak, a controller who is reacting to his fuel problem asks the first officer, “Is that fine with you and your fuel?” (2126:35), and gets the response, “I guess so, thank you very much” (2126:43). The first officer does repeatedly fail to say the Airspeak word “emergency” to get the landing priority that the flight so desperately needed to touch down before running out of fuel. The controllers did not pick up any indication of a problem until it was too late; they heard only civility. And throughout the dialogue, there is a pervasive, irregular use of Airspeak, by both air traffic controllers and the first officer. Yet as part of this inappropriate use of Airspeak, the first officer shows a certain facility in speaking indirectly, non-aggressively, and politely despite the desperate urgency of the situation. This is culture at work. There are indications as well that the first officer may have been speaking in a similar manner to the captain in Spanish.

Other problems contributed to this disaster, such as the failure of the ground relay station to adequately record and report the flight’s fuel levels, and inadequate traffic management by the FAA. Language deficiency was cited by the NTSB accident investigation report as an important contributing factor to the accident. The role of culture figured prominently but was not discussed generally nor with regard to language deficiency. Latino cultures are considered to be collectivist and usually high-context in nature (Rogers and Steadfast 1999). A collectivist culture is one in which the collectivity’s goals are valued over those of the individual. High-context cultures are those “in which the meanings of a communication message are found in the situation and in the relationships of the communicators.” Nonverbal communication and subtleties in communication are emphasized. One avoids threatening the face of one’s conversation partner. The investigation noted that the steward came to the cabin to ask about the status of the flight. The flight engineer, sitting behind the captain, pointed to the empty fuel gauge and made the gesture of cutting the throat to indicate the perilous situation.

Heimlich and Ashleigh (1998, 98-99) suggest both uncertainty avoidance (UA) and power distance (PD) were relevant in this disaster: “Those high in UA are likely to be more committed to a course of action once chosen and less flexible in considering other alternatives. The captain appears to have been committed to reaching New York (99).” Neither the fuel issue, nor the possibility of diverting to another airport was considered. Heimlich and Ashleigh note the consequences of culture on the language use:

The effects of PD are more striking. The flight engineer, although clearly aware of the crisis situation, only communicated the urgency of the situation non-verbally to the steward. Although the Ground Proximity Warning System (GPWS) sounded 15 times during the approach (indicating that the flight was below the glide path for the approach), none of the junior crewmembers expressed concerns. More striking was the behavior of the flight engineer when the captain executed the missed approach. Instead of communicating directly the criticality of the situation, he attempted to show the gravity of the
situation indirectly by reading from the aircraft operating manual the instructions for executing a missed approach with minimal fuel aboard (99).

The interplay between culture and language emerges somewhat differently from two accidents of Korean Airlines. There is less cross-cultural sharing between cockpit and tower, but an amazing and startling degree of culture maintenance in the cockpit. Phillips describes the events of the accident in Guam in newspaper style (1998):

The crew of Korean Air Flight 801 grew nervous as the Boeing 747 approached Agana, Guam, on a rainy night in August. Something didn’t feel right. The plane, flown by autopilot, was descending steeply. The crew talked about the attitude, and someone said several times that the airport “is not in sight.” But investigative sources said that neither the copilot nor the flight engineer spoke out boldly, as trained, to alert the captain or even to urge breaking off the landing. Alarms suddenly sounded in the cockpit. After an excruciating pause of several seconds, the captain finally cut off the autopilot and prepared to pull up. At almost that moment, the crew of another plane perhaps 50 miles away saw the clouds ahead glow bright red. The airplane struck Nimitz Hill, crashed and killed 228 passengers and crew.

The NTSB determined the probable cause of this accident to be (Aviation Safety Network 2000):
“the captain’s failure to adequately brief and execute the non-precision approach and the first officer’s and flight engineer’s failure to effectively monitor and cross-check the captain’s execution of the approach. Contributing to these failures were the captain’s fatigue and Korean Air’s inadequate flight crew training”.

This is summarized in Figure 7:

1. What happened?
   - Captain conducting a non-precision approach at night time
   - Airplane struck Nimitz Hill, crashed
   - 228 (out of 254) fatalities

2. What was the probable cause?
   - Failure of captain to brief crew adequately and execute the approach
   - Failure of first officer and flight engineer to effectively monitor and cross-check the captain’s execution of the approach
   - Failure of Minimum Safe Altitude Warning (MSAW) caused KAL 801 to descend below the safe altitude (captain unaware until alarms went off)
   - Fatigue of captain
   - Inadequate flight crew training (reliance on automated landing)

Figure 7: Crash of KAL 801 - Boeing 747 (Guam, August 6, 1997) (NTSB, 1997)

A similar disaster occurred in London, England two years later with KAL 8509, a cargo aircraft. It is briefly described in Figure 8.

1. What happened?
   - Airplane banked and crashed shortly after takeoff
   - 4 (out of 4) fatalities

2. What was the probable cause?
   - Failure of captain’s Altitude Director Indicator (ADI)
   - Captain’s excessive concern over Distance Measure Equipment (DME)
   - Captain’s ignoring of alarm signaling banking until 12th signal
   - Failure of flight crew to inform or question captain

Figure 8: Crash of KAL 8509 - Boeing 747 (London, 12/22/99) (Dept. of Transport)

The implications of Korean cultural maintenance in the aviation context are daunting. Rhodes (1998) cites a study by members of the University of Texas psychology department pointing to national culture as a major factor in determining whether pilots trust and prefer automation. In their survey of 5,879 pilots from 12 countries, 100 percent of Korean pilots said they preferred the autopilot, and they noted that Korean aviators report greater shame than pilots of other nationalities when making a mistake in front of their crewmembers. Pedersen, a pioneer researcher in multicultural studies, refers to Duryea’s contention that “conflict management in the Asian context has been described as face maintenance, face saving, face restoration, or face loss. Pedersen notes that “face can become more important than life itself as the evaluation of the self by the community is essential to identity (2000, 149).

This brings into focus the import of Phillips’ report on KAL 801 above that “the crew talked about the attitude, and someone said several times that the airport is not in sight”(A1). It is not that surprising that “investigative sources said that neither the copilot nor the flight engineer spoke out boldly, as trained, to alert the captain or even to urge breaking off the landing.” Is it naïve to suggest that crew resource management training can overcome the cultural experiences of a lifetime? It may be argued that this is a case of cultural values and responses overcoming the need for explicit, aggressive communication. Saying that the
airport was not in sight may well have been a mitigated, indirect suggestion or request from the crew to the captain of the kind described in Linde’s study. This sort of communication was found in her investigation to be more likely to fail even in cultures without a strong face-saving orientation and even during non-emergency interactions. Such occurrences of cultural domination argue for evaluating cockpit voice recorder evidence in a more sophisticated manner to include the personal, interactive exchange function of language use.

What specific aspects of Korean culture affect air safety? The poor record amassed by Korean Airlines flying operations over the last thirty years and the leak of a KAL Safety Audit (Patterson, 1998) give greater insight into the systemic problems that have plagued KAL. It is beyond the scope of this paper to detail these findings but we may note that we are talking about a subculture within the Korean culture. These factors are listed in Figure 9. Much of the subculture of KAL grows out of a traditional Korean deference to command authority and the authoritarian behavior of many KAL pilots who are air force retirees. There was a rejection of managerial and ‘good buddies” concepts of crew resource management (CRM) in favor of a “good boss” model (Last, 1988).

1. How does culture generally affect air safety?
   - Cockpit culture as product of combination of man-machine interface and interpersonal relationships among crew members in flight situation
   - Mixed response of NTSB investigators to significance of culturally determined behavior
   - Minor role of cultural factors noted in reports
   - Cultural issues felt to smack of racism
   - Cultural factors controversial

2. What specific aspects of Korean culture affect air safety?
   - Authoritarian behavior of many KAL pilots who are air force retirees
   - Traditional Korean deference to command authority
   - Pilot surveys suggestion of problem areas
     - Koreans ranked highest for trust in automation
     - Koreans reported greater shame on making mistakes publicly
   - Rejection of managerial and ‘good buddies” concepts of crew resource management (CRM) in favor of “good boss” model

Figure 9: Cultural factors in KAL airplane crashes

But change has come. The bad publicity that had been generated led to the decision by KAL management to initiate a $200 million Safety Plan, beginning with engaging Boeing Flight Safety to retrain KAL pilots in basic cockpit/crew resource management (CRM) techniques. According to the KAL Annual Report (1999), this includes an “Error management Course” (EMC), an enhanced version of the previous CRM that was designed “to better accommodate Korean cultural idiosyncrasies.” To remove the KAL cockpit culture generating conflicts between younger copilots and older, ex-military pilots, KAL has been hiring foreign pilots. These new pilots are also expected to impact the poor English standard language of current pilots, and Berlitz Language Center has been hired to train the Korean pilots. Finally, a profit motive appears to have been replaced by a safety-first attitude. Much of this turn-around continues, although a pilot’s strike program in 2001 has led to setbacks: reduction of foreign hires, equalization of salaries, and equal union representation on the flight regulation committee.

5. Conclusion

Changing cultural values and the use of language that manifests them is not an easy task. Part of any change of cultural values must deal with language use since language influences thought and thought language. Language inculcates the broader perspective of a person’s or society’s customs and value systems. Cultural factors will remain controversial and problematic rather than an integral part of the knowledge base of the aviation industry because of (1) the mixed response of NTSB investigators and other aviation professionals to the significance of culturally determined factors behaviors and language use, and fear that that such issues smack of racism.

Training programs of any kind need to take into account the pervasive nature of this interplay between culture and language. Aviation professionals need to know how change can take place. Four recommendations are offered to acknowledge the significance of culture and language in international aviation:

1. Airspeak should be researched and studied as a special case of English for special purposes, documenting and contextually studying the ways in which it is not only idiosyncratic and predictable, but also problematic.
2. Non-native speakers of English ideally should be helped to build a foundation of general English proficiency before undertaking their prescribed specialist training in Airspeak.
3. Aviation English training programs for non-native speakers need to contextualize their language teaching and create awareness of and proficiency with the major functions of language expressed in the lexicogrammar, i.e., content, interpersonal exchange, and organization in aviation text types. Crew resource training for native and non-native speakers should include contextualized emergency scenarios that demand the use of social and organizing features of language use in addition to the informative.
4. Language teachers, flight instructors, and aviation administrators should develop a practical and applicable awareness of the disparity between the prescribed and actual use of Airspeak. Language corpora are available for principled research toward this end. Such knowledge will inform efforts to standardize language use, develop national and international English proficiency testing schemes, and facilitate a creative, effective role for inter-active language use in response to plans for modernization such as the FAA’s Free Flight program.

References


1.2.7 Hajime Terauchi, Judy Noguchi and Shigeru Sasajima

The Clarification of Legal Terms in US Constitutional Cases: Legal Use and General Use

Hajime Terauchi (Takachiho University), Judy Noguchi (Mukogawa Women’s University) and Shigeru Sasajima (Saitama Medical School)

1. Standpoint, Purposes and Approach

1.1 Basic Standpoint

The basic standpoint of this paper are: 1) ESP (English for specific purposes) methods should be used for teaching English at Japanese universities; 2) a smooth transition is needed from secondary level EGP (English for general purposes) curricula to university ESP curricula; 3) further research is needed to develop effective teaching methods and materials.

1.2 Background

The Japanese university education situation, which served as the background for the research, is as follows: 1) All university students use general English-Japanese dictionaries; 2) law dictionaries offer definitions of legal technical words and their historical background, but lack examples of how these words are used in context; 3) there are no explanations as to how general words are used in a legal sense in a legal document.

1.3 US Constitutional Cases

This research particularly focuses on the clarification of word meanings in the US Constitutional Cases based on the concepts that: 1) the words used in US Constitutional Cases differ from ordinary English in terms of frequencies and meanings, and 2) lexical analysis of US Constitutional Cases should be useful in compiling an ESP law dictionary.

1.4 Purposes of the Project

The purpose of this research is as follows: 1) To create a database of previous research and select general words which are used in a legal sense in a legal context; 2) to search for such general words among US Constitutional Cases; 3) to identify typical semantic, syntactic and collocational features in US Constitutional Cases; 4) to draft an “ESP Law Dictionary” for Japanese students and make it available on-line.

1.5 Approach

The research is divided into the following four stages:

Stage 1: Comparison of three lists
Stage 2: Investigation of general and legal uses in four types of legal textbooks
Stage 3: Investigation of the description of the word charge (as an example) in English-Japanese dictionaries
Stage 4: Investigation of the word charge in general and legal uses in US Constitutional Cases

2. Basic Data:

This section reviews the paper of Terauchi and Torikai (2002) entitled “The Development of an ESP References for US Constitutional Cases: An Approach Based on Applied Linguistics and Corpus Linguistics”. In this work, the following seven categories of words were eliminated from the concordance corpus lists following the customary procedure. This makes it easier to compare lists:

1) Personal and place names and their derivations;
2) Foreign words, that is, those entries in italics (e.g. ratio decindi);
3) Hyphenated words (e.g. ill-disposed);
4) Compound words with -like, -shape, and -wise;
5) Interjections (e.g. ah, alas);
6) Abbreviations (e.g. a.m. st.);
7) Individual letters (e.g. (a)(b)(c) with the exception of v. (versus).

The following modifications were made:

1) The various inflected forms of nouns, verbs, and adjectives were combined into a single citation form (the lexeme) (e.g. gratifying, gratified, and gratifies -> gratify).
2) Words with the adverbial suffix -ward or -wards were listed only in the form without the -s (e.g. towards -> toward).
3) Words spelled differently in British and American English were primarily listed under the British spelling (e.g. behavior -> behaviour, analyze -> analyse).

2.1 US Constitutional Cases (USCC)
In order to analyze the lexical variety and frequency of words in US Constitutional Cases, all the cases issued by the Federal Supreme Court up until August 2000 were used. The corpus itself includes 14,531 cases, with the total number of word types being 144,588 and the total number of word tokens being 83,442,416.

2.2 Most Frequent 1,112 Word Types
It may be thought that the US Constitutional Cases are full of technical terms with which the general public are totally unfamiliar. In order to empirically characterize the lexis of the USCC corpus, we chose the most frequent 1,112 word types which occur once or more per 10,000 words. They were classified into four different categories. The details of those 1,112 word types are as follows:

<table>
<thead>
<tr>
<th>Types</th>
<th>Tokens</th>
</tr>
</thead>
<tbody>
<tr>
<td>Function Words</td>
<td>143 (12.85%)</td>
</tr>
<tr>
<td>General Words</td>
<td>801 (54.04%)</td>
</tr>
<tr>
<td>General-Legal Words</td>
<td>168 (15.10%)</td>
</tr>
<tr>
<td>Technical Words</td>
<td>112 (10.07%)</td>
</tr>
<tr>
<td>Others</td>
<td>88 (7.91%)</td>
</tr>
<tr>
<td>Total</td>
<td>1,112 (100%)</td>
</tr>
</tbody>
</table>

2.3 Basic Data A
The 20 most frequent function words are: the, of, to, and, in, a, that, is, by, for, be, it, not, as, or, was, on, this, which, at.

2.4 Basic Data B
Typical examples of general words are: court, state, law, see, congress, said, made, general, public, government, same, also, first, time, end, part, commerce, use, two, even, effect. Words such as court, law, congress, government, commerce have legal or specialized connotations; their most frequent meanings in the legal texts are the same as those listed at the beginning of the explanations in various general dictionaries.

2.5 Basic Data C
General-legal words are those which seem familiar but have meanings in legal English that are specialized and differ from everyday use. They include: act, case, power, judgment, question, trial, action, held, decision, appeals, rule, clause, fact, error. These general-legal words can be divided into two subcategories.

2.5.1 Basic Data C-1
General-Legal Words Subcategory 1 examples: act, case, action, held, rule. The context of these words usually suggests that their usage differs from the general usage. For example, the meaning of act in general dictionaries is related to body movement or the behavior of human beings. However, when students encounter this word used in a legal sense, they are likely to realize that it is being used with a meaning that differs from the general sense.

2.5.2 Basic Data C-2
General-Legal Words Subcategory 2 examples: power, judgment, question, trial, decision, charge, appeals, clause, fact, and error. Students are not likely to surmise the legal meaning from the context because the general meaning that they are accustomed to using can fit the context. One of the best examples is the word question, which in ordinary discourse is “a sentence used to ask for information”. In legal texts, it usually means “issue” or “problem”.

2.6 Basic Data D
Typical technical terms are: statute, amendment, jurisdiction, constitution, justice, evidence, constitutional, jury, defendant, petitioner, supra, proceeding, attorney, plaintiff, writ, certiorari, respondent, decree, conviction, testimony, remedy.

3. Comparisons

3.1 First Stage
Let us now discuss the aims of this paper in more detail. The first of examining the relationship between general academic lexis and legal lexis is important in considering how much general English courses can help Japanese students cope with reading legal texts in English. An important starting point is the recognition that many words have both a general and a legal use. Students may be familiar with words such as bench and hearing in one sense, but they may have no familiarity with the legal use of these words. Melkonoff (1963:12) and Hayakawa (1992:25) identified a list of 48 words which they claimed could be used with either general meanings or legal meanings. It seems that the list was constructed intuitively rather than from an objective study of texts. Many of the words have more than one general meaning. As part of the present study, this list of 48 words is compared with the following wordlists:

(a) The wordlist from the Ministry of Education, Science and Culture (1994) (M.E.),
(b) The 3000 wordlist given by Nation (1994) (Nat.),
(c) JACET Basic Words 4000 (1993) (Jac.)

Table 2 presents Melkonoff’s 48 words and shows in which of these lists each word appears. For example, whereas one of the words; find appears in all lists, the word covenant does not:
Second Stage

Hayakawa (1992) is used with the general meanings and specialized meanings in the legal textbook corpus. Working definitions of general meaning are from Collins Cobuild English Language Dictionary (1987). The legal definitions are from Ballentine's Law Dictionary (1994; B.L.D.).

3.2 Comparisons: First Stage

The 24,143 word textbook corpus used in this study consists of four types of undergraduate law textbooks, written in English, used at Keio University in 1993. They represent four different branches of law.

Table 2: Inclusion of the 48 Words in three different wordlists

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>action</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>letters</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>alien</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>master</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>appearance</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>motion</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>assigns</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>move</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>avoid</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>of course</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>bar</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>party</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>bench</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>plead</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>charge</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>prayer</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>conclude</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>prejudice</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>consideration</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>presents</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>counterpart</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>provided</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>covenant</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>purchase</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>damages</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>said</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>deed</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>save</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>demise</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>serve</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>demur</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>service</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>exception</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>show</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>execute</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>specialty</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>find</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>standing</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>hand</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>suit</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>hear</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>tenement</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>hearing</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>trial</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>hold</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>try</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
<tr>
<td>instrument</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td>virtue</td>
<td>v</td>
<td>v</td>
<td>v</td>
</tr>
</tbody>
</table>

It can be seen that most words appear in the JACET list and Nation’s list, but these lists do not specify the legal use of these words. Thus, we can expect students to have some familiarity with the words listed above, but it is not likely that they will have understood them in a legal sense. Hence, this comparison should help identify which of the above words appear in a corpus of textbook chapters and whether or not they appear with the legal use. In this manner, it should be possible to identify problems that might be likely to arise with terminology.

The second aim of this work is to determine how much school syllabuses and proposed advanced syllabuses can prepare students for reading legal textbooks. To this end, the three wordlists given above were compared with a list generated from our corpus of legal textbooks. This should clarify the similarities and differences between the lists that need to be considered in course planning.

The third aim is to produce a list of essential legal vocabulary, based on the analysis of the corpus in comparison with the general wordlists. The new list consists of words that require a clear teaching focus as they are likely to present problems for students who are left to their own devices of guessing or using non-specialist dictionaries.

As described above, for teaching legal English, words cannot be considered as isolated items. They need to be learned together with their usage in context. This is where concordancing programmes can reveal stock phrases that are repeatedly used in text. These phrases would have assumed specific meanings which are distinct from the meanings of the separate individual words. Towards this aim, we will identify the common collocational patterns in the corpus and provide a list of them, which can be used as a teaching resource.

3.2 Comparisons: First Stage

The 24,143 word textbook corpus used in this study consists of four types of undergraduate law textbooks, written in English, used at Keio University in 1993. They represent four different branches of law.

Table 3: Textbooks in the legal textbook corpus

<table>
<thead>
<tr>
<th>Textbook</th>
<th>Course</th>
<th>Textbook title</th>
<th>Types</th>
<th>Tokens</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Basic Foreign Law</td>
<td>Learning the Law</td>
<td>1,643</td>
<td>7,404</td>
</tr>
<tr>
<td>B</td>
<td>Legal History</td>
<td>An Historical Introduction to Private Law</td>
<td>1,737</td>
<td>6,973</td>
</tr>
<tr>
<td>C</td>
<td>International Law</td>
<td>International Business Transaction</td>
<td>1,635</td>
<td>7,147</td>
</tr>
<tr>
<td>D</td>
<td>Foreign Law</td>
<td>Kyozai America-Ho (Textbook of American Law)</td>
<td>683</td>
<td>2,719</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>5,698</td>
<td>24,243</td>
</tr>
</tbody>
</table>

The textbook corpus was analysed with the help of The Longman Mini-Concordancer. The selected chapters were converted to electronic computer readable text using an optional scanner. The scanned text was edited to eliminate scanning errors. Columns of 4 and 5 of Table 3 present the number of different words (types) and occurrences of the words (tokens), respectively.

3.2 Second Stage

This section will focus on a detailed analysis of how the term *charge* (from the 48-wordlists given by Mellinkoff (1963) and Hayakawa (1992)) is used with the general meanings and specialized meanings in the legal textbook corpus. Working definitions of general meaning are from Collins Cobuild English Language Dictionary (1987). The legal definitions are from Ballentine's Law Dictionary (1994; B.L.D.).

3.2.1 General-Legal Words, Subcategory 2: *charge*

(Legal use) N. Count: if + prep then.

The most common legal use of *charge* is a formal accusation, made by an authority such as the police.
Since the word charge has also a variety of meanings as a significant legal technical term, further detailed information is offered (quoted from B.L.D.):

**charge N**
1. An obligation or indebtedness to be paid; a cost; an expense incurred (as in the general meaning).
2. Paying for something over a period of time, often in installments.
3. A formal accusation of the commission of a crime.
4. A judge's instructions to a jury to aid them in their deliberations.
5. A provision in a will under which real estate of the testator is subject to the payment of debts of the estate.
6. A lien or encumbrance upon land.
7. A person or thing given into the case or custody of another.

**charge V**
1. To impose an obligation, incur an expense, or create an indebtedness.
2. To enter into a transaction in which payment will be made over a period of time.
3. To accuse; to blame.

### 3.2.2 Findings

**Table 4: Instances of charge in the textbook corpus**

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Occurrences</strong></td>
<td>10</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td><strong>General use</strong></td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1 (9.1%)</td>
</tr>
<tr>
<td><strong>Legal use</strong></td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>10 (90.1%)</td>
</tr>
</tbody>
</table>

(Line level)
(A) See Sentence level.
(C) company in Canada; charges of employee discrimination

(Sentence level)
(A) Prepositions have come to be used rather sloppily in criminal matters. In good usage, one is charged (*1), tried, acquitted, convicted, or sentenced on (or upon) an indictment or count or charge (*2). One is indicted on a charge (*3) of theft (or some other offence) or on two counts of theft. One is indicted or tried for theft, and the indictment/count/information/charge (*4) of theft. (An information is to a document making a criminal charge (*5) before magistrates.) We also speak of a count or charge (*6) of theft. One is charged (*7)(verb) with theft. One pleads guilty (or not guilty) to a count or charge (*8) or indictment of theft, or to theft. One is acquitted or convicted (or found guilty) of theft. (p.15)
(C) ... and a presentation must be made to the transportation commissioner of the Province of Ontario to secure permits to increase haulage capacity of the MNC subsidiary company in Canada; charges of employee discrimination in the Faroe Islands used to be answered; ... (p.23)

[General]
The instances from the textbooks are not typical because the use of is being explained.
1. The instances of charge (*1, 2, 3, 4, 5, 6, and 8) are used with the meaning of a formal accusation of the commissions of a crime (see noun 3 of the B.L.D list).
2. This is the only instance of the word charge (*7) being used as a verb; however, the meaning of the word charge is the same as the other instances.
3. An important point to note from the content of the passage is the use of prepositions; on, upon, for, of, with, and to. This is significant when teaching legal English in Japan.
4. In (C), the word charges is used with a general meaning.
5. These examples show the word charge being used in both its general meaning and legal meanings. In short, even in legal texts, the meanings of a word can differ according to the co-text.

### 3.3 Third Stage
The third stage of this research compares how the word charge is described in English-Japanese dictionaries.

#### 3.3.1 English-Japanese Dictionary Types
Table 5a presents the definitions of the word charge in nine English-Japanese dictionaries.
In the fourth stage of this research, the use of charge was examined in 100 US Constitutional Cases selected from the 1900s, 1950s, and 2000s.

Table 6: Use of charge in 100 US Constitutional Cases - 1900, 1950, 2000 -

<table>
<thead>
<tr>
<th>charge</th>
<th>1900s</th>
<th>1950s</th>
<th>2000s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cases</td>
<td>61</td>
<td>61</td>
<td>28</td>
</tr>
<tr>
<td>Times</td>
<td>450</td>
<td>467</td>
<td>467</td>
</tr>
</tbody>
</table>

In the 1950s cases, the word charge occurs 467 times in 61 cases. On the other hand, in 2000s, charge occurs only 216 times in 28 cases. The reason for this difference in frequency requires further investigation.

3.4.2 Categorisation of the meanings of the word charge
Examples from US Constitutional Cases in the 1900s, 1950s, 2000s are presented below:
Next, we present samples according to the different meanings of the word. The first column indicates the meanings; the second is an example, the third is the case number among 14,531 cases; the fourth is the title of the case; the fifth is the reference number; and the sixth is the date that the case was decided or argued.

Finally, we distributed each example according to the meaning exemplified; case number 8176 is an example of the meaning “a judge’s instructions to a jury to aid them in deliberations.”

<table>
<thead>
<tr>
<th>Meanings</th>
<th>Example</th>
<th>Case No.</th>
<th>Title</th>
<th>Reference</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>A judge's instructions to a jury.</td>
<td>In this case the trial court properly charged the jury that it must find this specific intent. But it also instructed that “The color of the act determines the complexion of the intent. The intent to injure or defraud is presumed when the unlawful act, which results in loss or injury, is proved to have been knowingly committed.</td>
<td>8176</td>
<td>KOEHLER ET AL. v. UNITED STATES No. 199 SUPREME COURT OF THE UNITED STATES</td>
<td>342 U.S. 852; 72 S.Ct. 75; 1951 U.S. LEXIS 1495; 96 L. Ed. 643</td>
<td>October 15, 1951, Decided</td>
</tr>
</tbody>
</table>

Using this format and clarification method, we were able to compare the uses of the word charge in a legal context. The same procedure was repeated for all 48 words in Mellinkoff’s list (1982). This will be followed by further clarification and investigation of general-legal words.

4. Conclusion

The first stage of this investigation compared 48 words with general and legal meanings in three lists; M.E. list from the Japanese Ministry of Education, Science and Culture, Nation's list and the JACET list. The results showed that most of the 48 words appear with only general uses in Nation's list except for the words hear and hearing. Law students must know the different legal uses of the 48 words to read legal texts although they may not necessarily notice whether they are being used with a general or legal meaning. As Hare (1993) states, in reading legal texts, law students tend to misinterpret the legal words unless properly guided. In addition, it is apparent that, even when a text is discussing legal cases, the words are not always used in a legal sense. Hence, teachers involved in teaching the language of law must show that there are many ways of using words even in legal textbooks.

5. Final Goals of this Research

The final goals of this project are to provide examples of both (1) a corpus-based, bilingual ESP Law dictionary and (2) ESP methodology that can be implemented in curriculum and materials design at Japanese tertiary institutions. The contents of the dictionary will be derived from both (1) a corpus of actual U.S. Constitutional Cases and (2) analysis of secondary and tertiary law curricula in Japan. We are aiming not for a multi-purpose, but a focused approach to teaching the lexical items necessary for the ESP law classroom in Japanese higher education. The dictionary is aimed to help students and teachers understand American legal documents. However, the methodological implications are wide-ranging as we aim to propose effective use of ESP concepts and computerised, corpus-based analyses in Japanese university classrooms.

Of course, we are confronted by many issues in this endeavor. For example, when Japan adopted Western legal concepts and legal technical terms in the late 18th century, the words were imported into Japanese using kanji characters. These words are still in use. However, even 135 years later, they remain quite difficult not only for students but also for those in the legal professions. For example, the word consideration was translated into the Japanese as yakusin, but this word itself is not familiar to the general Japanese public. In developing a useful ESP law bilingual dictionary, these issues must also be dealt with.

At present, this research is based on US Constitutional Cases, but we hope to extend it to cover civil and criminal issues as well as international arbitration cases.

References


1.2.8 Chris Handy and Khurshid Ahmad

Indexer variability in specialist domains.

Chris Handy
c.j.handy@surrey.ac.uk

Khurshid Ahmad
k.ahmad@surrey.ac.uk

Information Extraction and Multimedia Group
Department of Computing, University of Surrey

1. Introduction

The problem of indexing images has existed for many years, but has been exacerbated as the number of digital images held in computer databases and on the worldwide web has risen. Experts in domains such as medicine, architecture, engineering, art criticism and crime scene investigation need to be able to locate appropriate images quickly, efficiently and consistently to perform their duties. This is also true of commercial picture libraries. Computers are generally considered an efficient means of generating, maintaining and searching indexes, however while this is true for textual or numerical data it is less true for image data and research continues to address the problems of storing and retrieving image data from collections of digital images. There have been two approaches proposed for indexing digital image collections: Content Based Image Retrieval (CBIR) and Text Based Image Retrieval (TBIR) both approaches have benefits and drawbacks.

Despite the name, CBIR researchers are focussed on the perceptible features of an image, colour, shape, texture and brightness. There are two original assumptions here: First there is enough information in the perceptible features to extract ‘content’ details; and, second, given the features are perceptible, and by implication universal, one can find a mathematical description of the features and their distribution. CBIR uses mathematical algorithms to analyse the data stored in the image file itself. Digital images are composed of a series of pixels (picture elements), each having numerical information related to the location of the pixel within the image, the colour and the luminance. The algorithms operate on this information, extracting vector representations of low-level features (colour, shape and texture) within the image. These vectors then form the index. There are two methods of specifying a search query: query by example and query by sketch, Del Bimbo (1999:20). With query by example an image similar to the desired image(s) is used as an exemplar image. The system extracts vectors for this image in the same way as for the indexed images and then the extracted vector is compared with those in the database using a distance function for a similarity matching and results are returned to the user. Query by sketch uses a similar procedure, but instead of using a similar image to those desired the user uses graphics tools embedded within the system to ‘draw’ the desired image and specify colour distributions and textures. (Flickr, Sawhney,Niblack, Ashley, Huang, Dom, Gorkani, Hafner, Lee, Petkovic, Steele and Yanker, 1995, Eakins and Graham 1999). The advantages of such a system are that it is a completely automated, and as such relatively quick (in human terms), though it is computationally expensive. The disadvantage is that users wish to search for objects and concepts, not colours textures and shapes. This is the so-called semantic gap. Zhao and Grosky (2002), which impedes the formulation of meaningful queries by users. Formation of meaningful queries is also hampered because of the methods used for specifying the query (queries by example and sketch). Query by example relies on the user having an example query to hand and query by sketch is not intuitive to most users.

Whereas, CBIR systems rely on algorithms allowing computers to index (and retrieve) images, TBIR systems rely entirely on human indexers for indices for images. Trained indexers, often specialising in one subject area, allocating pre-defined categories to images (in a similar way to librarians allocating a classification to library books, e.g. Dewey Decimal). This has the advantage that it allows users to specify a query using keyterms, a way familiar to them, as the terms are part of the user’s natural language, and thus allows searches at a more semantically meaningful level for objects and concepts. The two disadvantages of TBIR is that it is very time consuming for indexers to review a series of images and allocate categories to each image. Estimates range from 7 minutes per image (Getty Images, a commercial image bank) to more than 40 minutes per image (Rensselaer Polytechnic slide collection). Secondly there is little correlation between the indexer’s allocated terms and the terms used by retrievers. In a study Furnas, Landauer, Gomez, and Dumais (1983) found that there is a less than 20% correlation between an indexer and a retriever in the choice of keyterms. In addition indexers may not be consistent in their allocation of keyterms, i.e. there may be indexer variation, making retrieval difficult (Eakins and Graham 1999).

Automating text based indexing would overcome the time overhead whilst retaining the desired semantic search capabilities. It may be possible to automate text based indexing by processing extant text associated in some way with an image, so called collateral text, Srihari (1995). Keyterms can be extracted from these texts and used to form an index. Extant collateral texts may take the form of captions comprising just a few words, or longer explanatory texts. An image caption, where the text closely describes or annotates the image content may be considered to be closely collateral, while a more general text illustrated by an image, such as a magazine article or encyclopaedia entry, may be considered to be broadly collateral, Ahmad, Tariq, Vrusias, and Handy, (2003). Extant texts exist in many specialist domains such as Art, Medicine, Finance and Forensic Investigation. The authors of these texts, domain experts in a specialist domain, tend to use a, so called specialist language, that is to say a restricted subset of general language, Harris (1988), Halliday and Martin (1993). Specialist languages may be considered as a subset of general language and are constrained lexically, syntactically and semantically. They exhibit a paucity of verbs, adjectives and
adverbs and consequently contain a higher proportion of nouns and noun phrases when compared with general language. Deerwester (1990:392) states that “There are usually many ways to express a given concept, so the literal terms in a user’s query may not match those of a relevant document.” However the adoption of standard nomenclature by specialists within their domain would suggest that this might not be the case between domain experts.

The use of a specialist language by domain experts also makes the processing of their texts to extract keyterms more computationally tractable when compared with processing general language texts. However experts may differ in their opinions as to the relative importance of artefacts depicted in the image and therefore the indexes produced may suffer from the problem of indexer variation, again making retrieval further complicated.

A recent research project at the Universities of Surrey and Sheffield (SoCIS)\(^1\) sought to assist crime scene examiners by automating the storage, indexing and retrieval of crime scene records. This work gave rise to our current investigation of indexer variation amongst crime scene examiners. For more information see: Ahmad, et al, (2003); Vrusias, Tariq, and Gillam, (2003); Ahmad, Vrusias, & Tariq (2002).

2. Human Indexers Learning to Index

Our hypothesis is that “experts in a specialist domain will be more consistent in their choice of subjects to comment on (within the image) and in their choice of vocabulary and use of grammar than lay viewers”. Indeed Deerwester (ibid) “‘. . . assume[s] that there is some underlying latent semantic structure in the data . . .’” and it is our contention that training and experience will consolidate any such underlying latent semantic structure. An experiment was designed to test this hypothesis. Experts become experts through training and experience and so the effect of training and experience on indexer variation is being examined. Trainee Scene of Crime Investigators were asked to provide captions / explanations for mock crime scene images on their first day of training (at a police scientific support training college). They were asked to provide further captions / explanations on completion of their initial eight week training course. The process will be repeated after they have completed their first six months working in the field. Expert Scene of Crime Investigators, with many years of experience, have also provided captions / explanations for the mock crime scene images.

The Police have a duty of confidentiality to victims, witnesses, suspects and criminals, and for these reasons are most reluctant to supply actual crime scene data to researchers, even with personally identifying data removed. However those who train scene of crime officers regularly produce mock crime scenes for training purposes. As the scenes are for training purposes they are carefully designed to illustrate the most common aspects of scenes found at a variety of crimes and usually contain a range of objects likely to be of interest to crime scene examiners.

On the first day of their training the trainee crime scene investigators provided descriptions of one mock burglary crime scene (CS3) consisting of 21 images. Following their training they first provided descriptions of the 14 images of a different crime scene (CS1), a murder. A different crime scene was chosen to ensure that subjects had no preconceptions arising from their previous descriptions. They then described the images from CS3 again so that a comparison of the descriptions could be made. Expert crime scene investigators provided descriptions of all of the images from CS1 and CS3. There was a mixture of spoken and written descriptions; the spoken descriptions were transcribed into computer text files from tape, omitting repetitions, false starts, and verbal fillers. The written descriptions were copy typed into computer text files.

---

\(^1\) [http://www.computing.surrey.ac.uk/ai/socis/](http://www.computing.surrey.ac.uk/ai/socis/)
3. Analysis of results

Earlier work in subject specific language, Harris (1991) and later work in lexicography, especially defining lemmas, and certain pragmatic uses of language, e.g. in telling time or dates, Gross (1993), suggests that local grammars are used in LSP, lexicography and pragmatics. A local grammar is described by Hunston and Sinclair (2000) as “... [a] small (but not insignificant) sub-language.” It is claimed that a feature of languages is the use of local grammars, Barnbrook (2002:73), we therefore examined the captions manually to look for evidence of increased use of local grammars following training and by experts. For each subject the first clause of each caption was examined and a graphical representation of the clause structures used by each subject was produced. Thus a relatively simple graph would indicate a high occurrence of local grammars and a complicated graph would indicate little occurrence of local grammars. Figure 1 above is the graph for subject 3 derived from the captions provided on the first day of the training course.

Figure 1 shows the wide variety of clause forms employed by the trainee crime scene examiner. The examiner starts clauses in nine different ways and employs a total of eighteen different words / word forms in the twenty-one clauses examined. Contrast this with Figure 2, which is the graph produced from the same subject’s descriptions produced at the end of his training. This shows two ways of starting clauses and six different words / word forms.

---

**Figure 1:** Graph representing the different clause structures used by subject 3 when providing captions to crime scene images at the commencement of training. Note that an arrow returning to the same box from which it originates indicates some modification of the term in the box, e.g. ‘close up view’ is a modification of ‘view’. Black circles represent start points.
When we consider Figure 3, the expert’s graph, we see that there is only one way of starting the clause and four word / word formations. This would seem to indicate that, prior to training, the subjects employ little, or no use of patterned clauses governed by a local grammar. Following training there is a greater reliance on local grammars, and that the use of local grammars is further refined with experience.

It would appear that experts often include the word view as a pivotal word in their local grammar. The word (or its derivatives, viewed, viewing) appears in 83% of all descriptions provided by the experts. This is compared with 22% for trainees at the start of training and 44% for trainees at the end of training. Examples of the use of the word by experts are:

“View of entrance to main office”
“Entirety view front door of Locard House”
“Further view in living room”
“Close up view of hand bag”

This may reflect the experienced crime scene investigator’s desire to provide some locative information in his or her descriptions so that other investigators, lawyers, judges, magistrates or jurors are able to mentally relate the positioning of important pieces of evidence in the crime scene, aiding their interpretation of events. Further evidence supporting this hypothesis comes from the high number of comments from experts regarding the type or positioning of the shot. Examples of these comments include:

Table 1: Examples of comments made by experts regarding the type or positioning of the shot.
It was noted that novices were much more verbose than experts, who were more concise in their descriptions. Calculating the average number of words used by novices at the start of training, novices at the end of training and experts to describe CS3 we can see that the experts use only a quarter of the words that novices at the start of their training use.

Table 2: Comparison of the average number of words used by each indexer group to describe all of the images in scene CS3.

<table>
<thead>
<tr>
<th>Indexer</th>
<th>Average words</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novices - Start of Training</td>
<td>1200</td>
<td>100</td>
</tr>
<tr>
<td>Novices - End of Training</td>
<td>789</td>
<td>66</td>
</tr>
<tr>
<td>Experts</td>
<td>293</td>
<td>24</td>
</tr>
</tbody>
</table>

Following training the novices showed a 34% decrease in the number of words used to describe the images. Examining the descriptions shows that the novices attempt to provide a complete description of everything in the image whilst the experts are more focussed – they only comment on the items they consider to be of importance or relevant. Table 3 (over) shows an example of this.

Table 3: Comparison of the descriptions given for one image (CS3, Image 16) by the different indexer groups.

<table>
<thead>
<tr>
<th>Indexer</th>
<th>Description</th>
<th>Words</th>
</tr>
</thead>
<tbody>
<tr>
<td>Novice - Start of Training</td>
<td>I now see the bedroom or one of the bedrooms it looks like a child's bedroom single bed and a cot to the right of the bed there's a bedside cabinet four drawers the bottom two drawers are completely open with some items hanging out the third drawer up is slightly open with an item hanging out and on top of that there's some different toys and ornaments the bed doesn't look like it's been disturbed it's just cuddly toys over the pillow cot the cot is open and the doors the side door is down with a cuddly toy in it and a bike propped up against the wall or a scooter looks like an old scooter propped up against the wall.</td>
<td>124</td>
</tr>
<tr>
<td>Novice - End of Training</td>
<td>Now a view of the picture from child's bedroom, single bed, with a cot, to the right of the bed a bedside cabinet with two drawers open a four drawer cabinet a bedside cabinet, the bottom two are open, the third one up is slightly open with some clothing hanging out.</td>
<td>51</td>
</tr>
<tr>
<td>Expert</td>
<td>View of ground floor bedroom towards bed and cot (as viewed from door).</td>
<td>13</td>
</tr>
</tbody>
</table>

4. Further work

It appears that the experts consistently use patterned clauses governed by local grammar. The trainees, contrariwise, appear not to use a local grammar as is evidenced by the experts. It is intended to follow up the initial work by conducting similar experiments with the newly trained crime scene examiners after they have been working in the field for around six months to assess the effect of a period of practical experience. Further analysis needs to be undertaken extending the identification of local grammars to more than one clause per description. A detailed comparison of objects described by each subject needs to be completed to ensure that the initial indications provided by the reduction in the number of words employed by experienced subjects is indeed indicative of a more focussed approach. This reduction in word usage may also indicate that experienced subjects use less elaboration and / or conjecture and this should be examined. Lastly an evaluation into the structure of phrases conveying spatial relationships and positional information would, we believe, prove helpful.

5. Afterword

Initial results indicate that there may be some validity to the hypothesis that experts in a specialist domain will be more consistent in their choice of subjects to comment on (within the image) and in their choice of vocabulary and use of grammar than lay viewers. Following training there appears to be a more regular and consistent use of local grammars. The results also show that the acquisition of experience allows crime scene examiners to refine their use of local grammars. Experienced examiners also seem to place more emphasis on positional information, often using the word view as a pivotal word denoting the start of the information. They also are more focussed, only commenting on the essential, or important, items in the image with the result that they are less verbose than novices. The fact that such changes are noticeable after a short training period would indicate that the training is effective and successful.
References


1.2.9 Viktor Smith

Motion at the sugar factory: Is Russian a genuine MANNER language?

Viktor Smith, Copenhagen Business School

1. Introduction

This paper addresses certain fundamental differences in the way that Danish, French, and Russian, respectively, lexicalize space and motion by means of what I will refer to as relocation verbs in the following; that is, verbs which do not just refer to motion, but to moving (or being moved) from one location (Loc₁) to another (Loc₂) as further specified in section 2. As for Danish and Russian, the differences in question will be illustrated by looking at the relocation verbs actually found in a collection of Danish and Russian LSP texts relating to the sugar industry, the so-called SugarTexts. The texts are step-by-step process descriptions telling more or less the same story; but in very different words. This tends to complicate the transfer of any information related to relocation between the respective languages, most obviously in the course of translation.

1.1 Cross-linguistic lexical differences in LSP: terminology and beyond

The data considered in this paper differ from those most commonly considered when lexicons are compared from an LSP viewpoint. Quite naturally, in LSP research the main focus is on the specialized lexicon, i.e. on terminology, and, all things being equal, the lexical items most naturally included under that category are nouns or noun phrases of some kind. Moreover, the cross-linguistic terminological differences and similarities identified usually cannot be explained in terms of language structure alone, but must be seen against the background of the multiple extra-linguistic (cultural, political economic, legal, technical, etc.) factors which together determine how the relevant sub-groups of speakers conceptualize the relevant aspects of reality, see e.g. Wüster (1966 [1931]), (1974); Wright & Budin, eds. (1997). Though this may still come as an unpleasant surprise to some orthodox structural linguists, such influences can both bridge and enhance “purely” linguistic barriers.

However, none of this really applies to the data to be considered below. First of all, we are up against verbs, not nouns, and most of the verbs in question cannot be classified as terms in any traditional sense in that their semantics and fields of application are not restricted to LSP communication. Moreover, in this semantic domain it does seem to be the formal structure of the language in question that eventually determines what is lexicalized and what is not lexicalized, regardless of more specific extra-linguistic influences. A viable path of explanation seems to be that verbs, as opposed to nouns, do not lexicalize concepts of single objects, but abstract models of situations (see 2. below) which need to be specified by a whole sentence in order for the verb to apply to a real-world situation in the course of communication. It is therefore up to the individual language (in co-operation with the speakers using it) to decide where in the sentence structure potentially relevant semantic information should be encoded, if considered sufficiently important to encode at all.

While not being an “exclusive” LSP phenomenon, relocation verbs nevertheless play a key role in the organization of many types of LSP texts, technical process descriptions being just one obvious example. A clearer understanding of the typological differences addressed below are therefore bound to be of great relevance to anyone engaged in LSP communication across linguistic borders.

1.2 Aims of this paper

Beginning with an influential study of Talmy (1985), several authors have supported a sharp typological distinction between what might be called (a) MANNER languages, e.g. Danish, Swedish, English, German, Chinese, and (b) PATH languages, e.g. French, Italian, Spanish, Japanese, Turkish, depending on which type of information serves as an obligatory starting point when talking about (what we here call) relocation in these languages, see e.g. Slobin (1996); Korzen (1998); Herslund (1998, 2000); Gutiérrez (2001); Gennari et al (2002); Papafragou et al. (2002); Smith (2000). The respective principles will be illustrated in (1) and (2) in section 3. below.

However, so far most attention has been devoted to the clear-cut cases, such as Danish (or English) versus French (or Spanish). But there are also less obvious cases, and Russian is definitely one of them. Talmy (1985) collectively places the Indo-European languages (including Russian) in the MANNER category, presenting the modern Romance languages as a marked exception that has swept over to the PATH category. Others argue that the same is true of Modern Greek (Papafragou et al. 2002). As for Russian, the archetypical lexicalization pattern of the MANNER languages is definitely present and highly productive, but it seems to have been “overlaid” by a different pattern closely resembling the PATH oriented one known in the Romance languages, so that Russian speakers may (and must) make certain choices that are not at issue, for instance, in Danish or French.

This paper, then, aims at (a) contributing to a clearer positioning of Russian in the above-mentioned typology by contrasting it with the less equivocal cases of French and Danish while at the same time (b) presenting a new method for providing relevant empirical evidence from the field of LSP communication presently tested in the so-called SugarText Project, and (c) further developing the underlying verb classification by introducing the notion of relocation verbs.

2. Why “relocation” verbs?
For the sake of clarity, let us address the latter aspect first. What should be understood by relocation verbs – more often labelled “directed motion verbs” or verbs lexicalizing “motion events” in the English-language literature1 – as opposed to motion verbs in a broader sense? Such a distinction obviously underlies much of the existing work on the subject, though it is not always too clearly defined, or indeed: lexicalized (see Gutiérrez 2001 for a recent review of some approaches). The following is an attempt to further specify the distinction in question while at the same time suggesting an alternative term which, I think, follows rather naturally from the theoretical considerations presented below.

I will restrict myself to a highly condensed presentation of certain basic principles. For a fuller account, see Smith (in press). The present approach is based on the cross-linguistic principles of verb classification suggested by Durst-Andersen & Herslund (1996). The framework was originally developed as a basis for analyzing the category of aspect in Russian, English, and other languages, but it also contributes to verb semantics in general by integrating certain cognitive insights into humans’ perception and conceptualization of situations – which are considered the standard referents of verbs, just as nouns refer to “things” in a broad, but still readily recognizable sense. The focus is on visual perception, but the cognitive principles described below seem to have been generalized so that they come to underlie verb semantics in general.

Regardless of what language they speak, humans routinely distinguish between two kinds of real-world phenomena (situations) that can potentially be referred to by means of verbs, the mental representations of which can be described in terms of figure-ground relationships, namely:

(a) activities which are perceived as either an unstable figure on a stable ground or a stable figure on an unstable ground thus constituting a unstable picture. In their own right, such situations are referred to by means of activity verbs, e.g. Eng: dance, shiver, carry etc.

(b) states which are perceived as a stable figure on a stable ground thus constituting a stable picture. In their own right, such situations are referred to by means of state verbs, e.g. Eng: lie, stand, resemble, etc.

Only these two kinds of situations can be identified through direct observation. However, our world knowledge tells us that some activities, if sufficient, can bring about certain states, and that some states have been brought about by certain activities. This allows us to also identify

(c) actions which are mental constructs linking together a certain activity and a certain state. When perceived and referred to as elements of an action, activities are further classified as processes and states are further classified as events. Actions (as represented by processes and/or events) are referred to by means of action verbs, e.g. put, arrive, kill, show, etc.

In actual communication, the action verb will usually be referring to either an activity (presenting it as a process), e.g. “She is just putting the cake on the table”, or a (change of) state (presenting it as an event), e.g. “Who put that cake on my table?” If the change of state in question is definable in terms of spatial relationships (location) the corresponding verb is called a location-based action verb or in short: a relocation verb (the alternative categories are possession-based, experience-based, and qualification-based action verbs which will not be further considered here). Thus, what differentiates relocation verbs from other motion verbs – namely pure activity verbs – is that a change of location is not just a possible inference but an integral part of the verb’s semantics.

The present approach also allows us to further specify the PATH/MANNER distinction. Verbs that lexicalize the MANNER of motion further characterize a certain activity – which may or may not be seen as part of an action, i.e. as a process – by specifying certain properties of either the figure, the ground and/or the interrelations between them. Take a verb like bounce: a ball can bounce on a floor, but water cannot really bounce on a piece of wadding; though it may well soak through it. Verbs that lexicalize the PATH of motion further characterize a (change of) state, i.e. an event, by specifying certain properties of either the initial location (Loc₁), the resultant location (Loc₂), and/or the interrelations between them. For example, a verb like arrive presents Loc₂ as distant and Loc₁ as close. The state-oriented semantics of PATH verbs makes them action verbs by nature, regardless of what they may or may not have to say about the preceding activity (i.e. the process).

3. Relocation verbs in French, Danish, and Russian

With this in mind, let us now consider what distinguishes a typical PATH language like French from a typical MANNER language like Danish (following Herslund’s exemplifications in 1998: 8-9), and then specify why Russian is different from both of them.

In French we find one group of verbs which specify the PATH of motion without saying anything about the MANNER: the objects in question may be walking, crawling, flying, etc. These verbs are action verbs, and hence relocation verbs, by their very nature. The MANNER of motion is specified by a different group of verbs in French which however say nothing about the PATH. The standard function of these verbs seems to be to characterize a motion in its own capacity without relating it directly to the change of state (in terms of location) that may or may not result from it. In other words, these verbs normally function as pure activity verbs which do not present the activity as part of an action, i.e. as a process. Therefore, these verbs certainly refer to motion, but not to relocation.

---

1 By contrast, in the Russian literature the term глаголы перемещения глаголы перекон'ення has been used for several years for denoting more or less the same thing, though not defined in the exact terms used below, see e.g. Plungian (2002:58ff). What the Russian term says literally is no more no less than “verbs of relocation” or in short “relocation verbs” – thus differentiating these verbs from глаголы движения глаголы двiження, i.e. “motion verbs”, in a broader sense.
Like the French ones, they are all activity verbs, at least to start with. However, the standard way of referring to PATH in Danish is completely different from the French one and involves the present type of verbs as well. Danish does have a few “genuine” PATH verbs – but the normal procedure is to take a suitable MANNER verb and extend it with a PATH-specifying satellite (most commonly in the shape of an adverb/preposition) which merges with the initial verb into a phrasal lexeme. This transforms the initial activity verb (e.g. løbe [ run]) into an action verb (e.g. løbe ud [ run out]) and hence a relocation verb. The fundamental difference, then, is that the MANNER of motion has to be specified together with the PATH in Danish, whereas speakers of French may well omit the MANNER related information if they do not feel like specifying it. (And when they do, they are forced to insert an additional MANNER verb somewhere in the sentence structure, e.g. en courant, or rely on other lexical means such as à pied, en avion, etc.).

In Russian the picture is less unequivocal. As in Danish, we find a large number of verbs which specify the MANNER of motion (a small but frequent subgroup of which displays certain grammatical peculiarities, see e.g. Wade 1992:339ff). These are all activity verbs, but they may be extended with a PATH-specifying prefix – functionally corresponding to the satellite in Danish – which turns them into action verbs conveying the additional meaning of relocation. Some examples will follow in (5) in the next section. But Russian also contains a number of verbs that lexicalize the PATH in its own right – and unlike the Danish ones they are extremely frequent, not least in LSP communication. For example, in technical process descriptions, we find the following “exclusive” set of highly frequent verbs:

(3)  **Russian:** (in addition to other models:)

Non-specified PATH + VIEWPOINT

a. point of departure (Loc₁):
   *направлять* направля́ть’ [ direct. guide]
   *пода́вать* пода́вать’ [ direct, launch]
b. point of arrival (Loc₂):
   *посту́пать* поступа́ть’ [ arrive (at), reach]
c. neutral viewpoint (Loc₁ & Loc₂)
   *перемещать(ся)* переме́щать(ся) [ relocate (oneself), proceed]

These verbs refer to PATH only, and in a very abstract sense, where spatial components like [ up ], [ down ], [ in ], [ out ], are completely absent. The only PATH-related information left is the very fact of x going from (some) Loc₁ to (some) Loc₂, that is, relocation “par excellence”. What further distinguishes these verbs seems to be the VIEWPOINT in that the directional movement, which is captured in its entirety by all these verbs, may be viewed from the point of departure and the point of arrival, respectively, or be unmarked in that respect.

It is worth noting that while many of the French PATH verbs are simplex verbs, all verbs in (3) except идти iditi are originally coined according to the stem + prefix/satellite model so typical of the MANNER languages, and that all these verbs also have more specific readings than those focussed on here. For example, *пода́вать podavati’ may also refer to serving food in a restaurant while идти iditi may also refer to the activity of walking by foot, in which sense it is a full-fledged MANNER verb. Historically these readings seem to be the original ones, but semantics has obviously developed in a different direction later on (without excluding the more “literal” readings, however) which has led to strong polysemy. The present examples are not isolated exceptions and there might therefore be provided some support for characterizing Russian as a MANNER language which is in the process of switching over to a PATH oriented approach – and which at the present stage is capable of “working both ways”.

The difference between a “classic” MANNER language like Danish an a not-so-classic MANNER language like Russian becomes obvious, for instance, in the course of translating technical process descriptions between these two languages. Thus, when translating
from Danish into Russian one usually can reproduce the abundance of MANNER + PATH constructions typically found in the Danish source-text in a one-to-one fashion (which is not the case in French); but if this is done to the full extent the result will be conceived by the intended receivers as a stylistically unacceptable “child language”. When translating from Russian into Danish, no Danish counterparts for the extremely abstract Russian PATH verbs will be available, so that the translator will often be forced to specify the MANNER in one way or the other. In some cases this results in pure guesswork and can make the translation highly misleading.

The general picture just outlined is supported by years of class-room experience in teaching technical translation between the two languages as well as exchanges of opinion with colleague translators. However, more systematic empirical evidence is definitely required, and one step in that direction will be taken below.

4. The SugarText Project: preliminary results

The SugarText Project grew out of a pilot study carried out by myself in the framework of the Copenhagen Business School (CBS) research project “Lingvistisk Oversættelse – Linguistic Theory in Translation Studies” led by Prof. Michael Hershlund. The project is now being continued on a larger scale in cooperation with my CBS colleague Prof. Lita Lundquist and research assistant Svetlana Ozel. Present object languages are Danish, French, and Russian, while Spanish and English are expected to be included at a later stage.

The overall idea can be summarized as follows. Instead of starting with the verbs, one may start with a piece of discourse that involves a wide array of relocation events and processes and map how they are spontaneously verbalized by native speakers of the languages considered (see Berman & Slobin 1994 and Skytte 1999 for closely related approaches). In this case we focus on concise step-by-step descriptions of the process of beet sugar production. The process in question involves a wide variety of relocation processes and events which differ with regard to both MANNER and PATH. Moreover, sugar production is carried out in much the same way throughout the industrialized world which minimizes noise on that account. More or less the same story has thus been told numerous times in numerous languages, and for comparable purposes: in information folders, teaching material, technical handbooks, encyclopaedias, web-sites, etc. By establishing a corpus of such process descriptions in the languages of interest and “filtering out” the relocation verbs used in them one therefore gets (a) a fixed set of verbs for each language that may serve as an obligatory basis for further classification, and (b) information about which verbs among the totallity available in each language speakers actually select when talking about relocation in texts of the present sort.

The following preliminary analysis is based on a minor subset of the SugarTexts collected up till now and pertain to the difference between Danish (as a typical MANNER language) and Russian (as a less typical MANNER language) only.

4.1 Materials and procedure

The material consists of 4 Danish and 4 Russians texts giving concise overviews of the basic stages of beet sugar production. The intended target groups span from specialists to technically interested laypeople. In order to reduce the amount of irrelevant information (noise) the texts were adapted, so that all sentences containing no explicit reference to relocation of the basic process media (beets, chips, syrup, etc.) were omitted. The adapted versions are given in full in the Appendix together with further source data. In the next phase, the totality of verb lexemes (types) occurring in the Danish and Russian texts, respectively, were registered and subject to a tentative semantic classification. By also registering the number of occurrences of each verb lexeme (i.e. tokens per type) type-token ratios could be calculated. On this basis, the general approach to the verbalization of relocation scenarios in the respective texts – and to the lexicalization of relocation in general by (some) verb lexemes in the respective language-systems – may be compared and discussed.

4.2 Results and discussion

The Danish texts contain a total of 71 verb forms (tokens) referring to relocation, representing 49 different verb lexemes (types), where each main verb + satellite combination counts as a separate lexeme. The Russian texts contain a total of 53 verb forms (tokens) referring to relocation, representing 26 different verb lexemes (types). The Danish texts thus contain more verbs than the Russian ones, in terms of both tokens and types, which does not match a proportional difference in the lengths of the adapted texts. Further theorizing on that point must however wait until more texts have been quantitatively examined. The respective lexemes are listed and classified in (4) and (5):

(4) Danish relocation verbs found in SugarTexts-DA/1-4

I

MANNER + PATH

satellite

high typicality:

blande + [+ mix into]; filtrere + fra [= filter + off]; hælde + over, ud [= pour + over, out]; føre + ind, ud, til, hen [= lead + in, out, to, over]; koge + bort [= boil + away]; lede + igennem, til, bort [= guide + through, to, away]; løbe + ud [= run + out]; lofte + ind [= lift in]; presse + fra [= press + away]; pumpe + til, over [= pump + to, over]; rense + fra [= clean + off]; skubbe + hen [= push + over]; skyde + ud, af, videre, ind [= rinse + out, off, on]; slyng + fra, ud [= fling + away, out]; sortere + fra [= sort + out]; sprøjte pâ [= sprinkle + on]; stykke + ned [= topple + down]; svømme + til [=
Some aspects the classification are open to discussion, including the placing of 3 Danish and 2 Russian lexemes under the separate category III PURPOSE – which will be disregarded in the generalizations made below – and the degree of “typicality” indicated in category I. These issues are further discussed in Smith (in press) with reference to identical or closely related examples, but ignored here for matters of space. However, even as it stands the overall difference in the assortment of verb lexemes is striking and consistent with the characterization of the respective languages given in section 2. In the Danish texts we find a wide variety of “classic” MANNER + PATHmorph constructions vividly describing how things swim, run, are topped, pushed, pumped, pressed, etc. from one location to another (39 types in all). The Russian texts also contain a number verbs coined according to the MANNER + PATH model (with prefixes in stead of satellites) but the selection is smaller than in the Danish texts (14 types). Many more such verbs are available in the Russian language, including approximate equivalents to most of the Danish ones in question, but still the Russian authors have confined themselves to a limited set. On the other hand, all but one member of the “exclusive” set of Russian PATH verbs given in (3) (lexicalizing non-specified PATH + VIEWPOINT) are represented in the Russian texts along with 6 other verbs that may be categorized as PATH verbs. A number of Danish verbs have also been placed under the PATH category (though at least one of them, transportere, is rather problematic in being entirely deependant on satellites to be interpreted a relocation verb at all; for more details, see Smith, in press), but their frequency of occurrence is much lower than is the case for the Russian ones. Table 1 shows the frequency of actual occurrences of verb forms (tokens) belonging to the respective categories in the respective texts.
73% of the verb tokens found in the Danish texts are included under the MANNER + PATH_satellite/prefix category, and only 10% under the PATH category. So the preferences of the Danish authors are quite clear, both in terms of the lemmes selected and the frequency of their actual application. By contrast, in the Russian texts we have a 50/50 – or to be exact: 43/47 – situation with the PATH verbs in a much more prominent position. And it is worth noting that the “exclusive” set of PATH + VIEWPOINT verbs accounts for the majority of occurrences in the PATH category (17 out of 25). As already mentioned, the PURPOSE category is left out of discussion for both languages.

The overall picture can thus be described as follows. The Danish authors tend to be highly specific about the MANNER of motion throughout their texts, using a lot of different MANNER + PATH_satellite combinations, whereas the Russian authors rely on a smaller number of verb lexemes many of which are unspecified in that regard – even if they do occasionally turn to the MANNER + PATH_prefix model as well. At possible hypothesis might be that Russian authors, having the choice, avoid specifying the MANNER of motion when it is clearly clear from the context anyway (which it very often is), but are ready to do so if it serves a more specific purpose. For example, the verb единообразно вывезти [= drive out, lit. out_prefix[drive]} may have been chosen in SugarText-RU/2 to inform the reader that the desugaredized chips are normally transported out of the factory building by means of tractors or other motor vehicles – since here alternative procedures (e.g. conveyers) are not entirely excluded. For Russian authors, both pragmatic considerations and perhaps also rhetorical norms may thus have a greater influence on the choice of relocation verbs than is the case for their Danish colleagues.

The inclination to rely on fewer abstract verbs in the Russian texts and to select a new verb for each MANNER of motion (of which there are numerous) in the Danish texts also transpires in the type-token ratios given in Table II.

### Table II. Type-token ratios expressed as average occurrence of verb tokens per type for categories I-III and for all relocation verbs found in the texts

<table>
<thead>
<tr>
<th></th>
<th>SugarText-DA/1-4</th>
<th>SugarText-RU/1-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>I MANNER + PATH</td>
<td>1.33</td>
<td>1.64</td>
</tr>
<tr>
<td>II PATH (±VIEWPOINT)</td>
<td>1.00</td>
<td>2.50</td>
</tr>
<tr>
<td>III PURPOSE</td>
<td>4.00</td>
<td>2.50</td>
</tr>
<tr>
<td>All relocation verbs</td>
<td>1.45</td>
<td>2.04</td>
</tr>
</tbody>
</table>

There are different ways of expressing type-token ratios, but for the present purpose it seems most informative to express them as average occurrence of verb tokens per type. On average, a Danish verb lexeme is repeated 1.45 times whereas a Russian verb lexeme is repeated 2.04 times, i.e. a bit more. The tendency becomes even more pronounced if we compare the low TTR (1.33) for Danish MANNER + PATH constructions with the higher TTR (2.50) for the Russian PATH lexemes (which, notably, would raise to 4.25 if only the PATH + VIEWPOINT type were considered).

### 5. Concluding remarks

These preliminary findings contribute to the picture of Danish as a language that has decided for a strongly MANNER oriented approach whereas Russian “works both ways”, allowing more room for manoeuvring to its speakers who may then instead be guided by pragmatic and rhetorical considerations. Being aware of these differences may help LSP communicators and translators to develop more efficient strategies and techniques for avoiding pitfalls like those mentioned in section 3.

The ongoing work within the SugarText Project aims at (a) enlarging the text corpus significantly and extending it with SugarTexts written in typical MANNER languages such as French and Spanish (b) considering the communicative settings in which the texts have been produced in more detail in order to estimate the impact of sender/receiver relationships and other extra-linguistic influences, and (c) further refining the principles of semantic classification introduced in section 2. At a subsequent stage, the immediate impact of the cross-linguistic differences identified on the LSP translation process could be subject to a self-contained empirical investigation.

### References


**Appendix**

**SugarText-DA/1**

Etter vejening *styrtes* roelæsne ned i roedepotet. (...) I roedepotet spiles sukkerroerne med en vandkanon, hvis kraftige vandstråle *skubber* roerne hen i den transportrende. I denne rende *vænder* roerne til en stor pumpe, som *løfter* vand og roer ind i roevæsken. (...) I roevæsken *skilles* den sidste jord af roerne. Svinmælevand og vaskevand *pumpes* til bassiner, hvor den opslammede jord afgives. (...) Forst skærer roerne i tynde snitter. Derpå *transporteres de igen* diffusionssapparatet, hvor sukkeret *trakkes* ud af snitterne. (...) Roesnittene *føres* ud i den ene ende og ca. 65°C varmt vand i den anden. (...) Efter at være befriet for sukkerindholdet *føres* snitterne ud af fabriken som roeafald. (...) Saften indeholder ca. 15 procent sukker, når den *fordæres* diffusionssapparatet, men også forskellige uenhedelser, som skal *fører* til videre behandling. (...) Saften *ledes* igen nogle specielle filter, indeholdende poser af slade, trukket ud over metalrammer. (...) Den nu klare lysgule saft *ledes* til fordampingsapparatet, hvor ca. 75 procent af saftens vægt *tags bort* som vanddamp. For at kunne udkrystallisere sukkeret er det nødvendigt at *fjerne* endnu mere vand fra tømmeren. Dette sker i store kogeapparater ved underryt. (...) Efter kogningens ophør *slyses* sukkeret fra kogerne. Disse indgår lidt i det endnu vade, hvilket sukkeret *tommes* ud.

Fra frø til sukker. De Danske Sukkerfabrikker, ca. 1986. [From Seed to Sugar. Danish Sugar Factories, c. 1986.]

**SugarText-DA/2**

Etter vejening *tippes* roelæset ned i roedepotet, hvor roerne spiles med en vandkanon. På den måde bliver jord og sten *skillet* af. Mudderet *løber* ud i nogle store slambasinker, hvor jord og sten bundfølger (...). Fra roedepotet *fører* sukkerroerne ind i roevæsken, hvor de sidste rester af jord *skilles* af. For at *advinde* sukkeret fra roerne, bliver de skarret i tynde snitter, og på et transportbånd *føres* snitterne hen til et såkaldt ”diffusionsapparat”. I apparatet overskyldes roestykkerne med 70 grader varmt vand. de *udstrækker* sukkeret. I løbet af 70 til 90 minutter er det alt for farligt at *vænde* roeren ud af roestykkerne, som derefter *presses* fra til dyrefoder. (...) Urenhedene *fjernes* ved, at *blandes* lærket kalk i sukkeren. (...) Kalkpartiklerne og urenhedene *fjernes* fra saften i nogle store filter (...). Den renne sukkersalt *løber* ud i den ene side af filtretnet, og den anden side samles kager af kalkslam. Sukkersalen er nu en lysgul væske, som *føres* til de store fordampersapparater. Her *varmes* sukkerens saften op, og ved inddampning *koges* ca. 75% af vandet *bort*. (...) Tyksaften bliver bliver (...) holdt over i nogle store kogeapparater, hvor saften koger ved atmosfærisk underryt. (...) Efterhånden som vanddampen *ledes bort*, dannes de kristaller i saften. Sukkersaften er nu en tyk, brun grød, der *pumpes over* i store centrifuger. I centrifugerne *slyses* det brune stof – sukkeren – ud af sukkergrøden. (...) Til sidst kan man *hælde* ren, hvad melis ud af centrifugerne.

*Fra Sukkerproduktionen, De Danske Sukkerfabrikker, ca. 1986.*

**SugarText-DA/3**

(...) Efter roerne er taget op, og toppene er skarret af, transporteres de til fabriken, hvor de opbevares på store depoter. Roerne *transporteres* fra depoterne og ind på fabriken i lange render ved hjælp af vand. Under transporten *sorteres* blade og store sten fra. Når roerne har været igennem en grundig vask, *føres* dem til snittemaskinen. Her snittes roerne i tynde skiver med V-formet knive, der gør det nemmere at *trakke* sukkeret af. Nu *føres* snitterne til diffusionssapparatet, her bliver snitterne overløst med vand, der er mellem 70-80°C varmt. Sukkeret bliver *trukket* ud i det varme vand, og denne saft kaldes for råsaft. Roesnittene bliver *sorteret* fra og brugt til dyrefoder. (...) Urenhedene bliver *rensset* fra ved hjælp af bl.a. kalk. Kalken får urenhedene til at samle sig til bundfald, så det er nemt at *filtrere* fra. (...) Tyksaften bliver kogt, så det meste af vandet fordampes. (...) For at *skille* sukker og sukker *tommes* i centrifugerne, hvor sukkeren bliver *slyses* fra.

"93"
Århus College of Education: IT Information Project (2000) 

SugarText-DA/4

(...) Ved ankomsten bliver roerne styrtet ned i et depot, og ved hjælp af vand skelner de videre gennem en rende ind på selve fabrikken. (...) I fabrikken bliver roerne vasket på de inden de skæres i lange tyde strimler. Disse blandes med varmt vand, så sukserhindholdet opstår og TRænger ud i vandet. (...) Til gengæld har vandet nu fået et sukserhindhold på 15%, men det indeholder også forskellige urenheder, som skal færnes. Derfor tilsættes lekket kalk, der binder urenhederne. Bagforer bliver kalken filtrert fra, og den rensede saft indlappende, så det meste af vandet forsirver. (...) Men der skal færnes endnu mere vand, før sukser kan udvides. (...) Under kogningen bliver den sukkermettede tyskaft tilføjet formelras i ganske små mængder – ca. 100 gram til 35 tons tyskaft. (...) Efter kogningen er der noget sirup tilbage, som bliver færnet fra sukkeret i en centrifuge. Kogning og centrifugering gentages et par gange for at fælre sirup ud af sukkeret, men det er ikke muligt at færne alt på denne måde. Derfor sprøjer man vand på sukkeret under den sidste centrifugering, og hermed bliver det helt hvidt. Hele sukker bliver tørrt på paket eller lagt i silo for senere salg. (...)


SugarText-RU/1

Сахарную смесь подают в завод по национальному жёлобу гидравлического транспортера водным потоком. В корпус гидротранспортера засыпают смесь песчаного ноща, после которой поступает в дробильно-питательную машину (...). Очищенный песок подают в мешалку, где с (...) обесцвечивают от белого цвета в результате эвакуации воздуха, а затем поступает в мешалку, где с (...) обесцвечивают от белого цвета в результате эвакуации воздуха. (...) При центрифугировании угля отделяются первый отёртый (шахтный раствор) и второй отёртый, получаемый в результате промывки водой кристиалов сахара. Выделяющийся из центрифуг кристаллический сахар является готовой продукцией. (...) 3-й угля (...) даёт жидкий сахар, образованный в центрифуге с помощью дополнительной очистки (фильтрации).


SugarText-RU/2

Сахарную смесь подают в завод по национальному жёлобу гидравлического транспортера водным потоком. В корпус гидротранспортера засыпают смесь песчаного ноща, после которой поступает в дробильно-питательную машину (...). Очищенный песок подают в мешалку, где с (...) обесцвечивают от белого цвета в результате эвакуации воздуха, а затем поступает в мешалку, где с (...) обесцвечивают от белого цвета в результате эвакуации воздуха. (...) При центрифугировании угля отделяются первый отёртый (шахтный раствор) и второй отёртый, получаемый в результате промывки водой кристиалов сахара. Выделяющийся из центрифуг кристаллический сахар является готовой продукцией. (...) 3-й угля (...) даёт жидкий сахар, образованный в центрифуге с помощью дополнительной очистки (фильтрации).


SugarText-RU/3

Со склада частичная оцифровка сахара идет в завод в большинстве случаев водой и водяной смесью из гидротранспортера, водной смеси в водяной смеси из гидротранспортера, водяной смеси в водяной смеси из гидротранспортера, водяной смеси в водяной смеси из гидротранспортера, водяной смеси в водяной смеси из гидротранспортера. (...) При центрифугировании угля отделяются первый отёртый (шахтный раствор) и второй отёртый, получаемый в результате промывки водой кристиалов сахара. Выделяющийся из центрифуг кристаллический сахар является готовой продукцией. (...) 3-й угля (...) даёт жидкий сахар, образованный в центрифуге с помощью дополнительной очистки (фильтрации).

Энциклопедия сахара. [Encyclopedia of Sugar]. Homepage of the Union of Russian Sugar Producers: http://www.sugarindustry.ru

SuagerText-RU/4

На сахарном заводе все начинается с того, что использующиеся в производстве компоненты подготавливаются следующим образом. Вначале приготовляется вода, которая подается к основным корпусам, а затем после очистки вода поступает в центрифуги. Водяная смесь, содержащая 100 г сахара, стекает в сосуд, куда добавляется растворитель. В результате смесь поступает в центрифугу, где происходит отделение от белого цвета в результате эвакуации воздуха. После отделения от белого цвета в результате эвакуации воздуха, смесь поступает в мешалку, где с (...) обесцвечивают от белого цвета в результате эвакуации воздуха. На мешалке смесь поступает в мешалку, где с (...) обесцвечивают от белого цвета в результате эвакуации воздуха. При центрифугировании угля отделяются первый отёртый (шахтный раствор) и второй отёртый, получаемый в результате промывки водой кристиалов сахара. Выделяющийся из центрифуг кристаллический сахар является готовой продукцией. (...) 3-й угля (...) даёт жидкий сахар, образованный в центрифуге с помощью дополнительной очистки (фильтрации).


84
1.2.10 Paivo Laine

What do electronic stores communicate to customers on their home pages?

Päivö Laine
Seinäjoki Polytechnic, Business School, Koulukatu 41, 60100 Seinäjoki, Finland

1. Introduction

The objective of this study is to examine the homepages (i.e. starting pages) on the websites of electronic stores from a communicative viewpoint. First, the content and structure of e-store homepages is discussed briefly and the concept of interactive text is introduced. Second, congruence between the form and function of interactive texts found on the pages is studied. Finally, a few notes are made about the explicit content of interactive texts and its relation with the consequences of interaction.

2. Homepages of electronic stores

Electronic commerce refers to the sale, payment, presentation, marketing and distribution of services, goods and information by means of information networks as well as technologies that allow these functions (Kettunen & Filenius 1998: 11). In the current context, the shopping procedure is examined as a process of interaction between customer and website, which follows an established shopping script (cf. Schank & Abelson 1977). Customers usually click their way through the store in the following sequence:

1. home page: product categorisation and product search
2. product information and selection
3. submission of customer information
4. confirmation of order.

The present paper focuses on communication at the start of the procedure on the home page. Analogies can be found between physical stores, mail order catalogues and electronic stores. A company’s website can be characterised as its electronic storefront (Turban & King 2003: 45).

Spiller and Lohse (1998: 30) have paralleled home pages with the store window displays of retail stores or the cover pages and product arrangement of mail order catalogues. In fact, the homepage of an electronic store offers users a large number of paths to be followed. It typically contains the following elements or links to them:

- company name and logo
- access to product categorisation
- product search facility
- electronic shopping cart, which shows the products the customer has selected
- customer service with information about pricing, security, payment options and shipping
- company presentation

In addition, there may be links to a sitemap, checkout, FAQs, order status and gift registry. Part of the space available is usually reserved for advertising a topical product or special offer.

At the moment, online marketing resorts primarily to visual stimulus and written language. The focus of my research is on the labels of active elements used for user–website interaction on the web pages. These active elements include hyperlinks that take the user to a new page or a new location on the current page, buttons that start a program and menus that are used to facilitate user selection. Hyperlink and button functions often occur in combination: pressing a button executes a program and simultaneously takes the user to a new page. My objective is to examine the form and function of the language used in these clickable elements that guide user interaction. I will call the linguistic code found in the clickable elements interactive texts or i-texts for short.

The data of the study consists of the home pages of 22 English-language electronic stores: 11 British and 11 American. The stores represent business-to-consumer trade and the product lines included are gift items and articles for the home. Some of the stores are department stores with a wide range of products while others have a more specialised selection. The corpus consists of 619 interactive labels, with a range of variation between 14 and 53 labels per home page.

2. Interactive texts as directive utterances

Interactive labels attached to active elements or i-texts can be seen as utterances, that is, concrete instances of language created by speaking or writing a piece of language (Saed 1997: 13). They are strings of language that are used in a particular context to guide the user in his/her interaction with the website. Pragmatically, they can be seen as manifestations of directive speech acts (cf. Austin 1962; Searle 1969). The illocutionary force of the utterance that urges the user to click the active element may be contained either in the interactive label itself, in its immediate co-text or in non-linguistic contextual features. The co-text may be of two different types. The appearance of the co-text may require pointing by the user. For example, a link title is a piece of text that pops up when the cursor hits a link or button. In the same way, the content of the status bar window changes when the cursor
enters a new active area on the screen. On the other hand, there may be instances of co-text the appearance of which does not require any specific user action. These include instruction texts for the operation of buttons and headings preceding lists of links. The non-linguistic illocutionary features include change in the cursor shape from an arrow into a pointing hand, underlining, use of a different colour or font, etc. An interactive element with its non-linguistic features also represents ostension showing the user that it has something worth the user’s attention to communicate (Sperber & Wilson: 1986/1995: 49).

Expressions of illocutionary force

<table>
<thead>
<tr>
<th>linguistic</th>
<th>non-linguistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>i-text</td>
<td>co-text</td>
</tr>
<tr>
<td>appearance of the co-text requires pointing by the user</td>
<td>co-text that appears on the page without user action</td>
</tr>
<tr>
<td>e.g. - link title - status bar text</td>
<td>e.g. - change in cursor shape - underlining - change in colour or font - animation - button shape</td>
</tr>
</tbody>
</table>

Figure 1. Expressions of illocutionary force on web pages.

3. Linguistic form of interactive texts and their co-texts

The imperative form is an explicit expression of directive or requestive illocutionary force, and in speech act theory congruence between imperative form and directive function is considered a manifestation of a direct speech act. The imperative form may occur in the interactive label itself:

1. Request a catalog\(^1\) (JCPenney)
2. Join our affiliate program (McCord)

The imperative form may also be found in a heading preceding a collection of links or in an instruction clause:

3. instruction: Shop by department; interactive label: Bath, Bedroom etc. (Domestications)
4. link title: Click here for hampers. i-text: Hampers (Gift delivery)

The following table shows the frequency of the imperative form in the i-texts and their immediate co-texts. The figures in the table should be related to the fact that i-texts were accompanied by an instruction text or embedding sentence in 197 instances, and by a link title in 136 instances out of the total number of 619.

Table 1. Co-occurrence of the imperative in i-texts and their co-texts.

<table>
<thead>
<tr>
<th>Occurrence of the imperative in the i-text</th>
<th>Occurrence of the imperative in the co-text</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impressive in the instruction text</td>
<td>Impressive in the link title</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Imperative in the i-text (n = 113)</td>
<td>0</td>
</tr>
<tr>
<td>No imperative in the i-text (n = 506)</td>
<td>51</td>
</tr>
</tbody>
</table>

The table reveals that in only 60 instances, that is, in about 10% of the occurrences, a non-imperative i-text has been provided with illocutionary force by means of a co-textual element in the imperative. Especially, the opportunities offered by the use of link titles have been neglected, and in 22 cases out of 25, the link title only duplicates the i-text. In a majority of cases, the illocutionary force of request is represented exclusively by non-linguistic elements. The change in the cursor shape from an arrow

\(^1\) Interactive texts are underlined in the examples.
into a pointing hand is by far the most frequent non-linguistic signal. First, it acts as an ostensive signal pointing out that the i-text has something important to communicate to the web user. For another thing, it adds illocutionary force urging the user to interact by clicking the active element.

Instances of indirect speech acts, which refer to cases in which one illocutionary act is performed indirectly by performing another (Searle 1979: 31), seem to be very infrequent, which gives proof of the explicit and direct nature of web language. Three instances of elliptic questions were found in the corpus. Clicking on the link would correspond to answering “yes” to the questions expressed in the i-texts, for example:

*Need help? (Marks & Spencer)*

This can be explicated as a request: click this link to go to a page where you find information if you need help.

4. Levels of explicit information in interactive labels

Information on the frequency of the imperative in i-texts or other indicators of illocutionary force are not very helpful without a study of the types of actions that the user is requested to take. The linguistically encoded content of the i-text may consist of information at one or more of the following three levels:

1. actual user action, i.e. clicking the active element
2. virtual interactive operation, i.e. moving from one page to another, searching, selecting or submitting information
3. target page content

Occurrences of the following combinations of linguistic content were found in the data of the study. In the examples, the imperative is used to express directive illocutionary force.

**Table 2. Levels of explicitly coded information in i-texts.**

<table>
<thead>
<tr>
<th>Levels</th>
<th>Frequency</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9</td>
<td><em>Click here for details</em> (Furniture123)</td>
</tr>
<tr>
<td>1 + 3</td>
<td>4</td>
<td><em>Click here to leave a message</em> (Presentco)</td>
</tr>
</tbody>
</table>
| 2      | 24        | *Go* (instr.text: *Shop from our catalog*) (JCPenney)  
|        |           | *Go* (instr.text: *Search*) (QVC) |
| 2 + 3  | 9         | *Go to checkout* (John Lewis) |
| 3      | 572       | *Order from catalog* (QVC) |
| Total  | 619       |         |

When the i-text only contains information about clicking, the web user must resort to the context in order to find out the meaning and purpose of user action. The inclusion of *click here* in the coded communication of an i-text can be seen as a way of persuading a customer to interact, because it has little informational value to a computer and web literate user.

5. Interactive labels relating to the consequences of interaction

The communicated content of i-texts on home pages can also be studied in relation to the consequences of user action. Because the home page is the starting-point of a shopping event, most of the active elements are hyperlinks that lead the user to further stages of the procedure or pieces of useful information. In fact, 594 out of the total number of 619 were found to be i-texts of this type. A search facility for finding product information is a more powerful active element than a hyperlink. It produces an arrangement of information that meets the criteria set by the user. However, a search function does not add to the existing information in the database. The corpus contained 19 occurrences of active elements representing a search function. Clicking an active element is preceded by selecting a keyword in a menu or submitting a search item. An even more powerful interactive function involves submission of user information in connection with clicking on an active element. This kind of activity is exceptional on the home page; only six instances were found in the material of the study. In most of these cases the user is requested to submit his/her email address to receive information about new products, special offers etc. Illocutionary force expressed in the form of the imperative is more frequent in connection with searching and submitting, which are more consequential functions and involve the user more in the interaction process than navigation from one page to another. This can be seen in the figures of the following table.

**Table 3. Frequency of the imperative in i-texts according to the function of the active element.**

<table>
<thead>
<tr>
<th>Function</th>
<th>Imperative</th>
<th>Non-imperative</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td>Submitting information</td>
<td>6</td>
<td>100.0</td>
<td>0</td>
</tr>
<tr>
<td>Searching information</td>
<td>16</td>
<td>84.2</td>
<td>3</td>
</tr>
<tr>
<td>Navigation</td>
<td>91</td>
<td>15.3</td>
<td>503</td>
</tr>
<tr>
<td>Total</td>
<td>113</td>
<td>15.3</td>
<td>506</td>
</tr>
</tbody>
</table>

In other words, the more powerful the interactive role of the user is, the more probable it seems to be that directive illocutionary force is encoded in the grammatical form of the i-text.
6. Summary

To sum up, the home page of an English-language electronic store contains on average 30 active elements with textual labels. In approximately 20% of the total number of instances, illocutionary force is expressed by means of an imperative verb in the i-text. The imperative refers to concrete user action, i.e. clicking, virtual interactive operation or interaction on the target page. In a few cases an imperative form can be found in the immediate co-text of the i-text. Prototypically, clickable i-texts on e-store home pages are strings of texts that do not contain a verb attached to active elements that are hyperlinks leading the user to other parts of the website of the electronic store. The website primarily uses non-linguistic features to urge users to interact.

**PRIMARY MATERIAL**

<table>
<thead>
<tr>
<th>No</th>
<th>Company name</th>
<th>Date of citation</th>
<th>URL</th>
<th>Reference abbreviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>furniture123.uk</td>
<td>7 Mar. 2002</td>
<td><a href="http://www.furniture123.co.uk">http://www.furniture123.co.uk</a></td>
<td>Furniture123</td>
</tr>
<tr>
<td>7</td>
<td>Presentco</td>
<td>19 Mar. 2002</td>
<td><a href="http://www.presentco.co.uk">http://www.presentco.co.uk</a></td>
<td>Presentco</td>
</tr>
<tr>
<td>8</td>
<td>the gift delivery co.</td>
<td>18 Feb. 2002</td>
<td><a href="http://www.giftdeliveryco.com">http://www.giftdeliveryco.com</a></td>
<td>Gift delivery</td>
</tr>
<tr>
<td>9</td>
<td>Marks &amp; Spencer</td>
<td>18 Feb. 2002</td>
<td><a href="http://www.marksandspencer.com">http://www.marksandspencer.com</a></td>
<td>Marks &amp; Spencer</td>
</tr>
</tbody>
</table>

**REFERENCES**


1.2.11 Pilar Sánchez-Gijón

The scientific translator’s documentation process using the Internet

Pilar Sánchez-Gijón
Departament de Traducció i d'Interpretació, Universitat Autònoma de Barcelona

1. Documentation requirements of the scientific translator

The inter-social and intercultural nature of the knowledge society has given rise to the regular exchange of specialised, technical and scientific knowledge between different cultures and languages. This exchange is generally characterised by the speed with which it takes place and with which the information transmitted becomes obsolete. The short life-cycle of this information makes it necessary for translators to constantly update their knowledge-base and to diversify the subject-matter they translate if they are to be professionally competitive.

Digital means of communication, which are currently the mainstay of the knowledge society, provide for immediate access to information world-wide, and have revolutionised the classic concept of reference sources in translation, hitherto based on the use of reference books and parallel texts. Accessing information resources using digital means of communication requires translators to master new techniques in documentation which should be applied in the most appropriate manner in order to satisfy documentation requirements.

This presentation is an evaluation of digital text resources available on the Internet as a source of information and documentation for scientific translators. An overview of the advantages and disadvantages of the Internet as a reference source is given, followed by a description of the compilation of three specialized monolingual corpora which, in addition to illustrating the advantages of a corpus linguistics methodology applied to the documentation process, have permitted the identification and characterization of the different types of text accessed.

2. The Internet as a source of information: reliability of information

Publishing information on the Internet, and more specifically on the public Internet, is a process which is both quick and extremely cheap in comparison with the publication of information in the form of printed matter. Anyone with the necessary technological tools can publish information which may be readily accessed by the entire community of Internet users. Whilst facilitating the production of information, the uncontrolled nature of the sources and their content presents certain drawbacks for users, and more specifically for the specialised translator. The drawbacks most directly affecting specialised translators’ documentation task using the Internet as an information resource are:

1. The publication of information in hypertext format.
2. The absence of a peer review in the publishing process.
3. The absence of an explicit communicative framework

While, theoretically, the publishing of information in hypertext format —in which a linear pattern is not followed— might be considered an advantage, in practice the structure of hypertext documents often makes them difficult to read. Whether this is due to an illogical arrangement of the content or to the fact that underlying cognitive structure of the subject matter is absent from the hypertext document structure, finding specific data may sometimes be difficult. Such problems of a structural or formal nature, together with the fact that reading a hypertext document requires readers to have developed certain skills relating to spatial orientation, may lead to what some experts have called “cognitive overflow”. The sensation of cognitive overflow arises, on the one hand, from the reader’s effective inability to remember all the side-tracks into which the system has branched off along the way, and on the other, from the physical impossibility to explore all the levels of meaning and directions that the hypertext implies. Cognitive overflow may also be the result of a faulty structuring of the informative material of which the hypertext is composed (Codina: 2000, 136).

Moreover, much of the information published on the Internet for public consumption is never the object of a traditional publishing process. As a result, documents may not have undergone any kind of linguistic correction and therefore may contain typographical errors (which are usually detected by the translator) and even incorrect expressions or literal translations from other languages which may be unacceptable (in the case of specific terminology, the translator may be unaware of the error). A further drawback may be that information published may not have been reviewed by experts and therefore the data obtained, unreliable. Translators should be aware of these drawbacks which can adversely affect the process of documentation. Internet resources can only be used when translators are absolutely sure of their reliability.

As a means of communication, the Internet enables all users to access material available to the general public. Communication is not restricted to specific circumstances of communication. Traditionally, authors produce texts in accordance with an intent (instruct, amuse, etc.) and with the prospective reader of the text in mind. In the case of publications on the Internet and considering that the reader is an unknown element, it often happens that one and the same hypertext document will contain material addressed to a wide range of archetypal readers. Translators, when seeking documentation and depending on what their information needs may be, normally resort to documents which pertain to the same communication context as their source text in order to find solutions which are applicable to the text they are working on. However, for this to happen, the translator must first analyze the different types of texts to be consulted so that he can situate them in archetypal communication categories, (although the texts may not always be fully restricted in this way).
It is my opinion that a quantitative documentation process based on compiling an ad hoc corpus which allows the translator to obtain information simultaneously from as many texts as possible, and which is not based on consulting one sole source, is the documentation process of choice if difficulties resulting from cognitive overflow and the absence of totally reliable texts are to be successfully overcome. It is clear that if we consider that, while each text source taken separately may not be sufficiently reliable in itself, from a statistical point of view, information obtained from a variety of text sources will be.

3. The collection of monolingual corpora using Internet resources

In order to illustrate the documentation process of scientific translators who obtain their information from the Internet—a process which involves compiling two ad hoc specialized monolingual corpora which can be analyzed using corpus analysis tools—three monolingual corpora have been compiled (in English, as the source language and in Spanish and Catalan as the target languages in a hypothetical translation) dealing with the Leonids phenomenon, the meteor shower that takes place every year in November. This astronomical phenomenon is observed and analyzed by both experts and semi-experts. The range of resulting communication forms is vast.

The process of identification of text resources was carried out by searching the key words Leonids and astronomy in each of the chosen languages. This search was channelled through the intelligent search agent “Copernic”, in order to execute it simultaneously in the most popular search engines.

**Table 1: Results of searches by language**

<table>
<thead>
<tr>
<th>URLs of valid resources</th>
<th>English</th>
<th>Castilian Spanish</th>
<th>Catalan (Leónidas)</th>
<th>Catalan (Hyperonyms of Leónidas)</th>
</tr>
</thead>
<tbody>
<tr>
<td>URLS of resources not found</td>
<td>230</td>
<td>15,55%</td>
<td>323</td>
<td>30,79%</td>
</tr>
<tr>
<td>URLs of invalid resources</td>
<td>842</td>
<td>56,93%</td>
<td>687</td>
<td>65,69%</td>
</tr>
<tr>
<td>Total URLs</td>
<td>1478</td>
<td>1049</td>
<td>392</td>
<td>192</td>
</tr>
</tbody>
</table>

Table 1 shows that for most URLs identified the texts were originally written in English. Given the low number of hits obtained in Catalan the search in this language was widened to include hyperonyms of Leónids. Most of the addresses found by the different search engines no longer existed on the Net. Similarly, most resources identified were not included in the corpora for the following reasons:

a) The term Leónid only appeared in part of a list of URLs, and not in the body of the text.

b) Leónidas is a proper noun in Spanish. The resource identified did not therefore make reference to this astronomical phenomenon in all cases, but rather mentioned an astronomy resource authored by an individual by the name of Leónidas, or searched out texts in which someone with that name was mentioned.

c) The resource included texts in more than one language.

d) The decision was taken not to include electronic mail as it was determined that this type of resource is closer to oral communication than written communication.¹

Once all text resources were located and identified, data from the corresponding web sites was downloaded using the web site downloading tool Offline Explorer, and all resources concerning the Leonids phenomenon were classified using established formal communication and documentation criteria. This allowed us to differentiate between the different types of text resources identified and analyze them separately.

The classification of each one of the monolingual corpora was based on administrative issues: the author and reader; the structure of the hypertext document; the type of web site; and the type of text resource. The most important criteria used to analyze the communications situation in each of the resources was:

¹ Electronic mail messages can be considered as part of a conversation, since each message constitutes in a dialogue between two or more persons. For this reason, in a message we may make reference to a unit of information that has previously appeared in a conversation without mentioning it explicitly (Calsamiglia and Túsón, 1999: 33). On the other hand, the common wording and phrasing rules are not observed when we use icons or abbreviations that frequently appear in emails and which would require a specific analysis.
Table 2. Classification diagram of the digital text resources specializing in the Leonids phenomenon.

<table>
<thead>
<tr>
<th>Administrative Data</th>
<th>Classification table of digital text resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author or main personal source</td>
<td></td>
</tr>
<tr>
<td>Title of the digital resource</td>
<td></td>
</tr>
<tr>
<td>Institution</td>
<td></td>
</tr>
<tr>
<td>Title of the digital document</td>
<td></td>
</tr>
<tr>
<td>Place of publication</td>
<td></td>
</tr>
<tr>
<td>Language</td>
<td></td>
</tr>
<tr>
<td>Creation date</td>
<td></td>
</tr>
<tr>
<td>Update date</td>
<td></td>
</tr>
<tr>
<td>Date when the resource was consulted</td>
<td></td>
</tr>
<tr>
<td>URL of the digital resource</td>
<td></td>
</tr>
<tr>
<td>Address of the initial page of the digital document</td>
<td></td>
</tr>
<tr>
<td>Author/Reader</td>
<td></td>
</tr>
<tr>
<td>Type of author</td>
<td>Expert, Semi-expert</td>
</tr>
<tr>
<td>Type of reader</td>
<td>Expert, Semi-expert</td>
</tr>
<tr>
<td>Address of the initial page of the digital document</td>
<td>With no prior knowledge</td>
</tr>
<tr>
<td>Structural Data</td>
<td></td>
</tr>
<tr>
<td>Digital resource components (graphic files, …)</td>
<td></td>
</tr>
<tr>
<td>Resources related to the digital resource (hipertextual structure)</td>
<td></td>
</tr>
<tr>
<td>Types of web sites</td>
<td>In accordance with Alexander and Tate’s classification</td>
</tr>
<tr>
<td>Types of Text Resources</td>
<td>Types of resources identified</td>
</tr>
<tr>
<td>Types of Text Resources</td>
<td>Types of resources, depending on their contents</td>
</tr>
</tbody>
</table>

4. Examples of the use of ad hoc corpora

Having studied the translators’ documentation requirements — needed to compensate for their lack of linguistic or factual knowledge — each monolingual corpus was analysed with the aim of firstly, obtaining as much information as possible about the Leonids phenomenon (required by translators who had no prior knowledge of the subject of the original text to be translated), and secondly, overcoming and correcting specific linguistic and/or cognitive problems present in the source language text. These analyses were carried out with the help of WordSmith Tools.

The first analysis, or systematic search, was carried out based on concordance searches of the term Leonids together with the expressions that most commonly evidenced conceptual information or emphasized relevant conceptual relations. To this end, expressions were identified, which provided the following information:

§ Definitions in context:

§ Archetypal characteristics.

§ Hierarchical relations:

- hyperonym-hyponym; hyponym-hyponym.
- Meronymic relations (part-whole).
- Material-object relations.

§ Non-hierarchical relations:

- Infrastructural relations (chronological, genetic, causal).
- Argumental relations.

An analysis of the contexts in which Leonids occurred in each of the monolingual corpora permitted the identification of all these expressions. The study of the corpora based on Leonids and each of the previous expressions provided information which allowed the concept of Leonids to be determined in terms of characteristics and relations in juxtaposition with other terms when observed in context. When all this information is obtained, it should be easy for translators to understand the unit of meaning and assimilate it. Graphically, the study of the contexts of Leonids and the expressions containing conceptual information provide the following information.
Figure 1: Conceptual structure of Leonids built upon the information obtained from the analysis of each monolingual corpus.

Once the expressions that provided the information required by the translator had been identified, the different types of text resources were viewed separately. The conclusion reached was that, depending on their archetypical communication situation, the information obtained from this type of analysis varied. When the resources were addressed to a semi-expert or to a reader with no prior knowledge of the subject, they provided vital conceptual information that the translator could absorb without necessary being anyone well-versed in the subject. On the contrary, the information obtained when analyzing the subcorpus of resources aimed at expert translators, could only be assimilated by the reader with prior knowledge of the subject.

Figure 2: Conceptual structures built upon the information obtained from the analysis of the expert and the non-expert English subcorpora.

Translators who are aware of their information needs must focus their documentation search on the types of text resources that are most likely to provide the information they require.

The second type of analysis, which we have called specific search, allows translators to solve specific problems posed by their source texts. Even when the problem is only linguistic or linguistic and conceptual, the study of concordance and collocates can shed light on possible solutions for translation problems.

To illustrate the specific search process, we have simulated a real translation situation in which a text has to be translated from English into Spanish and Catalan. In the source text, the word peak appears with a frequency that is somewhat greater than normal values, 0.42‰ (when compared with the frequency of the same word in the British National Corpus, which is lower than 0.01‰). Therefore, although this is a word that the translator is already familiar with, an analysis of the context will allow us to determine whether or not it constitutes the same semantic unit.

Table 3: Collocates of peak and peaks.
When examining the collocates of *peak* in our corpus the existence of collocations, such as *storm peak*, *shower peak* and *leonid peak*, possibly forming extended units of meaning (Sinclair, 1996; Tognini-Bonelli, 2001), although in most cases, *peak* does not appear as part of other extended units. In this list there are also a large number of expressions related to time, such as *year*, *nov (November)*, *years*, *night*, *time*, *hours* or *when*. It may also be observed that the only non-auxiliary verbs which are part of the list of collocates are *to expect* and *to predict*, verbs related to calculations or estimates.

If definitive specific information is not obtained on the possible extended units of the meaning of *peak* when observing collocates, the extraction of *clusters* can offer more information.
Table 4: Most frequent clusters in the context of peak (between -5 and +5)

<table>
<thead>
<tr>
<th>CLUSTER</th>
<th>FREQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Of the</td>
<td>86</td>
</tr>
<tr>
<td>2. Peak of</td>
<td>77</td>
</tr>
<tr>
<td>3. The peak</td>
<td>77</td>
</tr>
<tr>
<td>4. Peak of the</td>
<td>63</td>
</tr>
<tr>
<td>5. Meteor shower</td>
<td>51</td>
</tr>
<tr>
<td>6. The peak</td>
<td>38</td>
</tr>
<tr>
<td>7. The Leonids</td>
<td>37</td>
</tr>
<tr>
<td>8. The Leonid</td>
<td>33</td>
</tr>
<tr>
<td>9. The peak of</td>
<td>33</td>
</tr>
<tr>
<td>10. The peak of</td>
<td>32</td>
</tr>
<tr>
<td>11. Leonid meteor</td>
<td>32</td>
</tr>
<tr>
<td>12. Leonid meteor shower</td>
<td>31</td>
</tr>
<tr>
<td>13. The peak of the</td>
<td>30</td>
</tr>
<tr>
<td>14. During the</td>
<td>29</td>
</tr>
<tr>
<td>15. Of the Leonid</td>
<td>28</td>
</tr>
<tr>
<td>16. Peak of the Leonid</td>
<td>28</td>
</tr>
<tr>
<td>17. The peak of the</td>
<td>27</td>
</tr>
<tr>
<td>18. The peak of the Leonid</td>
<td>23</td>
</tr>
<tr>
<td>19. The Leonid meteor</td>
<td>23</td>
</tr>
<tr>
<td>20. The Leonid meteor shower</td>
<td>22</td>
</tr>
</tbody>
</table>

21. peak of the Leonid meteor | 21 |
22. of the Leonid meteor shower | 21 |
23. of the Leonid meteor | 21 |
24. catch the | 20 |
25. catch the Leonids | 20 |
26. the shower | 19 |
27. per hour | 17 |
28. a peak | 16 |
29. the storm | 15 |
30. its peak | 15 |
31. on the | 14 |
32. this year | 14 |
33. shower peaks | 13 |
34. the night | 12 |
35. is expected | 12 |
36. during the peak | 12 |
37. to peak | 12 |
38. peak rate | 12 |
39. meteor shower peaks | 12 |
40. in the | 11 |

However, no further information is obtained on other units formed by peak, the frequency of Leonid and extended units of meaning including this term in peak’s environment, must necessarily influence its use. To obtain more information, we observe the concordance of the peak of, one of the most common peak clusters:

Table 5. Contexts of the peak of ordered by +1 and +2.

<table>
<thead>
<tr>
<th>CLUSTER</th>
<th>FREQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The Leonid meteor shower</td>
<td>23</td>
</tr>
<tr>
<td>2. The Leonid meteor shower</td>
<td>23</td>
</tr>
<tr>
<td>3. The Leonid meteor shower</td>
<td>22</td>
</tr>
<tr>
<td>4. The Leonid meteor shower</td>
<td>21</td>
</tr>
<tr>
<td>5. The Leonid meteor shower</td>
<td>21</td>
</tr>
<tr>
<td>6. The Leonid meteor shower</td>
<td>21</td>
</tr>
<tr>
<td>7. The Leonid meteor shower</td>
<td>21</td>
</tr>
<tr>
<td>8. The Leonid meteor shower</td>
<td>21</td>
</tr>
<tr>
<td>9. The Leonid meteor shower</td>
<td>21</td>
</tr>
<tr>
<td>10. The Leonid meteor shower</td>
<td>21</td>
</tr>
<tr>
<td>11. The Leonid meteor shower</td>
<td>21</td>
</tr>
<tr>
<td>12. The Leonid meteor shower</td>
<td>21</td>
</tr>
<tr>
<td>13. The Leonid meteor shower</td>
<td>21</td>
</tr>
<tr>
<td>14. The Leonid meteor shower</td>
<td>21</td>
</tr>
<tr>
<td>15. The Leonid meteor shower</td>
<td>21</td>
</tr>
<tr>
<td>16. The Leonid meteor shower</td>
<td>21</td>
</tr>
<tr>
<td>17. The Leonid meteor shower</td>
<td>21</td>
</tr>
<tr>
<td>18. The Leonid meteor shower</td>
<td>21</td>
</tr>
<tr>
<td>19. The Leonid meteor shower</td>
<td>21</td>
</tr>
<tr>
<td>20. The Leonid meteor shower</td>
<td>21</td>
</tr>
</tbody>
</table>

94
Two of the elements that influence peak are meteor activity and the Leonid activity. It may be assumed in this context that peak does not represent a physical and tangible part of either of these units. This is corroborated by the verbs that frequently appear with peak, which are to expect, to predict and to occur.

Another of the aspects shown by the list of collocates is that peak appears frequently with time expressions. With the purpose of obtaining more information related to this fact, we analyze the concordance of during the peak.

<table>
<thead>
<tr>
<th>Table 6. Contexts of during the peak ordered alphabetically by positions +1 and +2.</th>
</tr>
</thead>
<tbody>
<tr>
<td>activities to satellite operators around the world</td>
</tr>
<tr>
<td>of the science instruments will be switched off</td>
</tr>
<tr>
<td>P-8 satellite -- will be continuously monitored</td>
</tr>
<tr>
<td>hundreds of thousands of meteors each hour</td>
</tr>
<tr>
<td>hovered in the stratosphere for nearly 2 hours</td>
</tr>
<tr>
<td>rith a rate of hundreds of thousands per hour</td>
</tr>
<tr>
<td>e some flights that are expected to be airborne</td>
</tr>
<tr>
<td>m unications link to and from other spacecraft</td>
</tr>
<tr>
<td>me 150,000 meters per hour were observed</td>
</tr>
<tr>
<td>Ori on the many who were watching the skies</td>
</tr>
<tr>
<td>confusing). The moon will be waxing crescent</td>
</tr>
</tbody>
</table>

In these concordances, peak matches the moment when there are many meteors per hour (hundreds of thousands). This is observed during the peak, which is also characterized as period. In these concordances we can see one of the co-occurrences of rate, which is part of the most common collocates of peak.

<table>
<thead>
<tr>
<th>Table 7. Contexts of peak with rate (-5 to +5), ordered by +1 and +2.</th>
</tr>
</thead>
<tbody>
<tr>
<td>lated in advance. The time when a meteor shower Hill</td>
</tr>
<tr>
<td>ll receive real-time Fecha on the storm's build-up rate,</td>
</tr>
<tr>
<td>99, &quot;It is very difficult to forecast where and when the</td>
</tr>
<tr>
<td>Coast of the United States, the measured rate for the</td>
</tr>
<tr>
<td>d in nights of Nov. 16/17, Nov. 17/18 and Nov. 18/19.</td>
</tr>
<tr>
<td>appeared. Opinions among &quot;experts&quot; about the likely</td>
</tr>
<tr>
<td>ern Cape) to 400 (Namibia, Zimbabwe) per hour if the</td>
</tr>
<tr>
<td>reported that he and 4 other sky-watchers counted a</td>
</tr>
<tr>
<td>ter with a fairly dense patch of dust should produce a</td>
</tr>
<tr>
<td>s, took place for observers in Europe and Africa with a</td>
</tr>
<tr>
<td>the Leonids could produce a spectacular storm, with a</td>
</tr>
<tr>
<td>ovember 17) duration: 1-3 hours (sharp maximum)</td>
</tr>
<tr>
<td>s were expected to</td>
</tr>
<tr>
<td>ver, if you had been in Spain at the right moment the</td>
</tr>
<tr>
<td>to home. Every November, the Leonid meteor shower</td>
</tr>
<tr>
<td>hian in 1966. So a good display is expected (estimated</td>
</tr>
</tbody>
</table>

These concordances confirm the relation between rate and the time event in peak, characterized by a large number of meteors, measured in number of meteors per hour.

From the information analyzed up to this point, it may be concluded that peak is the maximum number calculated or forecast for an event that will lead to a large number of meteors per hour. There is no doubt, that a translator could deduce all of this information on the basis of the data.

When looking for an equivalent, for example in Spanish, the translator may assume that peak is translated as pico.

<table>
<thead>
<tr>
<th>Table 8. Contexts of pico and picos.</th>
</tr>
</thead>
<tbody>
<tr>
<td>se puede comprobar en el gráfico adjunto, hay dos</td>
</tr>
<tr>
<td>alizadas para este año. Autor Fecha de los máximos</td>
</tr>
<tr>
<td>mo genera del orden de 1023 a 1024 fotones en el</td>
</tr>
<tr>
<td>rgo, tienen una oportunidad excelente con el primer</td>
</tr>
<tr>
<td>la Organización Internacional de Meteoros (IMO), el</td>
</tr>
</tbody>
</table>

However, the frequency of pico in the Spanish corpus, at 0.03% is somewhat lower than that of peak. We can therefore assume that there must be a more common equivalence of peak and we will try to find the equivalents of peak through their context. From the analysis carried out, peak is part of an event where the number of meteors per hour is an important fact, and the meteors are measured in quantity per hour. In this way, and following a deductive process, a second hypothesis will consist of identifying the equivalents of peak through the co-occurrences of meteoro and hora.
Table 9. Contexts of meteors/hour and meteors por hora.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Table 9 contexts of meteors/hour and meteors por hora.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>el 17 nov 2000, 07:50 TU. Hay que recordar que el</td>
</tr>
<tr>
<td></td>
<td>hora (17 nov 2000 18:00:00) * Leónidas: Ninguna actividad</td>
</tr>
<tr>
<td></td>
<td>hora 17 nov 2000 18:00:00 - La Organización Internacional</td>
</tr>
<tr>
<td></td>
<td>hora (unas tres veces la actividad del pasado año). La NASA</td>
</tr>
<tr>
<td></td>
<td>hora en el 2002. El pasado año muchas personas de todo el</td>
</tr>
<tr>
<td></td>
<td>hora de máximo y según D. Asher y R. McNaught, &quot;sólo&quot;</td>
</tr>
<tr>
<td></td>
<td>la de 1985 (entre 600 y 800 meteoro/hora). Con</td>
</tr>
<tr>
<td></td>
<td>hora la de 1985 (entre 600 y 800 meteoro/hora). Con</td>
</tr>
<tr>
<td></td>
<td>hora, y en el 2002 cuando la cifra se incremente a los</td>
</tr>
<tr>
<td></td>
<td>hora. La lluvia fue seguida muy de cerca por la Sociedad</td>
</tr>
<tr>
<td></td>
<td>hora. Para que se produzca una actividad muy alta</td>
</tr>
<tr>
<td></td>
<td>hora. Otra fecha para recordar en la historia de la</td>
</tr>
<tr>
<td></td>
<td>hora. Las predicciones de McNaught, especialista en materia</td>
</tr>
<tr>
<td></td>
<td>de la lluvia de estrellas. Las observaciones de todo el</td>
</tr>
<tr>
<td></td>
<td>hora. Los observadores americanos, sin embargo, tienen</td>
</tr>
<tr>
<td></td>
<td>hora, la lluvia de estrellas alcanzó tasas de 100.000</td>
</tr>
<tr>
<td></td>
<td>tasas de actividad máximas de 17.000 meteoro/hora por</td>
</tr>
<tr>
<td></td>
<td>hora el mes de noviembre. Los destellos producidos por los</td>
</tr>
<tr>
<td></td>
<td>hora se observó durante 20 minutos. Otros observadores</td>
</tr>
<tr>
<td></td>
<td>hora. (Haga click en la imagen para obtener más</td>
</tr>
<tr>
<td></td>
<td>hora. Hasta el momento, las observaciones desde todo el</td>
</tr>
<tr>
<td></td>
<td>hora. En 1867 también se tuvo gran actividad, de 6.000</td>
</tr>
<tr>
<td></td>
<td>hora. No se registraron daños a los satélites que orbitan la</td>
</tr>
<tr>
<td></td>
<td>hora. Hace exactamente 200 años, Alexander von Humbold</td>
</tr>
<tr>
<td></td>
<td>hora. Ahora estamos nuevamente en el plazo, ya que la</td>
</tr>
<tr>
<td></td>
<td>hora en el máximo. ¿Se ve en cada retiro del cometa</td>
</tr>
<tr>
<td></td>
<td>hora y en otras ocasiones decenas de miles. Por otra parte,</td>
</tr>
<tr>
<td></td>
<td>hora este año&quot;, afirmó un científico de la Administración</td>
</tr>
<tr>
<td></td>
<td>hora, produciendo una profunda decepción del público. Par</td>
</tr>
<tr>
<td></td>
<td>hora. &quot;Cada 17 18 de noviembre, la Tierra atraviesa la</td>
</tr>
<tr>
<td></td>
<td>hora. &quot;Y además serán muy brillantes, muy fáciles de ver,</td>
</tr>
<tr>
<td></td>
<td>hora, los astrónomos esperaban contemplar una gran</td>
</tr>
<tr>
<td></td>
<td>hora. &quot;En 1998 pasamos a través de material que fue</td>
</tr>
<tr>
<td></td>
<td>hora. &quot;Se define como tormenta de meteoros a aquella en</td>
</tr>
<tr>
<td></td>
<td>hora, pero ahora esperamos que aumenten a miles&quot;. La</td>
</tr>
</tbody>
</table>

We can observe in the contexts the systematic use of expressions as related to máximo: máximo, tasa máxima, de máximo, máximo meteorítico, tasas de actividad máximas, tasa máxima or en el máximo. Similarly, from the context we can establish other parallelisms with \( \text{peak} \), for example \( \text{activity and tasa} \), which strengthen the equivalence between \( \text{peak} \) and formulae created from máximo.

5. Digital text resource classification proposal

Regarding the typology of web sites, we have identified the following types of web sites in astronomy, which can be extrapolated to other subject areas in most cases:

Table 10. Generic classification of web sites.

<table>
<thead>
<tr>
<th>Generis classification of web sites</th>
<th>Independent subject matter web sites</th>
<th>Astronomy web sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Association</td>
<td>Association</td>
<td>Museum</td>
</tr>
<tr>
<td>Research institute</td>
<td>Research institute</td>
<td>Teaching web site</td>
</tr>
<tr>
<td>Museum</td>
<td>Museum</td>
<td>News web site</td>
</tr>
<tr>
<td>Teaching web site (university)</td>
<td>Teaching web site (university)</td>
<td>Education web site</td>
</tr>
<tr>
<td>News web site</td>
<td>News web site</td>
<td>Specialized web site</td>
</tr>
<tr>
<td>Education web site</td>
<td>Education web site</td>
<td>Meteorology web site</td>
</tr>
<tr>
<td>Specialized web site</td>
<td>Specialized web site</td>
<td>Science specialized web site</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Astronomy specialized web site</td>
</tr>
<tr>
<td>Heterogeneous web site</td>
<td>Heterogeneous web site</td>
<td>Leonids specialized web site</td>
</tr>
<tr>
<td>Business web site</td>
<td>Business web site</td>
<td>Personal web site</td>
</tr>
<tr>
<td>Personal web site</td>
<td>Personal web site</td>
<td>§ Administrative resource: internal document of the association or institution designed to review the activities carried out.</td>
</tr>
</tbody>
</table>

This classification is fundamentally based on the type of institution responsible for the website and the function of the different web sites included in the specialized corpus.

The following classification of text resources has been established and is more specific than the above-mentioned. In some cases, the resources mentioned deal only with astronomy. Moreover, not all resources are directly linked to a specific type of web site.

§ Administrative resource: internal document of the association or institution designed to review the activities carried out.
§ Article: text dealing with a subject in synchronous form.
§ Academic article: preserves the conventionality of the academic article written on paper, intended for publication in printed form.
§ Populization article: published by the specific institution, with the intention of providing information on the subject.
§ Specialized article: written by an expert or published at a specialized web site. Its purpose is the communication between semi-experts or experts.
§ Bulletin: regular publication of an association or institution, generally dedicated to more than one subject.
§ Comments on photographs.
§ Summary of information: brief informative notes generally dealing with different subjects of a synchronous and popularly informative nature.
§ Conversation: Data of a synchronous nature, where specialized information appears alongside personal information about the author, without one kind of information being separate from the other. The tone is colloquial, equivalent to that of a conversation between experts or semi-experts.
§ FAQ (frequently asked questions).
§ Glossary.
§ List/index: resource which includes a list of data, generally links with comments.
§ Teaching material: asynchronous resources developed by an institution or which belong to a site dedicated to primary or secondary teaching.
§ Press release: synchronous resource published by an institutional expert to provide information to journalists.
§ News: synchronous resource with well established formal characteristics which are part of news web sites.
§ D Resource: asynchronous resource with no other specific mark.
§ Personal web page.
§ Interactive resource.
§ Results of astronomical observations.

Table 11. Classification of the typology of digital text resources.

<table>
<thead>
<tr>
<th>Distribution of the types of text resources</th>
<th>In General</th>
<th>Specifically about astronomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>WITH EQUIVALENTS PRINTED ON PAPER</td>
<td>WITHOUT EQUIVALENTS PRINTED ON PAPER</td>
<td>SPECIFICALLY ABOUT ASTRONOMY</td>
</tr>
<tr>
<td>Administrative resource</td>
<td>Article</td>
<td>Results of astronomical observations</td>
</tr>
<tr>
<td>Academia article</td>
<td>Summary of information</td>
<td>Academic article</td>
</tr>
<tr>
<td>Specialization article</td>
<td>Conversation (experts and/or semi-experts)</td>
<td>Specialized article</td>
</tr>
<tr>
<td>Bulletin</td>
<td>FAQ</td>
<td>Bulletin</td>
</tr>
<tr>
<td>Comments on photographs</td>
<td>List/Index</td>
<td>Summary of information</td>
</tr>
<tr>
<td>News</td>
<td>D Resource</td>
<td>Converson (experts and/or semi-experts)</td>
</tr>
<tr>
<td>Results of astronomical observations</td>
<td>Interactive resource</td>
<td></td>
</tr>
</tbody>
</table>

This is by no means a comprehensive classification of all text resources that can be found in the Internet, but only a classification of the text resources included in our *ad hoc* corpus.

Since the contents of resources were taken into account when classifying the corpus, a correlation may be established between the type of web site where the resource was found and the treatment of the subject. The following conclusions were drawn:
Table 12: The information treatment in each website.

While some types of web sites are prone to focus on specific subjects, in other cases the information is treated generically and usually mixes subjects that might not have anything in common except their that they are based on the current situation.

6. Conclusions

Although the Internet is a vast though not always reliable source of information, using quantitative methods in the documentation process affords scientific translators the possibility of:
1. Obtaining linguistic information and information by subject, in accordance with the information needs of the translator.
2. Verifying the reliability of the information obtained, as result of statistical evidence.

For the documentation process to be successful, translators must take into account different factors, such as the communication situation of text resources from which they obtain their information. The type of information provided by the different text resources and web sites must also be taken into account when compiling the ad hoc corpus, if it is to satisfy the information requirements of the translator.

Experiments such as the one described in this paper provide translators with the necessary tools to differentiate useful resources from those that are not so useful in a particular context. In addition, we consider that this type of studies provides information that can be used for translation teaching purposes and in professional scenarios which will allow the translator to develop the skills required to obtain the documentation needed for his translation in this new technology-based environment.

References:


**Annex A**

Expressions obtained from each monolingual corpus, which convey conceptual data.

### A.1 Definitions:

<table>
<thead>
<tr>
<th>English</th>
<th>Spanish</th>
<th>Catalan</th>
</tr>
</thead>
<tbody>
<tr>
<td>term is a [definition]</td>
<td>[definición] conocida(*) como [term]</td>
<td>[definición] conocida(*) com [term]</td>
</tr>
<tr>
<td>[definition] are called [term]</td>
<td>[term] es (indef. art.) [definition]</td>
<td>[definition] es conoix amb el nom de [term]</td>
</tr>
<tr>
<td>[definition] is named the [term]</td>
<td>[term] es (def. art.) [definition]</td>
<td>[definition] s'anomena (indef. art.) [term]</td>
</tr>
<tr>
<td>[definition] is known as the [term]</td>
<td>[term], (aposition – definition)</td>
<td>[definition]: (indef. art.) [term]</td>
</tr>
<tr>
<td>[definition] which is called [term]</td>
<td>[term] son un(*) [definition]</td>
<td></td>
</tr>
</tbody>
</table>

The [term] is/are [hyperonym], which characteristic

The [term], a [hyperonym], that characteristic

The [term], [aposition]

### A.2 Archetypal characteristics

<table>
<thead>
<tr>
<th>English</th>
<th>Spanish</th>
<th>Catalan</th>
</tr>
</thead>
<tbody>
<tr>
<td>term is characterized by [characteristic]</td>
<td>[característica] is typical of [term]</td>
<td>[characterisme] de l'a r g u m e n t la m a d (*/term)</td>
</tr>
<tr>
<td>[hyperonym] is called the [term] because characteristic</td>
<td>(the) [adj.] [term]</td>
<td>(la) caracterisme</td>
</tr>
<tr>
<td>characteristic in context is the [term]</td>
<td>(The) [term], which [verb]</td>
<td>(Most) [term] is/are (not) that [adj.]</td>
</tr>
<tr>
<td>That is why [term] are characteristic – cataphoric ref.</td>
<td>[term], which [verb]</td>
<td>The main [characteristic] with the/of the [term] is that [characteristic explanation]</td>
</tr>
<tr>
<td>most [term] are (usual characteristic)</td>
<td>[term] is/are [hyperonym] that characteristic</td>
<td>(l'argument)</td>
</tr>
<tr>
<td>now [characteristic] are/is [term]</td>
<td>a (usual adj.) [term]</td>
<td>the [characteristic] of the [term]</td>
</tr>
</tbody>
</table>

### A.3 Hyponym – Hyperonym

<table>
<thead>
<tr>
<th>English</th>
<th>Spanish</th>
<th>Catalan</th>
</tr>
</thead>
<tbody>
<tr>
<td>hyperonym is the [term]</td>
<td>[term] es un(*) [hyperonym]</td>
<td>term], Aquest(*) [hyperonym]</td>
</tr>
<tr>
<td>term is/are a [hyperonym] that [characteristic]</td>
<td>[term], (indef. article) [hyperonym]</td>
<td>hyperonym de (article definit) [term]</td>
</tr>
<tr>
<td>[term], a [hyperonym] that [characteristic]</td>
<td>[term], (def. article) [hyperonym]</td>
<td></td>
</tr>
<tr>
<td>Like many [hyperonym] the [term] [characteristic]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[term] and other [hyperonym]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### A.4 Hyponym – Hyperonym – Cohyponym

<table>
<thead>
<tr>
<th>English</th>
<th>Spanish</th>
<th>Catalan</th>
</tr>
</thead>
<tbody>
<tr>
<td>hyperonym are [term] and [cohyponym]</td>
<td>[term], [cohyponym], etc.</td>
<td></td>
</tr>
</tbody>
</table>
A.5 Meronymic relations

<table>
<thead>
<tr>
<th>English</th>
<th>Spanish</th>
<th>Catalan</th>
</tr>
</thead>
<tbody>
<tr>
<td>term], which contain [parts]</td>
<td>(art.) [part] que form(“) (art.) [term]</td>
<td></td>
</tr>
<tr>
<td>term] contain [parts]</td>
<td>[term], contiene [part]</td>
<td></td>
</tr>
</tbody>
</table>

A.6 Material – Object relations

<table>
<thead>
<tr>
<th>English</th>
<th>Spanish</th>
<th>Catalan</th>
</tr>
</thead>
<tbody>
<tr>
<td>[term] is (is/are) made of [material]</td>
<td>[material] formar(conjugated) [term]</td>
<td>[term] de material [material / characteristic]</td>
</tr>
<tr>
<td>term] material [characteristic del material]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The material in the [term] [characteristic]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A.7 Chronological relations

<table>
<thead>
<tr>
<th>English</th>
<th>Spanish</th>
<th>Catalan</th>
</tr>
</thead>
<tbody>
<tr>
<td>During [time expression] the [term]</td>
<td>[term] en [time expression]</td>
<td>[term] de [time expression]</td>
</tr>
<tr>
<td>term] is in [time expression]</td>
<td>[term] de (art.) [time expression]</td>
<td>[term] comença [time information]</td>
</tr>
<tr>
<td>The [term] (may/might) happen [time expression]</td>
<td>[term] durante [time expression]</td>
<td></td>
</tr>
<tr>
<td>term] lasts [time expression – periode]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[term] occur in [time expression – precise moment]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The [term] occurs between/every [time expression – periode]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[term] take place [time expression – precise moment]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A.8 Genetic relations

<table>
<thead>
<tr>
<th>English</th>
<th>Spanish</th>
<th>Catalan</th>
</tr>
</thead>
<tbody>
<tr>
<td>[producer/term] is the source of [term/product]</td>
<td>[term] producir (conjugated) [product]</td>
<td>[term] produir (conjugated) [producer]</td>
</tr>
<tr>
<td>The [producer/term] responsible for the [term/product]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>[producer/term] produce the [term/product]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A.9 Causal relations

<table>
<thead>
<tr>
<th>English</th>
<th>Spanish</th>
<th>Catalan</th>
</tr>
</thead>
<tbody>
<tr>
<td>[effect]. This is because [cause]</td>
<td>effect] es (art.) responsable de [cause]</td>
<td></td>
</tr>
<tr>
<td>[cause] is the cause of [effect]</td>
<td>cause] causar (conjugated) [effect]</td>
<td></td>
</tr>
<tr>
<td>[effect] occur as [cause]</td>
<td>effect] ocurre (conjugated) [cause]</td>
<td></td>
</tr>
<tr>
<td>[effect] occur when [cause]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A.10 Argumental relations

<table>
<thead>
<tr>
<th>English</th>
<th>Spanish</th>
<th>Catalan</th>
</tr>
</thead>
<tbody>
<tr>
<td>[patient element] [action] by (article) [agent]</td>
<td>paciente] [action] por (article) [agent]</td>
<td>paciente] produi per (article) [action] d’un [agent]</td>
</tr>
</tbody>
</table>
From word frequency to core vocabulary: some problems

Shima Nabifar,
Organization for Educational Research and Programming,
Tehran, Iran

1. Introduction

One way to define core vocabulary is to extract words from reading materials based on their frequency; of course, it is not the best and the only method. However, there is a close relationship between word frequency and core vocabulary. Frequency refers to the number of times a linguistic element is repeated in a certain corpus. More frequent words are probably, as Carter (1998) points out, more basic, and as a result we can consider them to be core words.

The present paper is a frequency-based investigation of the reading vocabulary of primary school children in which the first 1,000 most frequent words is used as a primary base for the project “Iranian primary school students’ core vocabulary”, which deals with the identification and classification of Persian basic vocabulary, in which the method of counting words has been used to provide a primary base for the estimation of core vocabulary. For this purpose, two types of software were used: the Oxford Concordance Program (OCP) and Zarnegar, a Persian word processing package. In the course of establishing a word count, we encountered several problems, some of which arise from the special characteristics and irregularities of the Persian orthographic system. The focus of this paper is on these problems. First, the general procedures and steps conducted are described.

2. Preparation of the corpus

The first step was the preparation of the corpus, which is understood as a collection of samples of running text. The text may be in spoken, written, or intermediate forms and the samples may be of any length (Tognini-Bonelli 2001). The corpus in the present study consists of the text from 108 children’s books (literature). School textbooks were excluded since a number of research projects had already been allotted to this genre in Iran, while there had been few studies on the vocabulary of literary books for Persian children. A similar previous frequency-based study on children’s reading vocabulary was based on 87 books and 9 stories published in journals for children (Zarghamian 1992). The present study consists of books including fiction and non-fiction, covering different genres such as poems, religion, historical stories, and science fictions, published between the years 1997 to 2001. The corpus also includes translations.

3. Sampling

In sampling, issues such as what kind of texts are to be selected, the number of texts, the selection of particular texts, the selection of text samples from within texts and the length of text samples are important considerations (Tognini-Bonelli 2001). With regard to these criteria, some factors were taken into consideration. In order to prepare an authentic corpus the books were all chosen from among those published by one of the most acknowledged publishers of children’s books in Iran. One reason for choosing this publisher was its classification of books based on children grades (age). In this way it is possible to classify reading vocabulary based on age and grades. The books chosen were all suitable for 6-11 year old children, i.e. primary school students (grades 1-5). They were all chosen from among those assessed as suitable by specialists in children’s literature. We chose the books which had the largest number of readers so that the texts are representative of texts—and the vocabulary used—to which children are exposed to more frequently.

4. Tools

The tools used for processing and analysing the corpus were two software programs: the Zarnegar word processing package and the Oxford Concordance Program (OCP).

4.1. The Zarnegar word processing package

The Persian word processing package, Zarnegar, was used for typing and preparing the texts. This program operates in a DOS environment. As far as usability is concerned, Word is much more usable than Zarnegar, but the main reason for using this program is that it can produce a plain ASCII file, which is a necessity for the OCP. The texts of the books were typed and coded with various information such as the name of writers and publications, date of publication, subject, children grade, and date of publication. In this way it is possible to provide different word frequency lists based on these different factors.

4.2. The OCP (Oxford Concordance Program)

This was used for analysing the corpus and counting the words. A concordance program is one of the simplest yet most powerful devices for retrieving information from a corpus. The OCP makes word lists, indexes, and concordances from texts in any language and in any alphabet. It is a general-purpose tool for text analysis and is suitable for applications such as stylistic analysis, vocabulary acquisition, dictionary making, textual editing, and content analysis. It operates on a raw text file and the text
can be prepared using any word processor that can produce a plain ASCII file. There are no restrictions on the use of characters in the text and up to 8 keyboard characters may be used to represent one letter.
The program was used and prepared for the Persian language by Assi in 1980 (Zarghamian 1992).

5. Findings

The analysis showed that the corpus consisted of 183,979 tokens and 14,973 types with a type/token ratio of 0.08149, which was prepared in two frequency lists and one concordance list in which the context of each word was also listed.
The first 1,000 words with the highest frequency was considered as a primary base for estimation of the core vocabulary covering a frequency range of 9,293 to 24. These words were divided into three groups i.e. words with a frequency higher than 1,000, those with a frequency of 100 to 10, and those with a frequency of less than 10. The first group was of importance in the estimation of the core vocabulary. The most frequent word was the conjunction /va/, the equivalent of which is the word “and” in English.

Table 1 shows some of the most frequent words:

<table>
<thead>
<tr>
<th>Words</th>
<th>Syntactic category</th>
<th>Meaning</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>/va/</td>
<td>Conjunction</td>
<td>and</td>
<td>9293</td>
</tr>
<tr>
<td>/ra/</td>
<td>Object marker</td>
<td>object marker</td>
<td>5977</td>
</tr>
<tr>
<td>/be/</td>
<td>Preposition</td>
<td>to</td>
<td>5367</td>
</tr>
<tr>
<td>/ax/</td>
<td>Preposition</td>
<td>from, since</td>
<td>3973</td>
</tr>
<tr>
<td>/ke/</td>
<td>Complementiser</td>
<td>that, which</td>
<td>3736</td>
</tr>
<tr>
<td>/gost/</td>
<td>Verb</td>
<td>he/she said</td>
<td>2257</td>
</tr>
<tr>
<td>/ba/</td>
<td>Preposition</td>
<td>with</td>
<td>2164</td>
</tr>
<tr>
<td>/bud/</td>
<td>Verb</td>
<td>were, was</td>
<td>1975</td>
</tr>
<tr>
<td>/haam/</td>
<td>Adverb</td>
<td>also</td>
<td>1786</td>
</tr>
<tr>
<td>/aest/</td>
<td>Verb</td>
<td>is</td>
<td>1515</td>
</tr>
<tr>
<td>/an/</td>
<td>Pronoun, Adjective</td>
<td>that</td>
<td>1382</td>
</tr>
<tr>
<td>/in/</td>
<td>Pronoun, Adjective</td>
<td>this</td>
<td>1497</td>
</tr>
<tr>
<td>/maen/</td>
<td>Pronoun</td>
<td>I</td>
<td>1284</td>
</tr>
</tbody>
</table>

6. Problems

In the course of the corpus analysis and frequency count by the OCP, we were confronted with some problems with respect to word recognition boundaries. Of course, there are some general problems when using the OCP, but some of the problems of this study arose from special alphabetic features and irregularities of the Persian orthographic system. The problems included the following cases:

6.1. Homonyms

Homonyms are words which have the same written forms and sound alike but which are different in meaning; for example, the English verb “lie” in the sentence You have to lie down and “lie” in the sentence Don’t lie (Richards and Platt 1992). The computer was not able to recognise these kinds of words as different senses, consequently counting them under the same entry.

6.2. Homographs

The same problem was observed in the case of homographs, words which have the same written forms but which are pronounced differently and have different meanings (Richards and Platt 1992). In Persian the three words /baen/ which means “tiger”, /beben/ which means “cut it”, and /bebor/ which means “cut it”, have the same written form, since the Persian alphabet lacks letters for three vowel sounds /a/, /e/, and /o/. Of course, there are some diacritical marks in the Persian alphabet to distinguish these vowels, and as a result, Persian readers are able to read them in the correct recognisable form, but the program is unable to recognise these marks.

Other examples are words having the same written form and pronunciation but belonging to different syntactic categories, such as the Persian form /bærdasht/ which means, “He took it” and is a verb, and /bærdasht/ which belongs to the category of noun with a different meaning.

Before proceeding to other problems, it is necessary to mention that these problems can be partly solved by what is called “tagging”, which has not been yet fully developed for the Persian language. An example is grammatical tagging, which is a valuable first stage in the pre-processing of the corpus. The attachment of a grammatical tag or word class label to each word results in a tagged corpus. And words having the same written forms will be recognised as different due to the different tags attached to them.
6.3. The Persian orthographic system

In Persian, there are some special features and problems which make the Persian script different from the Roman one, for instance, detached and attached written forms. Most of the letters are attached to their neighbours, but seven of them are attached to the preceding letters. This can create problems in the case of morpheme boundaries and between the elements of compound words. The existence of spaces within the words, which are different from the word boundary, is the result of this fact. In many cases both detached and attached forms can be used and there is no strict and uniform rule for this; writers with different personal taste and style may prefer to attach or detach components (Assi 1989). This is one of those irregularities of the Persian alphabet mentioned above. For example, there are two different written forms for the word “books” in the Persian writing system. One of them is attached i.e. the morpheme “book” /ketab/ is attached to the plural suffix /ha/, equivalent of the plural marker “s”. The other is detached i.e. the two morphemes are written separately. There are many cases of this kind in children’s books and the computer is not able to recognise them as the same words, counting them as separate word forms. To avoid this problem it was necessary to edit the books (pre-processing step) to achieve a uniform corpus. This was time consuming.

6.4. Compounds and idioms

Different elements of compounds and idioms are separated by spaces. Considering the fact that the word recognition criterion for the OCP was the spaces between the printed words, we had to define these spaces. Otherwise the computer would have considered the elements of compounds and idioms as individual words, counting them separately and considering different entries for them. In order for the computer to recognise the compounds and idioms as a chunk or unit we had to consider what is known as a half space between their constituents (a half space is especially used for typing texts in Persian). Again in this case, editing was necessary before the process of word counting.

6.5. Splitting forms

This problem is also related to compounds and idiomatic expressions whose different elements have been separated i.e. other language elements have been incorporated between them. Two-part verbs are good examples of this in English, e.g. the two elements of the verb “look up” are separated in the sentence “look it up please”. This phenomenon exists in Persian complex and compound verbs whereby an adverb or an adjective is incorporated between different parts of the verb. In such cases, the computer would consider the different elements as individual words since they have been parted, and referring to context was therefore necessary.

6.6. Lexemes and word forms

The last and the most general problem is the fact that the program is not able to recognise different word forms of the same lexeme. An English example are the word forms “write”, “writing” and “wrote”, where our aim is to find out the frequency of occurrence of the lexeme “WRITE” in the corpus; the computer program is not able to relate the three different word forms to the lexeme.

6.7. Usability problems

We faced some problems as the OCP operates on the DOS system. It should be upgraded to operate in a Windows environment for the Persian orthographic system, or other modern systems. Another problem was failure to print out data on modern printers.

7. Conclusion

Based on what was discussed about problems, especially the last three, it can be concluded that in many cases, we cannot merely rely on the statistical data and word counts of the OCP. Reference to context (Concordance lists) is necessary. Consequently the analysis cannot be done efficiently by machine and we need some manual operation, which requires time and energy, and is not immune to waste and mistakes.

References


1. Introduction

There is an ever-increasing tendency that more and more non-native speakers of English try to communicate in written academic English. However, the habits acquired within one's own national writing culture, providing they evidently differ from those existing in the Anglophone rhetorical tradition, may cause serious obstacles to the academics who are non-native speakers of English when they try to enter Anglophone academic discourse. These habits can even diminish the quality of the content they want to convey. This problem has initiated numerous contrastive text-linguistic studies aimed at evoking “rhetorical consciousness-raising” (Swales, 1996:56) among English non-native academics, especially among those who are novices in the international academic world. By pointing to the existing differences in two writing cultures, these studies tend to help the novice academics accommodate their writing to the desirable English academic patterns and thus make their inclusion in the international academic writers' community much easier. The comparison of differences in academic writing is being gradually implemented in pedagogical practice and, also gradually, is becoming a teaching subject of academic writing courses in a foreign language. On the other hand, it has contributed to establishing a new discipline in applied linguistics, contrastive rhetoric, the objectives of which are directed towards examining cross-cultural aspects in second / foreign language writing.

As any new discipline, contrastive rhetoric, as a Czech linguist, Čmerjakova (1996:137-138) points out, “tends to stress its focus on differences in writing cultures, not on their similarities […] However, the differences are bridged by the language users themselves, due to their desire to make themselves understood”. The previous statement is very close to the purpose of this paper, which, although based on a small-scale project, research and therefore primarily a pilot study, tends to stress the similarities existing in writing cultures rather than their differences, providing that the writers belong to the same scientific discipline. But, it by no means tends to diminish the role of contrastive rhetoric and its valuable contributions to maintaining a successful international cooperation and exchange of scholarship.

2. The objectives of the study

It is important to emphasize that my investigation originally started by examining cross-cultural aspects in academic research articles from three different scientific disciplines – sociology, philosophy and psychology written by the academics of three nationalities (English, Norwegian and Serbian). The original idea was to depict the existing differences in academic articles in respect of their authors’ nationalities and regardless of scientific disciplines. However, some of discipline-specific similarities appeared to be more noticeable, so that the objective of the research was turned to examining the evident discipline characteristics regardless of their writers' nationalities.

The academic research articles seemed to be appropriate material for this type of contrastive linguistic research, since they are nowadays rarely considered as “simple narratives of investigation” (Swales, 1990: 175), but as multilayered hybrids “co-produced by members of the audience to which it is directed” (Kuorr-Cetina, 1981:106). The implication that research article writing is a socially-based act and the assumption that it varies across languages and cultures, suggest that research articles are a suitable subject for my study.

The aim of the research is to examine the linguistic and rhetorical manifestation of the author's presence in the text and is concentrated on some selected linguistic features which are assumed either to facilitate the communication between the research article’s writer and his anticipated audience, or to demonstrate the writer's perspective and attitude toward the content and his readers. These linguistic features are traditionally placed under the label of “textual and interpersonal metadiscourse” (see for example Kopple 1985, Crismore and Farnsworth 1990). However, in the vein of the new tendencies in LSP studies where more explicit terms are preferred, I am going to systematize them into two groups, but still borrowing from metadiscourse researchers some of their terminology for denoting the linguistic items within these two groups.

The first group of selected linguistic features is chosen in order to depict the author's guiding instructions through the text structure. This group is limited to the following linguistic items:

- **Sequencers** – by which the author indicates the order in which the blocks of information will be presented (e.g. first, second, ... next, then...), as in the example:

  First we will outline the main features of the logic of appropriateness. **Second**, some of the key concepts in the logic – identities and rules, and their relationship – will be discussed. **Third**, we will ask whether it is important to distinguish between symbolic and instrumental processes, as the theory of appropriateness seems to underestimate the importance of rules as myths, and then we will elaborate on the consequences of this for the working of rules in so called ‘matching situations’. (ETN4159-60)

1 The study on Norwegian academic discourse was conducted at the Institute of Linguistics, University of Bergen, in 2002., and was sponsored by the Research Council of Norway.
• Reminders - which are aimed at reminding the readers of the material presented earlier
  (E.g. as stated earlier,...... as outlined above,....... as I have suggested above), as in:

  As we have already mentioned, the omnibus character of our research has limited us as for the number of questions to make an in-depth investigation of the (none) religious nature of the Yugoslav secondary-school students. (ETS4/254)

• Announcements – which are aimed at announcing the material which will appear later in the text (e.g. I shall show below,...... in the following section I will present), as in:

  However, the way we understand the technology and its associated changes at the threshold of the new millennium, I shall show below, depends not just on who is presenting the argument on the basis of what interests but also on the temporal assumptions that are brought to the analysis. (ETE3/129)

• Action markers - which the author uses to indicate the discourse act which he intends to perform (e.g. to explain,...... I will here review), as in the example:

  To explain why particular forms of social relation were seen as problematic I shall outline the ways in which inappropriate family relations were discussed in official discourse. (ETE1/73)

The second group of selected linguistic features is chosen for the purpose of depicting the way the author expresses his assessment and commitment both toward the presented content and toward his readers. It comprises the linguistic items known as:

• Hedging devices – by which the author expresses his cautiousness in making statements about the content (e.g. It might be looked upon,...... this seems likely to...), as in the example:

  Although this will probably necessitate developing new concepts and methods, it seems that, at least at this stage, the already mentioned SOC could be a central concept. (ETS12/410)

• Emphatics – by which the author expresses his categorical assertions (e.g. No doubt,.......Certainly), as in the example:

  Certainly, nobody could dispute this. (ETN15/139)

• Attitude markers - by which the author expresses his attitude towards the presented content (e.g. Most strikingly,....Surprisingly), as in the example:

  Most strikingly, the desire to promote obligations within the family and that to push up employment has clashed in respect of lone mothers. (ETE2/295)

• Commentaries - by which the author addresses his reader directly (e.g. You may not agree, ......), as in the example:

  I leave it to the reader to decide for himself whether he would refer to the statements of this example 'evaluative'. (ETN11/231)

3. The analysed material and the procedure used in the research

  The research is based on the analysis of 45 academic articles from sociology, philosophy and psychology, written in English by English, Norwegian and Serbian native speakers (15 of each) and published in national journals*. (The titles are given in the Appendix)

  The textual analysis was done by identifying each item and by distributing it into corresponding groups. The identified groups of items were expressed by means of percentage values obtained by dividing their number either by the total number of sentences in the articles written by the writers of the three nationalities regardless of the scientific discipline, or by total number of sentences in the articles which belong to the same scientific discipline, regardless of the national background of their writers. Thus, we were able to compare the quantitative values of the examined linguistic features in research articles with respect to the national background of their authors, and with respect to the scientific discipline their authors belong to. Respectively, two kinds of issues will be discussed.

4. Results and discussion

  The obtained data will be presented in four tables in their numerical and percentage values and by comparing these values, certain conclusions on culture–specific and discipline-specific tendencies and preferences can be drawn. Due to a comparatively limited corpus, the results of the present study should be considered rather tentative and have to be tested on a much larger corpus. All generalizations should also be taken very cautiously.

---

2 The articles were strictly chosen by avoiding the notice that they had been translated, although this possibility might exist. However, this fact is not of the relevance for our analysis, because the translator’s interventions usually do not include changing or adding new items to the text, so that the selected articles may be considered as original author’s writing
4.1. Culture-specific similarities / differences

4.1.1. Abbreviations and Orthographic Conventions:

ETE - Academic articles written in English by English native speakers
ETN - Academic articles written in English by Norwegian native speakers
ETS - Academic articles written in English by Serbian native speakers

### TABLE 1: Distribution of the items of the author’s instructions to the readers (with respect to the author’s national background)

<table>
<thead>
<tr>
<th>Type:</th>
<th>ETE (Sentences no: 3284)</th>
<th>ETN (Sentences no: 3262)</th>
<th>ETS (Sentences no: 1882)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Items no:</td>
<td>%</td>
<td>Items no:</td>
</tr>
<tr>
<td>SEQUENCERS</td>
<td>16</td>
<td>0,5</td>
<td>12</td>
</tr>
<tr>
<td>REMINDERS</td>
<td>27</td>
<td>0,8</td>
<td>22</td>
</tr>
<tr>
<td>ANNOUNCEMENTS</td>
<td>34</td>
<td>1</td>
<td>39</td>
</tr>
<tr>
<td>ACTION MARKERS</td>
<td>44</td>
<td>1,3</td>
<td>33</td>
</tr>
<tr>
<td>TOTAL:</td>
<td>121</td>
<td>3,6</td>
<td>106</td>
</tr>
</tbody>
</table>

The data presented in the above table offer a rather uniform picture – there are no noticeable differences among the writers who belong to the three nationalities concerning the quantity of the items they use in order to guide their readers through the text. In the same vein, the examined writers exhibit the same kind of preferences regarding the type of the instruction they use: they are more inclined to use both the markers which serve to announce forthcoming information and those which indicate the discourse acts they plan to undertake. None of the three groups of writers seems to be inclined to use the items labeled as 'sequencers'.

### TABLE 2: Distribution of the items of the author's assessment-commitment expressions toward the content and toward the readers (with respect to the author's national background)

<table>
<thead>
<tr>
<th>Type:</th>
<th>ETE (Sentences no: 3284)</th>
<th>ETN (Sentences no: 3262)</th>
<th>ETS (Sentences no: 1882)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Items no:</td>
<td>%</td>
<td>Items no:</td>
</tr>
<tr>
<td>HEDGES</td>
<td>456</td>
<td>13,9</td>
<td>536</td>
</tr>
<tr>
<td>EMPHATICS</td>
<td>62</td>
<td>1,9</td>
<td>41</td>
</tr>
<tr>
<td>ATTITUDE MARKERS</td>
<td>225</td>
<td>6,8</td>
<td>173</td>
</tr>
<tr>
<td>COMMENTARIES</td>
<td>66</td>
<td>2</td>
<td>61</td>
</tr>
<tr>
<td>SUM:</td>
<td>809</td>
<td>24,6</td>
<td>811</td>
</tr>
</tbody>
</table>

The data presented in Table 2 indicate much more noticeable differences among the three groups of writers: English and Norwegian writers use a very similar percentage of the items by which they express themselves towards the content and toward the readers, while Serbian writers seem to be less inclined to build the relationship with their readers – probably due to the attitude which still exists in Serbian writing culture that scientific writing should be “a series of impersonal statements of facts which add up to the truth” (Hyland, 1994: 239). Also, some interesting preferences can be noted here: Norwegian writers are fond
of using hedged statements more than English and Serbian writers, while Serbian writers, already described as the least expressive ones, are more inclined to use both the items by which they show their full confidence in the content they want to present, and the items by which they convey their attitude to the content.

The distribution of the identified items in respect scientific discipline of here of the research papers, regardless of the author's national background, are more striking and the data are presented in the tables 3. and 4.

4.3. **Discipline-specific tendencies and preferences**

**TABLE 3: Distribution of the items of the author’s instructions to the readers (with respect to the scientific discipline)**

<table>
<thead>
<tr>
<th></th>
<th>SOCIETY (Sentences no: 2879)</th>
<th>PHILOSOPHY (Sentences no: 2991)</th>
<th>PSYCHOLOGY (Sentences no: 2561)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ETE</td>
<td>ETN</td>
<td>ETS</td>
</tr>
<tr>
<td>SEQUENCERS</td>
<td>7</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>REMINDERS</td>
<td>8</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>ANNOUNCEMENTS</td>
<td>8</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>ACTION MARKERS</td>
<td>15</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>SUM</td>
<td>38</td>
<td>36</td>
<td>18</td>
</tr>
</tbody>
</table>

On the basis of the data presented in Table 3, we may conclude:

1. It seems that philosophy writers in comparison to sociology and psychology writers are the ones who take the greatest care in guiding their readers through the text, according to the highest percentage of the examined linguistic items identified in their articles. They especially favour announcements of forthcoming material and use of the markers by which they signal the discourse actions they intend to perform, but at the same time they are strikingly unwilling to use the items which suggest the order in which new information will be presented.

2. Psychology writers, in contrast to philosophy writers, are more concerned with the content itself than with the form in which it is presented: they were found to have used the smallest amount of the examined items, and similarly to philosophy writers, they are also reluctant to use sequencers.

3. Sociology writers seem to be closer to philosophy writers by the percentage of the identified items, but they have shown the greatest inclination towards using the items by which they inform the readers about the order in which the blocks of information will be presented.

4. A general characteristic noticed in the articles of the three disciplines is that all the writers prefer to use the linguistic items by which they either announce the information which follows or indicate the discourse action which they plan to take, while they are not accustomed to using the items which remind the readers of the material presented earlier, or, even more drastically, the items which are labeled as ‘sequencers’.

107
On the basis of the obtained data presented in Table 4, we may conclude:

1. The percentages expressed in this table point to greater differences than in Table 3. Thus, the smallest percentage in table 4 is 18, 9% (evidenced in psychology academic articles), while the biggest is 28 %, evidenced in philosophy academic articles.

2. The most expressive among the three groups of writers seem to be philosophy writers, especially when conveying their attitudes toward the content and when making their direct comments on it. The percentage of these two groups of items is the highest, in comparison to all others. Also, in comparison to all other groups of writers, philosophy writers show the greatest degree of cautiousness when presenting their statements.

3. In contrast to philosophy writers, psychology writers are the least expressive among these three groups: their articles lack the authors comments - psychology writers very rarely comment on the propositional content either by posing a question or addressing the reader directly. Neither are they fond of showing their attitudes towards the conveyed material. Also, very few emphatics are evidenced in the articles written by psychology writers.

4. With respect to the items of expressiveness, sociology writers may be placed right between the two polarities - half way between psychology and philosophy writers.

5. As a general observation, it can be noted that hedges are the commonest type of the examined items for the three disciplines. However, hedges are here presented summarily, although it would be interesting to find out about the types of hedges most frequently used in the articles of the three scientific disciplines.

5. Conclusion

The double-dimensional analysis in this study has demonstrated the existence of both cultural and discipline- specific characteristics in scientific research articles. The study has also brought out the fact that cultural differences in academic writing are more obvious between academics who are deprived of academic writing courses, both in their mother tongue and in a foreign language, as is the case in the Serbian educational system. However, contact with the members of the same discipline community and the exchange of academic articles can reduce the barriers caused by national writing habits, together with systematized knowledge about a well-constructed research article and about the existence of different writing cultures.

As the presented research has also evidenced some discipline-specific characteristics regardless of academics’ cultural background, it can be concluded that the similarities between discourse communities based on the same scientific discipline are often more noticeable than the differences caused by the language and cultural background of the academics who are the members of these communities.

Going back to the introductory part of this paper (in the manner of a well-constructed composition from English writers' point of view), I will quote Ćmerjakova (1996:137-138) one more time, stressing that my research, however limited in its corpus and in the number of linguistic phenomena examined, has shown that researchers of the same scientific discipline display a strong inclination to overcome differences in writing cultures and make themselves understood, because: “The scientific community is governed by the wish to share, to have common knowledge and to contribute to it” (Ćmerjakova, 1996:137-138).

Selected literature:
Appendix: The Analyzed Materials

I - ETE: Scientific research articles written in English by English native speakers


II - ETN: Scientific research articles written in English by Norwegian native speakers

III ETN: Scientific research articles written in English by Serbian native speakers


1. Introduction

Nominalization has for several decades been a central area of research in general linguistics. The early works of Lees (1960) and Vendler (1967, 1968) had a great influence on later treatments such as Chomsky’s analyses in the seventies (Chomsky 1970). The main discussion was whether nominalization was primarily a syntactic or a lexical phenomenon.

Jane Grimbshaw’s MIT dissertation concentrated on deverbal nominalizations and claimed that certain types of deverbal nouns had argument structure and that the presence of argument structure in nouns correlated with some basic aspectual characteristics of the denotation of these nouns (Grimshaw 1990).

Grimshaw used English data only, but these properties turned out to be relevant for other languages as well, and the semantic and syntactic structure of basic deverbal nouns have been investigated for several languages of the world. However, the pragmatic and text linguistic aspects of the phenomenon have been studied to a much lesser degree.

As far as studies in the field of terminology and LSP are concerned, surprisingly few extensive works on the subject are available. This is rather surprising considering the fact that most introductory text books on terminology and LSP focus on the fact that nominalization is one of the most salient features of LSP texts of all sorts.

Michael Halliday’s works constitute an exception to this generalization. His treatment of the role of nominalizations in the development of English scientific writing from Newton and Priestly to the present day is both stimulating and interesting reading (Halliday and Martin 1993).

Against this background I found the need to have a closer look at this type of word formation in Norwegian technical writing. I have gathered my data from one of the system manuals from the Gullfaks A-platform system “Dampsystemet” (Steam Generation and Distribution System), an instruction manual for Norwegian technical personnel at the platform. The dominant text type in the manual is instruction with some passages of pure description. There are no explanatory or expository parts.

2. Deverbal nouns

But first: What is a deverbal noun? A deverbal noun is a noun which is derived from or corresponds to a verb, as in aktivering, activation (from aktivere, to activate), sjekk, check (from sjekke, to check). The manual contained 154 deverbal nouns counted as types (the number counted as tokens is considerably higher).

There are several different morphological classes of deverbal nominal suffixes. A number of studies have shown that the different classes tend to behave differently on all levels of description and it is important to distinguish between them.

3. Morphological classes in Norwegian

The most productive of the Norwegian deverbal morphological classes is –ing. A list showing the number of occurrences with this suffix and the others in the manual is given in table 1 where the –ing suffix marks more than 50% of the deverbal nouns.

<table>
<thead>
<tr>
<th>Table 1: Occurrences of morphological types</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphological type</td>
</tr>
<tr>
<td>-(n)ing</td>
</tr>
<tr>
<td>[root]</td>
</tr>
<tr>
<td>-sjon</td>
</tr>
<tr>
<td>-asje</td>
</tr>
<tr>
<td>infinitive</td>
</tr>
<tr>
<td>-anse</td>
</tr>
<tr>
<td>-sel</td>
</tr>
<tr>
<td>-skap</td>
</tr>
<tr>
<td>-t</td>
</tr>
<tr>
<td>-else</td>
</tr>
<tr>
<td>total</td>
</tr>
</tbody>
</table>
All the nominal types have different types of compound structure. Some forms are simple nouns, like *styring* (control), *drenering* (drain) and *arbeid* (work). Others are compound nouns where the first element in the compound may correspond to a sentence constituent function of the corresponding verb, like the direct object in *slangetilkoping* (hose connection) (*kople slange til noe* connect a hose to something), an adverbial in *kraftforsyning* (power supply) (*forsyne med kraft supply with power*) or a predicative element as in *rensjøring* (back washing) (*gjøre noe rent, literally to make something clean*). These compound words may also occur as phrases where the first element occurs in postnominal position as a prepositional modifier. It is generally known that sentence functions like the subject and the direct object are marked in a different manner than adverbial functions (called adjuncts) in the nominalization process. The grammatical subject is usually marked by a possessive construction and the direct object is marked by the preposition *av* (of), as in:

*Arbeiderens overvåking av dampforsyningen* (*The workers’ surveillance of the steam production*).

However, the possessive subject is hardly ever realised in these kinds of technical texts.

### a. –ing nominals

The –ing nominals are the most productive morphological type in Norwegian. A list of some of the –ing words are given in List 1.

#### List 1. –ing nominals

Inledning (introduction), distribuering (distribution), rengjøring (back wash), plassering (location), fordeling (distribution), avblåsing (blow down), vannbehandling (water treatment), forutsetning (precondition), rutinesjekking (routine checking), styring (control, stabilising), overvåking (monitoring), aktivering (activation), avstenging (shut down), levering (delivery, supply), produksjonsboring (production drilling), reguleringsforsyning (power supply),isolering (isolation), slangetilkoping (hose connection), utblåsingssikring (blow out prevention, blow out preventor), sikring (securing, fuse), nødavstenging (emergency shut down), utprovning (commissioning), tilbakemelding (feed back), feilsetting (trouble shooting), feilretting (fault removal), alarmering (alarm registration), handling (action), oppøring (training), erfaring (experience), oppbygging (construction), skadevirkning (harmful effect), langtidsvirkning (long term effect), påvirkning (impact), drenering (drain), trykkavlastning (pressure release), åpning (opening, port).

The distribution of morphological types on phrase level for the direct object and word level are given in table 2. As we can see, transitive derivation with phrase marked derived direct object (the type *tilkoping av slange*, connection of hose) is very common with –ing nominals.

#### Table 2: Distribution of morphological types on the phrase level (with derived direct object) and word level

<table>
<thead>
<tr>
<th>Morphological type</th>
<th>Phrase with derived direct object</th>
<th>Word</th>
<th>sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>-ning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>[root]</td>
<td>6</td>
<td>16</td>
<td>31</td>
</tr>
<tr>
<td>-sjø</td>
<td>1</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>-asje</td>
<td>0</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>infinitive</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>-anse</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>-sel</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>-skap</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>-t</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>-else</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>

### b. Root nominals

Another common type of derivation is the root nominalization where the corresponding nominal is formed with zero derivation from the stem (also called conversion). A list of these are given in list 2:

#### List 2 Root nominals

Start (start), stopp (stop), rengjøringsarbeid (back wash work), sjekk (check), kaldstart (cold start), anleggssjekk (field check), feltpanelsjekk (field panel check), ventilsjekk (valve check), uttak (outlet), kraftforbruk (power consumption), avvik (deviation), leveringstrykk (discharge pressure), driftstans (shut down), prosessvedlikehold (process maintenance), utdrag (abstract), krav (demand), vedlikehold (maintenace),
List 3 Low productive types
- sjon, as in dampproduksjon (steam production), aksjon (action), operasjon (operation), konstruksjon (construction), modifikasjon (modification), korrosjon (corrosion), isolasjon (isolation).
- asje, as in lekkasje (leak), pakningslekkasje (gasket leak), -else, as in arbeidstillatelse (work permit), utstedelse (issue), overholdelse, forståelse (comprehension, understanding), infinitive form: skade (damage) (from å skade, to damage), miljøskade (environmental damage), -anse, as in vannleveranse (water supply), dampleveranse (steam supply), -skap as in kjennskap (knowledge), -t, as in pumpedrift (pump running).

4. Prototypical properties of nouns and verbs
Deverbal nouns are hybrid forms between the categories noun and verb. This means more specifically that they share some characteristics typical of verbs and some characteristics typical of nouns. According to Hopper and Thompson (1985) a set of characteristics for the two major parts of speech can be given. Those relevant for our purposes are listed in List 4.

List 4: Prototypical properties of nouns and verbs:

<table>
<thead>
<tr>
<th>Nouns</th>
<th>Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Specific/anaphoric) reference, entities/objects, countability, + pluralization, + determinant, static meaning, given/old information, no argument structure, topic</td>
<td>description/no reference, events, non-countability, - pluralization, - determiner, dynamic meaning, new information, argument structure, comment</td>
</tr>
</tbody>
</table>

Typical nouns have specific reference as opposed to typical verbs which do not refer at all. Typical nouns denote countable entities or objects and are easily pluralized as opposed to verbs. Because nouns have entity reference they typically occur with determiners, again in contrast to nouns. Nouns typically have a static denotation as opposed to verbs, which have dynamic meaning. On the level of information structure nouns tend to occur as sentence topics (or themes) with given or old information, whereas verbs with their associated participants tend to occur as sentence comments (or rhemes).

5. Deverbal nouns as non-prototypical nouns
Deverbal nouns do have reference, but they tend to have generic reference more often than specific reference. When expressing generic reference they often lack determiners, plural markers and have argument structure, especially a derived direct object marked by the preposition av (of). With generic reference they tend to express a dynamic meaning of process.

The ability to refer is a typical nominal property. The most typical way of reference for nominals in texts is the anaphoric reference where an antecedent is involved. This characteristic is also shared by deverbal nouns:

1. **Ferskvann tilføres matevannstanken gjennom en tilbakeslagsventil 55-152WP.** Vannets innløpstrykk kan avleses på trykkindikator 55-PIOO13. Vanntilførselen blir regulert av en flotfortventil….. Desalinated water is supplied to the water break tank via a check valve, 55-152 WD. The inlet water pressure is indicated on a pressure indicator, 55-PIOO13. The water supply is controlled by a mechanical level control valve…. (Chapter 2.2.1).

The deverbal noun **vanntilførselen** (the water supply) refers anaphorically to the first sentence **Ferskvann tilføres matevannstanken**, which is the antecedent expression.

Another type of reference is exophoric reference where the sender goes outside the text to refer to events or entities which are assumed to be familiar to the receiver:

2. **Lav-lavt nivå i tanken blir overvåket via nivåbryteren 55-LSLL017, som er innstilt på 816 mm. …..Fellesalarm 55-UA001 blir utløst på BT i SKR, og alarm 55-LALL017 blir utløst på feltpanalet i M23. Aktivering av nivåbryter 55-LSLL017 vil også stoppe driftsmatepumpen (chapter 2.2.1).**

Level switch low, 55-LSLL017, trips on low water levels,….. Activation of level switch 55-LSLL017 will …..

The deverbal noun **aktivering av nivåbryter** (activation of level switch) has not been introduced into the text earlier and the sender seems to imply that procedures for activation of level switch 55-LSLL017 are either taken for granted or considered to be irrelevant in the current context. Here the first alternative seems to be the most likely one.

A third type of reference is the generic reference. This is a rather special and untypical type of reference for nouns. Generic reference with typical nominals can be used in classificatory use with the definite articles in Norwegian (example 3 and 6), and
with the indefinite article in the singular (example 5) and in the indefinite plural (example 4), but the use of a naked form of the noun with generic reference is not so much used with ordinary nouns in Norwegian, especially in classificatory use, and seems to be ungrammatical in English:

3. Hest-en er et pattedyr.-definite article singular
   The horse is a mammal.
4. Hest-er er pattedyr.-indefinite article plural
   Horses are mammals.
5. En hest er et pattedyr.-indefinite article singular
   A horse is a mammal.
6. Hest-ene er pattedyr.-definite article plural
   The horses are mammals.
7. ?Hest-() er pattedyr.
   *Horse is a mammal

However, generic reference with a naked deverbal noun as head is a very common type of reference with deverbal nouns as in example 8:

Generic reference:

8. Dampen blir brukt til rengjøring av prosessbeholdere og forskjellige andre rengjøringsarbeider på platfformen. (chapter 2.1.)
   The steam is used for steam cleaning/purging of process vessels and for general cleaning purposes on the platform.

Here the reference is to rengjøring (cleaning, purging) in general and no specific instance of activity is implied.

Table 3 shows that generic reference is the dominant one in this text.

Table 3: Distribution according to reference type

<table>
<thead>
<tr>
<th>Morphological type</th>
<th>Generic Non-specific</th>
<th>Anaphoric Specific inside text</th>
<th>Exophoric specific/non-specific outside text</th>
</tr>
</thead>
<tbody>
<tr>
<td>-(n)ing</td>
<td>74</td>
<td>8</td>
<td>44</td>
</tr>
<tr>
<td>[root]</td>
<td>24</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>-sjon</td>
<td>5</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>-asje</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Here the exophoric non-specific type in column 3 is a subtype of the generic type in column 1. This explains why the figures do not add up with the sums in table 2.

Table 4 shows clearly that this type of generic reference with a naked noun is the dominant type in this text, at least with the two most productive morphological forms.

Table 4: Form of deverbal noun (definite, indefinite article, singular, plural)

<table>
<thead>
<tr>
<th>Morphological type</th>
<th>Naked form</th>
<th>Indefinite article singular</th>
<th>Indefinite form plural</th>
<th>Definite article singular</th>
<th>Definite article plural</th>
<th>Sum</th>
</tr>
</thead>
<tbody>
<tr>
<td>-(n)ing</td>
<td>80</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>88</td>
</tr>
<tr>
<td>[root]</td>
<td>30</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>31</td>
</tr>
<tr>
<td>-sjon</td>
<td>7</td>
<td>0</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>-anse</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>-sel</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>-skap</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>-t</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>-else</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

6. Logical polysemy

Most deverbal nouns are event referring, but some have a dynamic, process meaning of an event and others refer to the result of the event and have a static, result meaning. Many deverbal nouns can have both these meanings. This is a phenomenon called logical polysemy (Pustejowsky 1998:31ff). Logical polysemy is a type of polysemy which is not idiosyncratically isolated to specific lexemes or terms in a language but which comprises large classes of lexemes. One of the most central and widespread types of logical polysemy concerns the distinction between process and result meanings of event referring nouns. This polysemy is closely related to deverbal nouns but can also occur with other types of nouns. In example 9 we have process meaning and in 10 we have result meaning:
Process:
9. Standard procedure for isolering av reguleringsventiler (Dampsystemet chapter 4.2.4)
Standard control valve isolation.

isolering (isolation) refers to an unspecified, generic, complex process event.

Result:
10. Isoleringen i veggene var brennbart
The isolation in the walls was combustible.

isoleringen refers to the result of the process of isolation, in this case the material used in the process.

In other cases the logical polysemy takes the form of an aspectual difference where the process meaning has a durative or imperfect meaning, as with the root nominal in 11, in contrast to the perfective instantiating meaning of the result meaning of the same nominal in 12:

Process:
11. Sjekk av manuelle ventiler må stemme overens med sjekklisten.
Check of manual valves must agree with the check list.

Result:
12. Hvis ventilen ikke åpner seg må sjekken tas på nytt.
If the valve does not open the check must be performed once more.

This is connected to the instantiating meaning of 12 as opposed to the generic meaning of 11. In 12, an important part of the meaning of the nominal is the instantiation of the general event of checking. A closely connected and important difference between 11 and 12 is that pluralization is possible in 12, but not in 11.

As we can see, there are various subtypes of process and result polysemy, but they seem to be variations of the same type of polysemy.

In the Steam Generation and Distribution System manual this polysemy type was very widespread, especially with the two most productive morphological types –ing and root nominals, as table 5 shows. 69 of 88 –ing nominals and 29 of the 31 root nominals had logical polysemy.

Table 5: Presence of logical polysemy

<table>
<thead>
<tr>
<th>Morphological type</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>-(n)ing</td>
<td>69</td>
<td>19</td>
</tr>
<tr>
<td>[root]</td>
<td>29</td>
<td>2</td>
</tr>
<tr>
<td>-sjon</td>
<td>11</td>
<td>5</td>
</tr>
<tr>
<td>-asje</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Infinitive</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>-anse</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>-sel</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>-skap</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>-t</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>-else</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

7. Argument structure

The presence of argument structure can best be detected by looking for the realization of the derived direct object at the phrase level, where it is overtly marked by the preposition av (of). The phrase type is that of: tilkoping av slange (connection of hose), where slange is the derived direct object of tilkoping.

Table 2 shows that many –ing nominalizations occurred on phrase level with unpacked derived direct objects. Some of the other forms also had this phrase structure. As list 4 illustrates this is a typical verbal characteristic. Table 6 further illustrates that this verbal characteristic matches with another verbal characteristic: The dynamic, process meaning. All the –ing nominalizations in unpacked phrase form with av-marked direct objects had dynamic process meaning and only one of the root-nouns had a result meaning. This is a fairly strong indication that presence of argument structure and dynamic meaning tend to merge in showing the verbal side of deverbal nouns.

Table 6: Distribution of process-result polysemy in deverbal nouns with derived direct objects marked by the preposition av (of)
Table 7 shows, further, that those deverbal nouns without logical polysemy (i.e. those that are unambiguous) tended to have a process meaning with –ing nouns (the most productive type) and result meaning with root nouns. This should indicate that deverbal –ing nominals are more verbal than deverbal root-nominals in this technical Norwegian text.

Table 7: Sense type with absence of logical polysemy

<table>
<thead>
<tr>
<th>Morphological type</th>
<th>Process</th>
<th>Result</th>
<th>Place</th>
</tr>
</thead>
<tbody>
<tr>
<td>-(n)ing</td>
<td>34</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>[root]</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>-sjon</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>-asje</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Infinitive</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>-anse</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>-sel</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>-skap</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>-t</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>-else</td>
<td>1</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

8. Information structure

From the point of view of information structure information in text sentences can be divided into topic (theme) and comment (rheme) positions. Topic position is the first constituent of the sentence and normally contains the grammatical subject of the sentence, which is typically the point of departure, i.e. what is talked about. The comment position is regarded as being the rest of the sentence, to put it simply. In my data I have classified the deverbal noun types according to this distribution. As is well known, topic vs comment marking typically corresponds to given vs new information.

But this distribution can sometimes be overridden for various information structure purposes. The terms given and old information are often used synonymously in the text linguistic literature, but for my purposes I feel a need to make a distinction between the two:

Given information is a type of information which is previously introduced in the co-text, usually in comment form. This information is picked up again later and backgrounded by the sender, usually in topic position. Old information, on the other hand, is a type of information that the sender assumes to be known to the receiver without prior introduction. This information may be classified as what Clark (1994) calls common ground knowledge.

Both given and old information are typically linked to reference types of typical nominal expressions. Given information is associated with anaphoric reference where the earlier introduced information is the antecedent (as in example 1. above). Old information is associated with exophoric reference, where the nominal expression refers to a piece of information which is outside the text in the assumed common ground knowledge space of the sender and the receiver (as in example 2 above).

Table 8 illustrates the distribution of the morphological types according to information structure. As we can see the topic and given/old information go together as expected see also the final item on list 4, where topic position is the typical position of ordinary nouns.

But deverbal nouns can also occur as comments with new information or even with given or old information. This seems to be typical especially of instruction texts. In the manual the instruction passages had almost exclusively the form of imperative clauses. Imperative clauses do not have the regular topic-comment structure and are normally topicless constructions. So the most likely interpretation of the non-typical occurrence of deverbal nouns in comment position is the result of the instruction text type rather than the result of the non-typical character of the deverbal nouns.

Table 8: Distribution according to information structure
9. Conclusions

This survey shows that deverbal nouns share characteristics of both nouns and verbs. The proximity to the two major parts of speech can be defined in terms of typical features of the two word classes. This has previously been demonstrated on the syntactic level in a number of morphosyntactically oriented studies in linguistics, but this investigation shows that this is also the case on the textual, pragmatic level.

The study shows that the most productive morphological types are the ones which are closest to the verb, and the relative distance is also revealed by the logical process-result polysemy of the deverbal nouns. The process nominals are closer to the verb than the result nominals, as their semantics would indicate.

The process –ing nominals also exhibit argument structure revealed in the derived direct object construction on the phrase level with the argument transfer preposition av (of). The lack of determiners and modifiers with the nominals in the text and the frequent use of generic reference are further evidence that these nouns are non-typical nouns. These nouns are also quite common as exophoric reference and are thus important as indicators of the professional character of these texts.

This preliminary pilot investigation also shows, I think, that there is a need to study deverbal nominalizations further in LSP. My study has not touched the difficult question of terminology. As Dressler (1989) has pointed out, there are several questions of terminology to be solved.

References


1.2.15 Lisbet Pals Svendsen and Margrethe Smedegaard Mondahl

What’s the big deal? – discourse and pragmatic competence elements in oral communication

Department of English, Copenhagen Business School

1. Introduction

This paper is a progress report on work presented elsewhere (Mondahl & Svendsen 2002) on the FOCAL project (Free Oral Communication in Adult Learners), a study of how adult ESL learners acquire the knowledge and skills that help make them professional language users. The main, ultimate goal of the project is to professionalise the learners in the sense that we wish to provide them with the skills and tools necessary to function professionally in English in all aspects of their professional life. The present paper focuses on adult learners’/informants’ discourse and pragmatic competence in oral communication.

As a step on the way towards this goal, the secondary aim of the project is to develop teaching methods and tools to support this development. The book Mastering Oral Communication (Mondahl & Svendsen, 2003a) is intended to serve as such a tool.

2. Benchmarking the oral communicative competence of the learners

In order to determine just where the level of the learners’ competence in English may be said to be professional enough, we have decided to use the Common European Framework of Reference for Language: Learning, Teaching, Assessment (Council of Europe, 2000).

The Framework sets out definitions of competence levels from the most basic to the most advanced, and the two most advanced levels are C1 and C2. A few keywords from the definitions of the two levels are:

- Can understand with ease
- Can summarise information
- Can express himself very fluently and precisely, differentiating finer shades of meaning
- Can recognise implicit meaning
- Can use language flexibly for social, professional and academic purposes.

3. FOCAL – theoretical background, models and study design

The main hypothesis that underlies the entire project idea is that for advanced-level adult ESL learners, awareness-raising and consciousness-raising are two of the most important pedagogical tools that may be used, since these learners will to a very large extent be able to work on their own with language acquisition, once they know how to go about it. The theoretical framework behind the FOCAL project is primarily based on Second Language Acquisition (SLA) theory, in connection with which the main focus is on the areas of problem solving, cognition, consciousness raising, control and analysis over oral output and learner styles.

As a supplement to SLA theory, the learners are introduced to basic elements of psycholinguistic theory, primarily through an introduction of the work of Ellen Bialystok, and to elements of sociolinguistics, represented by Deborah Tannen.

3.1 The Copenhagen Business School (CBS) Model

The CBS model explains both the structure of knowledge, the constant restructuring of knowledge and the application of knowledge by adult learners of a second language (based on Mondahl & Jensen, 1996).

The CBS Model is based on the hypothesis that a small part of adult learners’ communicative competence is brought about through the application of Universal Grammar type knowledge. Yet, the major part of learners’ development comes about through cognitive development, through hypothesis formation and testing, and through the compilation or generalisation of already acquired knowledge.
The CBS Model takes its starting point in Anderson’s declarative - procedural knowledge dichotomy, but experience gathered in connection with the FOCAL project shows that adult learners who produce a second language make decisions on production on the basis of three types of accessible knowledge rather than two. This has resulted in the introduction of the centre box containing the experience-based, or know-how, element where adult learners are able to draw on cognitive knowledge, control their output and adjust it when required.

### 3.2 The Bialystok system of co-ordinates

The second model that we draw on in connection with the course during which our learners/informants are exposed to the awareness-raising that experience has shown us is necessary in order that they may consciously work with improving their oral communicative competence, is Ellen Bialystok’s model of control and analysis in combination with different levels of linguistic and metalinguistic awareness.

![Figure 2. The Bialystok system of co-ordinates (based on Bialystok, 1994).](image)

According to Bialystok (1994), one way to illustrate learner knowledge and awareness is to look at the control and analysis dimensions in combination with "linguistic knowledge", "metalinguistic ability" and "metalinguistic awareness" in relation to the two axes of analysis and control, and the model shows the relationship between analysis and control for each of the three dimensions of student linguistic capacity.

The ideal learner development would consequently be progressing from the 3rd quadrant in the model well up into the 1st quadrant of the model, or in other words from level C1 towards level C2 of the Common European Framework.

### 3.3 FOCAL study design

The FOCAL research design, which is based on a number of working hypotheses, consists of collected video recorded data – a pre-test and a post-test video recording with a period of awareness-raising classes between the two recordings – supplemented by introspection and retrospection data, which are subsequently used to investigate the learners’/informants’ overall competence in oral communication divided into five separate competence areas, viz

Linguistic
Discoursal
Pragmatic
Socio-cultural and
Strategic competence

For an in-depth description of the FOCAL findings within the area of linguistic competence, please see Mondahl & Svendsen, 2002.

4. FOCAL – discourse competence

To measure the level of discourse competence in the learners/informants involved in the project, it was decided to use two points of reference as benchmarks:

• The Longman Grammar of Spoken and Written English and
• “Breakfast with Frost” from 30 Sep. 2001 (BBC) in which Sir David interviews Tony Blair about the situation in Iraq; the latter was chosen in order to benchmark the learners/informants against two native speakers with a reputation for good language.

The elements of language that have been investigated under the headline of discourse competence fall into four main areas, which are

• Uptakers
• Turntakers
• Fillers
• Hesitators

These four elements of discourse competence will be dealt with separately in the following, illustrated by means of examples from the video recorded data; where relevant, the examples will show an indication of whether they have been found in the pre-test or the post-test data. Examples of the unsuccessful use of a given discourse element will be indicated with an asterisk (*) immediately before the point in question. For a more elaborate description of these language elements, cf Mondahl & Svendsen 2003b.

4.1 Uptakers
In the FOCAL project, the following definition of uptakers has been used:

• Uptakers are those words and/or phrases that mark the beginning of a turn-at-talk or the beginning of another passage in the same turn-at-talk; phrases could be examples such as “good morning”, “thank you for coming”, “I’d like to welcome you” etc.
• Uptakers are – as opposed to turntakers – content-devoid indications that the speaker wants to say something or that he/she wishes to bring a new point up for discussion.
• Uptakers may appear both initially and medially in the turns-at-talk, but in contrast to fillers (q.v.) they will carry meaning and/or show the expressed intent of the speaker. Examples of typical uptakers are listed in the table below.

A difficult, yet interesting, point in connection with our investigation of the use of uptakers is that “Yes” is found to be used quite frequently as an uptaker by Danes, who are making a transfer from the Danish uptaker “Ja”, which is used both as an uptaker and also to signal agreement; native speakers of English, though, would not be using yes as an uptaker unless they specifically want to signal agreement. Our registration of yes as an uptaker therefore carefully takes into consideration whether the speaker is in fact intending to signal agreement or is using it as a ”pure” uptaker.

Figure 3. FOCUS examples of the use of uptakers.

A characteristic feature of the learners’/informants’ use of uptakers in the pre-test is that they are either short, consisting of just one word, or in many cases lacking as shown in the second and third examples in Figure 3. In the post-test, in contrast, we find a somewhat wider variety and a higher success rate; the wider variety does not, though, mean that the learners/informants use...
longer uptakers, but rather that they will tend to use a wider variety of one-word uptakers. An interesting point here is that the use of ‘yes’ as an uptaker tends to diminish from the pre-test to the post-test, but the results are not statistically significant.

4.2 Turntakers

Turntakers are deictic elements of speech and are defined in the FOCAL project as those words and/or phrases that are used by a speaker to establish a link to another turn(s)-at-talk, which means that the new speaker may also refer to his/her own previous turn(s)-at-talk or encourage a new speaker to take over the floor, which is often done by using eg a tag-question or a direct question.

When turntakers are placed in the initial position in the turn-at-talk, they are used to establish a link to a previous turn-at-talk, and may take several forms as will be seen in the examples below:

- That’s an interesting point, but I would still like to … (pre)
- If I could just come back to what you said before, how … (pre)
- Maja, I’ve been wondering … (post)
- Well, it’s funny you *should ask, because … (post)

Figure 4. Examples of turntakers in initial position.

The informants’ use of turntakers in the initial position is quite successful compared to their use of uptakers; one reason for this could well be the fact that turntakers carry meaning, which adds weight and importance to them in the minds of the learners. They are also easier to identify and therefore also easier to use consciously by the ESL learners; this would suggest that consciousness-raising has taken place.

- What do you think about that idea? (post)[interrupting] Yeah, and why is that? (post)
- you could take the train into the cities, wouldn’t that be a better idea? (post)
- *… only for the farmers or what? (post) *… when it’s dark and it’s raining and so on [voice fades out] (post)
- ¿*…every twenty minutes or something like that [voice fades out]

Figure 5. Examples of turntakers in final position.

When it comes to turntakers in the final position – in contrast to initial position – it is evident that there are some successes and some examples that are not successful. This is presumably linked to the fact that turntakers in the final position are fairly rare in Danish, and since turntakers in this position also tend to carry less meaning than in initial position, the learners “fall back into old Danish habits” and forget to close their turns-at-talk properly.

4.3 Fillers

Cornbleet and Carter (2001) define a filler as “Words or sounds in spontaneous speech such as ‘er’, ‘sort of’, ‘I mean’, ‘well’ which do not carry any conventional meaning but which allow a speaker time to think and to pre-plan an utterance.” In the FOCAL project, fillers are defined along the same line as those words and/or phrases that the speaker uses to hold on to the floor (including giggling and non-verbal expressions) or to support an expressed opinion.

A filler – as opposed to uptakers or turntakers – will typically appear in mid-statement. Certain politeness markers such as eg “Oh, sorry” are also included in this category, if they are devoid of meaning. It should be noted at this point that several of the words that we characterise as fillers also appear as uptakers and turntakers under those categories. The two criteria used for distinguishing them from each other are:

- The expressions used as fillers are placed in mid-sentence, and
- The expressions used as fillers are devoid of meaning.

We had this joke about people living in the East side of London because they’re all called, like, Mohammed or Ahmed or whatever … So even the police couldn’t, you know, tell the difference between them, … and only one of them, I mean, really had a driving licence … which was, I think, partly true. (post)

Figure 6. Example of the fillers used in one post-test turn-at-talk.

This particular informant had been living in London for a period of four years immediately before the video recording took place, and the example clearly shows the variation in the use of fillers that he is able to use.
4.4 Hesitators

The term hesitators is used to cover expressions such as ‘erm’ and ‘eh’ etc as well as actual pauses that may or may not be filled in, but where the speaker manages to hold the floor. The LGSE (LGSE: 1052) describes hesitators as an expression of dysfluency and error – whether or not that is true for the learners/informants in the FOCAL project is difficult to say, but what is true is that in some instances, the use of hesitators in spoken language (both L1 and L2) may, as stated reach ‘pathological extremes – as in the following example: ‘No. Do you know erm you know where the erm go over to er go over erm where the fire station is not the one that white white” (LGSE: 1052).

The basic assumption in the FOCAL project as regards hesitators, though, is that they are a natural part of spoken L1 and L2 at all levels of proficiency, and our data seem to support that notion. The examples show one of the most frequent hesitators used by the informants in the project, viz repetition.

- I’ve … I’ve lived in London for four years (post)
- Erm, I … I … I can’t really answer that question (post)
- … to get the children from kindergarten or school or whatever, drive them to sports, do the shopping, so on and so forth … on the other hand, if …. So … so there’s lot of sort of practic .. practic factors involved … (post)

Figure 7. Examples of hesitators used in post-test examples.

The use of erm is not very frequent in the learners/informants in the FOCAL project; one reason could probably be that many Danes consider it "unprofessional" to use this in professional interaction, irrespective of the fact that in general it is just as acceptable a hesitor as repetition in both Danish and English.

5. FOCAL – Pragmatic competence

Yule (1996:4) defines pragmatics as: “The study of the relationships between linguistic forms and the users of those forms …”. In connection with the FOCAL project, a learner’s/informant’s pragmatic competence is defined as ‘the ability to use the foreign language in compliance with the rules and norms that apply to a given communication situation (“script”).

This pragmatic competence of a speaker falls into two main parts that are considered equally important in regard to the speaker’s communicative competence:

- Speech acts, and
- Non-verbal language

In the framework of the FOCAL project, the particular aspect of the learners’/informants’ pragmatic competence that are under investigation is the non-verbal side of their communicative competence, and in this connection the learners/informants are being evaluated on the basis of a number of parameters:

- Gesture
- Posture
- Eye contact and
- Mimics

It should be mentioned at this point that the investigation of the learners’/informants’ non-verbal language is not yet completed, but nevertheless there are indications that the following working assumptions may hold true:

- The participating learners/informants avail themselves of non-verbal language primarily in the following situations:
  - Either in an attempt to compensate for a lack of words, be that discourse elements or a lack of the required vocabulary in the given situation,
  - Or in an attempt to put particular emphasis on a point.
  - However, in situations where the statement made is neutral, the learners/informants tend to use a lower amount of non-verbal language, the more fluent they are in their verbal language. In the example in figure 6, most of the turn-at-talk was delivered without any gestures at all – the verbal language needed no support from non-verbal language.
6. Summary and conclusion
Based on these few examples, we feel justified in maintaining that we do in fact see an indication that consciousness-raising activities are having an effect on the oral production of the advanced-level, adult ESL learners in the study when it comes to their discourse competence. We have previously demonstrated that this is also true for the learners’ linguistic competence (Mondahl & Svendsen, 2002).

As stated in the introduction, the ultimate goal of the FOCAL project is to professionalise learners since adult, professional ESL users are to an increasing extent being required to master all situations in fluent, oral English, and the evidence given in this paper of their increased awareness and ability to use the discourse competence elements required in the given situations indicates that they are indeed on the right track towards a professional competence level. Whether the involved learners/informants have actually managed to progress from level C1 to C2 in the Common European Framework has not been determined yet, but with the ongoing efforts based on the findings from the project, it may be within reach to determine whether the awareness-raising and consciousness-raising methods used in the classroom sessions between the pre-test and the post-test are indeed producing a lasting effect.

References and literature


2 Constructing LSP Texts: Citation patterns

One of the key ingredients of an LSP text is the manner in which other LSP texts are cited in the text. The citations normally include name(s) of the cited author(s) in the main text, occasionally the title of the cited article or book, and invariably there is a list of references that contains the details of the citation. Learning to cite is a key skill in constructing LSP texts and different specialist domains have different styles of citation, each of the styles reflecting the legacy of the particular specialism. More important perhaps is the social aspect of citation: when we cite somebody, we are either accepting or rejecting their authority in the specialism, we are either finding or rejecting hypotheses and evidence; in short the social edifice, particularly the informal aspects of the edifice, are reflected in the citation patterns. Much of the objectivity of specialist disciplines, the claim that a specialism is a specialism almost independent of the personalities and institutions involved, is reflected in the conventionalised manner in which specialists cite their peers. In science and engineering, it is often surnames, for art and aesthetics full names, and even first names. It seems that no matter what the degree of formality in citation, the process of citation itself engenders the objectivity and the discipline required for systematic observation and analysis – science (Wissenschaft) itself.

Robert Wilkinson describes citation behaviour in psychology and argues that in this particular specialism, the knowledge of domain culture is crucial. He describes a method for observing citation behaviour, and by implication culture, and reports on a study he has conducted with postgraduate students in The Netherlands. The citation patterns of the students are studied within the scope of a methodology which goes back to Swales (1990) and to the more recent—and perhaps more speculative—extensions to the cognitive functions of citation patterns. One key finding of Wilkinson’s research is that the study of citation patterns will help us to develop critical skills that, in turn, will enable students to make efficient use of previous findings. In some sense, Merja Koskela follows on from Wilkinson; she discusses the function of references in philosophical research articles. Koskela’s is a more ‘corpus’-based approach, but she also builds on Swales’ argument that there is a clear link between citation analysis and discourse analysis. Koskela’s work is in philosophy. She examines texts published over a period of about 40 years in analytical philosophy, looking at the influence of key philosophers including Alfred Ayer, Bertrand Russell, W.V. Quine, Charles Peirce. For Koskela it is important where the citation was elaborated, either as a verbatim quote, in end-notes or in a bibliography at the end of the text. She looks at cross-citational patterns, negational references and text structure. Her conclusion, which is echoed throughout this chapter, is that a text is merely a trace of its author’s behaviour and cannot be used as the sole evidence for discussing that behaviour. However, in the end, the text is all we have.

Five papers on citation patterns follow: Irena Vassileva and Barbara Hembali discuss the role of citation patterns within specific cultures. Vassileva has a broad perspective on English, German, Russian and Chinese-speaking scholars, whereas Hembali talks about how a new discipline is created by using research papers—particularly citation patterns—in Brazil. Kjerst Flothøt and Trine Dahl discuss how authors of LSP texts recognise others, mainly through citation patterns. Both are working on the KIAP project (Kulturell Identitet i Akademisk Prosa—cultural identity in academic prose) that deals with three specialisms—medicine, economics and linguistics—in a trilingual environment, English, Norwegian and French. Both studies are corpus-based: Flothøt seeks to find citation clusters and Dahl attempts to investigate how metatextual expressions are incorporated into LSP texts. Männikkö’s case study deals with academic historians and tries to find citations of ‘events’ in academic and popular history texts; this is a work-in-progress in Swedish with a small corpus of five texts from academic journals and a popular magazine.

This chapter provides an overview of the citation conventions used in a range of disciplines (many social and human sciences) across several languages and cultures and can therefore serve as a good introduction to this growing aspect of LSP discourse studies.

References
### 2.1 Lead Articles:

#### 2.1.1 Robert Wilkinson

**Citation behaviour in psychology: acquiring the domain culture**

Robert Wilkinson  
Maastricht University, Netherlands

---

1. **Introduction**

Citation is critical to academic writing. Citation allows writers to situate their own work in the context of prior research. In this respect it serves as a marker of the degree of academic socialization (cf. Kaplan, 1965; Nicolaisen, in press; Swales, 1990). Recent studies have demonstrated the considerable variation between different disciplines in the ways writers cite the authors of published works. For example, Hyland (1999) showed the differences in the frequency and nature of citations in research articles in eight disciplines, and Paul Thompson’s study of PhD theses has shown that the differences also depend on the genre (Thompson & Tribble, 2001). While these studies demonstrate what writers do, it remains unclear why they do what they do.

Cronin (1984) argued that attributing reasons to why writers cite does not mean that these attributions make the real reasons explicit. There is an “attribution gap” between why writers cite and why we think they cite. Sometimes the reasons may be unknown or even frivolous. A decade earlier Weinstock (1971) had listed a large number of “serious” reasons, among which writers may give credit to authors for related work, may use citations to substantiate claims, may identify the originators of methodology or equipment, may identify further background reading, or even pay homage to pioneers in the domain. However, in Cronin’s view, writers may be unaware of why they cite when they cite, and the way in which they cite.

The present paper reports a case study into how three psychology students acquire a feeling of how they should report previous research in their own texts. The study is part of a larger study situated in the context of a 4-year “doctorandus” (Masters) programme in the Netherlands. The main study comprises a comparative study of a small corpus of psychology texts, and a qualitative longitudinal analysis of samples of work written by psychology students at two moments (approximately two years apart), and an interview study.

2. **Background**

In academic fields students are assumed to make progress because their writing approximates increasingly the “norms” established by the specific domain in which they are writing. In this respect, the measure of whether the students meet these “norms” is not so much that of academic exams and papers, but rather the acceptance of their work in peer-reviewed journals. The “norms” that students have to meet to be accepted in the domain are not always explicit, i.e. they cannot be found in style guides such as those of the American Psychological Association (APA). More often they are implicit: students have to reason out for themselves what the domain accepts and what it does not.

However valuable training courses in academic or professional writing may be, it is unlikely such courses can address the features that characterize the “norms” specific to a relatively narrow domain, such as psychology. To a large extent, students are assumed to assimilate the “norms” from their reading of the literature, which thus serves as a model for their own writing. However, within all domains there is wide scope for variation within the acceptable “norms”. Thus the students have to construct a mental model of what the ranges of these implicit “norms” are. Hence, one would expect exemplars of these “norms” to be more or less evident in the students’ writing: as students acquire greater expertise in their domain during their academic studies, one would expect their later writing to resemble more closely the features of expert published writing than their earlier writing would do.

This study focuses on citation practices in psychology as an exemplar of the “norms” of socialized writing in that domain. Citation behaviour among psychology students may be seen as a kind of proxy measure for the degree of socialization into the domain. How citations are used in psychology is both explicit and implicit. Even though the explicit guidelines (i.e. APA) do help aspiring writers with what and how they should report previous research, these guidelines present choices; they do not tell students why they may report in one particular way rather than another. The form a writer chooses and what that implies seem to be critical knowledge for the aspiring writer. However, it has been suggested that writers may not be consciously aware why they choose a particular form: it is part of their tacit knowledge (Hudson, 1975; Ravetz, 1971). Such knowledge would help novice writers to understand why they themselves may choose particular forms in particular contexts. Moreover, the knowledge would need to be specific for each domain since it is likely that citation behaviour will vary considerably from domain to domain (cf. Hyland, 1999). In the field of psychology in particular, Hartley (2001) has commented on the complexity of learning to write according to the conventions of specific genres, and that it takes much time to become “socialised” into the appropriate disciplinary methods.
Citations can be classified according to surface form, that is whether they are integral or non-integral citations (Swales, 1990). Integral citations are defined as those performing a grammatical function within the text, e.g. as subject or as object of a preposition. Non-integral citations are defined as those in parentheses (brackets or superscript numbers). Following Swales, Thompson and Tribble (2001) have advanced a sub-classification of non-integral (source, identification, reference, origin, plus “other”) and integral citations (verb-controlling, naming, and “non-citation”). Source indicates a citation where the writer attributes a proposition to one or more specific sources. Identification describes citations where the writer identifies the agent of the action referred to in the sentence. Reference covers citations which refer the readers to other authors by means of expressions such as “see”, “cf.”, and “e.g.”. Origin identifies the originator of a concept or product: this could be a term or expression, or a method (e.g. a questionnaire). Among the integral categories, verb-controlling covers citations where the author or authors cited govern a verb, whether in the active or passive form. Naming relates to citations where authors are mentioned in the sentence as part of a prepositional phrase, for example, but do not govern the verb. Non-citations cover references to authors where no identifying date is given; typically this may occur as second mention in the same paragraph. (For a fuller description of these categories, see Thompson & Tribble, 2001.)

Citations can also be analysed in terms of cognitive function (cf. Hyland, 1999): summary, generalization, or quote, with a category for “other” too. A summary can be defined as an instance where a writer rephrases in his or her own words the proposition of the original author. In simple terms in this study, a summary is recorded where the writer cites only one author. A generalization may be defined as an instance where a writer attributes facts, findings, observations, etc., to more than one author. Thus, in simple terms in this study, a generalization is recorded where a citation references two or more publications by the original authors. A quote is defined as an instance where the writer cites the original words of the author, indicating this by using quotation marks.

In this study, measurement of the occurrence of citations according to form and function in the texts of three student writers is compared to the usage in a target domain, as evidenced in a small corpus of psychology texts. However, this does not identify the reasons why the students choose one form or another. For this purpose, data from a semi-structured interview with each student has been used.

3. Method

The students. The three students (let’s call them Lisa, Ellen, and Henny) were recruited from a cohort that started their 4-year “doctorandus” (Masters) programme in 1998. The programme entailed studying in Dutch and English, with most of the work in the first three semesters being in Dutch. From semester 4 onwards, students had increasingly to work in English, even though much of the literature they had read already was written in English. During the fourth semester they had to write a paper in English for the first time. During the third and fourth years, depending partly on the specializations and electives the students choose, they would increasingly write in English. Moreover, because the nature of the studies encourages students to do practical traineeships abroad (in 3rd or 4th year), not only does English play a ever-more dominant role, but the students’ study time increases accordingly. Thus, many students of the 1998 intake did not graduate until 2003 (some even later). At the end of their studies students have to write a graduating thesis (Masters thesis). The students have the option to write this in English or in Dutch.

Data. The students’ citation behaviour is compared in two ways: across two moments (T1 and T2 – even though the time between T1 and T2 varies from student to student), and with a “model” of citation behaviour that students might be assumed to target in their writing. The model of citation behaviour was constructed from a subset of a corpus of psychology texts that students may be assumed to have read during their second-year.

Corpus of psychology texts. The corpus was selected from the texts suggested in the second-year psychology manuals or included in the course readers for the year 1999-2000. The inclusion criteria were that texts had to be from psychology journals or from books (collected papers or where chapters were written by different authors). Textbook chapters were excluded, as were articles from popular psychology magazines, newspaper articles, case reports, internet articles, among others. The lists of articles were checked with the psychology staff responsible for the courses, and a final selection was made. Finally, some selected articles were excluded when they proved to contain no citations, and some suggested articles proved to be unavailable. The subset of the corpus reported here contains 16 articles (109,000 words), covering three genres: research articles (3), theoretical articles (5), and review or overview articles (8). The whole of the review and theoretical articles was included in the analysis. However, in the research articles only the introduction and discussion/conclusion sections were included; method and results were excluded on the grounds that these typically contain few citations, and thus would not provide much input towards a mental model of citation behaviour for the students. While it is not claimed that this subset represents scientific writing in psychology generally, it is held that this represents the kind of scientific writing from which second-year psychology students could construct their own mental model of the citation practice. Thus, the subset comprises texts that the students can be assumed to have read.

Analysis of the corpus and student texts. The corpus was analysed manually. Only one article was available electronically, and the manual analysis is not assumed to be more time-consuming that an electronic analysis. Data were collected on citation form (integral and non-integral citations; Swales, 1990; Thompson & Tribble, 2001) and citation function (cf. Hyland, 1999). The three students’ second-year texts (2000) and their graduating theses (2002/2003) were analysed in a similar way to the corpus. The analysis was performed using SPSS 10.1.
Interview study. To obtain information about the reasons that students choose one particular citation technique rather than another, the students were interviewed, among other things, about their citation behaviour in their own writing. For this purpose, citation examples from the students’ own second-year paper and their final thesis were used.

The interview was semi-structured and adapted after piloting with first-year PhD students. The interviews were conducted between September 2002 and May 2003. Each interview lasted about one hour. Only parts of the section of the interview dealing with citation behaviour are reported here.

4. Results

Students’ papers.
Figure 1 shows the citation types for the three students according to the number of citations used at T1 and T2. At T1 Lisa and Henny show a tendency to use non-integral “source” citations, whereas the opposite tendency is apparent in Ellen’s writing. At T2 Lisa and Henny show the same tendency as before, but reveal an increasing use of integral citations. Ellen too shows an increase in integral citations, especially non-citations: this suggests the repetition of authors previously mentioned. Figure 2 shows the findings in percentages from the corpus subset: the ratio between integral and non-integral citations is almost balanced, with “source” and “verb-controlling” types dominating respectively. Comparing the findings for the students with those of the corpus subset suggests that the students, Lisa especially, do tend to move towards the “model” as presented by the corpus. In proportional terms, the move towards the “model” is only apparent in Lisa.

Regarding cognitive function, the three students’ writing at T1 reveals a complete absence of generalization (see figure 3); indeed only Ellen uses citations in any other way than as a summary. At T2, however, all three students show some use of generalization, especially Lisa. However, with the possible exception of Lisa, the patterns shown by the individual students differ from that in the corpus, where generalization accounts for 20% of the citations (figure 4).
Figure 1: Citation types – Students T1 and T2 (number of citations; NI = non-integral; Int = integral)

Figure 2: Citation types – corpus (%; NI = non-integral; Int = integral)

Figure 3: Cognitive function – Students T1 and T2 (numbers of citations)

Figure 4: Cognitive function – Corpus (%)

128
Interview results: reasons for citation behaviour

The interviews revealed that the students had a wide range of reasons for deciding whether to report previous research by means of a non-integral or integral citation. Because it was not feasible to ask the three interviewees about every citation they used, only a selected number of instances were chosen to represent different ways of reporting previous research. Moreover, as shown in figure 1, Lisa and Henny showed a marked tendency to use non-integral citations in their second-year paper, although less so in their final paper compared to the corpus. Thus the findings from the three students should be seen as exploratory, and therefore interpreted with a degree of caution.

The reasons for using citations could be classified in three groups: research reasons, discourse reasons, and language and training reasons or writing reasons. Differences between non-integral and integral citations arise chiefly at the sub-divisions of these categories.

Research reasons

Both Henny and Ellen indicate that they use a non-integral citation to indicate the source of information; this may refer to specific findings, definitions, or claims. Example 1 illustrates how Henny describes this (the extract number refers to the sequence in which the extract was discussed during the interview, and the numbers in parentheses refer to the code given to the citation). In this example, Henny emphasizes her reasoning for closely identifying a proposition with its source.

EXAMPLE 1

B Ok, and here (…) you make a comment here “neurochemically this counteradaptation is represented …”. you give a reference to Di Chiara here, and then a further comment and references from Fromme and D’Amico. What made you do it in that particular way?

H For in this article I get to know about the first part, and these other consequences neurochemically I find in this - chapter it was.

B So your reason here would be to put the reference very close to the actual information that you got from that particular source.

H Because if I did it both at the end then some people would say, no Di Chiara didn’t say that about glutamate.

Ellen also indicates that she would use a non-integral citation was to indicate the importance of the research cited for the student’s own study. Yet, the “importance” reason does not seem to be a consistent choice for using a non-integral citation.

Thus, all three students reported using an integral citation to highlight the authority or importance of a study (including the relevance to the student’s own research). Example 2 illustrates how Ellen describes her reasoning.

EXAMPLE 2

B Ok, let’s move on to the sixth one. Here you begin with a kind of introduction “Once spatial knowledge referring to bla-bla-bla is stored … That can be concluded from a recent research by Schmidt etc.” What made you choose that patterning?

E Well, I thought it would be clear to start with the conclusion from a research instead of ending with it, so I think that’s why I did it like that.

B And is this also because you go on to talk in quite some detail about Schmidt’s study?

E Yeah, it was a very important study in relation to my own research.

Somewhat relatedly, all three students used integral citations when they wished to identify the author(s) of research, data, a task, a definition, or an interpretation. Again Example 3 from Ellen illustrates her reasoning, emphasizing that the integral citation allows her to refer to the authors later with “a shorter reference”.

EXAMPLE 3

B Ok, and the fifth one I’ve selected here. You refer to Joshi, MacLean and Carter here and again you bring it to the fore.

E Yeah, it was a very important study in relation to my own research.
In a rather recent research Joshi, MacLean and Carter (1999) examined children’s routes to school. With our experimental research in mind, results of this study could be very interesting. The research was executed with reference to Hiltman’s assertion that the spatial development of children who are accompanied to school and to other destinations for a long period is impeded (1993 in Joshi, et al., 1999). Hiltman stated this referring to the finding that ever more children (90% in 1990 versus 20% in 1970) are being accompanied to school.

E Yeah, and then people know instantly that Joshi, MacLean and Carter did the research. If I said “In a rather recent research it appeared that children’s routes to school were examined” and then I say the name, then I think it’s not that clear.

B OK, does the fact that you refer to Joshi et al. several times later have an influence in why you chose this pattern at the beginning?

E Yes I think so, because in the beginning it’s very clear who did it, and afterwards I can make it a shorter reference.

Other reasons given by the students for using integral citations were to highlight the originator of a theory, model, framework, or term (indicated by Lisa and Ellen), and to highlight specificity (a specific study, specific findings, a specific example; e.g. citing the first author to do something) (indicated by Lisa).

To sum up, research reasons for using non-integral citations were to indicate the source or the importance to one’s own study, while research reasons for using integral citations were to highlight the authority or importance of the authors’ work, to identify the author (or a definition or interpretation), to highlight the originator of a theory or model, and to highlight the specificity of a particular study.

**Discourse reasons**

Only one discourse reason was mentioned for using a non-integral citation. Lisa indicated that it allowed her to focus on summarizing or combining results, findings, or statements, as illustrated by Example 4. Because the authors said “the same thing”, Lisa indicates that it is easier to read if the sentence is not interrupted by parenthetical citations, but she adds that she would do so if the authors had not said the same thing.

**EXAMPLE 4**

B OK. The sixth one I chose here. You refer to a number of aspects in primary health care, you list them all and then you give several references afterwards. What made you do that?

L ‘Extract 6 (2002): The most important aspects of PHC are: food and water supply, maternal and child health care, immunisation against major infectious diseases, prevention and control of endemic diseases, basic care of health problems, supply of essential drugs and community mobilisation and awareness (Amanuo-Lartson, Ebrahim, & Lovel, 1985; Boerma, 1988; Starfield, 1992).’

B So would there be a reason why you put them all at the end rather than say indicate against each one?

L I see, well this is because they all said the same thing, so this is clearer to read, because if I write brackets after every part, then it disturbs when you’re reading, and if they would, for example if the first one would have said different things than the second one, then I would have written that down, for example if food and water supply was only mentioned by the first one. I think I do that somewhere else afterwards. There are a lot of references because everybody said something else.

However, both Henny and Ellen give discourse reasons for using integral citations, in particular because the integral citation allows easy reference forward or backward, as illustrated by Example 5. Here Henny indicates that it is not only the importance of the names of the authors, but particularly the facility it gives her to refer to their names as representing the studies the authors have conducted.

**EXAMPLE 5**

B OK, the last one I have here, number 11, in your conclusion part, or discussion part, you refer to several authors here, summing up. “This does not replicate findings by Fowles and Laboni who demonstrate that” and “following reward in the study of Gomez and McLaren”. Are there particular reasons why you use those structures?

L ‘Extract 11 (1890, 1892): Overall, except for a slight increase in HR of abstinence alcoholics in the REW-REW and REW-PUN condition, a decrease in HR was found. This does not replicate earlier findings by Fowles (1988) and Laboni et al. (1997) who demonstrated an increased HR accompanying reward in normal controls. Additionally, even the failure to find an increased HR following reward in the study of Gomez and McLaren (1997) is incompatible with current findings of a decrease in HR.’

H Well, the names are important here. Well, I could have said what they did find and put their names behind it. I explained it earlier. I can now refer to their names.

Lisa also gives a discourse reason for using an integral citation - to focus attention on the topic the writer addresses through particular authors or on a particular study.

In sum, then, the discourse reason for using non-integral citations relates to focusing on summarizing or combining data from different authors, whereas the discourse reasons for using integral citations include facilitating subsequent reference and focusing attention on the topic of the authors cited.

**Language and training reasons**

Both Henny and Lisa reported that they used non-integral citations because they had been told that “it had to be this way”. In other words, they reported that they were simply following instructions. The students did not indicate language or training reasons for using integral citations.

**Variation and no reason**
One reason given for switching between integral and non-integral citations was simply for the sake of variety, as shown in Example 6 from Ellen.

**Example 6**

B Ok, and the second extract – we need to look at the two pages here, the one I’ve selected overruns the page – and you refer to “Research that will be addressed later on in this theoretical introduction showed that” and then the comment and you give the reference here in brackets. Any particular reason that you started that way?

E Well, that was a very important research, but like the way I referred it that’s just one of two or three ways you can do it and well it’s not really it wasn’t really a conscious choice or anything, it’s just that you want some variety in your piece of work.

B Ok, so that’s the reason why you would refer to “research that will be addressed later on”.

E I could also say like “Schmidt and mm researched this and this and they found that”. Sometimes it just looks better or sounds better when you do it like this.

However, occasionally the students did not know why they chose one form rather than another, as to some extent Ellen admits in Example 6 above.

5. Discussion and conclusions

The findings from this case study of three students suggests that they do change their citation behaviour during their time of study, but not all in the same way. They do tend to absorb the domain conventions (culture) as measured by a model of citation behaviour in the corpus of psychology texts the students are assumed to have read. By the time they graduate at Masters level, the students are approaching the norms for the domain, in so far as these are reflected in citation usage.

However, with regard to cognitive function, the three students show only limited change between their first paper in English and their final thesis. The students do not yet seem to have reached a level of expertise in the domain that enables them to generalize easily from previous research. It is difficult to argue that this stems from the students not having read sufficient literature; rather it may have to do with a tendency to report findings separately in a possible desire to highlight slight distinctions between studies. In particular, this may stem from the fact that the students may well be reporting (summarizing) what others have done, rather than reporting their own opinions and deductions, and then using published research to support it. The process that the students are going through at the end of their Masters studies may be a reflection of a similar process observed in other professional domains. Research, especially in medicine, has identified a process of transition in expertise development as students move out from the educational phase of learning and into the world of practice (Schmidt & Boshuizen, 1993; Custers, Boshuizen, & Schmidt, 1998). In this process a person has to reorganize his or her mental structures of knowledge (encapsulation) from individual knowledge bases to a larger, more integrated knowledge bases, which may be stored in the form of scripts (Schank & Abelson, 1977). It may be that an increase in the use of generalization (perhaps reflecting a more integrated knowledge base) is a feature that expert psychologists develop during practice, such as during PhD studies.

The students are generally quite able to account for why they chose to use a particular citation form in a specific instance. Previous research has discussed reasons for citing the work of one’s predecessors (cf. Cronin, 1984; Swales, 1990; Jordan, 1997; G. Thompson & Ye, 1991). Most information seems to have been gathered from a close analysis of texts. It seems less common for researchers to question the writers why they make specific choices. Both Hyland (1999, 2000) and Paul Thompson (Thompson, 1999) have attempted to question informants in the disciplines they analysed. In this study three intermediate writers were interviewed to determine the reasoning underlying the choices they actually made in practice. However, it should be borne in mind that the reasons a student gives in an interview for using a particular citation form may not be the same reasons that the student had in mind at the time of writing. These results nevertheless suggest lines for future research with other groups of writers.

It is valuable to study citation behaviour in a domain like psychology because the ability to make efficient use of the findings from previous research is a critical skill for psychology (and other) students. This is not only because each discipline has its own cultural conventions and norms, but also because the very reporting, acknowledging or accommodating of one’s predecessors’ research takes up such an enormous part of what one writes in the discipline. Thus, students’ writing could benefit from conscious scaffolding based on research in order to socialize the students gradually into the discipline. However, it may be ineffective to require students to generalize from previous research until later in their studies.

**Acknowledgements**

I would like to thank Prof. Gert Rijlaarsdam (University of Amsterdam), Prof. Arthur van Essen (University of Groningen), and Prof. Els Boshuizen (Open University, the Netherlands) for their advice in the construction of this paper.
References


1. Introduction

Since Swales’ (1986) seminal article on the relationship between citation analysis and discourse analysis, linguistic methods have been used in a wide variety of studies of bibliographical references. Such studies have concerned among other things reporting verbs, their degree of evaluation and their role in the discourse (e.g. Thompson & Ye 1991; Thomas & Hawes 1994; Thompson 1996). Most of the studies have concentrated on one field (e.g. Salager-Meyer 1999; Koskela 1999), but interestingly, in some studies referential behavior in different fields has been compared (Hyland 2000; Flottum 2003 in press). My study falls into the first category and concentrates on functions of references within the field of philosophy.

In his study of referential behavior in eight academic disciplines, Hyland (2000) found that philosophy has its own referential profile. Philosophers use a great number of references, often neglect to repeat the explicit reference, and include the name of the cited author in the reporting sentence. In addition, the cited work can be explicitly criticized in philosophy (see also Bloor 1996).

My own (Koskela 2000) results, based on Swedish philosophical texts support Hyland’s results of writing in English, but they also show that there are substantial individual differences within the field of philosophy and differences between different schools of thought, especially between the Analytic tradition and the Continental tradition.

In the present paper I will study references as discourse features in research articles representing Analytic philosophy from the 1950s and from the 1990s. The starting point of my study is one of the early works on citation analysis, namely Moravcsik and Murugesan’s (1975) typology of citations. The typology was originally created as a refining tool for quantitative reference-citation counts aiming at measuring scientific quality. As such it concentrates on single references and their function in the immediate context. In my paper I will test how the model works in analyzing functions of references in the construction of discourse in whole texts, and therefore I will base my discussion on only five articles, two from the 1950s and three from the 1990s. With the help of the model I will try to find out if there seem to be functions that vary with time or if there are permanent functions typical of philosophical discourse independent of time.

2. The material of the study

Before turning to the functions of references, I will describe the specimen articles used as material. The two early articles (Weitz 1950; Aldrich 1955) were chosen at random from the first volume of the journal Philosophical Studies (founded in 1950), which describes itself as a journal for philosophy within the Analytic tradition. Even though the opposition between the Analytic tradition and the so-called Continental tradition is today much less focused on than earlier, I chose to look at analytic philosophy because interviews conducted in connection with a study of philosophical writing (Koskela 2000 and 2003 in press) showed that the Analytic tradition still has a strong position in both Finland and Sweden. For comparison, two articles were chosen from the 1990s volumes of the journal. One article (Creath 1998) was chosen because its topic seemed to be similar to that in Aldrich’s (1955), and one other article from the same year (Juhl 1998) was chosen at random. However, Juhl’s article turned out to include only one explicit reference to literature. Therefore, the material was later completed by Gampel’s (1997) article. In Table 1, I have collected some central features of the material.
J u d g in g  b y  th e  n u m b e r  o f  r e f e r e n c e s  a n d  th e  c o n te n t s  o f  th e  p a p e r s , th e  m a te r ia l c o n s is ts  o f  tw o  d i f f e r e n t ty p e s  o f  a r tic le s . T h e  a r tic le s  b y  W e itz , A ld r ic h , a n d  C r e a th  ta k e  u p  p e r e n n ia l p r o b le m s  f o r  n e w  d is c u s s io n , w h e r e a s  th e  a r tic le s  b y  G a m p e l  a n d  J u h l  C o m p a r e d  w ith  H y l a n d ’ s  ( 2 0 0 0 )  f in d in g s  b a s e d  o n  a  m a te r ia l o f  2 5  jo u r n a ls  f r o m  th e  y e a r  1 9 8 0  it s e e m s  th a t th e  n u m b e r  o f  r e p r e s e n t lo g ic a l r e a s o n in g  o f  th e  k in d  c o n s id e r e d  t y p ic a l o f  a n a l ytic  p h ilo s o p h y . E v e n  h e r e  th e r e  i s  v a r i a tio n , h o w e v e r . W h e n  r e f e r e n c e s  i n  th e  1 9 5 0 s  p a p e r s  c o m e  c lo s e r  t o  H y la n d ’ s  m a te r ia l ( a c c o r d in g  t o  h im , th e r e  i s  o n  a v e r a g e  8 9  r e f e r e n c e s  p e r  p a p e r ) , G a m p e l  i n c lu d e s  n a m e s  o f  a u th o r s  i n  h is  te x t a n d  u s e s  e n d n o te s  f o r  d e ta ils , J u h l  h a r d l y  m e n tio n s  a n y  n a m e s  o f  o th e r  r e s e a r c h e r s  w h e r e a s  th e  1 9 9 0 s  a r tic le s  h a v e  s u b s ta n tia ll y  f e w e r  r e f e r e n c e s . F o r  th e  1 9 9 0 ’ s  a r tic le s  p a r t H y l a n d ’ s  r e s u lt  th a t p h ilo s o p h e r s  u s e  a  T a b l e  1 .

Compared with Hyland’s (2000) findings based on a material of 25 journals from the year 1980 it seems that the number of references in the 1950s papers comes closer to Hyland’s material (according to him, there is on average 89 references per paper), whereas the 1990s articles have substantially fewer references. For the 1990’s articles part Hyland’s result that philosophers use a lot of references does not get much support. Regarding the use of endnotes (footnotes listed at the end of the paper) and a list of references at the end of the paper, there does not seem to be any regularity in the journal: technicalities do not seem to be considered important.

Verbatim quotes are minimal in Hyland’s (2000) material, as they are in mine, with the exception of Aldrich’s (1955) paper. According to Hyland (2000), summary is a more efficient way of supporting an author’s own arguments than verbatim quotes are, because others’ findings can then be expressed on the author’s own terms. However, it is expedient for Aldrich to let Quine talk on his own terms, because Quine’s wordings allow for several interpretations, and Aldrich has, no doubt, chosen for quotation the very expressions that support his own views.

Judging by the number of references and the contents of the papers, the material consists of two different types of articles. The articles by Weitz, Aldrich, and Creath take up perennial problems for new discussion, whereas the articles by Gampel and Juhl represent logical reasoning of the kind considered typical of analytic philosophy. Even here there is variation, however. When Gampel includes names of authors in his text and uses endnotes for details, Juhl hardly mentions any names of other researchers at all.

### 3. A model for content citation analysis

As already mentioned, Moravcsik and Murugesan’s (1975) classification of citations was created to support quantitative citation counts in order to find reliable measures for evaluating research. The model consists of four parameters and is non-dichotomous, which means that all references in the texts are tested with respect to each parameter. The results are then reported in terms of percentages of all references. The model is based on an in-depth study of citations within texts on high-energy physics (namely Physical Review 1968), and it is described in Figure 1.

<table>
<thead>
<tr>
<th>Article</th>
<th>Contents</th>
<th>No. of references</th>
<th>No. of endnotes</th>
<th>No. of verbatim quotes</th>
<th>List of references at the end</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weitz (1950)</td>
<td>Relating Ayer to Russell</td>
<td>61</td>
<td>8</td>
<td>5</td>
<td>None</td>
</tr>
<tr>
<td>Aldrich (1955)</td>
<td>Quine’s idea of meaning and naming</td>
<td>117</td>
<td>1</td>
<td>19</td>
<td>None</td>
</tr>
<tr>
<td>Creath (1998)</td>
<td>Quine’s view on Peirce</td>
<td>38</td>
<td>0</td>
<td>2</td>
<td>Six entries</td>
</tr>
<tr>
<td>Gampel (1997)</td>
<td>Normativity of meaning</td>
<td>34</td>
<td>34</td>
<td>4</td>
<td>None</td>
</tr>
<tr>
<td>Juhl (1998)</td>
<td>Conscious experience</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>Six entries</td>
</tr>
</tbody>
</table>

**Table 1. Some characteristics of the example articles.**

![Figure 1. Moravcsik and Murugesan’s citation typology](figure from Cronin 1981.)

The parameters of the model are the following, i.e. the authors ask if the references are:

- a) Conceptual or operational
- b) Organic or perfunctory
- c) Evolutionary or juxtapositional
- d) Confirmative or negational.

**Conceptual** references refer to a concept or a theory that is used in the referring paper, whereas **operational** references are made in connection with a tool or physical technique used in the paper. **Organic** references are important for understanding the referring paper and for the working out of its content. **Perfunctory** references, on the contrary, are acknowledgements of similar work done earlier. **Evolutionary** references are such that the whole referring paper is built on them, and **juxtapositional** references present the referring paper as an alternative to the paper referred to. Finally, **confirmative** references find the contents referred to correct, and **negational** find them incorrect or otherwise dispute them. (Moravcsik and Murugesan 1975.)

---

1. In counting the references I have followed the guidelines set in Hyland (2000).
In the present paper I will concentrate on the third category presented above: that is, whether the references are *evolutionary* or *juxtapositional*. This is motivated, in addition to considerations of space, by the fact that all references in my material are conceptual, and that perfunctory references have earlier received a lot of attention (cf. Swales 1986). In the end, however, I will briefly consider *negational* references and their position in the structure of philosophical research articles, because negational references and juxtapositional references share certain common features.

4. **Evolutionary and juxtapositional references as text-structuring elements**

As mentioned above, evolutionary references form the basis of the referring paper and new thoughts are built on them, whereas juxtapositional references are used in order to provide alternatives to the ideas presented in the paper referred to. However, it must be noted that, at least according to Swales (1986: 50), juxtapositional references only include the offering of “(non-aggressive) alternatives, refinements and extensions”, which makes them different from the negational references.

When applying the model to real texts, it soon becomes obvious that it is difficult to categorize single occurrences of references as either evolutionary or juxtapositional. This is the case even if the immediate context of the reference is taken into consideration. Examples 1 and 2 indicate how a single instance of citation can easily be misleading.

**Example 1.** For Ayer, philosophy contains no factual assertions, says nothing which is true or false, and in no way competes with science… (W50)

**Example 2.** Russell sometimes means by *philosophy* analysis as contextual definition… but… he also at times means by *philosophy* analysis as real definition. (W50)

Judging by the single reference and its immediate context, it would seem that example 1 is neutral and potentially evolutionary, whereas a critical tone can be sensed in example 2, hinting at a possible juxtapositional stance. Therefore, in order to make such a judgment with any degree of accuracy a discourse approach covering the whole text is needed. It is evident that considering single references is a different matter than considering the functions of references within the whole text, and can lead to different interpretations.

In order to be able to consider the whole text, I have drawn a “reference pattern” for whole texts. Table 2 below describes the complete reference pattern of Weitz’ (1950) article on philosophy as analysis. The pattern is formed by all instances of references in the different parts of the text. The numbers in parenthesis show how many references to the mentioned author have been used after one another, and the marking of eventual subsections follows the one used in the paper (only Weitz’ article is divided into subsections).

**Table 2. The reference pattern in Weitz’ (1950) article.**

<table>
<thead>
<tr>
<th>Subsection</th>
<th>Reference</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Ayer</td>
<td>Russell</td>
<td>Russell</td>
</tr>
<tr>
<td>Russell</td>
<td>Dispute between Russell and Bradley</td>
<td></td>
</tr>
<tr>
<td>Hume</td>
<td>Both Russell and Bradley</td>
<td></td>
</tr>
<tr>
<td>Ayer (6)</td>
<td>Russell</td>
<td></td>
</tr>
<tr>
<td>II. Ayer</td>
<td>Bradley</td>
<td></td>
</tr>
<tr>
<td>Russian (13)</td>
<td></td>
<td>IV. Hume</td>
</tr>
<tr>
<td>Cantor</td>
<td>Ayer (4)</td>
<td></td>
</tr>
<tr>
<td>Russell (3)</td>
<td>Hume (7)</td>
<td></td>
</tr>
<tr>
<td>III. Russell</td>
<td>Russell (5)</td>
<td></td>
</tr>
<tr>
<td>Bradley</td>
<td>V. Russell</td>
<td></td>
</tr>
<tr>
<td>Russell</td>
<td>Broad</td>
<td></td>
</tr>
<tr>
<td>Bradley</td>
<td>Moore (2)</td>
<td></td>
</tr>
</tbody>
</table>

As Table 2 shows, the number of different authors referred to in the article is not high. The main sources are clearly Ayer and Russell, and only after studying the whole pattern can it be concluded that Weitz’ citation of Ayer is clearly juxtapositional whereas his citation of Russell and Hume is evolutionary. Actually, this is explicitly expressed in the aim of the paper, but in a pure quantitative analysis this would go unnoticed.

**Example 3.** In this paper I shall try to *refute* Ayer’s doctrine… (W50)

The discourse approach also seems to be needed if we want to categorize Aldrich’s (1955) references of Quine as either evolutionary or juxtapositional. The reference pattern in Aldrich’s article is presented in Table 3.
Table 3. The reference pattern in Aldrich’s (1955) article. (Names of books not listed.)

<table>
<thead>
<tr>
<th>Mr. Quine</th>
<th>Lewis (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quine (27)</td>
<td>Quine (6)</td>
</tr>
<tr>
<td>Kant</td>
<td>Lewis</td>
</tr>
<tr>
<td>Quine</td>
<td>Quine (2)</td>
</tr>
<tr>
<td>Eddington</td>
<td>Lewis</td>
</tr>
<tr>
<td>Kant</td>
<td>Quine</td>
</tr>
<tr>
<td>Lewis (2)</td>
<td>Fichte</td>
</tr>
<tr>
<td>Carnap</td>
<td>Quine</td>
</tr>
<tr>
<td>Lewis</td>
<td>Hume</td>
</tr>
<tr>
<td>Quine</td>
<td>Quine</td>
</tr>
<tr>
<td>Vaihiger</td>
<td>White</td>
</tr>
<tr>
<td>Quine (28)</td>
<td>Quine (19)</td>
</tr>
</tbody>
</table>

In his article Aldrich engages in both evolutionary and juxtapositional accounts of Quine. Interestingly, the evolutionary references often consist of what Hyland (2000: 36) calls “an imagined dialogue”. These are cases where the author provides claims on his advisory’s behalf, and the references can be characterized as hypothetical rather than actual. See example 4:

**Example 4.** Quine may be arguing a different thesis…
He may be saying that…
His point might then be that
– Paraphrasing a bit, one might say for Quine that… (A55)

Clearly, such references would be highly questionable in any other discipline, but they seem to be accepted in philosophy because they help the author to demonstrate which views he supports and which he opposes (cf. Hyland 2000). Most other references to Quine in the article are juxtapositional. In the end, for example, Aldrich (1955) claims that Quine has not been fully aware of the consequences of his position, thus confirming his juxtapositional stance:

**Example 5.** I conclude that he (=Quine) is in effect working with… he is implicitly laboring with…What I am suggesting is that Quine has implicitly accepted this formula – except that he denies A/S… without his realizing it. (A55)

The question is, of course, whether Aldrich is really citing Quine at all or only creating a convenient opposition for the purposes of his own argument. In that case all Aldrich’s comments on Quine would in reality yield a juxtapositional interpretation, and the evolutionary vein could be interpreted as making concessions to proponents of Quine’s views.

Interestingly, and possibly illustrating the stable nature of philosophical discussion through years, Creath in his 1998 paper on Quine’s critique of Peirce pursues similar lines as Aldrich did 43 years before him. However, he does not resort to imaginary dialogue. The reference pattern in Creath’s paper is presented in Table 4.

Table 4. The reference pattern in Creath’s (1998) article.

<table>
<thead>
<tr>
<th>Quine</th>
<th>Scheffler</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peirce</td>
<td>Quine (4)</td>
</tr>
<tr>
<td>Quine (3)</td>
<td>Weierstrass</td>
</tr>
<tr>
<td>Peirce</td>
<td>Quine (2)</td>
</tr>
<tr>
<td>Quine (3)</td>
<td>Peirce</td>
</tr>
<tr>
<td>Peirce</td>
<td>Quine</td>
</tr>
<tr>
<td>Quine (9)</td>
<td>Peirce (4)</td>
</tr>
<tr>
<td>Peirce (2)</td>
<td>Quine (2)</td>
</tr>
<tr>
<td>Quine</td>
<td></td>
</tr>
</tbody>
</table>

When considering the whole pattern it becomes evident that Creath’s citations of Quine are juxtapositional. Example 6 reminds of the argumentation presented by Aldrich in his imagined dialogue. In example 7 Creath is very careful in making the point that his juxtapositional stance on Quine does not automatically lead to taking an evolutionary attitude towards Peirce. Here he differs from Weitz who accepts both Russell and Hume when rejecting Ayer,

**Example 6.** …the very sentence of Word and Object which expresses his (=Quine’s) objection to the limit notion also tacitly concedes that…(C98)

**Example 7.** Peirce’s notion of limit is at least as adequate as Quine’s notion of conservatism. (C98)

The examples from Creath clearly show that a discourse approach to whether references are evolutionary or juxtapositional reveals new perspectives. As Swales (1986) proposed, it seems that a category of zero, that is a category for references that are neither evolutionary nor juxtapositional is here needed in order to give a correct picture of the functions of references to Peirce.

Now, if we are to judge what philosophers do with references based on this discussion, we can conclude that in the type of philosophical article where they engage in a debate on perennial questions they use references in order to create an authorial self through references (cf. Hyland 2000). Through references they can introduce a claim that they want to take up for discussion (even by means of an imaginary dialogue if needed), and use other references to support their own view against the initial claim. Textually this is achieved by presenting two opposing views, one being evolutionary and one juxtapositional or, alternatively,
presenting only one view and taking a juxtapositional stance on it. However, it must be noted that this type of article is not the only type of philosophical research article within the Analytic tradition. In my randomly chosen material of five articles, three articles are of this kind, whereas the other two do not fit into this frame at all since they engage in logical reasoning on its own right without relating it to previous research to a very high degree.

5. Negational references and text structure

Because the juxtapositional stance discussed above tends to be related to negational references, I will briefly discuss the functions of negational references in the five articles I have used as my material. According to Swales (1986) negational references are used typically in the introductions in connection with step 3 in his rhetorical moves model, preparing for present research (esp. when creating a research space).

As shown earlier (e.g. Crookes 1986; Koskela 2000), the kind of moves structure of article introductions presented by Swales (1990) is best suited for natural science articles. In social sciences as well as in philosophy, such schematic structure is much harder to establish.

Of the five articles in my material, the step of preparing for present research can be found in two articles, and of these two cases negational reference can be found in one, in Gampel’s introduction presented in example 8:

Example 8. (Step 2: reporting previous research)
Davidson and Kripke advance quite different arguments, but they share an attempt to undermine certain naturalistic theories.

Example 9. Chalmers’ recent arguments (see Chalmers (1996)) that… is also shown to be incorrect. (J98)

Example 10. Quine’s tortured treatment of synonymy is partly the result of his not knowing what meaning is. (A55)

Example 11. Kripke’s way of expressing the normativity condition… is suggestive… (verbatim quote). The question is how to make sense of such remarks. (G97)

Example 12. Ayer’s main point seems to be that Hume’s analysis of causation raises no empirical problems. With this I cannot agree. (W50)

Example 9 shows that new, previously not mentioned authors can be drawn into the discussion through a negational reference in the middle of the text, if needed. However, most of the negational references concern the authors on whom the citing paper takes a juxtapositional stance (examples 10 and 12). In other words, there are usually some points in the cited works that the author disagrees with, more or less strongly, and these can well be presented through a negational reference. MacRoberts and MacRoberts (1984) suggest that authors do not want to express open criticism of their peers because there is the danger that the criticism can jeopardize their careers or because there is a risk that the paper offered to a journal can be sent for review to the very person criticized. In philosophy, these dangers do not necessarily come to the force because ancient philosophers are still treated as equal discussion partners. Thus the risk of jeopardizing one’s career is less evident. Sometimes, the negational comments are embedded in the referring sentence (as in examples 9 and 10), which makes it possible to single out negational references without considering the whole text. In my material, however, the type where the negational comment follows the reference in a separate sentence, often several sentences away, seems to be more common, which again calls for a discourse approach if the negational references are to be recognized.

6. Conclusion

Textual analysis can never completely explain the motivations behind an author’s referential behavior, but it can suggest plausible reasons (Cronin 1981). In my paper I have tried to establish some functions for references in whole texts that are typical of philosophy as a field of inquiry independent of time. In earlier studies (notably Hyland 2000), it has been shown that philosophy has a distinctive referential profile. This can be explained by the nature of the problems explored, inquiry patterns and knowledge structures as well as by the community conventions of effective argument. According to Hyland (2000) philosophers cite as they do because they tend to construct knowledge through dialogue and discuss old problems all over again in the light of personal engagement. One reflection of this is perhaps also the continuing tradition of not repeating the explicit reference in the text, which is common praxis both in the 1950s papers and in the 1990s papers. In philosophy, references tend to require shared knowledge.
An exploration of the few specimen texts that I have used shows that there is considerable variation in the citing behavior within one single tradition of philosophy, the Analytic one. It can thus be expected that the differences are even more evident if different traditions are accounted for. However, the variation within the Analytic tradition does not seem to be dependent on time: the 1990s papers can remind us very much of the 1950s papers, which tells us that the knowledge structures of the field and its community conventions have not changed substantially in 40 years’ time. Personal preferences undoubtedly affect citation choices, but based on my material it seems that the content and aim of the paper are even more influential. Of course, it can be the case that the type of papers which include logical reasoning with few references was a current trend in analytic philosophy at the end of the 1990s, but this does not affect the basic knowledge structures essentially, since these papers can again be taken up for scrutiny the way Quine and Ayer have been in other articles in the material.

To conclude, a case in point, quantitative reference-citation counts are still today used to judge the quality of researchers’ work and their position in the development of the field. My paper once again confirms Swales’ (1996: 49) somewhat ironical statement that “a single categorization of citations … is a convenient fiction”. In addition, there seems to be substantial differences in the results of the categorizations depending on whether the analysis concerns single instances of references or whether it takes into consideration the whole text and its complete reference pattern. Naturally, both approaches could gain in developing their own categorizations. What I hope to have proved, however, is that a discourse approach to references can be very illuminating and useful, especially from an LSP point of view, since it can show us how whole texts and their argumentation structures are constructed through references. A different matter is, of course, that such an approach is far too laborious to be useful in judging scientific quality in large quantities of research articles.

References


APPENDIX 1.
The material of the study

1950's


Aldrich, V. C (1955) ”Mr. Quine on Meaning, Naming, and Purporting to Name”, *Philosophical Studies*, **VI**, (2), 17-26. (Code A55.)

1990's


2.2 Case Studies:

2.2.1 Irena Vassileva

The Perception Of Authorship Across Disciplines And Cultures

Irena Vassileva
Berlin-Brandenburgische Akademie der Wissenschaften

1. Introduction

The process of knowledge construction, production and distribution are generally assumed to be deeply rooted in culture-specific norms, beliefs, dominant ideologies, and the like. This has led to the emergence of diverse intellectual styles of scientific discourse presentation whose characteristics may differ substantially. The aim of the paper is to investigate one aspect of these variations, namely the perception of authorship in various academic disciplines and cultures.

The study draws on an extensive survey based on a questionnaire (see Appendix) devised in such a way as to elicit the following general types of information:

- Preference for use of the ‘I’ versus ‘we’ perspective and motivation of the choice.
- Differentiation between written and oral presentations.
- Attitude towards other authors’ use of the two perspectives in the mother tongue and in (a) foreign language(s).
- Ways and means of learning to write for the academy, i.e. writing skills acquisition.

The questionnaire was expected to provide data concerning both the productive and the receptive aspect of the process of author representation, as well as to touch upon some cross-cultural and cross-disciplinary communication strategies and expectations.

Since the various interpretations of the ‘I’ and the ‘we’ perspectives have already been extensively discussed by a lot of authors (Kretzenbacher 1995, Halliday and Hasan 1976, Korhonen and Kusch 1989, Spillner 1989, Vassileva 1998, 2000 among others), I am not going to dwell on that problem here in detail. I should mention the facts, however, that, first, the prevailing number of existing investigations (inter- or intra-lingual) focus on texts-as-products, that is, they hardly consider the psycho- and sociolinguistic aspects of authors’ choice of one or another perspective; second, research is usually confined to one or several related disciplines and rarely takes into account cross-disciplinary variations.

2. Data

The subjects under investigation (altogether 100) were research fellows of the Alexander von Humboldt Foundation (Germany) that sponsors both German and foreign scholars. The latter come from all over the world and represent all kinds of scientific disciplines and cultures. Besides, they use either English, or German, or both, as international languages of academic communication. It has to be noted here that the predominant number of the subjects is below the age of 40, since the policy pursued by the foundation is to support young scientists holding a doctoral degree. The questionnaire was distributed electronically (via e-mail) in both English and German.

Feedback was received from speakers of more than 20 languages, the largest groups among them being:

- German – 24
- Chinese – 12
- French – 3
- English – 23
- Russian – 10
- Hindi – 3

These account for altogether 75% of the investigated subjects and will therefore receive special attention in this paper. The rest of the languages were represented by either 1 or 2 native speakers.

According to subject field, the distribution was as follows:

---

1 I am extremely grateful to the Alexander von Humboldt Foundation (Germany) for making the realization of this project possible. I also extend my special thanks to Dr. Steffen Mehlich for his invaluable support in the process of the collection of the data.
These correspond to 78% of the cases, while the rest of the scientific fields were represented by 1-3 scholars. On the whole, 83% of the respondents work in so-called ‘hard’ sciences, while only 17% belong to the humanities. These results do not coincide fully with the latest statistics of the foundation (Alexander von Humboldt Foundation 2001), where 26% of the supported scholars are reported to come from the humanities, but still demonstrates the clear predominance of the natural sciences, respectively the priorities of this, as well as other similar institutions sponsoring science.

3. Results

3.1. General observations

Turning now to the analysis of the questionnaires, several points should be made in advance: first, in many cases the subjects are hesitant in their answers and comment that they have never or hardly posed themselves such questions, which means that scholars are often unaware of whether and how they foreground, respectively suppress their personality; second, although, as already mentioned, the questionnaire was also distributed with a German version, very few of the subjects – non-native speakers of German replied in German, i.e. even though they are supported by a German foundation and carry out their research in Germany, they still stick to English as a language for international communication and declare straightforwardly that they are unable to use German due to insufficient or total lack of knowledge of the language; third, practically all subjects treat both the production and the reception of author-representation features in practically the same way in their native and the foreign language(s) they use, i.e. scientists are fully unaware of cross-cultural variations and a possible necessity to switch to different rhetorical strategies when using a foreign language in international environments; fourth, just a few of the interviewees tend to make any difference between the written and the spoken mode of presentation where the ‘I’ perspective is felt to be “more informal” and thus appropriate to use.

The general distribution of the ‘T’, respectively ‘we’ perspectives and the two other possible varieties, namely the mixed perspective and the lack of personal perspective are presented in Table 1 in percents:

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>We</th>
<th>Mixed</th>
<th>Zero</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural sciences</td>
<td>16</td>
<td>47</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>Humanities</td>
<td>9</td>
<td>4</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>25</td>
<td>51</td>
<td>18</td>
<td>6</td>
</tr>
</tbody>
</table>

Table 1

The data shows a definite preference for the ‘we’ perspective especially in the natural sciences, while the ‘I’ perspective is relatively more frequent in the humanities. The latter has also been demonstrated and extensively discussed in some of my earlier publications (Vassileva 1998, 2000 among others). In order to get a closer look at scholars’ motivation for the choice of one or another option I shall look at the 6 largest groups of scholars enumerated in 2. above since, as will be seen further on, there are considerable culture-specific differences in this respect.

3.2. The German scholar

Table 2 below presents the results obtained from the questionnaires filled in by 24 Germans:

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>We</th>
<th>Mixed</th>
<th>Zero</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural sciences</td>
<td>1</td>
<td>13</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Humanities</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>13</td>
<td>6</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 2

As the data shows, only one of the altogether 19 ‘hard scientists’ would go for the ‘I’ perspective, while the latter is the first choice for the majority of the humanities scholars. The motivation for the choice of ‘we’, however, varies a lot (presented in order of frequency):
• To stress on team work;
• To follow the conventions;
• To secure objectivity; to maintain distance from the content;
• To be polite.

The choice of a mixed perspective in this case means that certain scholars make a difference between the written and the spoken mode of academic communication and would either use the ‘we’ in written language and the ‘I’ in spoken (more frequent), or vice versa. The ‘I’ is understood as “more natural”, “less formal” and therefore more suitable for presentations. Humanities scholars on their part see the ‘we’ as ‘plurals majestatis’: “Only kings speak of themselves as ‘we’”. All the subjects publish both in English and in German, but there is no difference in either the choice of the perspective or in its motivation.

3.3. The English-speaking scholar

This group consists of both British and American subjects, altogether 23. The results from the questionnaire are presented in Table 3:

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>We</th>
<th>Mixed</th>
<th>Zero</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural sciences</td>
<td>9</td>
<td>4</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Humanities</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>6</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 3

The preference for the ‘I’ perspective is quite clear especially in the natural sciences. The motivation, however, varies:

• To take responsibility – “If I am the single author then no one else was involved in the work. It would be incorrect to use we”.
• To show modesty – “‘I’ is more modest and devoid of arrogance”; “It sounds a bit psychotic to refer to yourself as a group”.
• To conform to editors’ requirements – “About two years ago I finally got a manuscript accepted in “Nature” and they changed my ‘we’ to ‘I’, so now I use it more often”.
• To show subjectivity (humanities scholars) - “‘We’ sounds royal, or pompous, or positivistic, or all three. It lays claim to scientific objectivity, a voice outside of individual agency, that is not only fictitious but also misleading, even grandiose”; “‘I’ shows that I am aware of the subjective nature of my work and research findings”.

The ‘we’ perspective, on the other hand, is mainly used in order to:

• Pay tribute to team work and in some cases this can go as far as: “I would always use the ‘we’ perspective as it is not possible to do the type of experiments that I do alone, therefore it is not possible that I would EVER write a paper as a single author”.
• Demonstrate modesty

The zero perspective is chosen by scholars who find the ‘I’ “too informal” and the ‘we’ – “royal”; in other cases the ‘I’ is considered to be de-semantized – “I consider the use of ‘I’ as a neutral pronoun. I use ‘we’ to indicate that I see myself as part of a larger academic community”.

Native speakers of English almost unanimously declare that they have never published in any other languages.

3.4. The Chinese scholar

All 12 Chinese respondents are representatives of the natural sciences and all of them state that they stick to the ‘we’ perspective both in English and in their native language (none mentions using any other language). The reason for that, given by practically all subjects, is the fact that their field of research requires group work:

---

2 Due to ethical reasons the sources/authors of all the examples will remain anonymous.
“I am working in the university. Research works should be carried out with my colleagues”.

“Any scientific work cannot be carried out by only a single person. Everyone belongs to a certain institution where the work has been done”.

“Normally we are performing team work, one person is also a group”.

As the examples demonstrate, in contrast to speakers of English and German, Chinese scholars do not believe that science can be produced individually. This fact could also be attributed to the well-known specificity of Chinese mentality and cultural heritage (also reflected in the social structure), namely that, as Shen (1989:469) puts it, “In China, „I“ is always subordinated to „we“ - be it the working class, the Party, the country, or some other collective body.” In other words, in this culture the individual is subordinated to the group, group and/or institutional belonging and the emphasis on modesty are felt to be primary virtues:

“I’m not yet important in my field”

The same high value placed on modesty is obviously transmitted through the educational system as well and thus influences academic writing skills acquisition:

“That is what I learnt as a student. The idea was that the use of ‘I’ is not so polite, you do not want to offend the ones who take the time and effort to read your article”.

A single subject views the problem somewhat more pragmatically:

“You have to ask others to do something, although perhaps you have paid those, or express your thanks in the acknowledgements”.

3.4. The Russian scholar

Ten Russian scholars filled in the questionnaire with the following results:

<table>
<thead>
<tr>
<th></th>
<th>I</th>
<th>We</th>
<th>Mixed</th>
<th>Zero</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural sciences</td>
<td>0</td>
<td>3</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Humanities</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 4

As the data shows, no Russian scholar would go for the ‘I’ perspective regardless of the scientific discipline s/he represents. These results coincide with previous investigations of mine (Vassileva 1998, 2000) on the language of linguistics and come once again in support of the assumption that, despite the strong influence of English and, respectively, the Anglo-American standards of academic writing of late (observed, e.g. in German), academic Russian still remains unaffected in its already centuries-old tradition dictating ‘objectivity’ through suppression of overt authorship representation. The preference for the mixed perspective here means a mixture of ‘we’ and zero:

“I generally use the passive voice according to the old tradition. But I would prefer ‘we’ if necessary”.

The ‘we’ perspective is favoured for the following reasons:

• To conform with the standard - “This is normal in my native language and I have seen a lot of examples of using ‘we’ in English articles”.

  “In Russian ‘we’ is almost obligatory”.

• To ensure dialogicity - “This form is generally accepted. It also assumes a dialogue with the reader”.

• To be polite - “Der Grund dafür ist allgemeine Höflichkeit”.

Only one subject expresses preference for the ‘zero’ perspective in a way that I won’t dare interpret here - „’I’ is too personal and ‘we’ – there is no ‘we’”.

Most of the respondents declare to use English and Russian, just a few - German as well.
3.5. Speakers of other languages

The ‘I’ perspective is chosen by speakers of other languages either

- For certain psychological reasons - “I feel stupid calling myself ‘we’” (Swedish).
- Or due to academic writing skills acquisition - “Because I was taught that is the way to do in English” (Spanish).

The preference for the ‘we’ perspective, on the other hand, demonstrates a much wider variety of motivations:

- To conform to the standard / tradition - “Because such is the tradition” (Indian).; “I am used to this form from the Italian language”.
- To stress on team work / institutional belonging - “Experiments are usually done by teams. It is also customary to name at least the Prof. as well” (Dutch).; “Proper behaviour. My results belong to the institute where I work.” (Serbian); “Because ‘we’ represents institution”. (Indian).
- To ensure dialogicity - “The arguments in mathematics are considered to be carried out together by the author and by the reader”. (Dutch).
- Due to training - “We learned to use ‘we’ at university”. (Indian).
- For psychological reasons - “I don’t know why, but articles from the ‘I’ perspective irritate me. Probably oriental mentality”. (Bulgarian).
- To ensure objectivity - “It sounds impersonal”.

The zero perspective is chosen in order to:

- Ensure objectivity - “I think that impersonal language is the best way to express a scientific fact”; “Weil ich keine direkten Kontakte mit den Leser/innen habe”.
- Show modesty - “In our field it is recommended to write impersonally with ‘one’. One reason is that: the scientists should prove some amount of modesty. α)” ; “I cannot say ‘we’ as if many people share my opinion. I don’t like saying ‘I’ because it sounds like saying ‘look, I am so clever’”.

4. Conclusions

To begin with, the fact that almost all of the respondents - non-native speakers of German have chosen to fill in the questionnaire in English demonstrates that the relative status and frequency of use of English as a language of science is much higher than that of German even within Germany, which is not a secret (for more details see Ammon 1990 among others). I personally find it alarming, however, that native speakers of English, as well as other scholars who have already acquired working knowledge of English, openly declare their inability and lack of motivation to even try to understand any other languages, since this tendency might lead to cultural and intellectual uniformity, which is no tribute to the development of global science.

Besides, the results of the study show that different academic cultures demonstrate different attitudes to and perceptions of overt/covert authorship representation, which may be fully contradictory. Along these lines, the basic ethical aspects of the process of ‘doing science’ where cross-cultural variations are observed may be summarized as follows:

- The understanding of modesty;
- The understanding of politeness;
- The understanding of ‘author responsibility’;
- The understanding of academic communication standards / conventions / traditions;
- The teaching and acquisition of academic writing skills.

Similarities are only observed in the preference for the ‘we’ or the zero perspectives in order to secure objectivity or to emphasise team work.

Another point to be mentioned here is that, in view of the investigated phenomenon, the very few scholars who differentiate at all between the spoken and the oral mode of academic communication consider conference language to be “less formal”. As some
investigations have shown (see Vassileva 2001, 2002), oral academic communication is in truth somewhat less *formal* than its written variety, but this difference is by no means as great as, for example, between a casual conversation and literary language. Besides, papers presented at conferences are, more often than not, prepared beforehand in a written form and presenters, especially less experienced ones, frequently actually *read out* the written text they have before them. In such cases one could hardly discern any differences as to the degree of formality between the two modes of representation. Schwitalla (1997:16) even maintains that “wenn jemand einen Text aufschreibt und ihn memoriert, dann spricht er/sie eine schriftlich fixierte Fassung des Textes nach; dann haben wir es nicht mit gesprochener, sondern mit geschriebener Sprache zu tun.”

As far as cross-disciplinary variations are concerned, one could say here that there is an obvious strong tendency in the natural sciences towards team work. The ever-growing number of interdisciplinary studies today, provoked by the natural need to investigate objects and phenomena from as many perspectives as possible, together with the rapid development of technology, have blurred the boundaries among the traditional disciplines well-known from the past, and have consequently led to the establishment of interdisciplinary teams of scholars whose work is task-based rather than discipline-based.

For the time being, however, this does not seem to be the typical case in the humanities as yet. There, the picture of the lonely scholar working in isolation in her study still appears to persist, which is supported by the fact that the necessity for objectivity is not so strongly pronounced – almost no humanities scholars opt for a zero perspective. Of course, it is true that research in the humanities is inherently much more subjective and, to some extent, denied the opportunity to objectively prove its results, hypotheses and theories, but in recent times this has led to a heated discussion on the ‘decline’ of the humanities for being unable to cope with the necessities of modern science.

The latter fact is supported by the distribution of the interviewees according to scientific fields, at least as far as opportunities for obtaining financial support for research is concerned. This seems to be a general tendency that is by no means confined to German sponsorship institutions, but rather points to a drastic change in the paradigm and a necessity for the humanities to catch up with recent trends and try to ‘make themselves useful’ in the times of extremely intensive and rapid development especially of the life sciences or, as Frühwald (2001) puts it, „Es gibt Experimente in den Naturwissenschaften, die nicht mehr beschreibbar sind. An solcher Stelle müssen Geisteswissenschaftler mitarbeiten. Das ist der Weg“.

The time has obviously come for the two major fields of science to be brought back together, after centuries of division due to the need of specialization and deepening of knowledge by separating it into small compartments. Today they need to be united again, where the mission of the humanities is to give social and ethic explanation and justification of recent developments in the natural sciences; otherwise the humanities really run the danger of falling into isolation.

**Appendix**

**Questionnaire**

Native language:

**Scientific field:**

If you write a scientific article in English as a single author, which perspective would you use:

- *I*
- *We*

Please give reasons why:

If you write a scientific article in another language (which?) as a single author, which perspective would you use:

- *I*
- *We*

Please give reasons why:

If you present a conference paper in English as a single author, which perspective would you use:

- *I*
- *We*

Please give reasons why:

If you present a conference paper in another language (which?) as a single author, which perspective would you use:

- *I*
- *We*

Please give reasons why:
References:


2.2.2 Tiina Männikkö

Presentation of series of events in academic and popularised articles in the field of history

Tiina Männikkö, Department of Scandinavian Languages, University of Vaasa

1 Background

History as a discipline has originally evolved through spoken stories and pure literature to what it is today (see Herodotos historia 2000; Martin 1987; Steinmetz 1995). The task of the historian has been defined as “to ascertain, describe, and interpret particular events, developments and situations of the human past” (Kristeller 1961:87). Therefore there will always be a connection between narratives and academic history, because some narrative features, for example the chronology of the events and people involved in these events, will always exist in historical research. When academic texts are popularised they can be expected to become even more narrative. According to the instructions for popularised writers the writers should aim at writing narrative texts and think of themselves as storytellers instead of researchers (Fjaestad 1993). (Laurén, Myking & Picht 1997; see also Melander 1987; Koskela & Pilke 2001.)

The aim of my future doctoral thesis is to compare academic and popularised articles in the field of history to be able to answer the question “why do we popularise history?”. I concentrate on comparing narrative aspects in the articles. In this paper I aim to examine whether the difference between academic and popularised articles can be found in the way they make use of stories, i.e. to what extent the academic and popularised articles in the field of history include story-like parts. The term ‘story’ will in this study refer to all series of events that recapitulate past time events with human actors involved. One criterion of a story is that it should include at least two event clauses that are ordered according to the original time line of the events.

Myers (1990), who has analysed both scientific and popularised texts in the field of gene technology, claims that historical chronology, human actors and audience are features that are conventionally excluded from research reports. According to Myers (1990) the research articles only include a logical sequence of experiments, not any sequence of events, but the popularised articles introduce the discovery made as an event and the researchers as actors. They also include time expressions that guide the reader about the chronological sequence of events.

2 Material and method

The material for this study, and for my thesis as well, consists of two parts. Firstly, there are five articles published in a Swedish academic journal Historisk Tidsskrift (Historical Journal, my transl.) in 1997-1999. Secondly there are five popularised articles published in a Swedish popularised magazine, Popularis historia (Popularised History, my transl.) in 1997-1998. All the articles are written in Swedish by Swedish academic historians who work at some Swedish university in the Department of history or the Department of general history. In the following I will refer to the academic articles with the abbreviations A1-A5 and to the popularised articles with the abbreviations P1-P5.

The study consists of two parts. To be able to study the included stories from the semantic point of view I will first examine the event clauses used in the articles. I am interested in cases where the writer with clauses in simple past or historical present tense recapitulates events in the so-called storyworld, i.e. events that have happened in another time, often another location and are populated by other participants compared with the actual world of the writer and the reader (Polanyi 1989:15). When these clauses form a series of at least two events, they fill the criteria of a story in this study.

To illustrate the method I will first give two examples from my material of which the first one (Ex 1) does not fill the criteria of a story and the other one (Ex 2) does. I will also give my own translations into English. The numbers in brackets refer to the numbers of sentences.


(12) On the basis of the reform concerned with family rights 1917 the Swedish state made far-reaching changes to improve the position of children born out of wedlock. (13) In the 19th century the efforts of society to help unmarried mothers had mostly consisted in helping them

1 An event clause is a main clause in simple past or historical present tense and expresses a non-iterative, specific, completive and affirmative event. (Polanyi 1982)
2 Compare Labov (1972) and Fleischman (1990).
3 According to de Beaugrande (1982: 408) the participants do not necessarily have to be persons, the presence of any animate agent that has some force-possessing entity that can act and react with the world can fill the criterion of the story.
4 The storyworld can be interrupted, for example when the writer gives his/her comment on an event or a state. When the connection to the storyworld still remains, I take them as a part of the story.
to get rid of their children by placing them in foster homes or children’s homes. (14) The intention behind the early 20th century reforms was, on the contrary, to make it possible for the mothers to care for their children themselves. (15) But the social support offered by the child welfare officer’s institution was at the same time connected with control of the children’s care and of how the motherhood and fatherhood was practised. (16) Thanks to the law of 1917 all Swedish children were for the first time given the right to two parents. (A4)
The writer can start his/her text by presenting the first event and end the text by presenting the last event of the series. This kind of mode of presentation is possible especially in the popularised articles, because the reader does not expect to find (so much) academic discussion in them as in corresponding academic articles (Hellsppong 2000; see however Bloor 1996). The academic articles are also more bound to genre6 conventions, which means that they cannot as easily be formed as stories (Koskela 1997). The academic articles can, however, include parts that can be compared to stories, but they are more clearly parts of the whole, not forming the whole text.

According to my material the supposition above seems to be true. There are only two articles, both popularised, which use stories that are placed (almost) through the whole articles (P4 and P5). In these articles the events carry forward the contents and have as a function to give information.

The aim of the P5 is to discuss the possibility of getting married for love during a certain period of time in Sweden. The writer has chosen to discuss the subject by describing the social life of one young woman. The writer also expresses explicitly that she wants to “get better acquainted with people in the past” (“för att komma människor i det förflutna närmare […]”) and that’s why she chooses to concentrate on one case. The instructions for popularised writers say that the writer should push forward people instead of scientific facts when popularising, and against this background the writer has made a good choice (compare Koskela 2002; Fjaestad 1993).

In the article the writer describes four different relationships the woman has with four different men. The last relationship ends with a marriage. On the grounds of the four relationships, the writer tries to analyse why the fourth one ended with marriage and the other three did not. In my opinion this is possible only in a popularised article, where the reader can be expected to be interested in one concrete case. The theoretical discussion and conclusions drawn on the basis of that one case do not have to be as thoroughly motivated as in a corresponding academic article. The nature of history as a branch of knowledge has been discussed many times because of the lacking possibility of producing generalised knowledge (Kristensen & Schmidt 1995; Halldén 1983; Hellsppong 2000). As an idiographic discipline history does not concentrate on attaining generalised knowledge, but in this popularised article the writer expresses in the beginning that she wants to find out if it (in general) was possible to get married for love (see sentence 1 in Ex 3). Then she presents the case of one woman without expressing that the knowledge gained on the basis of one case does not have much academic truth-value, i.e. can not be generalised. Because the writer does not bind the concrete case in question to any general discussion about the topic, the reader sees the one case as an answer to the question raised at the beginning of the article.

Ex 3
(1) How often could one act on one’s feelings when one was married two hundred years ago? [...] (17) In order to get better acquainted with people in the past we can make use of their correspondence or if it has been preserved to our day. (18) Private letters reveal a good many feelings and thoughts. [...] (26) One of the women we meet was called Bernera Santesson. (27) She was the daughter of the foundry proprietor and wholesale dealer Nils Santesson and his wife Margareta. (28) Bernera was born in 1781 and was the third daughter of the family, which also contained an elder son. [...] (149) For Bernera her love affair with Niclas had been serious. (150) She confided to one of her lady friends that she was aware that Niclas had had other women, but she had decided to connive at this, since it was still very common among men. (151) Resigned she reflected, considering woman’s possibilities in life. (152) ”How seldom do we see our wishes come true, and suppressing and silencing our conviction is in most cases our lot.” [...] In 1808 Bernera, who had then reached the age of twenty-seven, married the four year older Johan Ulric. (P5)

The function of the story in the example above is to give information. There is no academic discussion included that the writer binds the story to.

3.2 Short stories in the middle of an article
Besides the stories that are placed (almost) through the whole articles, there are also stories in my material that exist as a part of a whole. At the minimum the stories consist of only two to three event clauses, as in the following example.

Ex 4
(65) Skansens midvinterfest, som var ett av spelens fasta inslag, exemplifierar hur förärligande av hältekungar och landets historia kunde te sig. (66) Vid spelen 1901 hade hela området försett med marschaller och två alternativa musikstarkar som underhöll med nationella musikstycken. (67) Vaktpost i 1600-talsmunterdion hollitt ett vakande öga över området. (68) Det var inte utan sinne för skådespel och effekter det hela sattes i verket. (69) Plötsligt bror nämligen lugnet när en av vakterna ropade; (70) ”I gevar!”, varpå Gustav II Adolf kom ralande i full galopp. (71) Flera andra svenska kungar fanns också närvarande. (72) Gustav Vasa var naturligtvis representeerad. (73) Den här gången föll en holmsläkt och åtöföj av sina dalkarlar. (74) Kvällen avslutades med ett fyrevärkeri. (A1)
(65) The Skansen midwinter celebration, which was one of the standard features of the games, exemplifies what form the glorification of hero kings and the history of the country could take. (66) During the games in 1901 the whole area had been provided with torches and two alternating bands which entertained by playing national pieces of music. (67) Sentinels in Swedish 17th-century equipment kept a sharp eye on the area. (68) It was not without a sense of play and effects the whole pageant was executed. (69) For suddenly the peace was broken when one of the sentinels cried out: (70) ”To arms!”, whereupon Gustavus II Adolphus came riding at full gallop. (71) Several other Swedish kings were also present. (72) Gustavus Vasa was of course represented. (73) This time hidden in a loaded hay-cart and accompanied with his Dalecarlians. (74) The evening was finished off with a firework display. (A1)

---

6The term ‘genre’ is used here to describe intertextual differences, that is the difference between academic articles and popularised articles (see Koskela 1995: 104).
In example 4 above the first sentence includes an expression that reveals the function of the story. The writer has explicitly expressed that the story serves as an example of some element in the contents of the article; it illustrates a given fact. The writer wants to evaluate the role that the royalties had in sporting events and has chosen to tell the readers a story about an occurrence where the king arrived on the scene of the event. The story also serves to support the writer’s argument, i.e. that the kings were important. In my material there are several corresponding stories, one of them in a popularised article (P2). In all cases the writer does not explicitly express that the story serves as a concrete example, but it can, however, be understood on the basis of the context.

In the academic articles the writers have in several cases expressed that they want to describe the practice in addition to the theoretical discussion. The concrete cases are often described in event clauses, as in the following example. In most cases the writer also explicitly expresses that he/she aims to describe the practice.

Ex 5 (145) 1 mitten av 1950-talet inlämnades ett mycket värdefullt förslag som också uppmärksammandes stort. (146) Nils Marklund hade konstruerat en ny kokillbearbetningsmaskin, och ersättningen blev mycket stor – 10 000 kr. (147) Det annu sällan till en riksomfattande förslagstaving där det vann första pris. (148) Det valde även ut tillsammans med sex andra ”bra” förslag att ingå i en film om förslagsverksamhet. (A5)

(145) In the middle of the 1950s a very valuable suggestion was delivered which was also paid great attention to. (146) Nils Marklund had designed a new mould processing machine, and the compensation was very great — 10 000 Swedish crowns. (147) It was entered into a nation-wide proposal competition where it won the first prize. (148) It was also selected together with six other ”good” suggestions to be included in a film on competition activity. (A5)

In the same article (A5) there are several short series of events that are all located in the latter part of the article. The writer has discussed in general how workers submitted proposals dealing with their work and how they succeeded in making their working place better. According to the writer, the theoretical discussion does not say much about what the concrete propositions looked like (”säger inte mycket om vilka konkreta förslag som arbetarna inlämnade”), and that is why he wants to describe some concrete cases. The writer reveals that he wants to give the reader a possibility of seeing the practice in addition to the abstract academic discussion.

There are several similar stories in the academic articles, and in most cases the writer explicitly expresses the need for describing the practice. In my opinion this could be something that is characteristic of the discipline. Because the discussion of whether the historical research can be considered as reliable and objective (see for example Collin & Koppe 1995; Kristeller 1961), the historians especially in academic articles want to offer the reader the possibility of themselves drawing the conclusions. Because the contents of the concrete examples in academic articles often (if not always) come from the research material that the historians use, they can be considered as true (compare Thurén 2000). That is why they have more of truth-value than fictitious examples that are made up just to give a concrete example of some abstract phenomena. In other disciplines the concrete examples presented in a form of a story do not have to be true, although the truth-value otherwise is important in all academic discourse (Bloor 1996; Koskela & Pilke 2001).

3.3 Stories at the beginning/at the end of an article

The writer starts her text by telling about Elvida Jansson, a female worker, who was interested in politics but who, because of her sex, had few possibilities of acting in the political arena in Sweden at the beginning of the twentieth century. The role of this story is to concretise the discussion that follows and in which the writer defines the political possibilities of female workers in the Swedish society in general.


Consider the text "E X 6 150" and use it to create a table:

<table>
<thead>
<tr>
<th>Example</th>
<th>Story Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ex 5</td>
<td>Nils Marklund had designed a new mould processing machine, and the compensation was very great — 10 000 Swedish crowns. It was entered into a nation-wide proposal competition where it won the first prize.</td>
</tr>
</tbody>
</table>
The writer wants to concretise, as in example 4, and support her claims by offering a reader the possibility of becoming acquainted with one concrete case. This story differs, however, from the story in example 4 in the sense that while it concretises some smaller details by describing an instant moment, the story in A2 summarises a longer period in time.

At the same time the story in A2 lightens the presentation by giving a face to the abstract discussion. According to Hellspeng (1998:107) an academic writer can use stories to convince the reader of a controversial thesis. This may be one reason for the story in A2, because it is somewhat controversial that female workers have suffered because of men, as the article claims. Because the series of events is placed at the beginning of the article it can also act as a rhetorical device to catch the reader’s attention (see Rydstedt 1993).

There is another similar story in another academic article (A4) with the difference that the story is placed at the end of the article. The role of the story is still the same; the writer wants to summarize the contents of the article by describing a concrete case that supports the academic discussion. The writer also expresses it explicitly when she says that she wants to show how the law concerning children born out of wedlock worked in practice after discussing the topic on a more general level (“att få en inblick i hur lagen om barn utom äktenskap fungerade i praktiken”). This story also functions as support for the writer’s arguments.

4 Conclusions

In this study I have examined the stories (series of past-time events presented in event clauses) that academic and popularised articles in the field of history include. My aim has been to find out to what extent the articles in my material include story-like parts. On the basis of the study it can be concluded that all the academic articles and three of the five popularised articles include story-like parts. Two popularised articles, somewhat surprisingly, do not at all include event clauses that could form a story.

However, the other two popularised articles include series of events that are placed almost through the whole articles. These kinds of stories do not exist in the academic articles. The function of these stories is to carry forward the contents and at the same time give information. As I claimed at the beginning of this paper, the three functions of stories in academic/popularised discourses are, according to rhetoric, to entertain, to inform or to support a claim. In popularised articles in history the stories are used to inform or to support a claim. It is somewhat surprising that there are not any stories included that exist only to entertain, although the popularised magazine in question, Populär Historia, aims to publish both entertaining and informing articles (Oswalds 1998).

In the academic articles there can be found stories that are located at the beginning or at the end of the article. These stories summarize the whole content of the article by concretising the theoretical discussion with the help of one concrete case that presumably exists in the research material that the historian has used. Besides these, the academic articles in my analysis include shorter stories that give a concrete example of some part of the contents. In most cases they consist of a few lines in the middle of the academic discussion. All stories included in academic articles can be seen as a support of the theoretical arguments and claims included in the article. Also, the writers often explicitly express that they want to describe the practice as well. This function can be motivated by rhetoric; concrete things are easier to understand than abstract ones. Besides this function the shorter stories can often be seen as evaluations of some part of the contents, i.e. the writer wants to emphasize the importance of these details of the contents and chooses to illustrate them in the form of a story.

When comparing the academic and popularised articles analysed, the most visible difference is that only the popularised articles contain stories that have as their function to give information, to carry the whole text forward. In academic articles stories do not have this role, they are thus not as important parts of the whole text as corresponding stories in popularised articles. In academic articles stories function to support a claim by concretising or summarising. This means that the stories included in academic articles could be left out without totally losing some part of the contents.

Stories, as defined in this study, are, however, only one type of narrative presentation. Besides the series of events that come up in this study the articles include many so-called generic narratives, where the writer describes something that often happens or something that is generally true (Polanyi 1982). In the future it would be interesting to examine to what extent these narratives are used in academic and popularised articles in history. As well it would be interesting to examine whether a corresponding material in some other discipline makes use of stories in a similar way, i.e. whether articles in other disciplines in the similar way introduce a storyworld, which is described in event clauses, to fill different functions.

References:

As Polanyi (1982:18) puts it, any given event, agent or object in a generic narrative stands for a class of such events, agents, or objects, since the world of the narration is not a unique world, but rather a class of words in which the activities and circumstances described generally obtain.
2.2.3 Kjersti Fløttum

Traces of others in research articles: the citation cluster

Kjersti Fløttum,
University of Bergen, Norway
kjersti.flottum@roman.uib.no, KIAP project: www.hit.uib.no/kiap

1. Introduction

I have argued elsewhere (Fløttum 2003c) that scientific writing can be seen as a tension between progress and continuity - progress in the sense of being original and presenting new findings and continuity in the sense of situating oneself as a researcher in a scientific tradition. In this paper, I will first give a short presentation of the KIAP project (section 2) and some quantitative results related to the frequency of bibliographical references or citations in research articles (section 3). Second, I will claim that the specific phenomenon of cluster, defined here as the accumulation of three or more bibliographical references, may assume two general functions corresponding to the two dimensions just mentioned: progress and continuity (section 4). I will also argue that even if clustering represents an efficient way of referring to and situate oneself in relation to other relevant research, it may lead to considerable ambiguity and even weaken the academic ideal of clarity. In my summing up and final remarks (section 5), I will point to the importance of taking into account individual differences between articles.

2. The KIAP project

The present study is part of the research related to the multidisciplinary and doubly contrastive KIAP project, short for Cultural Identity in Academic Prose: national versus discipline-specific (see http://www.hit.uib.no/kiap/index-e.htm, Fløttum & Breivega 2002, Fløttum & Rastier 2003). The KIAP activities are based on the following key issue: Can cultural identities be identified in academic prose, and, if so, are these identities national or discipline-specific in nature? We attempt to answer this question through a linguistic and contrastive study of English, French and Norwegian research articles within the fields of economics, linguistics and medicine. The central questions we ask are related to authorial presence and stance, to the manifestation of other researchers’ voices and to the author’s presentation and promotion of own research. As regards the question whether the cultural identity of academic writers is primarily national or primarily discipline-specific in nature, our findings so far indicate that the discipline dimension seems to be the most important (Breivega, Dahl & Fløttum 2002), but the national or language dimension should not be neglected (especially as regards metadiscourse and the use of first person and indefinite pronouns; see Dahl 2003, forthcoming and Fløttum 2003a, c, forthcoming a).

The analyses undertaken by the project are based on data generated from an electronic corpus (under construction) comprising research articles representing the three languages and three disciplines (9 subcorpora). At present we are working on 180 articles (20 for each subcorpus), published between 1995 and 2002, which are coded, and constitute KIAP Corpus 1. The total number of words is 1,161,488 (Eng: 493,130, Fr: 329,049, No: 339,309). However, many tables, figures and equations have been deleted from the original version of the articles, thus we estimate the original corpus at about 2,000,000 words. It is the body part of the corpus which is investigated here (containing 826,652 words), i.e. the plain text, corresponding to the article minus (sub)titles, abstract, examples, quotes, figures, tables, equations, notes, bibliography. (For further details on the corpus and the methodological design, see www.hit.uib.no/kiap). For the present study on bibliographical references, one article (frmed18 with a body of 3918 words) was excluded from the search because of the exceptionally high number of references, 468 in all. Thus the total number of articles included here is 179.

3. Bibliographical references (BR) and clusters (CL) in KIAP Corpus 1

We know that the use of citations or bibliographical references is important in scientific texts, and especially so in the genre of the research article. In his study of “interaction through citation”, Ken Hyland (2000:20) claims that “[c]itation is central to the social context of persuasion as it can provide justification for arguments and demonstrate the novelty of one’s position.” In KIAP, we consider the study of citation or bibliographical references (BR) as an important contribution to the answering of our second research question related to the manifestation of other researchers’ work and voices in research articles. We are inspired by previous work undertaken for example by Swales (1986, 1990) and Koskela (1999) on relevant categories for the study of citation, by Hyland (2000) for his results related to differences between various disciplines, by Salager-Meyer (1998) for her studies on reference patterns in medical discourse, and by Valle (1999) for her diachronic analyses of citations in general and clusters in particular.

In KIAP we limited our research to BRs from 1900 to 1999 and ended up with the following four relatively broad categories for investigating the nature and frequency of BRs in our KIAP Corpus 1 material (for explanations, see Fløttum 2003c):

R1 – Non-integral reference, by (superscript) number: The moon is blue [1].
R2 – Part-integral reference, by “cited” author’s name and/or year of publication in parentheses: The moon is blue (Smith 1995).
R3 – Semi-integral reference, by the presence of the cited author’s name as an integrated element of the citing sentence: Smith (1995) has observed that the moon is blue.
R4 – Fully integral reference, by quote (defined as 3 or more words) of named author:
Let us now look at some of the quantitative results (for further details, see Fløttum 2003c).

Table 1: Average number of bibliographical references (BR)

<table>
<thead>
<tr>
<th>ENGLISH subcorpus</th>
<th>FRENCH subcorpus</th>
<th>NORWEGIAN subcorpus</th>
</tr>
</thead>
<tbody>
<tr>
<td>engecon</td>
<td>frecon</td>
<td>noecon</td>
</tr>
<tr>
<td>24</td>
<td>26</td>
<td>29</td>
</tr>
<tr>
<td>engling</td>
<td>frling</td>
<td>nolding</td>
</tr>
<tr>
<td>75</td>
<td>17</td>
<td>38</td>
</tr>
<tr>
<td>engmed</td>
<td>frmed</td>
<td>nomed</td>
</tr>
<tr>
<td>41</td>
<td>36</td>
<td>39</td>
</tr>
<tr>
<td>engall</td>
<td>frall</td>
<td>noall</td>
</tr>
<tr>
<td>46</td>
<td>26</td>
<td>35</td>
</tr>
</tbody>
</table>

All: 36

With a total number of 6413 BRs identified in KIAP Corpus 1, we get an average of 36 per article. This is an interesting result to compare with Hyland’s study on BRs in research articles taken from different disciplines in English (Hyland 2000: chapter 2). There are some differences with regard to what is included in our studies, but it is nevertheless worthwhile to note that his figures indicate an average of almost 70 BRs per paper (the double of our findings, which are based on three languages), but with variations from 24 (in physics) to 104 (in sociology). The only subcorpus which comes close to Hyland's average in our corpus is English linguistics with 75 occurrences per article; this in fact matches exactly the average that Hyland gets for the discipline of applied linguistics (75.3) in his English material. As regards the individual variations between our different subcorpora, English linguistics is clearly the discipline with most occurrences of BRs per article, with an average of 75. There is a considerable gap between this and number two, English medicine, with an average of 41 occurrences. French linguistics displays the lowest number of occurrences, with an average of only 17. We have observed that English linguistics has the highest average in one single article (185 occurrences) and Norwegian economics the lowest (2 occurrences). It should also be noted that there are no clear patterns related to language or discipline in the individual differences between the articles with the highest and the lowest numbers of occurrences.

Table 2: Bibliographical references (BR) – occurrences and relative frequency (%)

<table>
<thead>
<tr>
<th>ENGLISH</th>
<th>Occurrences</th>
<th>%</th>
<th>FRENCH</th>
<th>Occurrences</th>
<th>%</th>
<th>NORWEGIAN</th>
<th>Occurrences</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>engecon</td>
<td>469</td>
<td>0.42</td>
<td>frecon</td>
<td>511</td>
<td>0.47</td>
<td>noecon</td>
<td>580</td>
<td>0.51</td>
</tr>
<tr>
<td>engling</td>
<td>1498</td>
<td>0.88</td>
<td>frling</td>
<td>338</td>
<td>0.49</td>
<td>nolding</td>
<td>758</td>
<td>0.84</td>
</tr>
<tr>
<td>engmed</td>
<td>810</td>
<td>1.36</td>
<td>frmed</td>
<td>675</td>
<td>1.18</td>
<td>nomed</td>
<td>774</td>
<td>1.79</td>
</tr>
<tr>
<td>engall</td>
<td>2777</td>
<td>0.82</td>
<td>frall</td>
<td>1524</td>
<td>0.65</td>
<td>noall</td>
<td>2112</td>
<td>0.85</td>
</tr>
</tbody>
</table>

TOTAL: 6413 occurrences / frequency: 0.78

As shown in Table 2, the average frequency of BRs in our corpus is 0.78. Of the three languages, the Norwegian subcorpus has the highest relative frequency (0.85). But the difference in relation to the English 0.82 is not big. The French subcorpus distinguishes itself by a notably lower frequency than the other two, 0.65. It is difficult to comment on these findings since we do not have similar studies to compare with. According to the traditional view of English explicitness (see Dahl 2003), one would perhaps have expected English to have the highest percentage.

If we now turn to the discipline perspective (not made explicit in table 2), the medicine subcorpus appears as the clear winner, with a relative frequency of 1.41. This is almost the double of number two, the linguistics subcorpus, with a percentage of 0.79. The economics subcorpus has the lowest percentage, 0.47. This result is quite surprising if one considers medicine as a hard discipline. Hyland, in the study mentioned above, presents figures which “broadly support the informal characterisation that softer disciplines tend to employ more citations” (Hyland 2000:24). In our corpus, and in all the three languages, medicine displays the highest frequency of BRs.

Table 3 represents a ranking list where language and discipline are taken together. From this list we see an interesting division into three groups: The first group is formed by the medicine subcorpora; the second by English and Norwegian linguistics, and the third group by French linguistics and the three economics subcorpora.

Table 3: “Ranking list” – Bibliographical references (BR) – language and discipline

<table>
<thead>
<tr>
<th>Subcorpus</th>
<th>Relative frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>nomed</td>
<td>1.79</td>
</tr>
<tr>
<td>engmed</td>
<td>1.36</td>
</tr>
<tr>
<td>frmed</td>
<td>1.18</td>
</tr>
<tr>
<td>engling</td>
<td>0.88</td>
</tr>
<tr>
<td>nolding</td>
<td>0.84</td>
</tr>
<tr>
<td>noecon</td>
<td>0.51</td>
</tr>
<tr>
<td>frling</td>
<td>0.49</td>
</tr>
<tr>
<td>frecon</td>
<td>0.47</td>
</tr>
<tr>
<td>engecon</td>
<td>0.42</td>
</tr>
</tbody>
</table>

As regards the results concerning the distribution of the four BR subtypes R1 – R4, the overall results indicate that R1 – Non-integral, R2 – Part-integral and R3 – Semi-integral references are quite evenly distributed (respectively 33%, 26% and 34%; see details in Fløttum 2003c). The R4 – Fully integral type – is only represented by 6% of the total BRs. The latter is interesting in relation to KIAP’s research question about the way and degree of presence of others in the article. Full integration is rare; an exception was the French linguistics subcorpus in which the R4 references made up 18%, which is notably higher than all the other subcorpora. In general terms, it may be said that the presence of others is submitted to the author’s strong control in a way that gives them little possibility to express themselves in their own words.

Finally, I looked at the distribution of BRs over the article sections; there is little variation between languages. Typically about 20% (+/-) of the BRs are found in the Introduction section. The medical articles in all three languages seem to follow the IMRAD norm saying that the majority of the references should be placed in the Discussion section, with some positioning in relation to previous studies in the Introduction section. Except for this particular distribution in the medical articles, BRs are spread all over, but with a low frequency in concluding sections (in the articles which have such sections).

After having carried out this electronic and manual quantitative analysis, yielding the results presented above, we found it necessary to propose some refinements of the existing categories and to undertake more qualitative analyses. Such refinements would make it easier to say something about the function of references in the text, an important aspect which the quantitative results can say little about. In Fløttum 2003c, I have proposed different refinements (for example polyphonic analyses; see Fløttum 2003b, forthcoming b). The one I will focus on here is the cluster (CL), defined as an accumulation of three or more references. CL is a feature which typically occurs in connection with R1 and R2 but also with R3.

There are of course situations where the clustering is practical (for example when referring to a group of publications treating the same subject or belonging to the same tradition), but in many cases it may be relevant to ask why such accumulations occur. Here is an example from engling16 (the article with the highest number of BR occurrences – 185):


The first two clusters are in fact introduced and specified in a quite informative way; but the last one, containing 14 BRs, is introduced rather vaguely by the complex noun phrase “various notions of information structure or packaging”. With many clusters like these, it is not surprising that the total number of occurrences attains 185. However, this example must be considered as an extreme one.

Without having studied CLs in detail in KIAP’s three languages and three disciplines, we may still establish that they are found in all disciplines and all languages. In the present paper I will limit my analysis to the French material – the subcorpora with the lowest frequency of BRs.

Table 4: Frequency of bibliographical references (BR) and presence of clusters (CL) in French research articles

<table>
<thead>
<tr>
<th>BRs &amp; CLs / Language &amp; discipline</th>
<th>FR</th>
<th>BR frequency (%)</th>
<th>CL frequency</th>
<th>Number of BRs in CLs</th>
<th>Average size of CLs</th>
<th>Presence (%) of BRs in CLs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frecon</td>
<td>511</td>
<td>0.47</td>
<td>33</td>
<td>125</td>
<td>3.8</td>
<td>25%</td>
</tr>
<tr>
<td>FrIng</td>
<td>338</td>
<td>0.49</td>
<td>15</td>
<td>55</td>
<td>3.7</td>
<td>16%</td>
</tr>
<tr>
<td>Frmed</td>
<td>675</td>
<td>1.18</td>
<td>37</td>
<td>142</td>
<td>3.8</td>
<td>21%</td>
</tr>
</tbody>
</table>

The results presented in Table 4 allow us to consider clustering as an important phenomenon in research articles. In fact, Valle (1999) in her work on the manifestation of the “collective intelligence” in life sciences over 300 years (1665-1695) observes an increase over time in the clustering practice compared to the use of single, isolated citations (Valle 1999:396). Without going into the discussion here about the role of the accumulation of research over years, I will just point to the fact that in this material the economics articles contain the lowest frequency of BRs (0.47%; not very different from linguistics with 0.49%) but the highest percentage of BRs embedded in CLs (25%; quite different from linguistics with 16%). The medicine articles are situated between economics and linguistics (21% of BRs in CL). I do not think that these differences are important; what is more interesting is that there are in fact great similarities as regards the quantitative characteristic of the CL. Their average size in all three disciplines is around 3.7-3.8 and 7 is the highest number of BRs in one CL in all three disciplines. However, there is great individual variation within the articles, an observation which I will come back to in my final remarks. First we will look at some examples of the two main functions postulated in the introduction: 1) Clusters indicating continuity and 2) Clusters indicating progress. We will study how they are manifested – what the nature of the CLs is and in what context they appear.

4. Nature and function of clusters

I started out this study with the hypothesis that the main function of clusters would be to refer to a scientific tradition and in many cases to situate the author as a researcher in relation to this tradition. Valle (1999) also observes that large clusters tend to appear in for example “historical surveys” of a field. However, I had to revise this hypothesis and formulate a new one according to which clusters not only indicate continuity but also progress, in the sense that they are used in more or less clearly polemic
sequences to signal the author’s position within a given subject matter or field. The position often contrasts with and is meant to indicate progress in relation to other researchers’ work. The two functions may of course overlap, for example when the author is using different traditions manifested by different clusters to make clear his or her own position. Let us look at some examples:

A. Clusters indicating continuity
The clusters assuming this function often refer to a common object of study and/or they contain a verb referring more or less neutrally to the research process in the cited studies – verbs like rapporter (‘report’) as in (2) and se pencher sur (‘look into’) as in (3). Explicit credit is quite often given to the cited authors:

(2) La prédominance féminine nette est rapportée dans la plupart des séries [4],[7],[8] comme dans notre série. (frmed06)

(The clear female dominance is reported in most of the series [4],[7],[8] as in ours.)

In (2), the author is claiming that he/she is part of a tradition, while in (3), by means of the cluster, the author is referring to the fact that he/she has an object of study which is common to many researchers.


Many authors have looked into this problem, for example Higgins J. and Hirsch F. [1970], Rhomberg R.R. [1976], Lanyi A. and Suss E.C. [1982] or more recently Coughlin C.C. and Pollard P.S. [1996], The International monetary fund (IMF) also looks at the question in its 1984 study [International monetary fund [1984], p. 10-11]. All the articles emphasize unanimously that there is no exchange variable which is preferable to another.)

In (4) the author is referring to two traditions; in addition he/she wants to show that the model referred to in the second one (2) is a good one and – when modified (cf. en le particularisant) – fruitful to his/her own research:

(4) On fera donc fond sur deux axes: 1. L’opposition sur laquelle s’est fondé le deuxième regard [...].
2. Le modèle théorique de la Morphologie Distribuée (ou Autonome), cf. Halle et Marantz (1993), Harris (1997), Zribi-Hertz (1998). On montrera, en le particularisant, que ce modèle s’applique sur un mode contrastif à son et à en [...]. (frling05)

(Thus our basis will follow two axes: 1. The opposition which the second view is based on [...].
2. The theoretical model of the Morphologie Distribuée (or Autonome), cf. Halle et Marantz (1993), Harris (1997), Zribi-Hertz (1998). We will show, by specifying it, that this model can be applied in a contrastive mode to son and to en [...].)

The function of indicating continuity can have different sub-functions as for example giving historical background, giving credit, assigning priority or gaining support (see Valle 1999:401). But it is difficult to distinguish them clearly, they often overlap. For that reason it seems fruitful to establish a few but relatively general functions like I have tried to do here.

B. Clusters indicating progress
The clusters assuming the progress function are often marked by expressions indicating concession, contrast, debate and polemic discussions. In the examples below we find en revanche (‘on the other hand’) in (5) and the polyphonic construction with the adverb toutefois (‘however’, ‘nevertheless’) in (6):


(On the other hand, Bailey M.J., Tavlas G.S. and Ulam M. [1986], De Grauwe P [1988] and Savvides A. [1992], who also test the two possibilities, get more significant results when they use real rather than nominal rates.)

A debate is clearly referred to in (5); the context also indicates that the author values as positive the findings referred to by the cluster - he/she positions him/herself as favorable to the research cited by using expressions like résultats more significatifs.

In (6), the progress is clearly indicated in that the author proposes a solution to a problem that many have experienced in previous research:

(6) [...] la mesure de la prévalence de ces maladies pose des problèmes [1-4]. On peut toutefois utiliser des estimations. (frmed03)

( [...] the measuring of the deseases is problematic [1-4]. One can, however, use estimates.)
In (7) the author makes explicit that there is going to be debate about the content of the clusters references (cf. *seront confrontées*) and thus progress:


(First (par. 1), we will present a list of characteristics, generally well known, which distinguish the two uses of *en*, cf. Gaatone (1980), Hulk (1983), Kupferman (1991), Lagae (1994, 1997), Milner (1978), Ruwet (1972). Then these general characteristics will be tested (par. 2, 3) on examples like [1–4].)

C. “Play” between different traditions

In some cases, the two functions overlap in the sense that the author may set up a play between different traditions without taking an explicit position him-/herself, as in the following:

(8) Les locutions prépositionnelles *à travers* et *au travers (de)* confrontent la recherche linguistique à un défi qui nous paraît exemplaire à plus d’un titre. Certains synonymistes (par exemple, Bénac 1956: 964 ; cf. aussi le TLF) soutiennent que [...]. D’autres auteurs, comme Dupré (1972: 2579-2580), Grevisse (1986: § 924), Hanse (1983: 943-944) ou Spang-Hanssen (1963: 231-233), plaident, à l’inverse, pour une "synonymie grammaticale" entre les deux expressions. [...] Si nous voulons éclaircir la notion - particulièrement obscure - de "synonymie grammaticale", différentes voies s’offrent à nous. (frling17)

(The prepositional locutions *à travers* and *au travers (de)* give linguistic research a challenge which to us seems exemplary in more than one way. Some synonymists (for example, Bénac 1956: 964 ; cf. also TLF) claim that […]. Others, like Dupré (1972: 2579-2580), Grevisse (1986: § 924), Hanse (1983: 943-944) or Spang-Hanssen (1963: 231-233), argue, on the contrary, for “grammatical synonymy” between the two expressions. […] If we want to elucidate the particularly obscure notion of "grammatical synonymy", different orientations are available.)

The two functions A and B are very broad and may of course be subject to refinements, along different dimensions, for example along positive and negative axes. The continuity function is perhaps mostly positive in that the researcher often refers to a tradition which has meant much to his/her own research while the progress function may have negative implications in the sense that the researcher often positions him-/herself by refuting or showing insufficiencies in other researchers’ work.

Another fruitful development of the study of BRs and of clusters is to look at them in a more explicit polyphonic perspective, i.e. in relation to the idea of the presence of several voices in one and the same text, and even in one and the same utterance. This is an interesting perspective which clearly brings in not only the traces of others, but also the traces of self, i.e. the voice of the author. (For an elaboration of this perspective, see Fløttum 2003b, forthcoming b).

D. Ambiguity

I would like to come back, briefly, to the problem of ambiguity mentioned in the introduction. Clustering is an efficient way of referring to the work and the voices of other researchers which are relevant in one own’s research. Different norms imposed by the research article may however contribute to rendering the message unclear and even ambiguous. On the one hand the research article is submitted to a standard length which cannot be transgressed; on the other hand there is a norm saying that one should position one’s work in relation to existing traditions. These two might come in conflict with each other: referring to a tradition necessitates a certain amount of space. To solve this problem clusters have proved to be an efficient means. However, the clustering may render the information which one wants to convey unclear, as in example (1) above. Here are two other examples:


One could imagine that each cited researcher in (9) is responsible for one of the three dimensions mentioned, but this is not made explicit neither in the cluster sentence nor in the presentation of the three dimensions below. One does not get to know why the three researchers are referred to: do they all point to the three dimensions or does each point to one, for example? Let us look at (10):


(Formal semantics […] is annexing on one hand the domain reserved for discourse, and the one of language treatment in context, i.e. pragmatics (cf. Kamp & Reyle 1993, Chierchia 1995, Asher 1993).)
Do the three cited researchers represent formal semantics or the other fields mentioned, or are they all claiming the view presented?

In the following example, one could ask what kind of étude spécifique (specific study) the references refer to:

(11) Les traitements de substitution (méthadone, buprénorphine,...) prescrits aux Urgences n’ont pas été étudiés ici. Ces prescriptions pourraient faire l’objet d’une étude spécifique [10], [11], [12]. (frmed20)

(The substitution treatments (methadone, buprenorphine,...) prescribed at Emergency have not been studied here. These prescriptions could be subject to a specific study [10], [11], [12].)

5. Summing up and final remarks

The use of bibliographical references represents an explicit way in academic discourse to refer to and to position oneself in relation to a given scientific tradition (the function of continuity) as well as to point to divergences in relation to others’ work and to point to the progress represented by one’s own (the function of progress). The clusters may be considered as a particularly efficient way of fulfilling either of these two functions. We have also seen that clusters are used in all three disciplines studied here, slightly more frequent in economics than in medicine and in linguistics. In KIAP we want to continue these studies in order to look into the frequency of this phenomenon in articles from the same disciplines, but written in English and in Norwegian.

We have also seen that clusters are not always very reader-friendly in the sense that the reader may wonder what is really meant by referring to the studies in question, and what it is that is actually said in them.

I would also like to mention that even if clusters are present in all disciplines there are considerable individual differences within the articles. In economics, for example, ten (i.e. half of the subcorpus) of the articles do not use clusters at all; in one article there are 20 clusters, while the other nine have either only 1 or 2 clusters. In linguistics too ten articles do not display clusters. In the other half of this subcorpus, there is variation between 1, 2 and 3 clusters. Finally, in the medicine subcorpus, only 4 articles do not contain clusters. The variation in the other articles is between 1 and 7.

This might of course be due to pure coincidence, but the differences might also point to the fact that the text manifested in the genre of the research article leads a life of its own (for a similar argument, see Breivega 2001). Within the textual norms that exist, there is room for individual variation. But this explanation may not be satisfactory. The activities and the practice behind each article, i.e. the research process in given communities, and the position of the actual research could also be important in this context and contribute to the explanation of individual article differences (see Berge 2003). Object of study, methodology and the phase in which the research presented is placed (start, work in progress or end; new or well-established field) are important factors in this context. I will not go further into these more practice-oriented and even sociological questions here, but they are important if one wants to look at the phenomenon of clustering in a more comprehensive context. Last but not least, they are important in a genre perspective. The genre of the research article is not necessarily something very stable, but rather dynamic and tightly related to its socio-professional context.

6. References


Dahl, T. (forthcoming). Textual metadiscourse in research articles: a marker of national culture or academic discipline?


discipline-specific". In: M. Koskela et al. (Eds) *Porta Scientiae II. Lingua specialis*. Vaasa: Proceedings of the University of Vaasa. Reports 96, pp. 533-545.


2.2.4 Barbara Hemais

The research paper as a vehicle for disciplinary knowledge building: the case of Organization Studies in Brazil

Barbara Hemais
(Pontifícia Universidade Católica-Rio de Janeiro)
Sylvia Constant Vergara
(Fundação Getúlio Vargas)

1. Introduction

Research in business studies is driven by questions that are central or significant in light of business practice. However, these questions may come from lines of investigation that are rooted in another academic culture and that do not entirely explain the business community that the researchers are examining. This appears to reflect the situation in Brazil, where it has been questioned (Motta 1994; Bethlem 1989; Ramos 1983) whether research knowledge from abroad can be aptly applied to the local business community and whether the focus, aims, and knowledge base of Brazilian business studies are in tune with the society.

Within the larger area of business research, articles in Organization Studies typically carry references to existing knowledge in the form of citations. Citations allow authors to show their research concerns, theoretical base, methodology and even academic background. Through citations, the authors give indications of their previous experience with texts, or rather, with other texts that they carry on dialogues with.

It would seem pertinent to examine the citation practices of Brazilian authors, as their texts show signs of the reproducing of concepts and formulations that have been conceived in foreign, and particularly American, contexts. In this process, Brazilian authors in business studies seem to be conditioning themselves to cultural standards that do not necessarily belong to them or to their local reality.

The social system in which scientists move and the environment where scientific activity is carried out condition the production of knowledge. Yet, the case of Brazil seems to be that the knowledge base for academic studies comes from business studies centers from abroad and would be reproduced in and applied to Brazil, even though this means the acceptance of imported models of knowledge from those foreign centers of scholarship. One factor that may be contributing to this reality is that a number of Brazilians do their post-graduate work abroad. As a result, these people probably have read the literature from the United States or England more closely and may be more aware of issues and debates there. This may make authors more liable to import models from abroad, considering their awareness of the volume, density and leading edge nature of the research that produced those models. In light of this, it is important for Brazilian researchers to evaluate whether, for their context, there is meaning in the knowledge coming from other academic communities.

In this paper, we will review earlier studies of referencing applied to Brazilian academic writing and then examine the linguistic features of the citation patterns in the texts of papers presented at a national conference for Business Studies in Brazil, in light of the research into citation analysis by Swales (1986, 1990), White (in press), Thomas & Hawes (1994) and Hyland (2000). From this linguistic analysis we will attempt to draw a picture of the kind of disciplinary knowledge that is prominent in this sample of academic writing. We will also suggest an interpretation of the reasons for the citation practices and the implications of these practices, as evidenced in the debate among Brazilian scholars.

2. Studies on referencing in Organization Studies articles

Critical attention to the referencing practices of Brazilian authors started when Vergara and Carvalho (1995) initiated an extensive two-part study of citations in journal articles written by Brazilian authors in the area of Organization Studies. This study was continued by Carvalho and Vergara (1996) and later by Vergara and Pinto (2000). The articles, written over a period of ten years, were found in three different periodicals and in conference proceedings. One part of their study, an analysis of preferences in using reference to other authors, concentrated on author nationality. It revealed, among other significant findings, that foreign authors represented nearly 80% of authors cited in the articles, and, of these foreign authors, 60% were American. The foreign references that were not American came from four countries: France, England, Germany and Canada.

The second part of the study consisted of interviews with the Brazilian authors whose articles had been analyzed; this was done in order to ascertain the reasons for their use of particular types of citations and to have the authors explain their choices. Among the findings from these interviews, one is that the literature from abroad is larger, more varied and more acceptable than the literature in Brazil. Another is that, by contrast with foreign researchers, Brazilians do not publish very much or are slow to publish. The interviewees also thought that reference to other Brazilian authors is not important. It would seem, then, that Brazilian academic writing in the area of Organization Studies draws heavily on foreign authors and to a certain extent ignores research in local settings.
In light of these results, the present paper looks more closely at the linguistic features of the citation patterns in a different corpus of papers in Organization Studies. The corpus for this paper consists of 775 citations in 25 papers from the Proceedings of the annual conference of Business Administration Studies in Brazil, the ENANPAD 99. Each article was examined for the report/non-report and integral/non-integral dimensions, following Swales’ (1990) analysis, and for choices of the reporting verbs. Papers that used the superscript system were not included, as this system would not allow for the analysis of cited authors satisfactorily. Papers were also not included if they had a mixed system of citation, in other words, citations in the text and in superscript as well.

3. Citation analysis

Citations are, in the metaphor of the information scientist Cronin, “frozen footprints in the landscape of scholarly achievement; footprints which bear witness to the passage of ideas” (Cronin 1981:16). Citations are closely connected to the knowledge that writers draw on in academic writing. A research paper relates to other texts and through this relation a paper connects into “a particular body of knowledge” in some area of scientific inquiry (Amsterdamska and Leydesdorff, 1989:451). Looking at citations from a social view of writing, Ivanic cites Faigley, who points out that authors always call on previous texts (Ivanic 1998: 84) when composing their own.

In this paper, we follow the discourse tradition in citation analysis and use the two-dimension model developed by Swales (1990). One dimension in this model is the syntactic distinction between the integral and non-integral forms in citations. In the integral form, the cited author is placed in the main clause structure. On the other hand, in the non-integral form the name of the author occurs in parentheses or in some other citation device such as the superscript. The significance of this distinction lies in the way the form of the citation highlights the focus on either the research activity or the researchers themselves. The integral citation foregrounds the researcher being cited, whereas the non-integral citation foregrounds aspects of the research area such as theory, concepts, or methods.

For the present study, we use this distinction in order to identify formal choices made by Brazilian authors for their citations. So, by examining the integral feature, we hope to arrive at conclusions about tendencies for Brazilians to foreground what foreign researchers say and do and what Brazilian researchers say and do. By examining the non-integral feature, we can also see to what extent there is highlighting of the knowledge produced by foreign and Brazilian researchers.

The second dimension of the model is the use of the reporting verb, more specifically the inclusion or the omission of the verb. The use and choice of reporting verbs are of interest, as writers use a verb as a way of showing how they wish to present the cited information, that is, linking the researcher with what that researcher said or did. For example, the cited author “finds”, “suggests”, “argues” or “tested.” Writers, on the other hand, may choose not to include a reporting verb, and in this case they refrain from revealing how they view the information they are presenting. If citations allow us to observe what Cronin (1981) called “the passage of ideas” the reporting verbs show how those ideas are registered by authors.

Examples of the two dimensions of citations are given below, from some of the articles under analysis in this paper. The citations have been given a literal translation, and the original citations are in brackets.

<table>
<thead>
<tr>
<th>Citation Type</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integral + Non-report</td>
<td>(b) &quot;According to Sievers (1994: 159)” [&quot;Segundo Sievers (1994: 159)]</td>
</tr>
<tr>
<td>Non-integral + Report</td>
<td>(c) “The idea is defended that firms need to become more flexible and agile (Romeiro, 1996) [&quot;Defende-se a necessidade de as empresas tornarem-se mais flexíveis e ágeis (Romeiro, 1996)&quot;]</td>
</tr>
<tr>
<td>Non-integral + Non-report</td>
<td>(d) “The interest in ideal types is growing (Alvesson, 1990)” [&quot;O interesse por tipos ideais é crescente (Alvesson, 1990).&quot;]</td>
</tr>
</tbody>
</table>

Figure 1. Two Dimensions of Citations (Swales, 1990)

In example (a) Kim is the cited author and is in the main sentence structure; similarly, in example (b) the author Sievers is part of a syntactic structure in the sentence. These authors are placed in integral citations. In contrast, in (c) and (d) the names of the authors are placed within the parentheses and so are not part of the clause structures; they illustrate the non-integral case.

The dimension of the reporting verb pattern is also exemplified in these citations. The verbs “presents” in (a) and “defended” in (c) are evidence of how the writers choose to present the information, as well as the research activity and the discourse of the authors being cited. In examples (b) and (d), where the writers do not use a reporting verb, they refrain from expressing the kind of research activity being carried out, the debate on the research, their own view or any degree of commitment to what they are citing.

4. Citation analysis of Organization Studies papers
The analysis of the citations in the Organization Studies papers in this study found occurrences of the integral/non-integral and report/non-report dimensions as shown in Table 1 below.

### Table 1. Integral/Non-integral Dimension in Organization Studies Papers

<table>
<thead>
<tr>
<th>Citation Type</th>
<th>% of Citations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integral</td>
<td>57%</td>
</tr>
<tr>
<td>Non-integral</td>
<td>43%</td>
</tr>
<tr>
<td>Report</td>
<td>38%</td>
</tr>
<tr>
<td>Non-report</td>
<td>62%</td>
</tr>
</tbody>
</table>

In terms of the focus on the research or the researcher, the citations in these articles are not quite balanced, with 57% being integral and 43% non-integral. There is, though, not a regular pattern of occurrences throughout the articles. Some have a considerably larger number of integral citations whereas other articles have more non-integral citations than integral ones. One article, for instance, has no non-integral citations at all and another has twice as many non-integral citations as integral ones. Nevertheless, the overall count shows a slight preference for foregrounding the cited researcher, more than the concepts, theories, methods and findings of other researchers.

One point that is highly pertinent to our study is whether the cited authors are from outside Brazil or are Brazilian, as this would allow us to assess the prestige or influence of the researcher through the arrangement of sentence elements in the citations. To discover how Brazilian and foreign authors are presented in the citations, a count was made of nationalities occurring in the integral citations in the papers under analysis. It was found that Brazilian authors are foreground in 50% of the citations (integral ones) while non-Brazilian authors are foreground in 70% of the citations. A slightly larger number of citations (43%), the non-integral ones, foreground the research activity being carried on, but even in these cases much of the activity is conducted in institutions outside Brazil.

In the case of self-citation, the Brazilian authors use only the non-integral form, with the result that they call less attention to their own research initiative. It would seem then that these authors give more emphasis to researchers in the United States and Europe than to other Brazilian researchers and thus call more attention to the stature of researchers abroad.

A further tendency that was observed in some papers is the high number of citations to a particular researcher, in addition to one or two citations to various researchers. What is happening here is a concentration on just a few sources. A quick preliminary count of all the articles showed that in half the articles the authors cite one or two researchers as many as 12 times. Even if we consider that the number of citations per text varies from 8 to 60 and that each article has a “reasonable” number of citations to other authors, there does seem to be a dependence on a few sources.

In eight of the 25 papers, a single author is cited a large number of times. For example, in four articles one author is cited seven times, and in one article an author is cited twelve times. Some articles concentrate on two authors: one article has twelve citations to one author and ten to another author. It should be mentioned that this concentration happens in articles that have few citations to any other authors. In addition to the concentration in terms of frequency, there is concentration on a single author in terms of extent of text focused on one author; in one of the articles, one source from the literature is discussed for five consecutive pages, out of the total of 15 in the whole article. Although this reliance on a single reference includes Brazilians as well as non-Brazilians, what is worth noting is that the writers of these papers seem to depend heavily on limited sources of knowledge and may be unaware of other research being carried on by Brazilians. We will return to this point later.

If there is a certain balance in the integral and non-integral dimension, the dimension of the use and omission of reporting verbs shows a strong pattern of preferences. These authors show a noticeable tendency to cite without a reporting verb, as 62% of the citations lack a reporting verb. This indicates that these Brazilian authors prefer not to verbalize their view of who and what they are citing. In Ivanic’s view, writers “can establish their identity” (Ivanic, 1998: 187), or their ideas and voice, when they show their position toward a quotation. While other aspects of linguistic choice are involved in the making of identity, the use of a reporting verb is important in this respect. It should be pointed out, however, that it has already been shown (see, for example, Hyland 2000) that there is a tendency for non-reporting citations in a number of disciplinary areas. This sample of academic writing in Organization Studies confirms the tendency. However, in terms of the writers in our sample, the practice of not showing a position relates to the question of their academic identity, and we will return to this question later.

Generally speaking, through the choice of lexical verbs, authors have at their disposal a wide variety of choices for bringing out their view of the status of the information. In this paper, we adopt the framework of Thomas and Hawes (1994), whose analysis of medical journal articles shows that reporting verbs take on functions that reflect the various phases of research activity: conducting research, writing it up, and expressing a perception about it. In their terms, one category is Real-World/Experimental Activities, related to the process of researching, and it includes the two sub-categories of Findings from Research (for instance, “Logan et al. show”) and Procedural verbs (e.g., “adapted, tested and validated by Moraes and Kilimnik”). The second category is verbs of Discourse, which include verbs that authors use for expressing ideas and positions (e.g., “opposing this view”). The final category is termed Cognition (e.g., “the use of technologies . . . is considered highly useful”).
In the Organization Studies papers we analyzed there is a higher concentration of verbs referring to the research process and to the discourse about the research, as is shown in Table 2 below. This correlates with Hyland’s (2000) results.

Table 2. Reporting Verbs in Organization Studies Papers

<table>
<thead>
<tr>
<th>Verb</th>
<th>Real-World/Experiment</th>
<th>Discourse</th>
<th>Cognition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verbs (109)</td>
<td>51 [47%]</td>
<td>46 [42%]</td>
<td>12 [11%]</td>
</tr>
<tr>
<td>Frequencies (287)</td>
<td>108 [38%]</td>
<td>156 [54%]</td>
<td>26 [9%]</td>
</tr>
</tbody>
</table>

In comparison with the findings of Thomas and Hawes, the authors of the Organization Studies articles use a more balanced number of verbs for the Real-World/Experiment activity (47%) and the Discourse activity (42%). In Thomas and Hawes’ medical papers, 52% of all the verbs were for Real-World/Experiment and 39% for Discourse. Comparisons with the study of medical papers, however, will yield rather limited observations, since that study did not propose to raise questions about intertextuality in relation to writers that refer to authors from a dominant (mostly American) academic community. In addition, the verbs in our study have been translated literally without consideration for any nuances in semantic force or pragmatic use. Despite these reservations and putting comparisons aside, the Thomas and Hawes categories are useful for the analysis of our sample.

There is, then, a balance in the use of Real-World and Discourse verbs, as the Brazilian authors choose to draw from other authors in order to present what is done as much as what is said about the research. However, if we list the ten most used verbs, we find a concentration on one category of reporting verb, as shown in Table 3.

Table 3. Highest Frequency Report Verbs

<table>
<thead>
<tr>
<th>Verb</th>
<th>Frequency</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afirmar (state)</td>
<td>16</td>
<td>Discourse</td>
</tr>
<tr>
<td>Sugird (suggest)</td>
<td>12</td>
<td>Discourse</td>
</tr>
<tr>
<td>Ressaltar (emphasize)</td>
<td>11</td>
<td>Discourse</td>
</tr>
<tr>
<td>Apresentar (present)</td>
<td>10</td>
<td>Discourse</td>
</tr>
<tr>
<td>Realizar (conduct)</td>
<td>9</td>
<td>Real-World</td>
</tr>
<tr>
<td>Dizer (say)</td>
<td>9</td>
<td>Discourse</td>
</tr>
<tr>
<td>Considerar (consider)</td>
<td>9</td>
<td>Cognition</td>
</tr>
<tr>
<td>Propor (propose)</td>
<td>8</td>
<td>Discourse</td>
</tr>
<tr>
<td>Definir (define)</td>
<td>7</td>
<td>Real-World</td>
</tr>
<tr>
<td>Argumentar (argue)</td>
<td>6</td>
<td>Discourse</td>
</tr>
</tbody>
</table>

Only two verbs (“conduct” and “define”) are frequently used to talk about research procedures. In contrast, seven of the most frequently used verbs are from the Discourse category. This indicates that authors spend considerable time presenting their citations with verbs that pass on information or show support for an argument or in some other way specify what other researchers have said, rather than what they have done. Once again, Hyland’s (2000) results show this same preference for using discourse verbs, a tendency he identifies with the soft area of social/human sciences.

Given the higher visibility of the category of Discourse verbs, they merit a closer examination. Verbs in this category signal the ways authors prefer to talk about research and researchers. “Discourse” is subdivided into three subcategories, in the scheme of Thomas and Hawes. (See Table 4 below.) The first subcategory, “Qualification”, includes verbs that mitigate the author’s claims or suggest the need for additional research. Some examples from this corpus are “warn” and “limit himself”. The subcategory “Tentativity” shows preliminary claims or hypotheses that will be tested, or else results of experiments. Examples are “indicate,” “propose”, “suggest” and “present”. Verbs in the “Certainty” subcategory are related to more conclusive and definite statements. There are still subdivisions of “Certainty”: “Inform/Record” and “Argument”. The first conveys information in a neutral manner, without implying any uncertainty about the truth of the information and without the author’s interpretation. Examples are “discuss” and “exemplify”. “Argument” verbs allow the author to show the status of the information and take a position. For Thomas and Hawes, this positioning is the way the author shows support for an idea or claim of another author. Examples are “argue”, “criticize”, “agree” and “defend”.

One of the verbs found in the sample of Organizations Studies papers is of special interest. “Argue” is in the “Certainty” subcategories of Discourse verbs. “Argue” occurs six times and is the only verb that stands out in its subcategory. In fact, only eight different verbs were found in this subcategory. It might be asked whether this reveals any socio-cultural trait of Brazilian authors regarding their preference for avoiding disagreement with or challenge to other researchers.

Table 4. Report Verbs in the Discourse Function (%)
In a further breakdown of Discourse verb occurrences, argumentative verbs still have a modest presence. A count of verbs used when authors cited other Brazilian authors revealed that argumentative verbs account for only 14% of the verbs in their subcategory. However, the total count shows that Brazilian researchers are more often cited with Discourse verbs than the overall count shows for all cited authors. This gives more support to the suggestion that the Brazilian authors have a tendency to bring out the discourse element of what they cite more than the research activity (Real-World category) itself. But it also indicates that Brazilians tend to disprefer an argumentative stance or to present other Brazilian researchers in an argumentative posture. Thus, our sample suggests that the argumentative posture – which involves criticism and confrontation – is dispreferred among these Brazilians.

On the other hand, and perhaps more importantly, Brazilian authors use reporting verbs more frequently when citing foreign researchers than when citing other Brazilians. The great majority of citing verbs is used for non-Brazilians. 74% of the verbs about research activities, 75% of the verbs of discourse, and 90% of the verbs of cognition are in citations to non-Brazilians. This indicates a fuller display of what foreign researchers are doing and saying as well as a wider array of options for presenting the writers’ positions toward the status of the information.

Although there are some reservations concerning comparisons with Thomas & Hawes’ texts, one more comparison may shed light on how a linguistic choice reflects preferences among Brazilian authors. Thomas and Hawes propose that different types of verbs perform certain functions in the reports, and this leads them to draw conclusions about verb patterns used by authors. One of their findings is that Cognition verbs show consensus views among scientists, so that a writer signals how a large number of researchers “view” a matter or what they “believe” about an issue. These show a general endorsement of ideas by the scientific community and may lead to other studies (Thomas and Hawes 1994: 145). It seems pertinent to ask whether Brazilian authors use Cognition verbs in a similar way and thus reveal their perspective on how researchers collectively view matters in their area of study. However, the Cognition verbs in this sample do not have this same function but instead, with few exceptions, they are mostly used in reference to particular authors. This suggests perhaps that these writers have a limited awareness of what the Brazilian academic community in Organizations Studies thinks about research activity and debates going on in its area. Moreover, it may also suggest a weak or fragmented sense of discourse community.

So far we have discussed the tendencies in the citation practices in terms of the two dimensions of surface form. Another point that deserves attention is citer motivation, as discussed by White (in press) and by Swales (1986). There are various classification schemes accounting for the reasons for citing an author. In Garfield’s (cited by White) speech act classification scheme, for example, some reasons for citing are to give credit for related work, to criticize another writer’s work, and to make a claim. Still another way of looking at citer motivation is that it is a form of persuasion, which White attributes to Gilbert (1977, as cited in White). In other words, writers use citations to persuade the reader that their case is worthy. White also mentions the notion of privileged works, which means that authors are cited because they are already eminent or because they are from America or their text is in English. This view of citer motivation seems relevant to the case of the authors of the Organization Studies papers in this sample, as we will point out below

5. The perspective of Brazilian researchers

Beyond the question of citation practices in research articles, some Brazilian researchers have begun a broader debate on the scope and nature of research in Business Studies. One voice in this group is Miguel Caldas (1997), who maintains that, culturally speaking, in the Brazilian imagination whatever comes from abroad, or what is associated with the other, is important and will be valued more than local items. Part of his conclusion is that, in terms of research, what Brazilian academics produce is not only of marginal relevance to business studies around the world but also detached from local settings. In his interpretation, the fixation with the other in theoretical work has made Brazilian researchers create a distance from themselves (Caldas 1997:89).

Other Brazilian researchers have also voiced their criticisms concerning the fact that Brazilian research is detached from local settings. One problem is that, in contrast to the wealth of knowledge that has grown through extensive research in the United States, there has been little research done in Brazil on firms; as a result, little is known about them (Bethlehem 1998: 340). This is a curious perception of the situation, given the attraction and prestige that postgraduate courses in Business Studies have in Brazil. However, it may be the case that much work at the Master’s and Doctoral levels does not become published and therefore little of this research knowledge is circulated among members of the academic community.

Still other researchers focus their concerns on the nature of research in Brazil. Bernardes (1999) sees a problem in Brazilian research. He in fact finds his own work limited because it is based on Anglo-American literature and thus has that cultural bias. Juvêncio Braga de Lima, an author whose paper is part of the sample described here, voices an awareness of limitations of research in Brazil, in a summary of various Brazilian researchers that have reflected on their similar concerns. Braga de Lima (1999) observes that, in ENANPAD papers, authors follow a prescriptive focus from an imported model that does not allow them
to account for the particularities of organizations in Brazil and therefore that keeps these researchers from building scientific knowledge that reflects local reality. In addition, Brazilian authors, in following foreign perspectives, do not concentrate on the application of solutions to real situations of managers and administrators. Braga de Lima also cites Vergara and Carvalho Jr. (1995), who discuss the academic debate over the problem of research in the area. While the problem is thought to be one of American domination, some academics see instead a problem of a lack of research in organizational analysis in Brazil. It is generally recognized, however, that there is little concrete knowledge of or concern about the practices of business in Brazil.

6. Conclusion

This paper has examined how Brazilian authors draw on their knowledge of other texts and other researchers in order to construct a view of the business environment, in particular the environment of organizations. From the analysis of the surface forms of the citations, we have seen that these authors give about as much importance to research activity (the Non-Integral form) as to the researchers whom they cite (the Integral form). But one significant finding is that researchers that are foreground in the citations are mostly non-Brazilian, and mostly American. So non-Brazilian researchers are more in evidence in the texts than Brazilians are. It is also significant that in terms of the citations that foreground research activity, the models, concepts and methods associated with academic work outside Brazil are brought up twice as often as elements of research activity in Brazil. One further observation about the choice of reporting verbs is the relatively low number of argumentative verbs. This would indicate an avoidance of the argumentative stance and therefore an avoidance of challenging prestigious researchers and accepted models.

The examination of reporting verbs also shows a greater display of non-Brazilian activity. There are many more verbs used in reports to non-Brazilian researchers than to Brazilians. In being more explicit about viewing what non-Brazilians do and say, are Brazilian authors acknowledging the prestige of researchers from abroad?

The concerns voiced by the researchers mentioned above find support in the sample analyzed in this paper. In the Organization Studies articles, the pattern of citations to Brazilian researchers, which revealed a limited display and a backgrounding of Brazilian researchers, corroborates this view of the relatively sparse research activity related to Brazilian firms. Furthermore, with the greater display of non-Brazilian research and researchers and the non-challenging posture, it would seem that the collaborative construction of knowledge (Hyland 2000: 21) in this area of research allows and welcomes imported models of research.

The problem underlying this situation is that, while the models are being transported from one context and culture into another, the specificity of Brazilian culture calls for a model of its own. The probable consequence of relying on imported models would be, as Carvalho and Vergara (1996: 135) put it, that areas of study like Organization Studies would simply not develop appropriate ways of producing knowledge that reflects the local environment of scientific activity. Again in the view of Carvalho and Vergara (1996: 130), whatever is imported must be viewed critically, with well-grounded knowledge of Brazilian society. This knowledge of Brazilian society may depend on a thorough examination of what Brazilian researchers say and do and less reliance on the other.

The knowledge base for research in Organization Studies in Brazil seems to come from research centers from abroad, and what is presented as knowledge of the area is a reconstruction of that research, more than a construction of knowledge gained from local experience. This is the distance between what some Brazilian Organizations researchers talk about and what is in their local setting. To paraphrase Cronin’s metaphor, it can be suggested that citations are the footprints that bear witness to the importing of ideas, instead of the passage of ideas.

Yet, this paper has also given evidence of the growing debate about the social process of research, a debate carried on by Brazilian researchers like the ones referred to in this paper. This suggests a final hopeful note, since disciplinary knowledge is becoming the focus of ongoing reconsideration that involves researchers from various institutions in Brazil. Future research on the discourse, specifically citation practices, of research papers may detect a collaborative construction of local knowledge.

7. References


White, H. D. (in press) “Citation analysis and discourse analysis revisited”. Applied Linguistics
2.2.5 Trine Dahl

Accommodating the reader: metatext in research articles.
A report from the KIAP project¹

Trine Dahl
Norwegian School of Economics and Business Administration

1. Introduction

In the academic world it becomes increasingly important to get the message across. In other words, the further development of our professional life depends to a great extent on how our findings are received in the research community we are a part of. This again implies that we need to argue our case well and try to anticipate the reader's reaction to the claims we make in our texts. We must, to use Michael Hoey's words, be aware of the text as "a site for interaction" (Hoey 2001:10).

One way that we can provide assistance to the reader in the processing of our text is to make use of metatextual devices. These are devices that do not contribute to the propositional content of the text; rather, they help organise it and act as clues to the reader about what the writer is doing at a particular point in the argumentation. This phenomenon is of course not restricted to academic contexts, but previous studies have shown that it plays a prominent role in teaching and research mediation (Crismore, Markkanen and Steffensen 1993; Bunton 1999; Hyland 1999; Mauranen 2002; Thompson 2003). However, it has also been shown that various disciplines exploit metatext differently, even within the same genre (Hyland 1998). The same is true for different languages (Mauranen 1993; Valero-Garcés 1996).

In this paper I would like to bring these two variables, that is, discipline and language, together in order to discuss which seems to be most decisive in terms of metatext use. Do linguists have their own style when it comes to offering assistance in the form of metatextual expressions, or is it rather the case that e.g. Norwegian researchers clearly form a group here, regardless of whether they are linguists, economists or researchers within other disciplines? This is an issue which belongs in the framework of the KIAP project². In this short paper I will focus primarily on metatext in English and Norwegian, but results and comments concerning French, the third language involved in the project, are given in sections 5 and 6 (cf. Dahl forthcoming for a more detailed presentation and discussion of metatext in the KIAP project).

2. What is metatext?

The concept of metatext is not easily definable. Other terms in use include meta-comments and metadiscourse. We often distinguish between metatext and metadiscourse, using metatext to refer to one category within the broad concept referred to as metadiscourse. Metatext, then, is used about elements serving a primarily textual function, while metadiscourse covers this in addition to meta-elements which function primarily on the interpersonal level, establishing a rapport with the reader (Vande Kopple 1985; Crismore and Farnsworth 1990). Let me illustrate this difference with a couple of examples (all the examples given are from the KIAP corpus):

Metadiscourse

Textual metadiscourse=metatext:

(1) This paper is organized as follows:…
(2) In this section, we discuss…
(3) We have argued above for the use of…

Interpersonal metadiscourse:

(4) If you are like me and find it implausible that…
(5) Why were these forms retained and those forms lost?

In this paper I have restricted my investigation to metatextual expressions. These have been grouped into two categories, namely what I call locational metatext and rhetorical metatext. Examples 1, 2 and 3 above contain both types, with this paper (1), this section (2) and above (3) as locational metatext and organized (1), discuss (2) and argued (3) as rhetorical metatext. So, while locational expressions guide the reader through the text by reference to the text and its parts, rhetorical expressions provide overt information to the reader about what discourse act the writer is performing, thereby easing the processing effort needed to interpret the message. I include only verbs in this category.

¹ This project is financed by the Research Council of Norway.
² KIAP: Kulturell Identitet i Akademisk Prosa (Cultural Identity in Academic Prose); cf. section 3.
3. Corpus and methodological issues

My investigation of metatext belongs in the much broader framework of the KIAP project (www.hit.uib.no/kiap). Breiv eag, Dahl and Fløttum 2002; Fløttum 2003a,b). This is a linguistically based project aiming at identifying cultural identity in academic texts. It is a doubly contrastive project taking both discipline and language into consideration. We are interested in writer manifestation as an expression of cultural identity, and we want to see if such identity is linked primarily to the author's native language culture or primarily to the disciplinary culture he or she is socialised into. The languages involved are English, a world language and a popular object for studies within academic discourse; French, also a world language, but one which has not been studied much in the context of writer identity; and Norwegian, definitely not a world language and hardly studied at all in such a context (an important exception is Breiv eag 2001). We have looked specifically for authors in the three languages who are likely to be native speakers. As for disciplines, we study representatives of the three major scientific fields, namely natural science (represented by medicine), social science (represented by economics) and the humanities (represented by linguistics).

Our final corpus will consist of approximately 450 research articles divided over the three languages and three disciplines. At present we work with 180 articles, called Corpus 1. This corpus consists of some 800,000 words, a figure which only includes the so-called body part of the article. Abstracts, headings, examples, tables, footnotes, references etc. have been stripped off. The list of search items has been established through a combined process of armchair linguistics, manual work with the texts in a pilot phase, as well as inspiration from previous studies. The automatic search process produces lists of occurrences of each search item in its context. As is often the case in such automated searches, the program turns out hits which are not relevant for the investigation. Let me give a few examples of such noise in the corpus:

(6) …his influential 1985 paper on…
(7) The definite article appears as an epithet…
(8)…emergency caesarean section was less likely among younger mothers…
(9)…countries with per capita income below $1500 in 1985…

As a consequence we have to go through the lists manually in order to weed out irrelevant hits.

4. Results and discussion

The findings are presented in tabular form below, with data on the two languages in Table 1 and data on the three disciplines in Tables 2 (locational) and 3 (rhetorical). The figures given are the relative frequencies expressed as the percentage which the number of occurrences represents in relation to the number of words in the relevant (sub)corpus.

Table 1: Metatextual elements: Overall relative frequency in English and Norwegian

<table>
<thead>
<tr>
<th>Language</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>0.37</td>
</tr>
<tr>
<td>Norwegian</td>
<td>0.34</td>
</tr>
</tbody>
</table>

Table 2: Locational meta-elements for two languages and three disciplines

<table>
<thead>
<tr>
<th>Discipline</th>
<th>English</th>
<th>Norwegian</th>
</tr>
</thead>
<tbody>
<tr>
<td>economics</td>
<td>0.30</td>
<td>0.30</td>
</tr>
<tr>
<td>linguistics</td>
<td>0.21</td>
<td>0.20</td>
</tr>
<tr>
<td>medicine</td>
<td>0.02</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Table 3: Rhetorical meta-elements for two languages and three disciplines

<table>
<thead>
<tr>
<th>Discipline</th>
<th>English</th>
<th>Norwegian</th>
</tr>
</thead>
<tbody>
<tr>
<td>economics</td>
<td>0.19</td>
<td>0.18</td>
</tr>
<tr>
<td>linguistics</td>
<td>0.18</td>
<td>0.11</td>
</tr>
<tr>
<td>medicine</td>
<td>0.05</td>
<td>0.04</td>
</tr>
</tbody>
</table>

We see from Table 1 that as regards language, English and Norwegian scientific writers display a very similar pattern of metatext usage. When it comes to discipline, Tables 2 and 3 show that economists use more metatext than linguists, and that these two use a lot more than the medical writers. These two tables also reveal that locational metatext is more frequent than rhetorical, that is in economics and linguistics. In the medical texts the situation is the opposite. I will comment on this point below.

From these results we may conclude that for these two languages the discipline variable seems to be the important one in the study of metatext. English and Norwegian economists, as well as linguists and medical researchers accommodate their readers in a very similar way. The only exception seems to be the linguists' use of rhetorical metatext. A closer look at the meta-elements for this group reveals that this result to a great extent is due to English linguists being frequent users of the verbs *argue* and *discuss*, while Norwegian linguists use the corresponding verbs *argumentere* and *diskutere* only modestly.

---

5 It was suggested by John Swales in the discussion of the present paper that this difference might be due to the more competitive environment of the Anglophone world of linguistics.
So, were these results what we had expected or not? As regards the language variable, our hypothesis was that English scientific writers use more metatext than Norwegian (Breivega et al. 2002). This was not really confirmed by the results of my investigation. On the basis of these findings, we might claim that both English and Norwegian are representatives of so-called reader-oriented cultures (Hinds 1987). Anna Mauranen's description of the Anglo-American writer as someone who invites the reader "to take a tour of the text together with the author, who acts as a guide" (1993: 16), may also be extended to the Norwegian scientific writer. An example from one of the Norwegian economics texts in our corpus provides support for this claim:

(10) La meg derfor bare gi et lite hint om sammenhengen nå, og invitere leseren til å lese seg videre ned gjennom artikkelen for å få med seg detaljene.

[Let me therefore just hint at the connection now, and invite the reader to read on through the paper to pick up all the details.]

As for the discipline variable it was unexpected that economics texts in fact had a higher frequency of metatext than linguistics texts. One of our hypotheses was that linguists would be more visible as writers in their texts than economists and medical writers (Breivega et al. 2002). However, my investigation into the use of metatext has shown that the economist is very much present in the text, particularly in the function of the guide providing signposts which the reader can use when navigating within the text. It is in fact in the locational metatext category that we see the clearest differences between the economists and the linguists. If we again take a look behind the figures we find that the difference to a great extent can be pinned down to a difference in frequency of a few meta-elements. The words in question are article/paper and section and their Norwegian counterparts. It almost seems to be a genre requirement that the research article within economics should refer to itself and its parts throughout the text and in particular in the introduction part of the article, providing the reader with a schematic outline of the paper:

(11) The rest of this paper is organized as follows. Section 2 briefly describes … We present our model of information sharing in Section 3, where we show that … Section 4 describes some of the central bank's activities that are … Section 5 concludes and suggests avenues for further investigation.

Linguists, too, often do this, but the feature is less consistently observed in that discipline.

Let us now take a closer look at medicine, the discipline where there were relatively few metatextual elements. The figures in Tables 2 and 3 indicate a dichotomy between economics/linguistics on the one hand and medicine on the other. To use Bazerman's words, there seems to be a difference in how "language accomplishes the work of science" (Bazerman 1988: 291). Research articles in the humanities and social sciences also display similarities in terms of text structure, but they are far from being as homogeneous in this respect as articles within the natural sciences. The medical articles in our corpus all follow the expected IMRD structure (Swales 1990), even articles which are more theoretically oriented than the traditional reporting from a study undertaken. The use of this formalised structure to present one's research data implies that all the information chunks find their given place within the text. This is understood by writer and reader and, as a consequence, there is no need to specify where in the text information is found by means of locational metatexual expressions. When it comes to rhetorical metatext, we saw from Table 3 that there was more of this in the medical texts than of the locational type. Even so, there was much less such metatext, too, in the medical articles compared to economics and linguistics. What turns out to be the case is that in the medical texts the research process has turned textual in a different way than in the other two disciplines. What I mean by this is that the writing tradition within that discipline allows for the presentation of research data as an account of research acts which to a lesser degree must be turned into discourse acts than what is the case in economics and linguistics. A high number of verbs in the medical articles are of the research process type, such as

(12) I carried out a study…
(13) I examined the qualitative data…
(14) We entered all data on…
(15) We excluded patients with a…

One explanation for this may be that the medical researchers work with physical objects and measurements, while economists and linguists typically work with more abstract notions. They have to create connections and to some extent construct consequences through the interpretation of data to a greater extent than the medical writers, who in many cases may refer to natural laws and report according to standardised procedures. The same thing is reflected in the very low frequency of references to the medical article as a text, and the high frequency of the word study, which has not been included as a locational metatext item.

5. What about French?

As can be seen from Tables 4 and 5 below, French authors use far less metatext than their English and Norwegian colleagues. The main difference in the locational category may be spotted in the occurrences of words referring to the text itself (e.g. Fr. article) and to parts of the text (Fr. section, paragraphe, partie). Such words are very common in English and Norwegian research articles, at least within economics and linguistics. It is, however, not just in the use of these locational expressions that the difference is observed. We also see it in the use of locational words pointing backwards and forwards (e.g. above, and below and their Norwegian and French counterparts) and now (Norw. nå; Fr. maintenant). This seems to indicate that French writers are less concerned about the function of guiding the reader through the text compared with English and Norwegian researchers.

Table 4: Locational meta-elements for three languages and three disciplines
<table>
<thead>
<tr>
<th>Discipline</th>
<th>English</th>
<th>Norwegian</th>
<th>French</th>
</tr>
</thead>
<tbody>
<tr>
<td>economics</td>
<td>0.30</td>
<td>0.30</td>
<td>0.10</td>
</tr>
<tr>
<td>linguistics</td>
<td>0.21</td>
<td>0.20</td>
<td>0.10</td>
</tr>
<tr>
<td>medicine</td>
<td>0.02</td>
<td>0.01</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Table 5: Rhetorical metatext for three languages and three disciplines

<table>
<thead>
<tr>
<th>Discipline</th>
<th>English</th>
<th>Norwegian</th>
<th>French</th>
</tr>
</thead>
<tbody>
<tr>
<td>economics</td>
<td>0.19</td>
<td>0.18</td>
<td>0.06</td>
</tr>
<tr>
<td>linguistics</td>
<td>0.18</td>
<td>0.11</td>
<td>0.09</td>
</tr>
<tr>
<td>medicine</td>
<td>0.05</td>
<td>0.04</td>
<td>0.04</td>
</tr>
</tbody>
</table>

6. Concluding remarks

I claimed in section 4 that discipline seemed to be the decisive factor in terms of metatext. However, the inclusion of French articles has changed the picture somewhat. What now seems to be the case is that when comparing English and Norwegian, discipline matters the most, in that for both these languages the frequency of metatext was quite similar within the three disciplines irrespective of language.

The French results, on the other hand, revealed lower frequencies of metatext in both economics and linguistics. In fact, the figures for these two disciplines were quite close to what was recorded for the medical texts. From this two conclusions may be drawn, one relating to language and one to discipline.

As regards language, it seems clear that from a metatext perspective English and Norwegian represent reader-oriented cultures. The role of the academic author seems to be that of taking the reader by the hand and guiding him or her through the text. French academic writers, on the other hand, take a different view of their role in the mediation through text. They present their argumentation and leave it up to the readers to find their way through the text. Hence, these results relating to metatext seem to indicate that French represents a writer-oriented culture. Whether French academics are able to switch between the reader-oriented way of writing when producing articles in English - which they must if they want a wider audience - and their native writer-oriented approach, is something that should be investigated. A study of Spanish scientists writing in English indicates that this is no easy task (Valero-Garcés 1996).

When it comes to the discipline variable, we have seen that English and Norwegian academic writers are marked by the practices of their discipline. Economists in both these two languages are the most frequent users of signals to their readers about how to handle the text. This is particularly true for locational metatext providing navigation signals. Linguists, too, provide their audience with metatextual clues to ease the text processing. The medical writers, on the other hand, rely on the IMRD format in the structuring of their material. Little extra processing help is offered in the form of metatext. This contributes to the impression of the medical texts as accounts which are closer to the research process than what is the case for the economics and linguistics texts. This is probably due to the fact that in the latter two disciplines, research results are to a large extent created through the argumentation built up within the text, in contrast to medical research which typically takes place in the laboratory by means of commonly acknowledged methods and procedures.

References


Dahl, T. Forthcoming: Textual metadiscourse in research articles: a marker of national culture or academic discipline?


3 Dichotomies in LSP Research

In terminology research there has always been a tension between the Platonists/neo-Platonists, who argue that concepts have a primacy over language, and the quasi-Aristotelian view that our senses, and indirectly language, is at least on a par with concepts, if not dominating them. But this apparent polarity is not strong and, indeed, there are crossovers especially since the parent discipline of LSP is a professional subject which has an overarching theoretical framework yet is dedicated to the practice of creating and using specialist texts. In this chapter, the reader is challenged to consider a number of dichotomies which in some cases remain just that, and in others, are resolved for particular contexts.

Focusing on terminology as ‘a discipline addressing categorisation and epistemology’, in the first lead article Johan Myking outlines a number of dichotomies at the heart of the growing scholarly literature, at the same time suggesting that ‘renegotiation’ is both productive and necessary in order to move beyond a structuralist either/or view which risks oversimplification of the complex issues involved, at worst setting up false Aunt Sallies, at best creating barriers to progress. The second dichotomy addressed in the lead articles of this chapter is that of LSP and literary texts, except that the paper presented by Christer Laurén argues for credible links between these two types of writing. Adopting a historical approach, Laurén takes us through oriental ‘polythematics’, the classical Greek tradition, the early novel and observational science, French realism and Darwin, and modern trends. His main argument is that writers of science—with only a few exceptions—do not dare to manipulate their own text traditions, whereas ‘literary writers have always been bold in relation to their conventions’. Hence, LSP authors (specifically writers of science) have followed in literary traditions. The final lead article explores alternative—but ultimately interdependent—sign systems in a communicative framework. From this intersemiotic perspective, Heribert Picht explores the conversion of signs between different semiotic forms of representation particularly in relation to objects and concepts. Stressing the importance of both linguistic and non-linguistic signs, as well as their interactions and potential interchangeability in LSP texts, he argues that adequate specialist knowledge is a necessary pre-condition for the successful conversion of signs, at least from a communicative perspective.

Looking beyond semiotics, Larissa Alexeeva sets out to explore the ‘philosophy of terminology’, still focusing, however, on the fundamental relationship between terms, the mind and the world, but searching for a theory of the term. Starting from a historical background, she moves through the philosophy of terminology in Russia, terminology and logic to modern terminology and science, concluding that philosophy can at some level be a unifying force in the complex matter of understanding the nature of the term and its relationship to knowledge. Continuing the theme of science and conceptualisation, Sylvie Vandaele explores the role of metaphor in the terminology and phraseology of cell biology, a key area of modern medicine. Using a bilingual French/English corpus of specialist texts, she concludes that the hierarchies typically used in ‘classical terminology representation’ do not account for some strong semantic links (syntagms) which may be of particular importance for text-based activities such as translation. Also taking a cognitive view, Larissa Manerko considers language, more specifically, complex noun phrases in English, as a window on spatial relations, which she perceives as occupying a privileged position in human conceptualisation. Problems of understanding between experts and non-experts in the legal field—specifically in the court system Federal Republic of Germany—is the topic addressed by Ingrid Simmonæs, who proposes that as representations of extralinguistic knowledge, concept systems can illuminate the use of linguistic elements such as terms and their paraphrases in court judgements.

Writing from the more applied perspective of terminography, Riina Kosunen critically re-evaluates Wüsterian-based terminology standards and welcomes more recent communicatively-orientated approaches in order to find solutions to problems such as the codification of dynamic concepts, polysemy and near-synonymy. Based on her experience in the Finnish Government Terminology Service, she examines three problematic cases, before concluding that the target user group and purpose of the terminology collection can guide what are for the present still *ad hoc* solutions. The paper by Carolina Popp and Ana Maria Pereuilh calls for the renewal of the theoretical bases underpinning terminology research through the collaboration of scholars working in a range of disciplines. The authors propose the creation of a database of current terminology work, with the aid of Infoterm, in order to disseminate work going on in different parts of the world, and a virtual forum where ideas can be exchanged and debated.

Taking a broad view of ‘meaning making’ across cultures, particularly for L2 learners, Marie J. Myers takes us through a wide range of factors influencing our self-identity, behaviour and linguistic relations with others within and across cultures. It is argued that, as we constantly have to adjust our representations of the world and the other, sociopragmatic aspects of language use are of global importance. Representation of a different kind is addressed by Heike Jüngst in her paper on supporting LSP learners in giving oral presentations on natural science topics. She proposes an intermodal technique using visual representations based on familiar shapes and patterns to aid memory in solving reference problems in the second language. Or, as Jüngst herself puts it, using ‘simple structures’ to visualise ‘complex meanings’.

In an earlier contribution to this chapter, Vandaele discusses a metaphor-based approach the conceptualising the scientific domain of cell biology. A different approach is adopted by Marita Kristiansen in her analysis of concept borrowing and adaptation in the emergent domain of organisational behaviour, comparing the development of concepts in this domain with that of concepts in its mother disciplines, including psychology, sociology, anthropology and political science. As a criterion of discipline autonomy,
Kristiansen cites a distinctive conceptual structure. It is argued that conceptual analysis can indeed shed light on the relations between disciplines, at least, between those selected here from the behavioural sciences.

In Nina Pilke’s contribution, the perspective shifts towards the role of concepts and terms in academic/educational seminar discussions. Analysing transcripts of three academic levels of seminars, Pilke concludes that at the lowest ‘proseminar’ level terms and concepts are barely discussed, whereas in doctoral seminars nearly 40% of terms identified are concerned with such issues, reflecting in all likelihood the crucial role of concept development in doctoral theses. The pedagogical dilemma of authenticity versus customisation in the development of ESP classroom tasks is the topic taken up by Aus Solbjørg Skulstad in her contribution on writing tasks and genre awareness. In arguing that good genre-specific writing tasks allow learners to ‘get involved in […] rhetorical and linguistic choices’, she proposes four criteria which, in her view, resolve the dilemma by fostering choice-making. Richard J. Alexander also considers the context of the task for the LSP learner in his paper on ‘Can-do’ statements and their relevance to LSP syllabus development for business purposes. Such statements, conventionally used by testing bodies (see also ‘graded objectives’), can and should, Alexander argues, be used as guides to the construction of LSP syllabuses, shaped by the context of particular individual or institutional priorities.

The ESP theme is continued by Mahmood Reza Atai and Mohammad Hassan Tahririan in their evaluation of ESP teaching in the Iranian Higher Education System with particular reference to reading comprehension. Their nationwide study, using a large sample from a broad population of students and tutors grouped according to discipline base, demonstrates that ESP teaching is not fulfilling stated expectations, although medical students tend to perform best. As the study demonstrates the importance of general English for success in special English, their recommendation is to review the currently separate stages of English teaching for general and then special purposes as a ‘single coherent and interconnected system’, thereby removing a dichotomy.

One aspect of texts which has until recently been largely ignored as irrelevant to LSP, is that of emotional expression. Arguing for a different perspective, Klaus-Dieter Baumann presents an interdisciplinary analysis of text-based data from a communicative-cognitive point of view, focusing on the unexpected topic of emotion in LSP. He concludes that emotion and cognition are closely linked, promising new avenues of LSP research. Michael Wittwer continues this theme with a case study, examining what he calls the ‘emotionality’ of popularising medical texts in paediatrics in a translation context. He proposes three strategies to support the translation process and argues for further case studies in this neglected area, for which, it seems, texts aimed at children are particularly suitable. A further unusual aspect of LSP studies can be found in the contribution by Guadalupe Aguado de Cea and Immaculada Álvarez de Mon y Rego who consider the role of culture in technical translation in the field of Information Technology. Using a functional approach, they identify a number of changes in the Spanish translations of articles from the US Byte magazine, ranging from a different choice of terminology in order to avoid transferring SL connotations, to the omission of references to culture-specific US phenomena. While legal language is conventionally held to be precise, its use in international treaties can be purposely vague, according to Giuditta Caliendo in her contribution on intercultural traits in legal translation. Legal translators as mediators between legal systems must find solutions which balance the requirements of both vagueness and precision. Some of the problems faced are illustrated on the basis of a trilingual English/French/Italian glossary of criminal law and human rights.

This chapter addresses many challenging issues for LSP studies today, some involving almost ideological debates, others revealing new insights or developing more established traditions. Topics addressed include metaphor and science, cognition and language, standards and communication, terms and paraphrases, meaning and the other, intermodality, domain identity, concept development in an academic context, authenticity versus customisation in ESP tasks, testing constructs and syllabus design, LSP and emotions, culture and technology, and vagueness and precision.
3.1 Lead Articles:

3.1.1 Johan Myking

Dichotomies: impossible and indispensable?
Johan Myking
University of Bergen

1 Introduction

Like most other fields of research, terminology has been constituted by a set of dichotomies, such as, for instance: *general and special language(s)*, *terminology and linguistics*, *terminology and lexicography*, *words and terms*, *semasiology and onomasiology*, *motivation and arbitrariness*, etc. It is generally agreed that the research traditions of LSP and terminology largely rest upon a number of such dichotomies.

In recent years a meta-discussion and criticism of dichotomisation has been carried out within a number of social sciences (cf. Miegel and Schou 1998) and also in linguistics, notably by Robert de Beaugrande (cf. 1997a, 1997b). Further, traditional terminology is currently being questioned and criticised by proponents of new trends in terminology and terminography, and this criticism tends to take the central dichotomies as their point of departure.

As a discipline addressing categorisation and epistemology, terminology cannot escape these trends of rethinking. The study of scientific dichotomies forms part of the study of the metadiscourse of a science. The study of the dichotomies of terminology as important features of the metadiscourse of this discipline might contribute to a better understanding of the state-of-the-art within the field of terminology as well as current tensions and development trends.

2 The project

My paper is part of the joint project “Semiotic theses (and paradoxes) about terminology as part of special communication” with Ch. Laurèn and H. Picht (cf. Laurèn this volume, Picht this volume). Under the heading “The impossible task of dichotomisation”, I take as point of departure the following two theses:

- There are no fixed boundaries between specialised communication and other forms of communication, and, consequently,
- there are no fixed boundaries between terms and the rest of vocabulary & phraseology.

However trivial and obvious they may seem, these theses represent a criticism of traditional positions which imply that terminology “is something else” than linguistics, that special language “is something else” than general language, that terms are subject to “other laws” than words, etc.

The idea behind this project is to explore contrasting pairs from texts on terminology as lexical evidence of patterns of thought, and thus start the analysis from a semasiological angle. By combining a semasiological study of some of the central dichotomies of terminology with a historical approach, I hope to demonstrate that a central set of terminological dichotomies at present may be perceived as pseudo-dichotomies due to epistemological progress.

My thesis is that this perception is interest-driven (externally, from the viewpoint of other disciplines, as well as internally, from within the discipline), and that dichotomies are inherently subject to “(re)negotiation” Some dichotomies of terminology have already been renegotiated, others still wait to be put on the agenda, and a number of new dichotomies seem to appear.

3 The core dichotomies of terminology

Taking Wüster's *Einführung* (Wüster 1985) as the starting point, we will see that even in the short chapter 1 on the particularity of terminology (pp.1–5) a number of contrasting pairs occur. They are easily recognisable as well-established meta-terms of the wüsterian tradition, expressing basic tenets of this tradition:

<table>
<thead>
<tr>
<th>Terminologielehre</th>
<th>Sprachwissenschaft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sprachzustand</td>
<td>Sprachentwicklung</td>
</tr>
<tr>
<td>(das Reich der) Begriffe</td>
<td>(das Reich der) Benennungen</td>
</tr>
<tr>
<td>Begriffen</td>
<td>Wortinhalten</td>
</tr>
<tr>
<td>Sachbedeutung</td>
<td>Mitbedeutung</td>
</tr>
<tr>
<td>Ist-Norm</td>
<td>Soll-Norm</td>
</tr>
<tr>
<td>Sprachrichtigkeit</td>
<td>Zweckmässigkeit</td>
</tr>
<tr>
<td>(alphabetisch) Anordnung</td>
<td>systematisch Anordnung</td>
</tr>
<tr>
<td>einsprachig</td>
<td>mehrsprachig</td>
</tr>
</tbody>
</table>
Not all of these pairs can be assigned the status of stable and conventional dichotomies. For example, it is true that the pair *monolingual/multilingual* expresses some sort of binarity and complementarity. It is not so obvious, however, that one member of this pair expresses a property typical of terminology and thus creates a contrast to something that is not equally typical, whereas ‘demarcation’ probably is the main function of dichotomies, cf. below.

The following tables list a number of well-known dichotomies, based not on frequency lists but on interpretation from reading the works of terminology. The lists will, for reasons of space, not be fully documented with bibliographical references, but the reader will easily recognise and identify the dichotomies with respect to specific authors and works. Based on interpretation I think we can easily distinguish the following three types of dichotomies:

### 3.1 Dichotomies of demarcation
These dichotomies demarcate and identify terminology as a discipline or domain of research, and indicate that it is a distinct discipline by contrasting it with other disciplines. It is possible to distinguish two subgroups of demarcation dichotomies:

**External – with respect to neighbouring or competing disciplines:**

<table>
<thead>
<tr>
<th>terminology</th>
<th>linguistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>terminology</td>
<td>lexicology</td>
</tr>
<tr>
<td>terminology</td>
<td>lexicography</td>
</tr>
<tr>
<td>terminology/-graphy</td>
<td>special lexicography</td>
</tr>
</tbody>
</table>

**Internal – with respect to directions within terminology:**

| “traditional” | sociocognitive terminology |
| terminology   | socioterminology |

### 3.2 Parametrical dichotomies
These dichotomies outline basic tenets, principles and methods as well as data and objects of study. Parametrical dichotomies of course also serve demarcation purposes:

<table>
<thead>
<tr>
<th>term</th>
<th>word</th>
</tr>
</thead>
<tbody>
<tr>
<td>onomasiology</td>
<td>semasiology</td>
</tr>
<tr>
<td>arbitrariness</td>
<td>motivation</td>
</tr>
<tr>
<td>special language (LSP)</td>
<td>general language (LGP)</td>
</tr>
<tr>
<td>subject specialist</td>
<td>layman</td>
</tr>
<tr>
<td>(pertaining to) subject</td>
<td>(pertaining to) language</td>
</tr>
<tr>
<td>subject specialist</td>
<td>terminologist</td>
</tr>
<tr>
<td>special communication</td>
<td>* general communication?</td>
</tr>
</tbody>
</table>

At least one dyadic pair is incomplete, the counterpart of ‘special communication’ is redundant or less acceptable, as this term is coined by analogy to one member of the ‘special language’ dichotomy.

### 3.3 Dichotomies of (internal) specialisation
Certain contrasting pairs and/or collocations express important conceptualisations and distinctions within the scientific tradition, i.e., they do not express any antagonism towards something “outside” or “inside” the discipline as in the previous groups. Rather, the lexical relationship between the members might be grasped by categories such as hyponomy or part-whole:

<table>
<thead>
<tr>
<th>special language (LSP)</th>
<th>terminology</th>
</tr>
</thead>
<tbody>
<tr>
<td>terminology</td>
<td>terminography</td>
</tr>
</tbody>
</table>

### 3.4 Identification by clusters of dichotomies
By interpretation and scientific common sense, I find that the following set of dichotomies should be considered the core cluster of dichotomies: These are the dichotomies by which terminologists claim and/or are assigned their scientific status and the dichotomies “by which terminologists live” or, at least, by which they allegedly live (2 demarcational, 4 parametrical):

<table>
<thead>
<tr>
<th>terminology</th>
<th>linguistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>terminology</td>
<td>lexicography</td>
</tr>
<tr>
<td>term</td>
<td>word</td>
</tr>
<tr>
<td>onomasiology</td>
<td>semasiology</td>
</tr>
<tr>
<td>arbitrariness</td>
<td>motivation</td>
</tr>
<tr>
<td>special language (LSP)</td>
<td>general language (LGP)</td>
</tr>
</tbody>
</table>

Such lists may indicate a co-variation (disputed or agreed) between members of dichotomies, and the list itself may appear as a cluster. Within terminology, there has been a tendency to define terminology in contrast to lexicography and linguistics by
concepts such as ‘term’ vs. ‘word’, ‘onomasiology’ vs. ‘semasiology’, etc. The combination of scientific preferences for ‘term’, ‘onomasiology’ and other members on the left hand side thereby indicates membership in the community of terminologists.

4 Dichotomies – features and functions

The concept of ‘dichotomy’ belongs to philosophy and theology rather than to lexical semantics, which does not use ‘dichotomy’ as a precise analytical category. As dichotomies are instances of the general principle of binarism, a plausible assumption would be that they share properties with other forms of lexical opposites, whether termed contrast, antagonism, antithesis, antonymy, dyade, binarity, opposition, counterparts, or polarity. Opposites are a heterogeneous class, as discussed by, amongst others, Cruse (1987).

The philosophers Miegel and Schoug define ‘dichotomy’ in the following way: (cf. Greek *dicha-* ‘two’ and *temnein* ‘divide’ or ‘cut’):

A conceptual division of a category in two subcategories. A dichotomy can be considered a dualism that organises thought in separate classes which tend to have a binary relationship. This binarity can be of a principled logical nature, one member per definition excluding the other (Miegel and Schoug 1998:14, translation by JM)

Within structuralism and semiotics, the works of Lévi-Strauss and the markedness theory initiated by Roman Jakobson in particular have dealt extensively with binarism as a salient pattern of thinking and categorisation. Charles Sanders Peirce writes in an unpublished paper:

> Two is the number of hard common sense, of the stern moralist, of the practical man. “Yes or no? Answer me categorically,”, says such a man. Heaven and hell, right or wrong, truth and fiction, gain and loss, agent and patient, living or dead, --on such distinctions our practical life turns (Peirce, unpubl. cit. Jørgensen 1997:227)

This does not mean, however, that there is something “unethical” associated with binary thinking, only that it organises perception an action along different lines than other forms of thinking. We might argue that dichotomies (like all forms of contrasts) have three basic functions which all are parts of scientific discourse:

- First, a *cognitive* or epistemological function, including classification and ordering, which makes new insights possible;
- second, a *didactical* function, including a rhetorical – which facilitates focussing, often on the ‘positive’ pole in particular and corresponds to the stylistic figure of antithesis;
- third, a *sociological* function, demarcation of membership in particular groups or settings, in the extreme form political – “friend or foe”.

Miegel and Schoug (1998:14) emphasise that binaries often are the product of concrete contexts. Dichotomies are context-bound but also context-negotiable. They may be praxis-bound and are not (always) stabilised and lexically coded opposites. Many opposites often have an important cultural significance and are difficult to reduce into simpler oppositions (“yin : yang”, “heaven : hell”, “body : soul”). According to Cruse, almost “anything” may obtain a dichotomy-like status or a binary choice given the appropriate contextual restrictions, cf. Cruse’s examples “coffee : tea” or “gas : electricity” (1987:198) (which are not good examples of lexical(ised) opposition, but relevant to many terminological settings). At the surface level, it is difficult or even impossible to distinguish dichotomies from mere collocations on the basis of linguistic criteria.

Two co-hyponyms which share a common superordinate is a binary pair if only the subordinate level is considered. It seems, however, that in culturally salient dichotomies no such superordinate concept be found except by metalinguistic construction – there is no “natural” lexicalised superordinate of the “yin : yang” or “body : soul” types.

Cruse (1987:262) lists a set of criteria for ‘good oppositions’. Due to the context-specificity of scientific dichotomies it does not seem plausible to demand a very powerful analysis, i.e. that all or most criteria should be met. If a weaker analysis is adopted the following three criteria seem possible to apply:

- **Neutralisation** (Cruse 1987:255ff.) occurs for instance if a lexical unit which participates in an opposition has a co-lexemic superordinate (e.g. *dog/bitch : dog*). This co-lexemic member is then neutralised.
- **Semantic markedness**: Following Cruse (1987:257), the unmarked term is the neutralised, co-lexemic superordinate term, e.g. *dog* in the *dog/bitch* contrast. Following Harris 2001:163, one member of the pair is ‘marked’ by a plus or ‘positive’ value, the other ‘unmarked’ by a minus or negative value as it lacks the feature in question. Thus, the neutralised term *dog* lacks the marked or positive feature of <female>.

If there is any point in taking a semasiological approach, it would be because the lexical meaning conveyed in a dichotomy very often corresponds to a commonsense analysis that distinguishes “insiders” from “outsiders”. “Outsider” is of course a very ambiguous and non-scientific notion, which refers to the interested friendly-minded colleague or layman as well as colleagues who are proponents of different scientific approaches. So, commonsense semasiological analyses should only be used/explored as far as they reach.
In some cases it does seem possible to analyse some of the dichotomies of terminology within the framework of co-lexemic neutralisation and markedness, by inserting a superordinate:

<table>
<thead>
<tr>
<th>lexicography vs. terminology</th>
<th>lexicography vs. TERMINOLOGY</th>
</tr>
</thead>
<tbody>
<tr>
<td>lexicography vs. terminography</td>
<td>lexicography vs. TERMINOGRAPHY</td>
</tr>
<tr>
<td>terminology vs. terminography</td>
<td>terminology vs. TERMINOGRAPHY</td>
</tr>
<tr>
<td>words vs. terms</td>
<td>words vs. TERMS</td>
</tr>
</tbody>
</table>

Within such an analysis, the tests for neutralisation, markedness and co-lexematic superordinates easily lead to the conclusion that the members to the right, terminology, terminography, etc. bear the ‘positive’ value, i.e. they are the ‘marked’, ‘unusual’ or ‘noteworthy’ members. When we speak of ‘terminology’, we speak of something more distinct and specific than of the broad field of “lexicography”, hence: terminology is the ‘marked’ member. Similarly, within the context of terminology, terminography is the specific, distinct and ‘marked’ member with respect to the broader field of terminology. Depending on world-view, intentional depth and degree of ‘Fachlichkeit’ (cf. below) such analyses probably will make some sense in certain contexts, but there is of course nothing ‘objective’ about them: Some kind of “world-view” is expressed, and in some cases a world-view might suit non-terminologists and at the same time correspond to a common-sense understanding (“because terms are some sort of words, terminology must be some sort of lexicography”). In other cases, the focus on the ‘positive’ member is a point of departure for disputing the whole distinction.

In other cases it is all too evident that the co-lexemic subordinate is only potential. To comply with the general scientific understanding of the matter the subordinate cannot do without a specifier which makes the hyponymy unambiguous:

| language |
|-------------------------------|-------------------------------|
| *language vs. special language | general vs. special language |
| linguistics vs. terminology | sociolinguistics vs. terminology |

Finally, in a number of dichotomies this kind of analysis does not hold. It seems very difficult to establish a superordinate concept of motivated: arbitrary or semasiology: onomasiology except by learned construction.

The principles according to which dichotomies are organised can then be summarised as

a) (an idea of) difference and  
b) antagonism, combined to form an internal hierarchy of  
c) normality – one of the categories of a dichotomy is considered more ‘normal’ than the other. This is  
d) a powerful strategy of focussing on the relevant object (in casu: of study), and this, in turn, corresponds to such aims as  
e) identity marking, in casu: in building cohesive research communities and gaining general acceptance from the broader research community. This would also mean that dichotomies are  
f) interest-driven: Whatever merits the label of ‘normal’ obviously must depend upon point of view.

One last point should be noted: A number of dichotomies from linguistics probably would be very hard to analyse in terms of neutralisation and markedness. A natural and/or co-lexemic common superordinate is lacking in pairs such as ‘langue’ : ‘parole’, ‘signifiant : signifié’, ‘intension : extension’, ‘semasiology : onomasiology’, etc., and assigning a “plus-value” to one of the members in each pair seems difficult.

5 Criticism of dichotomies

The logic-based view of binarity typical of structuralism is, according to Harris (2001:163), controversial and has within semiotics and cultural studies received a negative reputation because it incalculates the the values favoured by current establishments and suppresses dissidence or alternative views”. The ‘marked’ members in a semantic sense consequently acquire a superior status in a social sense. Further, dichotomisation implies a static perspective that is not open to the analysis of dynamic processes, which is a focal point in Beaugrandes criticism, cf. below . In the cultural sciences there is, according to Miegel/Schou, a strong de-dichotomising tendency, inspired by deconstructionists and post-structuralists. As examples,
ethnology, religion, gender studies and economics are mentioned (Mieg and Schou 1998:14ff.). Influences from recent directions in linguistics, such as prototype theory and system theory, are also parts of this trend, which is also present in terminology.

Within linguistics, this type of criticism has been conducted notably by Robert de Beaugrande (1997a, e.g. 51, 84f., 1997b, especially in his discussion of de Saussure.) According to Beaugrande, the dichotomising tradition of the structuralist tradition is incapable of grasping the complex reality in dichotomies. Instead, Beaugrande calls for integrative approaches:

We can lay to rest our story dichotomies and schemes for fragmenting language and freeing theory from practice. Our science can shift from confrontational rhetoric over free-standing formal theories and notations over to cooperative projects for describing real data and addressing social issues of discourse. (Beaugrande 1997a:51)

Beaugrande proposes to convert the static dichotomies into dynamic dialectics controlled by the indeterminacy principle (1997b:357, cf. below, section 7.2). In short, critics claim that dichotomisation is something static and may be associated with reductionism, whereas anti-dichotomisation or deconstruction is associated with dynamism and also with holism. The anti-reductionist attitude too, is a feature of current criticism of traditional terminology (cf. Myking 2001:53).

6 Negotiation and renegotiation – some semasiological sketches

The following sketch aims at indicating how a number of positions well-known from the research literature fits into a framework constructed by semantic categories. This sketch is preliminary and needs to be discussed in-depth in later work.

6.1 ’p’ vs. ‘not ’p’:
The disjunctive criterion of ‘p’ – ‘not p’ applies to incompatible complementaries: Whatever falls into one class, cannot fall into another. Applied mechanically to a number of “classic” dichotomies the result would be as follows:

- Terminology is not Linguistics
- Terminography is not Lexicography
- Terminography is not Special lexicography
- Terms are not Words
- Semasiology is not Onomasiology

The newly introduced socio-cognitive terminology (Temmerman 2000) fits into this formula:

- Socio(-cognitive) Terminology is not Traditional terminology

Similarly, the results of or attempts at renegotiation may produce results that are analysable also in semantic terms.

6.2 Suggesting identity (compatibility):
- Terminography is identical to (i.e., share the same parameters as) Special Lexicography (Bergenholtz 1995, Svensén 1998)
- “Sociotermology” equals “Terminology” (Louis Guéspin, “Avant-Propos” to Gaudin 1993, p.9)

6.3 From co-hyponym/antonym to superordinate:
The criterion of ‘p’ – ‘not p’ not only applies to antonyms or opposites, but also to co-hyponyms, i.e. complementaries with a common superordinate term. The result is a change of “world-view”:

- Terminology is a branch of (i.e., a hyponym of) Linguistics (Laurén, Myking and Picht 1998 (1997), ch. 12
- Terminology is a branch of (i.e., a hyponym of) Lexicography (possibly a layman’s view)
- “Classic terminology” is a branch of (etc.) Terminology (Louis Guéspin, “Avant-Propos” to Gaudin 1993, p.9)
- All terms are words, terms form a subgroup of the Lexicon (various)

The possible co-lexemic superordinates are neither natural, current nor generally accepted. The scale of applicability ranges from ‘none’ to ‘possible’. Some of them are likely to provoke charges of imperialism, at least they risk being ignored as expressing the view of an outsider.

6.4 Tri-chotomisation
- The fusion of lexicon and grammar to ‘lexico-grammar’ (Halliday)
- Bergenholz/Engberg (1995:184) model of general vs. special language and intersection
- Sager’s distinction of ‘words, terms and standardised terms’ (1980, 1990)

6.5 Abandoning the one-dimensional and logical approach:
- All terms are words, term status is a matter of communicative behaviour (Pearson 1998, Kageura 1995)
- Special language is natural language used in particular communicative settings (Sager 1980); such settings are a matter of degree (Kalverkämper 1990)
7 Possible solutions

A number of dichotomies discussed in this paper have been the subject of discussion for quite some time. It is possible to outline three levels of renegotiation and agreement.

7.1 Renegotiated dichotomies:
General and special language
For many years solutions which outline hyponymy and inclusion have been proposed. Since Kalverkämper’s introduction of the concepts of ‘Fachlichkeitsgrad’ and ‘Fachsprachlichkeitsgrad’ (Kalverkämper 1990) based on prototypicality and graduality it appears that the idea of a strict dichotomy between LGP and LSP has been drastically weakened.

Terminology and linguistics:
This dichotomy was introduced by Wüster but was also maintained and discussed by writers such as Rondeau (1982) and Kocourek (1981), who both demonstrated efforts to overcome it. The solution proposed in Laurén, Myking and Picht 1998, ch. 12 is based on inclusion and hyponymy combined within an extended conception of the superordinate concept of ‘linguistics’: When terminology is viewed co-hyponymously with other subdisciplines of linguistics the superordinate concept of ‘linguistics’ is defined in a broader and more ‘liberal’ sense than has usually been the case.

7.2 Negotiable dichotomies:
Words and terms
A number of traditional disagreements have to be addressed in order to account for this dichotomy in a satisfactory way, starting with the fundamental: Is a term a representation only, or is it a sign? At least, there seems to be a consensus that most terms belong to the natural language and as such are words, at least from a morphological point of view (disregarding for a moment the issue of multiword units). A number of authors seem to argue in favour of a multifaceted view based on ‘discourse’. They perceive terms as pragmatic units and ‘termness’ as a matter of pragmatic status irrespective of morphology. ‘Terms’ become a subordinate to ‘words in general’ or co-hyponymous to the notion of “other words”.

Semasiology and onomasiology
There seems to be little dispute about the conceptual status of this dichotomy, that is, the two members referring to complementary and opposite directions of the concept-term-relationship. There is, however, a dispute as regards its parametrical function, whether or not the onomasiological approach merits its dominant status within terminology (the ‘classic’ approach) or whether semasiology deserves upgrading (notably Temmerman 2000, e.g. p. 42). The solution might lie in Beaugrande’s recommendation to transform static dichotomies into dialectic procedures whereby the members control each other within the indeterminacy principle (Beaugrande 1997b:357, cf. above). This would mean to recognise that the two principles are applied dialectically within working processes of terminography, a position held by Laurén, Myking and Picht 1998 (1997), ch. 9, p. 218. The consequence would be a weakening of the parametrical status of this dichotomy with respect to ‘schools’.

Motivation and arbitrariness:
It is worth noting that the dichotomy of motivation and arbitrariness has not been a very prominent dichotomy in traditional writings. Rather, it has acquired an important parametrical status by the criticism from socio-cognitive terminology (Temmerman 2000, cf. Myking 2001:56f.). In addition, it bears an inherent ambiguity as regards its semiotic vs. communicative status. A more conscious understanding of this dichotomy is needed, and probably the dichotomy operates at three levels, in order for the members to be compatible (which, of course, means that the dichotomy is dissolved):

From the point of view of the communicative function of terms, ‘motivation’ has been an important recommendation within a number of ‘classic’ approaches to terminology. The principle of ‘arbitrariness’ refers to Wüster’s semiotic separation of “das Reich der Begriffen” and “das Reich der Benennungen”, which is considered functional by Wüster-oriented terminologists but dysfunctional by socio-cognitive terminologists. From the point of view of communicative function, there seems to be a considerable degree of agreement that ‘motivation’ is functional (cf. Temmerman 2000:44 compared to Laurén et al. 1998:258). As regards the morphological classification of terms, on the other hand, I have argued elsewhere (Myking 1997) that it is difficult to maintain the dichotomous classification of terms into motivated and non-motivated. A more inferential and relevance-oriented view seems necessary, based on prototypicality and graduality.

7.3 Difficult negotiation topics:
Discussions on two demarcation dichotomies seem particularly difficult.
Terminography and special lexicography
This topic borders on being ‘not negotiable’, the outcome seems uncertain. The problem may be formulated in terms of complementarity vs. identity. In Laurén et al.1998 (1997) ch. 11 the dichotomy is maintained (within the wider cohyponomy of terminology as a branch of linguistics). Svensén 1998 comes close to suggesting identity, a position also more or less suggested by Bergenholtz 1995.

Classical/Wüsterian/traditional vs. sociocognitive terminology (and also sociotermology)
This dichotomy is the organising principle of Temmerman’s work on socio-cognitive terminology (Temmerman 2000) and is also, but less explicit, present in French sociotermology, as exemplified by Gaudin 1993. While these works have generated a substantial discussion on parameters, negotiations are at best in an initial phase.


8 Conclusions

Dichotomies are important because they enable identification of the object of study as well as theoretical and methodological tenets. The price, however, is (over-)simplification. From this discussion it seems plausible to formulate a set of theses about the central dichotomies of terminology:

- They have been or are subject to a remarkable renegotiation that is not yet terminated.
- As a result, none of the core dichotomies have by now become generally accepted as unique and unambiguous properties of ‘terminology’.
- This tendency towards de-dichotomisation is necessary and valuable in order to avoid scientific isolationism.
- ‘Renegotiation’ does not, however, mean “absence of conflict”.

In addition, some dichotomies have been recontextualised in new directions, notably recent trends which are opposed to the established or “traditional” terminology.

References


Laurén, Ch. (this volume) “The interdependence of LSP texts and literary texts”, paper delivered at the LSP2003 symposium.


3.1.2 Christer Laurén

The interdependence of LSP text and literary text
Christer Laurén
University of Vaasa

Innovations in scientific text traditions may originate from literary texts. New forms, new text traditions, give new possibilities of thinking and, at the same time, are expressions of a different style of thought. Thus the formal metamorphoses of literature also influence scientific thinking and the scientific text traditions. Let us take a look at this process in a very long perspective in order to get a view of the development of this relation; that is, creating a distance in order to reach a survey.

In the following we will in pairs compare one literary text instance or tradition with one LSP instance and we try to find representatives of the metamorphoses and innovations mentioned. Let’s begin with a very different perspective.

Polythematics in the Orientalist tradition

Orientalists at work on Persian and Arabic literature have proved that Persian and Arabic poetry differs from European poetry by often being illogical, non-continuous, as they sometimes experience it themselves. One description by a well-known Orientalist, William Jones, who lived in the 18th century, expresses this in the following way: “Oriental Pearls at Random Strung”.

The polythematic ancient Arabic lyrical form qasida has a basic schema which, according to the German orientalist Jacobi (1971) consists of the following three parts: a) an elegiac–erotic prelude or love lament; ending with a connection to b) an enthusiastic description of the poet’s camel; ending with a connection to c) a finishing part (self-praise or a panegyric song of praise to the addressee). This is the most perfect and unique creation in early Arabic poetry, and it, naturally enough, also had a strong influence on Persian literature (Kronholm 1995: 70). A European will react more or less in the same way as William Jones did in the 18th century.

Western thinking proceeds in comparison with this in a linear, logical way. Hence, from Johann Wolfgang Goethe to Roman Jakobson the phenomenon has been noted in the poetical texts of Orientalism. Interestingly enough this polythematic style also appears to emerge in non-fictional and LSP texts.

Orientalists have shown that the discontinuity which characterized an early classic like the Persian poet Hafiz (14th century) has also become part of later prose, even of modern newspaper prose (Lentz 1952).

When a journalist writes a text he can without much ado pass from theme A to theme C. Having concerned himself for a while with theme C he may begin to deal with theme D, to return to A but only to soon pass on to F, which is by no means connected with the theme of the article. The motivation could be described in such a way that if A and B are metaphorically related, one can freely exchange them with each other. These different themes within polythematics may nevertheless be even logically conflicting.

A Finnish Orientalist and semiologist, Henri Broms, who for a couple of years at the beginning of the 1980s on the instruction of the Saudi government compiled scientific data bases in Riad, has stated that one half of OPEC’s oil ministers at that time published their reports in verse (Broms 2003: 72). This is mentioned here as a parenthesis.

Broms discusses his time at the Saudia–Arabian National Center of Science and Technology and the sometimes seven–hour–long address of the head of the department at the department meetings could have a polythematic character. Broms could sit listening for hours without becoming sure of what theme was actually discussed (Broms 2003: 75).

We should perhaps bear in mind that the concept of art in European tradition and in European languages also included what we today call science (Kukkonen 1989: 100–111). There was formerly no clear dividing-line between literature and science. We should also at the outset emphasize the importance of metaphorical thinking for creativity; the purely linear thinking that the computer manages so eminently has nothing to do with creativity.

Drama and Plato’s philosophy

We can say that Plato developed the first European science in the form of philosophy. In order to find possibilities of making use of argumentation and avoid the cultural transfer from the preliterary society which appealed to the emotions of the type the singing and playing blind poet Homer’s Iliad and Odyssey represented, Plato had made use of the literary form of drama.

There are many advantages of dialogue. Plato could with its help present arguments for and against, he could simulate the teacher’s and the pupil’s pedagogical conversation, and the dramatic dialogue should according to tradition lead to a result. But from the dramaturgist’s point of view (Ödeen 1988: 12), Plato’s dialogues are examples of anti-dramatic narration. He deliberately toned down the drama. The audience should not emotionally be drawn into the action. The dialogues were intended to persuade through the reasoning. Plato strives for the objective and rational truth, not the subjective and emotional, but the form, the external dramatic form needed, he has brought in from literature. Here we have to remember that Plato lived at the crossroad between the literal and the oral culture. Therefore he used the means of a well established oral tradition, the means of drama.

The analogical thinking that Plato makes Socrates use is a sharp metaphorical thinking. The difference between similarity and identity is essential to scientific language (Holmgaard 1998, 263). Through Aristotle’s *Per genum proximum et differentiam specificam* similarity and difference were combined with each other (Holmgaard 1998: 269).

Plato was not the only one to develop LSP communication on the basis of existing literary traditions, but he was a pioneer in his rejection of versified language (cf. Havelock 1986: 29). Titus Lucretius Carus *De rerum natura* is a scientific
thesis, and in verse. The textual genres have slowly crystallized in the course of centuries and millennia. The Latin grammar, Donatus, was written and learnt for centuries in hexameter before it was thought that the time demanded alexandrines.

The early novel and the observing scientist

In the 18th and 19th centuries there emerged a strong European tendency towards realism in literature. It could be said here that as Aristotle belittled the genres that merely dealt with what had in fact taken place, in this realistic epoch of the new bourgeois that which was merely imagined was disparaged. It was a question of new readers emerging, new to literature, a middle class (Hawthorn 2001, 27) who felt more at home with colloquial language and reality effects. It was important for them to believe that one at bottom moved in concrete life (Holmgaard 1998: 212), "that sense of 'real life' — of recognizable everyday existence …" (Hawthorn 2001: 10).

The early novel with its realism was characterized by a narrative causality which was very clearly visible, e.g. in Samuel Richardson’s (1689–1761) Pamela, or Virtue Rewarded (1740–1741), even in the title. His next letter novel was Clarissa or the History of a Young Lady (1748; published in eight parts). Clarissa describes in her letters with a sense of details her fate day by day, yes, often hour by hour. Lovelace, the seducer, harrases Clarissa and this is described in sharp psychological portraits. Clarissa is cedulously willing to believe the seducer’s honest intentions but is time and again disappointed. As a result of the seducer’s attacks she is driven into illness and hysterics. Lovelace has many suspect assistants, linguistically very realistically characterized, and Clarissa is made the victim of many evil plots. The story ends with Lovelace drugging Clarissa and raping her. Clarissa flees from her family and ends her life alone but proud. She is a saint but she has lost her virtue. A strict Christian moral marks he whole book and Clarissa herself. Even though Lovelace repents and wants to marry her, she cannot consent. For she is violated.

Both Clarissa and the other novels provide detailed pictures of the age and can be read with profit for that reason alone by anyone who has an interest in cultural history.

A scientist who in many ways creates his science corresponding to popular realism and is on the same line as Richardson and a great number of others, is Carolus Linnaeus or Carl von Linné (1707–78). His monumental work is of course Systema Naturae of 1735, which consists of the parts regnum lapidum, regnum vegetabile and regnum animale. He wanted to show the richness of creation: "God created, Linné organized", it was said. No wonder. His father, a priest used to sit in his garden with his little son Carl on his lap reading from Genesis about how the Almighty created the garden of Eden and allowed Adam to become the very first gardener. Carl loved the story, and the passage of Genesis probably from then on stayed in his mind: "So the man gave names to all the livestock, the birds of the air and all the beasts of the field". Linné was later called the King of the Flowers but also the Second Adam. possibly both names his inventions.

With the aid of logic and abstract concepts he arranged the hosts of plants and animals. The foundation of botany was to him dispositio et denominatio, i.e. classification and naming. It is true that he was looking for a natural system which placed the groups of plants in their spontaneous kinship with one another as determined by nature, i.e. he was looking for the divine plan of creation. Still, he had no more exact idea of this natural system. He did discover hybrids between species of plants and animals, but he could not find any reasonable explanations of them. It has been said that he was a representative of a past age, a very successful scholastic.

The rare talent of Linné consisted of his powers of observation, the wealth of details in his descriptions and his fantastic ability to arrange synchronically what he had seen and described. The sexual system of plants was the means of assistance for the arrangement he had discovered. A discoverer or explainer he was not, however. Instead he was a true Christian, a counterpart to Richardson.

His first journey as scientist and observer in Sweden was made as early as 1735 and started from Uppsala northwards through Lapland and down along the coast of what is now Finland. Iter Lapponicum is a masterpiece of observations. See for instance his Latin description of midges (p. 157 in Iter Lapponicum). Of course there are attempts at explanations of reasons, but there is no question of successful ones, see e.g. the explanations of why people in Hålsingland are big and the Laplanders short of stature (ibid. p. 110 f) or why Laplanders are so healthy (ibid. p. 111).

The world Linné described and arranged he himself experienced in a highly emotional way. The driest details prove to the intense observer the omnipotence and the sense of beauty of the Creator. When he retired from his post as rector of Uppsala University he made a speech with the symptomatic theme Delicie nature (1773).

A Swedish historian (Lindroth 1978: 209) assumes that Linné’s highly successful classification work and influence both internationally and in Sweden may have delayed a modern development of Swedish botany.

But in literature we gradually pass over to another type of explanation other than the divine one.

Balzac, Zola and Darwin

Honoré de Balzac (1799–1850) is a representative of French realism. He is an exposor of human vices, burlesque, wallows in the boundlessly chaotic ruthlessness of human society. He paints an immense panorama of the French society of his day, maps it out piece by piece, social class by social class, in all its genuine materialism and careerism. He collected his works in La comédie humaine and systematized them in various series, e.g. Études de mœurs, Études philosophiques, Études analytiques etc. Still, it was a question of an apparent classification, since he occasionally classified one and the same work under one title, sometimes under a different one. But his descriptions are at least as detailed as pictures of the age as Richardson’s, the difference being that he does not moralize. When he for instance in the brief novel Ferragus (1833), the first part of the Histoire des Trois, describes the streets of Paris, he is highly realistic and does not even shrink back from the worst environments. He wants to penetrate what is genuinely human.

Balzac’s clarity was first felt as a gain but then, in time, began to be felt as irritating naive empiricism.
Towards the end of the 19th century it was increasingly realized that reality was not so simple (Holmgaard 2001: 232). From Balzac to Zola the novel was developed simultaneously with science; there was a mutual strengthening of the will to build up a rational narrative causality (Holmgaard 2001: 234). The early 18th century novel has detailed explanations even of individual actions. The novel has therefore been of importance for spreading this way of thinking. Popular realism and consequently the novel paved the way for science, in the linguistic sciences for similar innovations. There is a very clear and deliberate departure from Christian–didactic predecessors which had a different type of causality, by the nature of punishment and reward. (Holmgaard 1998: 236)

To a following period of science, and connected with the development of this literary realism of Balzac, Zola and many others, including the central concept of causality, belongs Charles Darwin’s five–year–long voyage which, like Linné’s journeys included diligent observations of details which, however, formed the basis of a new theory of development in nature.

When the modern novel at last achieves its accepted form around 1800, it is also natural that modern science will find room and opportunities with Darwinism as its exponent. It will now simply be possible to tell the long development in prose and to interpret it. When Charles Darwin started his five–year–long journey in 1831 on the Beagle, he had grown up in times when prose literature had long been characterized by realism in observations. His *Journal and remarks*, 1832–1836, published in 1839, is not as central to science as the later *On the origin of species by means of natural selection, or the preservation of favoured races in the struggle for life* (1859). To realism had also been added the demand for explanations.

But already Darwin’s *Journal* and the popularized version *A naturalist’s voyage* contain, in addition to detailed observations, constant speculations about causal connections. This does not mean that he lacked a feeling for the poetry of nature. When he mentions newly formed ocean islands and the fauna on them, he says that he is afraid the poetry will disappear if dung-eating insects and parasitic spiders were the first inhabitants.

In linguistic and literary sciences similar thinking leads to comparative currents and we get for instance historical and comparative linguistics. Parallel with the species and types one begins to divide natural languages into species and families and to explain the reasons behind processes.

From the middle of the 19th century one became more and more conscious of unambiguousness as a goal to reach in philosophy and science (cf. the realization among novelists that reality was not so simple!). The development of symbolical logic led to puristic purges. At the same time literature struck new paths which implied that ambiguity was deliberately made use of. Sciences have seen it as their task to impose strict limits for themselves while literature has the freedom of fiction, (Holmgaard 1998: 396).

**Modern poetry and modern science**

In the 19th and 20th centuries elements of a style reminiscent of the Persian–Arabic style we mentioned in the very beginning was discovered in European modernism. The linear style which passed from one conclusion to the next was rejected. Modernists of the 20th century passed over to a metaphorical way of thinking which they gave expression to in their texts. When Henri Broms translated Hafiz’ poetry into Finnish, he says himself that he did this in the modernistic style of the 20th century, with deliberate ‘jumbledness’ (Broms 2003: 70), and he was praised by Finnish modernists who found Hafiz’ texts to be real poetry.

Broms, the Orientalist, points out in a study (1968) that European modernism in the 19th and 20th centuries through innovations by Mallarmé, Valéry and others developed text traditions where continuity is achieved solely through psychological associations. He and others have also pointed out that the Russian symbolists of the 19th century show influences from Hafiz and, hence, from polythematic thinking. The Russian symbolists were important for modern poetry in the West as well. The circle seems to be closed.

It can be said that scientific thinking during the last few decades has approached this modernism or realized the advantages of theories concerned with a modernistic way of formulating theories about our complicated mode of existence.

As time went on, towards the end of the 20th century, it became increasingly obvious that logical positivism and logically oriented linguistic philosophy did not meet the demands one had made on them to reach reliable knowledge. In particle physics the researcher himself was allowed to choose if he wanted to believe in a super string theory or some other theory, in theoretical biology if he wants to believe in some theory of order or in some Darwinian development theory of the first, second or third type or in some complexity theory of some sort. Even if this researcher seemed convinced that he had made a rational choice, he found himself in the same situation as the person who a hundred years earlier read modernistic literature. Various kinds of causalities were conceivable and the researcher had to make a choice which cannot be rationally motivated, (Holmgaard 1998: 370).

**The wall has fallen down**

What I have here given consists of a few glimpses of a comparative history of texts and ideas which is not yet written down and certain central hypotheses related to this history. A great deal of empirical work still remains. There exists quite a lot of knowledge about the development of literary text but only some knowledge of the history of LSP texts. Therefore, the work that remains to be done is to combine these two and closely to investigate the textual history of scientific texts.

The hypothesis of the literary text’s primary role in relation to LSP or should we rather say the scientific text seems highly credible. There are few scientists, apart from some few innovators (cf. Laurén and Nordman 2003), who dare to manipulate their own text traditions. On the other hand literary writers have always been bold in relation to their conventions.
References


3.1.3 Heribert Picht

Konversion zwischen verschiedenen semiotischen Repräsentationsformen für Gegenstände und Begriffe

Heribert Picht, Handelshøjskolen i København, Dänemark

1. Einleitung und Hypothese

Es ist eine altbekannte Tatsache, daß in jeder Form von Kommunikation mehrere semiotische Systeme gleichzeitig zum Einsatz kommen, sich ergänzen und sich in ihren Repräsentationsformen überschneiden. Ein Witz mag dies illustrieren.

Im Autobus von Tel Aviv hängt eine Verbotstafel: „Es ist strengstens untersagt, zu reden mit dem Chauffeur. Der Mann braucht seine Hände zu Chauffieren.“ (Landmann 1963:118)

Unter Konversion verstehen wir die Austauschbarkeit der Repräsentationsform einer Botschaft dargestellt in einem Zeichensystem durch die Repräsentationsform eines anderen Zeichensystems.

Grundlegende Voraussetzungen für eine erfolgreiche Konversion ohne Informationsverlust sind:

1. Die Kommunikationsteilnehmer müssen die Zeichensysteme kennen, zwischen denen eine Konversion stattfindet.
2. Ferner ist es erforderlich, daß die verwendeten Repräsentationsformen mindestens einem der menschlichen Sinne zugänglich sind.
3. Außerdem müssen die Kommunikationsteilnehmer über ausreichendes Fachwissen verfügen, das durch die angewendeten semiotischen Systeme repräsentiert wird.

Mit Ausgangspunkt in der Definition und den Voraussetzungen haben wir folgende Hypothese aufgestellt:

**Die Konversion zwischen Repräsentationsformen ist theoretisch grundsätzlich möglich, führt jedoch nicht immer zu dem angestrebten Kommunikationsergebnis.**

Folgende vier Themenkreise sollen hier behandelt werden:

1. Denkbare Konversionsmöglichkeiten nach der Sinneswahrnehmung
2. Systeminhärente und pragmatisch bedingte Beschränkungen
3. Repräsentationsformen für Abstrakta
4. Folgen des Konversionsverlustes

2. Konversionsmöglichkeiten nach der Sinneswahrnehmung

Gehen wir von den nicht-sprachlichen Repräsentationsformen aus und untersuchen die Möglichkeiten, sie in sprachliche Formen zu konvertieren, ergibt sich folgendes Bild (in Anlehnung an Nöth 1985:206):

2.1 Die visuelle, graphische Repräsentationsform


2.2 Die auditive Repräsentationsform


Ein auditives Zeichen kann sprachlich wiedergegeben werden, sei es in Form eines Wortes, einer Benennung oder einer Aussage, die wiederum verschiedene Formen haben können.

Hornsignal (Halali) - "die Jagd ist beendet"
Tonfolge (Melodie) des Handy - "jemand ruft an"
Tonfolge einer Sirene - "Alarm"

Ein auditives Zeichen kann auch in ein anderes nicht-sprachliches Zeichen konvertiert werden.
Die zwei verschiedenen Tonfolgen an einer Verkehrsampel repräsentieren "rot" bzw. "grün", die außerdem durch ein Piktogramm (stehendes und gehendes Männchen) oder durch das geschriebene Wort (dänisch: "gå" (gehen) und "vent" (warten)) für Farbenblinde verdeutlicht werden. Es liegt also eine doppelte visuelle Repräsentation vor.

Ein auditives Zeichen kann in ein taktiles Zeichen konvertiert werden, z.B. wird durch das Vibrieren des Handys ein Anruf angekündigt.

Musik kann durch elektronische Einrichtungen in Diagrammform sichtbar gemacht werden, allerdings entsteht dadurch keine Musik.

2.3 Die olfaktive Repräsentationsform


Wird ein Geruch dagegen als Signal verwendet, ist eine eindeutige Konversion in sprachliche Zeichen dank eben dieser Konvention möglich.

Einem an sich geruchlosen Gas wird ein unangenehm riechender Stoff als olfaktives Zeichen hinzugefügt, das einen Gasaustritt anzeigt und somit als Warnung vor Vergiftung oder Explosionsgefahr fungiert.

Eine Konversion in andere nicht-sprachliche Repräsentationsformen ist eher selten, obwohl gerade ein Gasaustritt auch durch auditive und visuelle Alarmsysteme vermittelt werden kann.

2.4 Die gustative Repräsentationsform

Für diese Repräsentationsform gilt das über die olfaktiven Formen Gesagte analog - Geschmack als Eigenschaft und als Signal. In seiner Eigenschaft als Signal tritt der Geschmack zumeist als Warnung auf, z.B. durch den Zusatz von 0,2% - 2 % Pyridin, Benzol, Methanol, Petroläther etc. wird Äthylalkohol denaturierter (vergällt).

2.5 Die taktile Repräsentationsform


3. Beschränkungen der Konversion

Die Konversion, obwohl theoretisch möglich, unterliegt zwei wesensverschiedenen Beschränkungen:

1. Beschränkungen, die im Zeichensystem angelegt sind und von ihm nicht verwunden oder kompensiert werden können; also systeminhärente Beschränkungen.

2. Beschränkungen, die auf pragmatische Faktoren zurückzuführen sind, z.B. wird einer Repräsentationsform der Vorrang gegenüber einer anderen gegeben, weil sie unter bestimmten Kommunikationsbedingungen und -zwecken ein größeres Ausdruckspotential hat oder einen höheren Sicherheitsgrad gewährleistet.

3.1 Systeminhärente Beschränkungen

3.1.1 Unmögliche Konversion

Musik, die bekanntlich auditiv wahrgenommen wird, kann wohl in Noten oder Diagramme konvertiert werden, die visuell erfaßt werden können. Allerdings sind diese Konversionsformen nur sekundär und der gehörten Musik nicht vergleichbar. Das Lesen der Noten oder der Diagramme vermittelt keinen musikalischen Eindruck. Auch kann kaum eine Parallele zum gelesenen und gesprochenen Wort gezogen werden.


3.1.2 Unvollständige Konversion
In diesem Abschnitt seien alle Arten von Unzulänglichkeiten zusammengefaßt, die einem semiotischen Zeichensystem innewohnen und eine vollständige Konversion ohne Informationsverlust a priori unmöglich machen.


3.1.3 Beschränkungen der Systembildung


Es ist jedoch eine Tatsache, daß selbst in Fachgebieten mit ausgeküterter Anwendung von graphischen, nicht-sprachlichen Zeichensystemen, diese nicht imstande sind, den gesamten Begriffssapparat systematisch zusammenhängend zu repräsentieren. Kurzum, es können nur Teile der Begriffssapparate nicht-sprachlich wiedergegeben werden.

Hierzu einige Beispiele:

Die drei visuellen Zeichen einer Verkehrsampel bilden ein System, das jedoch in seiner auditiven Form nur durch zwei Zeichen (die "grün" und "rot" repräsentieren) wiedergegeben wird. Hier liegt also eine Systemreduktion vor.

Offakte und gustative Zeichen bilden kaum größere Systeme, sie weisen eher auf Einzelbegriffe hin - vor allem Warnungen und Hinweise ohne eigenständigen Systemzusammenhang. Allerdings macht der Teil der Weintermologie, der sich auf die Beschreibung der gustativ und offaktiv auffälligen Eigenschaften bezieht, ein System aus.

Zwar können z.B. alle Teile einer Fachwerkkonstruktion graphisch dargestellt werden, nicht aber die statischen Eigenschaften oder die Eigenschaften der verwendeten Hölzer.

3.2 Pragmatisch bedingte Beschränkungen

Im Gegensatz zu den inhärenten Beschränkungen, die dem Zeichensystem eigen sind, ist bei den pragmatisch bedingten Beschränkungen eine Konversion grundsätzlich möglich, in der Praxis aber wenig oder gar nicht gebräuchlich. So ist es durchaus denkbar, eine technische Arbeitszeichnung oder eine Bauzeichnung in eine rein sprachliche Repräsentationsform zu konvertieren. In einem solchen Falle wird - bei gleichem Präzisionsgrad - ein äußerst komplizierter Fachtext mit höchstem Fachlichkeitsgrad entstehen, der wahrscheinlich auch die Kompetenz des fachlich geschulten Lesers übersteigt. Man stelle sich die rein verbale Beschreibung eines Rohbaus für einen Maurer vor. Abgesehen davon, daß eine solche Beschreibung mit einem Hohlgelächter abgewiesen würde, würde sie weit mehr Platz als eine Zeichnung beanspruchen. Außerdem kann die Beschreibung nur linear sein, was der Verständlichkeit wenig zuträglich ist, zumal eine schnelle, selektive ja oft sogar 'springende' Perzeption in solchen Kommunikationssituationen die Regel ist.

Pragmatisch bedingte Begrenzungen der verbalen Repräsentationsform gehören nicht nur zu den Zeichenkonventionen bestimmter Fachgebiete, sie können auch gesetzlich vorgeschrieben sein, so z.B. fordert die Baubehörde neben anderen Dokumenten eine Zeichnung des beantragten Neu- oder Umbaus, bevor die Baugenehmigung erteilt werden kann.

3.2.1 Etappen eines Konversionsprozesses


2. Der Architekt fertigt eine erste Skizze des Grundrisses und der Ansichten aus verschiedenen Blickwinkeln an - eine zweidimensionale graphische Repräsentationsform mit relativ geringem Abstraktionsgrad, die die Grundlage für weitere Gespräche bildet.

3. Bei größeren Bauvorhaben werden eventuell dreidimensionale Modelle aus Holz, Gips oder anderen Materialien erstellt, die heute oft durch ebenfalls dreidimensionale Computersimulationen ergänzt bzw. ersetzt werden.
4. Nach Klärung aller grundlegenden Fragen fertigt der Architekt Bauzeichnungen für die Baubehörde und die Handwerker an. An diesem Beispiel kann gezeigt werden, daß eine Konversion von der sprachlichen Repräsentation zur nicht-sprachlichen nach der ersten Etappe stattfindet, die weiteren Konversionen sind 'interne' Konversionen innerhalb eines Zeichensystems, die sich vor allem auf den Fachlichkeitsgrad der Repräsentation beziehen.

4. Repräsentationsformen für Abstrakta

Unter Abstrakta verstehen wir Begriffe und Gegenstände, die keine materielle Form haben, z.B. elektrischer Widerstand, Gewissen, Vernunft, Zeus etc. Inwieweit mythologische und religiöse Gegenstände als Begriffe aufgefaßt werden können, soll hier nicht diskutiert werden, siehe hierzu Picht (2002).

In der Regel werden Begriffe und Gegenstände dieser Art durch sprachliche Zeichen kommunizierbar gemacht. In anderen semiotischen Systemen werden sie durch Ersatzzeichen - Symbole - repräsentiert, die zumeist visuell erfaßt werden können, z.B. durch Bilder, Statuen, Personen, materielle Gegenstände, geschriebene Zeichen etc.

Oft bilden Symbole ganze Bezeichnungssysteme und die Bedeutung des Symbols erhält seinen semantischen Wert durch den Systemzusammenhang, z.B. repräsentiert der Hammer in der nordischen Mythologie den Gott Thor und das Prinzip, das er verkörpert, in kommunistischen Systemen war seine Bedeutung eine ganz andere und in der Freimaurerei wiederum hat er eine dritte Bedeutung, die mit den beiden ersten nichts gemein hat.

Das Omega-Zeichen als Symbol für den elektrischen Widerstand hat bedeutungsmässig keinen Zusammenhang mit dem gleichen Zeichen im Christentum. Der Totenkopf mit gekreuzten Knochen ist einerseits eine Warnung vor giftigen Substanzen und andererseits ein Zeichen für die Vergänglichkeit.

Die Frage, warum eine nicht-sprachliche Repräsentationsform entwickelt wurde, läßt sich nicht immer eindeutig beantworten, sicher aber ist, daß z.B. technische Symbole eindeutig und kürzer und damit anwendungsökonomisch sind. Außerdem sind Symbole sprachunabhängig - nicht aber kultur- und systemunabhängig - und erlauben zum einen eine Kommunikation über Sprachgrenzen hinweg und zum anderen Analphabeten, Begriffe zu perzipieren, deren schriftliche Repräsentation ihnen nicht zugänglich ist.


Die hohe Ikonizität des Symbols ist nicht gleichbedeutend damit, daß eine Abbildung des Begriffs oder Gegenstandes versucht wird, die ohnehin so gut wie ausgeschlossen werden kann. Metaphorische Elemente dagegen sind oft anzutreffen, ihr Erkennen jedoch, d.h. die Herstellung der Verständnisbrücke zwischen Symbol und Bedeutung, hängt von dem Systemwissen des Erkennenden ab.

Wir können also festhalten, daß eine Konversion zwischen verschiedenen Zeichensystemen auch bei Abstrakta möglich ist.

5. Folgen des Konventiosverlustes

In einer semiotischen Studie (Laurén/Picht 2000:215-223) wird die Frage gestellt, wie eine Botschaft über sehr große Zeiträume hinweg vermittelt werden kann - eine Frage, die auch andere Semiotiker beschäftigt hat.

Mit Ausgangspunkt in Wittgensteins Aussage, daß ein Zeichen erst seine Bedeutung durch die Anwendung erhält, d.h. im Diskurs, wurde der Begriff „kultureller Diskurs“ geschaffen und so erklärt:

„Ein sehr genereller semiotischer Begriff, der Wittgensteins sprachlichem Diskurs entspricht. Dieser Diskurs enthält sprachliche und nicht-sprachliche Repräsentationsformen in unterschiedlichen quantitativen Konstellationen. Die Repräsentationsformen haben oft eine komplementäre Funktion und können auch austauschbar sein.“


Es ist aber nicht unbedingt erforderlich, den Begriff 'kultureller Diskurs' auf solche extreme, aber nicht unrealistische Beispiele zu beschränken. Für denjenigen, dem der kulturelle Diskurs unbekannt ist, besteht auch keine Konvention zwischen Zeichen und Inhalt; sie muß erlernt werden. Dies gilt in besonderem Maße für die Fachkommunikation, denn wer den kulturellen Diskurs eines
Fachgebietes nicht kennt, kann auch die Konvention nicht kennen, d.h. er kann Zeichen und Inhalt nicht einander zuordnen und damit ist auch eine Konversion zwischen Repräsentationsformen für ihn nicht möglich.

6. Konklusion
Die eingangs aufgestellte Hypothese kann an sich weitgehend als haltbar angesehen werden, doch ist sie dahingehend zu erweitern, daß einige Konversionen aus systeminhärenten und andere aus pragmatischen Gründen nicht möglich bzw. höchst unüblich sind. Ferner muß hinzugefügt werden, daß ein Konventionsverlust die Konversion a priori unmöglich macht.

Bibliographie


Our discussion will be centred on the concept of philosophy of terminology and on what it depends. Philosophy of terminology may be regarded as an attempt to understand the nature of the term and its relationship with the intellect and the world. Philosophy of terminology considers the fact that terminology, like any other science, was formed by the efforts of philosophers. It was philosophy where the first terms, such as *idea, form,* etc. appeared. Philosophers started to examine the interconnection between language and thought by focussing on the role of language in shaping and communicating human thoughts. Although philosophy did not solve the problems of terminology directly, its importance for terminology is that it has brought together significant theories of the term, which put forward the following issues: *What is a term? What is the connection between terms and objects? Does terminology describe the world, or does it construct the picture of the reality?* The attempts to answer these questions lay in the foundation of further theories of the term.

The main question which arises in this aspect is related to the role of philosophy in the development of terminology. We believe that philosophy has helped terminology to achieve the status of science. Philosophy put terminology in conceptual order and gave the possibility to view its historical development. We also believe that philosophy has contributed to clarification of the three fundamental questions put up by Herbert Picht (2003:109-110): 1. Is terminology an autonomous discipline or just a craft? 2. Is there a coherent theory of terminology at all? 3. What is a term? In this way, philosophical aspect of terminology is a study of the term from the scientific point of view. It means that philosophy of terminology formulates and solves fundamental theoretical issues, and works out ontological problems in this field. However, we also meet a different point of view about the idea of interconnection of philosophy and language, e.g. J.L.Austin (Austin 1961) rejected the attempts of philosophers to theorise about language and called for “linguistic philosophy”. He advocated a common-sense and anti-philosophical realism, and argued that linguistic analysis could free linguistics from philosophical “pseudo-problems”.

2. **A brief historical background.**

From its birth and until present terminology has been conditioned in large part by philosophy and logic, which claim was that universal and general definitions of the truth were applicable to all languages (including special). A brief historical background would be to the point. Ancient philosophers established a tradition of metaphysical speculation. They were concerned with the categories of things that existed. This tradition continued through the Middle Ages. With the works of René Descartes the focus of philosophical concern changed from the issue of *what things are to how we know,* in other words, to epistemological questions. In the 17th century the knowledge about terms was characterised by the reaction against rational approach to terms. This was noticeable in Port-Royal logic (the dual theory of the sign) which regarded the nature of the sign, including the term, by means of the integrity of two ideas: the idea of thing which stimulated the second – the idea of presentation of thing.

At the beginning of the XXth century a preoccupation with language began to dominate philosophy and caused its linguistic turn. This change involved a great interest of philosophers in linguistic matters. That was a period, when the theory of terminology was enriched by a genius conception of Eugen Wüster (1935) of the interconnection among language, terminology and thought. Philosophers of the beginning of the XXth century (such analytic philosophers, as G.E.Moore, G.Frege, L.Wittgenstein, B.Russell) tried to replace Neo-Kantianism and idealism with philosophical realism. They were primarily concerned with the nature of the truth, with the reality and the connection between thought and the world. L.Wittgenstein discussed a therapeutic role of philosophy, i.e. the role of philosophy in the overcoming of confusions and incorrect understanding of language. As for language, it was regarded as the medium for thinking about and describing the reality. Analytic philosophers relied on formal logic as a methodological tool and concerned mainly with formal linguistic elements. They assumed that language had a perfect structure, which if being analysed correctly, could reveal the structure of the reality. These logical innovations led to the idea that logically perfect and ideal languages (clear, precise, free of ambiguities of natural language, able to express the scientific truth), could be constructed. Important figures of Vienna Circle (O.Neurath, H.Hahn, R.Carnap) assumed that all sciences could be unified under a single discipline, physics, and that there were no distinctions between natural and human sciences. Here is a list of works on private philosophy which had a great impact on the development of philosophy of terminology and set up the foundations of further discoveries of the term:
In the context of such philosophical ideas terminology was formed as a separate branch of knowledge. Most of those philosophical theories have been adopted by terminology. Therefore, it was quite natural that at the period of its generation terminology got under the influence of logic and remained an applied and practical science. This may be traced in the following:

In Russia

<table>
<thead>
<tr>
<th>Year</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1862</td>
<td>A. Potebnya <em>Thought and Language</em></td>
</tr>
<tr>
<td>1911</td>
<td>N. Berdyaev <em>Philosophy of Freedom</em></td>
</tr>
<tr>
<td>1913</td>
<td>P. Florenski <em>Thought and Language</em></td>
</tr>
<tr>
<td>1914</td>
<td>G. Shpëtt <em>Phenomenon and Sense: Phenomenology as the Main Science and its Problems</em></td>
</tr>
<tr>
<td>1915</td>
<td>P. Florenski <em>Dialectics</em></td>
</tr>
<tr>
<td>1916</td>
<td>P. Florenski <em>Science as a Symbolic Description</em></td>
</tr>
<tr>
<td>1922</td>
<td>P. Florenski <em>Term</em></td>
</tr>
<tr>
<td>1923</td>
<td>G. Shpëtt <em>Esthetic Fragments</em></td>
</tr>
<tr>
<td>1927</td>
<td>A. Losev <em>Philosophy of Name</em></td>
</tr>
<tr>
<td>1928</td>
<td>E. Drzezen <em>For the Unified Language</em></td>
</tr>
</tbody>
</table>

In the context of such philosophical ideas terminology was formed as a separate branch of knowledge. Most of those philosophical theories have been adopted by terminology. Therefore, it was quite natural that at the period of its generation terminology got under the influence of logic and remained an applied and practical science. This may be traced in the following: terminologists mainly described the object of their research. This method assured them that the main property of terms is their reference to real things. As a result of exploration in this field numerous terminological systems of various branches of science were described. But, as many scholars stressed, terminology of the beginning of the XXth century followed the formal way and was deprived of real philosophical and methodological grounds.

For a long time the question of interaction of terminology and philosophy was not acute, though it had roots in classical works on philosophy and terminology. Recall René Descartes, who believed in the existence of a universal language, T. Hobbes and J. Locke, who were interested in the relationship between language and ideas. B. Russell, who never saw himself as a philosopher of language, proved that the apparent grammatical form of a sentence could mislead us about the hidden logical form of proposition the sentence expressed. In order to demonstrate this he distinguished between names and descriptions, and between definite and indefinite descriptions. These arguments were closely connected with the concept of term and its definition (term is the name of definition).

3. **P. Florenski as the founder of philosophy of terminology in Russia**

In Russian terminology the following names, best known for their contribution to terminology, should be noted. The first important step has been made by P. Florenski (1998), who concerned himself with the questions *how do science and terminology correlate? how to define a special word?* Discussing the first question he suggested that the sense of science was in constructing terminology. As for the term definition, he was of the opinion that to define a term was to reveal its truth. He was also the first among the philosophers to notice the influence of terminology upon philosophy itself. In order to show that, he used the phrase “the stop of a thought” in the meaning of “the product of thought”, or the term. He suggested that the term, that fixed a certain scientific knowledge, rythmically cut the dialectical and progressive movement of philosophy, and thus provided this flow with stability. D. S. Lotte (1961) advanced the idea that terminology developed in two ways: by means of evolution and by means of revolution. G. O. Vinokour (1939) distinguished between a common word and a term – a common word is the name of an object, while a term is the name of a concept. He also provided terminology with a theory of the term as the function of the word.

4. **Terminology and logic**

As we have stated above, at the initial stage of its development terminology as a branch of science was under a strong influence of logic which gave the possibility to establish strict and determined relations between objects of reality and terms. The term at first seemed most naturally definable by appeal to the realm of abstraction, rather than to living phenomena. The main idea of terminological research of that period was to put terminology in order. We should notice, that the influence of logic was common to most of sciences, e.g. Gottlob Frege (1984) was concerned with the question about the logical, secure and evident foundations of mathematics. He advocated the thesis known as logicism. One of Frege’s philosophical aspirations was to construct a perfect language by means of logical notation, which would give the possibility to express one’s thoughts in an accurate and exact
manner. B. Russel (1972) was also known for his attempt, together with A. Whitehead, to establish secure logical foundations for mathematics.

On such a theoretical basis the research of definite terminological systems got an additional impulse. Applied terminology based on logical methods has succeeded in the description of sublanguages of various branches of science. We should stress, that the usage of logic as the basis for the terminological study caused not only unification of branch terminologies, but also unification in methods and ways of terminological research. In a philosophical sense standardization and unification of terminology dealt with simplified objects (taxons) and this, by all means, was the reason for the terminological uniformity. Traditional terminologists regarded unification and standardization to be quite real and natural. However, the method of empiric description caused some difficulties, for they could not describe those terms which revealed the qualities of alogism, openness, and discrepancy. Although the meaning of terms seemed to be clear and understandable, still all attempts to characterize the meaning of terms, as they were used in texts, miscarried. It became clear that even the most strict and determined terminological systems could not fix terms in their single meaning. Seen from the descriptive point of view, there was an obvious difficulty in telling why lines of demarcation among terminological systems appeared to be diffused and movable. Consider: the terms abstract, action, addition, aggregate, aid, analogy, area, balance, etc. were used in various branches of science – biology, chemistry, physics and others. Sometimes it was quite difficult to state what branch of science they belonged to. Consider: classification, behaviour, element, feature, form, material, measure, period, standard, etc. More than that, logic dealt with questions of the truth and falsity, which were believed to be objective, independent of individual human mental processes and therefore common for all rational beings. Thus, an attempt to study terms on the logical basis has not reached its aim, since the term has revealed the features not of a strict language unit, but of rather a puzzling thing. In this way, we start to think that the subject of terminology gives the researchers, who deal with unification, a slip.

5. Modern terminology and philosophy

Perhaps, it will not be right to discuss only the sources of philosophy. From the very beginning terminology has been involved into a very complicated philosophical problem: discrepancy between the desire to obtain a definite and truthful data and impossibility to reach this aim. The main problem that terminology has to solve is to think over the adequacy of a descriptive method, since on the one hand, it really provides terminology with numerous descriptions of terms systems, on the other – it does not solve the problems of standardization and unification of terms. In such a situation terminology has to start a dialogue with other sciences and to initiate constructing theories.

In our view, modern terminology has taken a philosophical turn, since its aims are replaced by the questions about the relationship between mind, language and knowledge. This means that in philosophical interpretation the term, as the object of terminology, has got the possibility to be regarded as an idea, or an element of a theory. It is the theory of the term that substituted an empirical study of isolated terminological systems. Empirical descriptions were characterized by their endless search and unobservable varieties. In contrast to these, philosophy has created the world of theories, that helps to systematize numerous descriptions and gives the possibility for terminologists to scrutinize them with new care, by means of new ideas. This scrutiny resulted in a new interpretation of the object of terminology. In other words, the object of terminology has been changed in such a way that it has become orientated to man, who is considered to be the creator of terms. The theory of the term has also changed – terminology comes close to philosophical view of its role in the process of world cognition. Terminology starts to concern itself about such questions, as in what way is a man connected with the world, how does he feel the reality of science? Formal and logical aspect in terminology is gradually substituted by theoretical and cognitive.

6. The relation between terminology and science

Now it is necessary to define what do we mean, when we suggest that the object of terminology has been changed. We have still to explain what is the modern object of terminology. When we discuss its modern role, we mean the way it fixes knowledge, in other words, the relation between terminology and science. The term may be regarded as an element of an information system which is created by science. Terms are also integrated into a certain system by means of internal regularities. Science is an external factor concerning terminology. Science and the system of terms are interconnected. It means that there are periods when the tempo of their development is the same and in this case terminology keeps pace with science. Following this, we may say that the object of terminology turns to be closer to that of scientific philosophy, since terminology duplicates the sciences, which languages it studies. To paraphrase a well-known saying of M. Foucault (1966), it is possible to say that terminology has become a twin-science, that occupies a metaepistemological position.

However, there are periods when the internal development of terminology may not satisfy the demands of science, and in this case terminology does not interpret science. In this way we may say that terminology does not duplicate science, or loses its metaepistemological position.

For the theory of terminology, a conspicuous question is the nature of the term. Although the term has been used by terminologists for a long time there is no assurance that we know its nature. The attempt to study the term by means of rational methods did not reach its aim. Partially it may be explained by the specificity of human intellect. It was noticed (Gousev 2002) that objectively its organization is more strict and systematized than the reality itself. The world around does not contain such perfect geometrical figures, as a dot, a straight line, there is no “ideal body” and “ideal gas”, in other words, it does not contain all those things, which comprise the usual foundation for scientific research. As psychologists noticed, people have a genetic ability
to find order in those phenomena which do not have it at all. In this way, the theory of the term comes to the point, when it starts to comprehend that the term does not reflect the correlation of a thing and a word, but rather that of man and the reality.

Philosophy of terminology gives the possibility to obtain the assurance that the main feature of the nature of the term is discrepancy and complexity. P. Florenski, a well-known Russian philosopher, has studied a great role of philosophy in linguistics. He argued that any research in the sphere of language, including terminology, has its aim to make this discrepancy more vivid and more objective. Philosophy and terminology are in the basement of the organism of language (Florenski 1998). In this sense, the role of philosophy is not in the fact that it creates a common, total and truth theory, but, on the contrary, it breaks this tenet and suggests that terminology may develop without a common consent, as a system of individual theories. Philosophy of terminology distinguishes between the two contrasting approaches to terms: one way of studying terms is to observe their external structurization (description of various terminological systems), the other – to regard their internal structurization (terminologization and conceptualization).

Concern with the concept of the term as a language category, is the defining feature of philosophy of terminology. It argues that the first thing to realize about the term is that it is not only a unit of language. More than that, philosophy helps terminology to realize that objects of scientific research do not exist in the real world, but are constructed specially for the study. In this sense, terms are not only objects of description, but also models, specially created for the purpose of the analysis. Thus, when we approach terminology by means of traditional views, it is regarded as having strong links with logic. In contrast to the former, a philosophical view of terminology considers it to be an open and integrative science, because it may be presented as a complex of theories.

7. Metaterminalogy

There remains the final issue to be discussed. The consequence of a lengthy influence of logic upon terminology resulted in the following. The subject of terminology – the term – was viewed separately from the intellectual activity. Logic did not answer the question how terms were born, since it was mainly occupied with the problems of systematization of terms and description of already made knowledge. More than that, the term in the logical aspect was studied as an independent special unit, separated from language. A great discovery was made in terminology when the linguistic nature of terms was revealed and studied (Nalimov 1974, Gousev 1984, Nikitina 1987, Lejchik 1989, Grinev 1993, and others). Similar ideas have been put forward by H. P. Grice (1991), who distinguishes between a natural and a non-natural meaning: a natural meaning is discovered and not made, a non-natural meaning is constructed artificially, they are broader in scope insofar as they encompass all systems of sign, including linguistic ones, which human conventions have endowed with meaning. A. Tarski (1956) has also distinguished between an object language and a metalanguage. He suggests that we use the metalanguage in order to interpret and analyse the properties of the object language. Linguists of such views have proved that natural language, which exists as initial phenomenon, and therefore as a prime language model, creates other language models, secondary and derived, comprising terms. In this sense, it may be assumed that terms fulfil the function of commenting the scientific knowledge and operating previously created terms, but in new special meanings. Terms definitions are formulated in the metalanguage. From the concept of metalanguage we could derive a similar concept of metaterminalogy, having in mind that new terms are created as a result of interpretation of previous scientific theories. If we assume that the term is a name of a thought, we must also take into consideration that scientific ideas, once fixed by terms, are based on them. Consider the evolution of the concept light: ancient scientists (Pythagoras, Plato, Epicurus) thought of it as rays emitting from eyes, Newton shared the same view. In 1690 Huygens created ether light theory, in 1900 Planck introduced the term quantum for the concept of light. It is necessary to point out that the term metaterminalogy has not been yet adopted in terminology, though it is quite naturally may be included into the paradigm of such notions, as metascience, metasemantics, etc.

8. Conclusion

We would like to emphasize the idea that interaction of terminology and philosophy also has an impact on philosophical dialectics. On the one hand, philosophy educates terminologists as followers of preceding knowledge, schools and trends. It inserts a certain order into theoretical activity. On the other hand, philosophy mobilizes researchers of the term to create new, non-standard conceptions of the term, i.e. to break logical laws for the sake of the scientific truth. Thus, the most important contribution of philosophy of terminology into the theory of the term is the following:

1. Philosophy of terminology shows that the term is to be studied not only as an object of description, but also as a model of a certain knowledge presented by a researcher.
2. Philosophy of terminology reconciles terminologists with different viewpoints on the common ground of complexity and discrepancy of terms. Philosophy shows the possibility to study internal regularities of terms.
3. Philosophy of terminology clarifies theories of terms.
4. Philosophy of terminology favours that terminologists realize new internal relations of the term, including the issues of the world cognition and its fixation by means of language.
References:

Shcherba, L.V. (1958) Избранные работы по языкознанию и фонетике (Selected Writings on Linguistics and Phonetics). Moscow.
3.2.2 Sylvie V Vandaele

Deciphering metaphorical conceptualization in biomedicine: towards a systematic analysis

Sylvie Vandaele
Observatoire de Linguistique Sens-Texte, Département de linguistique et de traduction
Université de Montréal, C.P. 6128, succ. Centre-ville, Montréal (Québec), H3C 3J7
sylvie.vandaele@umontreal.ca

1. Introduction

Together with genetics and molecular biology, cell biology is now one of the cornerstones of modern medicine. New therapeutic approaches rely mostly on the elucidation of cellular functioning and on the identification of cellular targets for new drugs. Consequently the terminology used in these fields is prominent in biomedicine and pharmaceuticals. Most neologisms are created first in English, and then enter other languages, through either translation or borrowing. Although not always easy to solve, terminological problems, when they refer to the denomination of entities, are mostly manageable through classical approaches of terminology inherited from Wüster (Wüster 1981). However, a number of other problems must be solved with other tools (Temmerman 2000). In particular, using an appropriate phraseology represents a challenge for translators, as well as for researchers and scientific writers, whatever the language.

2. Metaphorical conceptualization in LSP

As scientific activity is primarily devoted to the building of models that aim to describe the real world, scientific languages are characterized by their ability to express the conceptualization of a domain. Our working hypothesis is that terminology and phraseology are mostly determined by the underlying conceptualization of scientific models. It is therefore important to understand the cognitive mechanisms that could be involved in the elaboration of scientific knowledge and discourse. One of the main characteristics of gathering scientific knowledge and elaborating theories is related to the role of metaphorical conceptualization (MC) (Lakoff and Johnson 1980/2003; Lakoff 1993). A number of studies have dealt primarily with metaphorical terms, that is to say, with metaphorical naming in LSP. Previous work has shown that it is particularly prevalent in Internet terminology (Meyer, Zaluski and Mackintosh 1997), but also in medicine and science (Raad 1989; Liebert 1995; van Rijn-van Tongeren 1997; Temmerman 2000).

An important problem is related to phraseology, in other words to what is “in between” terms. In fact, this is a major challenge in scientific writing as well as in translation, and one in which a conceptually organized hierarchy of terms is quite obviously of no help for students, translators or writers. At a deeper level, our working hypothesis is that metaphorical conceptualization is one of the mechanisms involved in the relations between concepts, terms, and phraseology. Understanding metaphorical structures should therefore be important in building a cognitive tool for making decisions in the translation process, and for helping to understand concepts and terminology networks. We have previously shown that conceptual metaphors such as PHYSIOLOGICAL PROCESSES ARE SCENARIOS and BIOMEDICAL RESEARCH IS A CRIMINAL INVESTIGATION are prevalent in Western medicine and that they may be used as a cognitive tool to assist in making translation decisions (Vandaele 2000; 2002a). Multiple conceptual metaphors are also used to describe the structure of molecules and entities in cell biology, suggesting that combinatory rules underlying phraseology are at least partially metaphorically based (Vandaele 2002b).

3. Problems related to the study of metaphorical conceptualization

The study of metaphorical conceptualization raises a number of problems. The first is related to the fact that it difficult to find objective criteria to track the realization of conceptual metaphors at the linguistic level, because they are primarily cognitive devices. In fact, a linguistic expression does not evoke cognitive frames with the same efficacy for all speakers (Talmy 2000). This problem is even more important in translation, as many translators have not systematically studied science, medicine or law and thus cannot always rely on previously acquired knowledge to track linguistic realizations of MC in the texts to be translated. Other problems are due to the heterogeneity of metaphorical clues: for example, there is no specific grammatical category involved. Also, they are distributed throughout the text, more or less densely, which makes it difficult to define any ideal corpus

---

1 We refer to metaphorical conceptualization using the definition of metaphor, or conceptual metaphor, given by Lakoff (1993), i.e., “a cross-domain mapping in the conceptual system,” as well as his definition of a metaphorical expression as one that “refers to a linguistic expression that is the surface realization of such a cross-domain mapping,” which is the meaning traditionally given to the term metaphor. It is important to understand that the surface realization of a metaphorical concept may take place at various levels of linguistic expressions, i.e., “a word, a phrase or a sentence.” According to Lakoff, cross-domain mapping refers to the use of the conceptual structure and the terms of a source-domain to describe a target-domain; this phenomenon occurs primarily in the same language. Consequently, mapping conceptual metaphors involves tracking metaphorical expressions that reveal the correspondences established between a source domain and a target domain.
size. Finally, as metaphor is primarily a matter of thought, one cannot rely on automatic processing to track surface realizations of MC, although scanning of corpus texts and the use of concordancing software, which allows semi-automatic processing of corpora, appear to be very useful in speeding up the process. Finally, the naming of conceptual metaphors using a propositional form, as Lakoff does (Lakoff, 1993), is useful, but is not easy to use from the perspective of synthesis, that is to say from the speaker’s (or writer’s, or translator’s) point of view. An analytical approach, based on tracking metaphorical clues and then naming a conceptual metaphor, does not give much information about lexical constraints to be applied. For example, in the example ARGUMENT IS WAR (Lakoff and Johnson 1980/2003), why not FIGHT or BATTLE? Moreover, multiple correspondences may apply: The use of conceptual metaphors in the process of utterance synthesis is not obvious because metaphor-dependent lexical constraints are not made explicit.

4. Another tool: lexical functions

There are two important points to bear in mind. The first is that we want a linguistic device that allows an analysis of MC, starting from the corpus, with the help of an expert if necessary (e.g., a molecular biologist, a pharmacologist, etc.), and that gives the translator or the writer enough information to provide him/her with an effective tool to assist in the process of synthesis. The second is related to an interesting observation, which is that a number of metaphorical clues—that is to say, the surface realizations of conceptual metaphors—can be treated as collocations. For example, in "Your claims are indefensible," which is a linguistic expression pertaining to the conceptual metaphor ARGUMENT IS WAR (Lakoff, et Johnson 1980/2003), indefensible may be viewed as lexically selected by claim and therefore may be treated as a collocate of the base claim. In other words, according to the Meaning-Text Theory (MTT), introduced by Mel’Cuk and colleagues (Mel’cuk, Clas and Polguère 1995), indefensible may be considered as a possible value of a lexical function (LF) of the lexical unit claim:

\[
\text{LF}_3(\text{claim}) = \text{indefensible}
\]

\[
\text{LF}_2(\text{claim}) = \text{to defend a claim}
\]

A lexical function LF corresponds to a “generalized meaning” (e.g., AntiVer = That is not as it should) and denotes a set of pairs of lexical units, linked by the corresponding relation (Mel'cuk 1996; Kahane and Polgure 2001). They have been introduced to account for two interrelated families of lexical relations, semantic derivations and collocations. They have been used not only in general language but also in LSP (e.g., (Dancette and L’Homme 2002)). If a lexical relation can be demonstrated between two lexical units, there is a link between the concepts denoted by the lexical unit. (The reverse is not true.) The relation between the lexical units claim and indefensible may therefore be encoded as follows:

English: ‘That is not as it should’ AntiVer(claim) = indefensible

French: ‘Qui n’est pas tel qu’il devrait être’ AntiVer(argument) = indéfendable.3

Our working hypothesis may therefore be reformulated as follows: The surface realization of conceptual metaphor in LSP can be analyzed and described with lexical functions. In fact, lexical functions have already been used to model metaphorical idioms in general language (Fontenelle 1994), but the application of lexical functions to the modeling of metaphorical conceptualization, particularly in science, has not been yet done.

5. Metaphorical conceptualization in cell biology

We are primarily concerned with conceptual metaphors in cell biology, that is to say the metaphorical conceptualizations that structure this scientific domain. Our study excludes didactic metaphor (metaphors used to explain any specialized knowledge to the general public (Temmerman 2000)). For the purpose of this project, we focused on the ways cells communicate, a topic central to the domain. A cell is the smallest part of a living organism (human being, animal or plant) that can function as an independent unit. Basically, cells communicate using electricity (in the case of neuronal cells) or chemical compounds such as hormones that are released in the blood or in intercellular and intracellular fluids.

Une parfaite coordination de l’activité d’ensembles cellulaires complémentaires s’avère nécessaire au fonctionnement et à la survie des organismes pluricellulaires. (Mulder, Clos and Périlleux 1996:179)

Cells in multicellular organisms communicate through a large variety of signals. (Alberts, Bray, Johnson, Lewis, Raff, Roberts and Walter 1998:510)

The work was carried out on English and French scanned corpora that were designed to be as comparable as possible. The texts underwent optical character recognition (using OmniPage 8.0 for Macintosh) and were checked for recognition errors. We included a selection of peer-reviewed literature in cell biology from 1995 to 2000, that is to say, research and review articles from well-recognized journals, as well as reference textbooks for undergraduate students in biomedicine. We excluded popularized scientific literature, some textbooks for students and newspaper articles (because of the prominence of didactic metaphors), as well as Web pages, even when created by scientists, because of the highly variable quality of the texts. A concordancing program (Le Concordez 3.1, by David Rand, Université de Montréal) was used to quickly find contexts containing the lexical units of interest.

---

2 Note that here we assign to the term concept the very general meaning of ‘informational entity manipulated in reasoning.’

3 French lexical units are underlined.

4 Example of didactic metaphor (underlined) not studied here: “In a multicellular organism, cells must coordinate their behavior in many different ways. As in any busy community, there is a constant hubbub of communication; neighbors carry on private conversations, public announcements are broadcast to the whole population, urgent messages are delivered from distant sites to individuals, alarms are rung when danger threatens.”
The French and the English corpora contain 521,235 and 338,660 words respectively. However, the two corpora were comparable regarding the occurrences of important terms (Table 1). The number of occurrences in English corresponding to lemmatized unambiguous terms specific to the domain and their French equivalents were roughly similar, as well as the number of occurrences of the lemmatized word forms being examined.

Table 1 – Number of words and occurrences in corpora. The word forms examined represent some metaphorical clues in cell biology.

<table>
<thead>
<tr>
<th>Terms specific to cell biology</th>
<th>English (words)</th>
<th>French (words)</th>
</tr>
</thead>
<tbody>
<tr>
<td>cell</td>
<td>4817</td>
<td>3074</td>
</tr>
<tr>
<td>molecule</td>
<td>1031</td>
<td>1105</td>
</tr>
<tr>
<td>protein</td>
<td>3408</td>
<td>3217</td>
</tr>
<tr>
<td>receptor</td>
<td>3188</td>
<td>4450</td>
</tr>
<tr>
<td>ligand</td>
<td>340</td>
<td>487</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lemmatized word forms examined</th>
<th>English (words)</th>
<th>French (words)</th>
</tr>
</thead>
<tbody>
<tr>
<td>message</td>
<td>36</td>
<td>99</td>
</tr>
<tr>
<td>messenger</td>
<td>291</td>
<td>286</td>
</tr>
<tr>
<td>signal</td>
<td>862</td>
<td>704</td>
</tr>
<tr>
<td>communicate - communication</td>
<td>184</td>
<td>201</td>
</tr>
</tbody>
</table>

6. **Message in cell biology**

**Message** corresponds to at least one predicative lexical unit that pertains to the metaphorical conceptualization of cell communication. Examples of surface realizations of this MC can be found in contexts such as the following, in which the underlining indicates a collocate selected by the metaphorical element *message*:

As a rule, this is only the first event in a subsequent chain of intracellular signal transduction processes. In these, the message is passed from one set of intracellular signaling molecules to another, each in turn provoking production of the next [...] (Alberts et al. 1998:487):

*The receptor proteins for these signal molecules therefore have to lie in the plasma membrane of the target cell and relay the message across the membrane.* (Alberts et al. 1998:488)

*The millions of cells that make up a multicellular organism can work together only because they continually exchange chemical messages. Transmitters released from one cell act as agonists on others, changing their behavior.* (Bolsover, Hyams, Jones, Shephard and White 1997:331)

The analysis of the contexts extracted from the English corpus led us to encode various types of information using the tools provided by the MTT. In this project, we will focus on the principal lexical unit corresponding to the word form *message*\(^5\), *message\(_i\)*, in other words to focus on one specific sense of *message*.

The definition of *message\(_i\)* is presented under a propositional form so that the semantic actants are apparent:

- information unit: ~ CONTAINING X AND SENT BY Y TO Z USING W\(^6\)

The actants X, Y, Z and W correspond, respectively, to the content, the sender, the receiver and the carrier of the message. In cell biology, the first actant X may be expressed as *information*, sometimes with specific characteristics, e.g., pain (*pain message*). The second and the third actants Y and Z are expressed by lexical units referring to instances of categories denoted by terms such as *cell* or *molecule*. The fourth actant W is expressed by lexical units referring to instances of categories essentially denoted by the term *molecule*, although a special case is represented by the lexical unit *nerve impulse*.

---

\(^5\) A second lexical unit, *messages*, corresponds to the case in which the message is at the same time the messenger, i.e., a molecule (molecule: ~ MADE BY a cell X AND RECEIVED by Y). The existence of a number of specific collocations suggests that it is appropriate to consider this lexical unit independently from *message*.

\(^6\) The symbol ~ stands for the key-word to be defined, e.g. *message*. 
 Instances of actant categories may be realized in corpora by specific terms or lexical units that are not predictable and can therefore be encoded using paradigmatic lexical functions for actants (S1, S2, S3...):

third actant Z  
\( S_3(\text{message}) = \text{recipient cell, target cell} \)

fourth actant W  
\( S_4(\text{message}) = \text{messenger, messenger molecule, signal molecule} \)

The analysis of the French corpus gives similar results for the equivalent lexical unit \( \text{message}_1 \),

\[ \text{unité d’information: ~ CONTENANT X ET ENVOYÉ PAR Y À Z À L’AIDE DE W} \]

Categories corresponding to the linguistic realization of the actants Y and Z are denoted by terms such as \text{cellule} or \text{molécule}. These are the exact equivalents of the English terms, and this is also true for the fourth actant W (\text{molécule}, special case: \text{influx nerveux}). Finally, paradigmatic lexical functions can also encode specific lexical units found in the corpus:

third actant Z  
\( S_3(\text{message}) = \text{cellule cible} \)

fourth actant W  
\( S_4(\text{message}) = \text{messager, molécule de signalisation} \)

Actantial analysis shows, in both languages, that the various actants of the predicates \( \text{message}_1 \) and \( \text{message}_2 \), are realized by terms from the domain of cell biology. It is worth mentioning that these lexical units do not fit into any ontological representation generally used in terminology, as they cannot be linked to terms by hyperonymic or meronymic relationships. This raises the question (discussed in L’Homme [1998]) of whether certain verbs can be considered to be part of the terminology of specialized domains, as one of the criteria used is the existence of domain-specific actants. The actantial structure of the predicates reflects the conceptualization of cell communication, in fact borrowed from Shannon’s Information Theory (Loewenstein 1999). This allows us to establish correspondences defining a conceptual metaphor (Figure 1), i.e., the conceptualization of cells, cell parts or molecules as sender or emitter of messages, and of molecules or nerve impulses as the carrier of the message, while the content of the message (variable and not always explicit) is related to physiological processes or events.

![Figure 1 – Actantial structure of the lexical unit message_1](image)

A number of collocations, in both corpora, pertaining to the metaphorical conceptualization of the message can be described using paradigmatic lexical functions (Table 2). Only a few examples are presented here. It should be noted that even with 300,000 or 500,000 words not all collocations may be collected.

---

\(^7\) Note that from the point of view of translation, this is a somewhat ideal case, as the equivalence between the two languages is straightforward.
The results obtained show that actantial analysis and lexical functions allow a fine-grained description of metaphorical conceptualization of a scientific domain. In the work presented here, the lexical units message\(_1\) (E) and message\(_4\) (F) refer to a conceptual metaphor in which various cell entities, parts or molecules are conceptualized as senders, receivers or carriers of a message. Furthermore, consistent with other research (Dance et al. 2002; L'Homme and Bertrand 2002), these tools are useful for describing collocations in LSP, which are otherwise difficult to integrate in classical conceptual terminological descriptions. In this project, lexical functions collected from the two corpora generally correspond. Further verifications on larger corpora will help to fill the gaps and bibliographic databases such as Medline and Current Contents will be particularly helpful in this regard (Vandaele 2001).

It is particularly interesting to note that predicative lexical units such as message do not fit into any classical terminological representation, as hyperonymic or meronymic relations are not able to account for them. However, there are very strong semantic relations (paradigmatic or syntagmatic) between this lexical unit and typical terms of the domain, as well as between this lexical unit and others. In fact, this might be related to the role of these predicates as conceptual metaphor markers. Indeed these terms and lexical units participate in the surface realization of a conceptual metaphor that is essential to the understanding of the domain. If this is the case, it is likely that a number of predicative lexical units relevant to metaphorical conceptualization are not properly considered in terminological descriptions, and that this may account for a number of problems encountered in translation, particularly by student translators.

---

Table 2 – Some lexical functions encoding collocations pertaining to the metaphorical conceptualization of the message in cell communication.

<table>
<thead>
<tr>
<th>Lexical function</th>
<th>English</th>
<th>French</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Real2--I]</td>
<td>to generate [ART ~]</td>
<td>[not found in our corpus]</td>
</tr>
<tr>
<td>[Real2--II]</td>
<td>to send [ART ~] to fire [ART ~] Y=neuronal cell</td>
<td>envoyer [ART ~], émettre [ART ~]</td>
</tr>
<tr>
<td>[S0Real2--II]</td>
<td>Cells of the nervous system rapidly fire messages to and from the brain.</td>
<td>Il faut en effet considérer qu'une interaction intercellulaire nécésite que le message de la cellule émettrice soit effectivement capable d'atteindre la cellule-cible putative.</td>
</tr>
<tr>
<td>[Real3]</td>
<td>to recognize [ART ~]</td>
<td>reconnaitre [ART ~]</td>
</tr>
<tr>
<td>[S0Real3]</td>
<td></td>
<td>La reconnaissance du message aboutit, après un très important phénomène d'amplification, à la modification de nombreuses activités cellulaires...</td>
</tr>
<tr>
<td>[Real4--I]</td>
<td>to carry, to convey [ART ~] to relay [ART ~ to N=Z]</td>
<td>porter, véhiculer [ART ~] relayer [ART ~ à N=Z]*</td>
</tr>
<tr>
<td>[S0Real4--II]</td>
<td>In these, the message is passed from one set of intracellular signaling molecules to another, each in turn provoking production of the next until, say, a metabolic enzyme is activated, the expression of a gene is switched on, or the cytoskeleton is kicked into action.</td>
<td>Il est donc clair que les chaînes saccharidiques des gonadotropines interviennent dans la transmission du message hormonal au delà de l'étape de leur liaison au récepteur.</td>
</tr>
<tr>
<td>[Fact3]</td>
<td>to elicit a response from [N=Z]</td>
<td>[not found in our corpus]</td>
</tr>
</tbody>
</table>

* Considered as an anglicism in French.

7. **Conclusion**

The results obtained show that actantial analysis and lexical functions allow a fine-grained description of metaphorical conceptualization underlying a scientific domain. In the work presented here, the lexical units message\(_1\) (E) and message\(_4\) (F) refer to a conceptual metaphor in which various cell entities, parts or molecules are conceptualized as senders, receivers or carriers of a message. Furthermore, consistent with other research (Dance et al. 2002; L'Homme and Bertrand 2002), these tools are useful for describing collocations in LSP, which are otherwise difficult to integrate in classical conceptual terminological descriptions. In this project, lexical functions collected from the two corpora generally correspond. Further verifications on larger corpora will help to fill the gaps and bibliographic databases such as Medline and Current Contents will be particularly helpful in this regard (Vandaele 2001).

It is particularly interesting to note that predicative lexical units such as message do not fit into any classical terminological representation, as hyperonymic or meronymic relations are not able to account for them. However, there are very strong semantic relations (paradigmatic or syntagmatic) between this lexical unit and typical terms of the domain, as well as between this lexical unit and others. In fact, this might be related to the role of these predicates as conceptual metaphor markers. Indeed these terms and lexical units participate in the surface realization of a conceptual metaphor that is essential to the understanding of the domain. If this is the case, it is likely that a number of predicative lexical units relevant to metaphorical conceptualization are not properly considered in terminological descriptions, and that this may account for a number of problems encountered in translation, particularly by student translators.
Finally, it should be remembered that the almost perfect equivalence between English and French encountered here is not likely to be the general rule. However, the approach outlined here allows new ways of reasoning in translation and terminology in LSP, as well as in general language. We therefore believe that further study of the combination of terminological, cognitive and lexical representations should provide a complete description of a LSP.

Acknowledgements

I would like to thank the Social Sciences and Humanities Research Council of Canada, and the Université de Montréal for their support; my colleagues, for their helpful discussions and comments, Marie-Claude L’Homme, and Alain Polguère and Igor Mel’Cuk for having introduced me to the Meaning-Text Theory; my students, who have brought their technical help and their helpful questions, Magali Cape, Elizabeth Marshman and Mélanie Proulx. A special thanks to Elizabeth Marshman for her help with the English writing.

References


3.2.3 Larissa Manerko

Noun Phrases in English Terminology:
Two visual Systems of Orientation

Larissa Manerko
Ryazan State Pedagogical University, Russia

1. Introduction

Language and the human mind can't exist without each other, they both reflect the same kinds of spatial, social or emotional experience. Some scholars try to find various sorts of evidence that all of them are similarly important for a human being. G. Lakoff and M. Johnson's contribution that "none of these has experiential priority over the others; they are all equally basic kinds of experience" (Lakoff, Johnson 1980: 59) focuses on their equivalent influence upon the language user in representing a certain communicative situation.

At the same time the speaker's choice of certain linguistic expressions may suggest greater importance of communicative needs and intentions which are indicators of social and emotional experience. Social cognition develops an integrated picture of the self in the surrounding world and his relationship towards different things in the environment: objects, pets, relatives and unknown people, etc. It depends upon a lot of factors, e.g. kinship relations, position in society, anthropological and cultural reasons and even the sphere of communication and concepts discussed. R. Jackendoff makes a distinction between spatial, social and emotional experience. He admits that "...the concepts for physical space have come together nicely and have begun to interact in an interesting way with research on visual perception. But for other families of concepts, various notions emerge that have no spatial interpretation but do play an evident role in the social domain" (Jackendoff 1996: 77).

The most striking idea concerning spatial cognition and other kinds of experience of a human being is that it is usually acquired through communication and social experience of a child, his or her acquaintance with a certain number of words and expressions and of course visual and sensitive contact with this or that object. The surrounding world is so diverse and the human visual system helps to identify different things in man's broad and particular environment. These may be various material objects, persons and other sensible phenomena in space, their perceptual qualities and characteristics. Spatial cognition serving the core of person's visual system is the most fundamental step of human experience.

So, many scientists especially specialists in cognitive science and cognitive linguistics admit that our knowledge about space is claimed to take up a privileged position. Space is "at the heart of all conceptualization..." (Pütz 1996: xi). They try to elucidate the interrelation between language and space through and with the description of cognitive mechanisms, because language represents quite clearly systems of conceptualization and categorization and the cognitive-functional paradigm in linguistics seeks "the fundamental, spatial basis of conceptualization in and through language" (Pütz 1996: xi). In this case only the language and its expressions can provide a window on the nature of spatial cognition and other related aspects.

It usually happens in the language that only some pieces of such visualized experience are named by suitable words and expressions. But human speech can cover the entire field of different things actually existing in reality and those created by person's imagination.

A great deal of contemporary studies in cognitive linguistics has been focused on basic elements of mental information about space. It is a starting point of cognition, which leads to many new things and ideas in thinking as well as in the language. Newly created concepts built up from the already existing ones are able to extend our repertoire of more complex cognitive constructs. The variety of mental representations involves the appearance of new meanings and phrases. The most attractive sphere of analysis is associated with the organization of conceptual metaphors and others notions of imaginary worlds. It happens so that "we typically conceptualize the nonphysical in terms of the physical" (Lakoff, Johnson 1980: 59). Thus the outlook on linguistic items being usually updates to novel situations and social environment are inspired by man's mind, they exist as products of many thought processes which are largely metaphorical from primary domains of conceptualization.

Cognitively complex constructs incorporating data of different levels reflect those changes which our conceptual system has undergone from primary ontological concepts, because the human knowledge is enriched by the information about new objects, environments and situations. So language represents more and more complicated linguistic structures. Expressions denoting concrete material objects become the most important part of the nominal system of the language. They comprise the core of any word-stock including the vocabulary of English. This article presents the results of my study of complex nominal phrases in English which are observed in great quantities in the sphere of modern technics (Manerko 2000). Examining such language units especially of nominal character a linguist can answer the questions how we talk about what we see and how we perceive, cognize and name objects and their peculiar features in different communicative situations. This problem may seem not new, because this is the case of burning interest of philosophers, psychologists, linguists and specialists in other related disciplines. But this aspect of investigation seems very promising to me, I try to understand how the object recognition system is represented by the linguistic knowledge. This aspect provides the basis for comparing processes of conceptualization, categorization including a domain of certain concepts, their characteristics and naming which encodes changes in human cognition and spatial experience.
2. Complex nominal phrases

Separate words like "table", "chair", "pen" or other names are frequently met in everyday communication. They belong to the group of words denoting different material objects characterized by such features as form, size, colour, function, etc. These names help to incorporate the information so useful for the process of lexical categorization.

In English sentences these words are used altogether with articles and other names standing in the attributive position to the head component, e.g.: "a large wooden table", "a thick red pen". In this case we don't deal with separate words but with special complex nominal groups\footnote{1 It is necessary to note here that in Western and American linguistic traditions such units are usually called nominal (noun) phrases (Givón 1993), nominal groups (Vendler 1968), nominal complexes (Hill 1958; The Encyclopaedia 1994). In our Russian linguistic school the other term is used, such complexes are called word-combinations. This term corresponds to word-groups consisting of two or more notional words integrated so that they are introduced in speech with a specialized meaning of the whole words that is now understood as a mere sum total of the meaning of the elements (Vinogradov 1975). Word-combinations are equivalents to simple words, they are nominative and syntactic units, elements of nomination and discourse (Manerko 2000). In general, there is a special branch of linguistics elaborated by Russian scholars which is called the theory of a word-combination. For convenience of my description in this article all the mentioned terms (nominal groups, phrases, complexes, word-combinations) are used to mean the same things (see the definition of a word-combination by V.V. Vinogradov).}

It is important to stress that complex nominal phrases of any layer of English (common traditional or professional communication) can show common features with the lexical categorization of simple words, e.g.:

- "an aircraft" – "a geometric wing aircraft",
- "a helicopter" – "a carrier-based helicopter".

Noun groups are frequently met in every English sentence of oral and written discourse. They may have modifying components which identify what the whole noun refers to. Speakers usually refer to people, objects, processes and other kinds of entities. So, such noun phrases serve this function and represent mostly different kinds of things, e.g.: "Active demonstrators gathered in front of the presidential palace" (Cambridge 1995: 1019); "A detector is a device used for finding particular substances or things, or measuring their level: a lie detector, a smoke detector, a metal detector" (Cambridge 1995: 375)

In professional communication such phrases also reflect different kinds of referents. The head-member component in terminological word-combinations indicates different things, devices, persons, processes and other phenomena. The central word of the phrase is the semantic nucleus which organizes other components around it. Prepositional elements of the phrase help to identify the semantic category of the referent.

The number of such nominal groups in the professional sphere of communication greatly prevails as in the following examples: "Viewed from the perspective of today's computer-controlled kilotron detectors, sodium iodide crystal palaces, giant accelerators, and general hundred person groups, our efforts to detect the neutrino appear quite modest" (Reines 1995);
"Sensitive methods, based on electrical conductivity measurements, reveal that the true area of contact between two surfaces is extremely small, perhaps one-thousandth of the area actually placed together for steel surfaces" (Nelkon and Parker 1975: 173). The frequency of occurrence of nominal groups is so great that they become the most characteristic feature of language for special purposes.

Terminologists J. Sager and his colleagues state that "the most important components of the vast majority of Special English (SE) sentences are conceptual units expressed in nominal groups. They contain the individual items of information... They act as the building block from which SE sentences are constructed because they possess certain inherent qualities which enable them to perform the task of communicating information effectively and efficiently" (Sager, Dunworth, McDonald 1980: 219). So, it is evident that noun phrases appear to be basic centers of discourse whose cognitive nature of information is the most relevant for communication. Moreover, the conceptual data represented in such complexes serve a framework uniting other elements in any text. And in this case it's necessary not only to pay attention to the description of linguistic and non-linguistic peculiarities of these units, but to investigate main categories representing the constituents, concepts and relations existing between them.

Furthermore, any linguistic study nowadays defines the interaction of different kinds of knowledge: person's knowledge of linguistic structures, the knowledge of the outer world, and the knowledge of concrete context (or communicative situation). One more aspect should be stressed while speaking about cognition which is easy to lose sight of. It is expressed in papers on psychology both in Russia and abroad. The whole range of properties about different things in reality is that it "principalty engages the perceptual systems, and secondarily the systems of general world-knowledge about objects" (Landau, Smith & Jones 1998).

This idea suggests that the transformation of visual information about objects, their properties, relative location and environment into units of nomination is of great importance. This information leads toward a clearer understanding of inner mechanisms in spatial cognition. It may present interesting data on human perception, visual systems, categorization, spatial cognition and naming in general.

Besides that, word-groups with a complex syntactic structure need to be explored more attentively than simple words, because they point at more complicated conceptual constituents, conceptual structures and relations which are observed inside them (Schiffer, Steel 1988). Word-combinations provide a better input to our consciousness through the links existing between main concepts expressed by components of linguistic units. So, the main strategy in the presented paper is to reveal the process of naming and to show the structures of the analyzed units, to point at onomasiological categories represented in these structures, to elucidate the activities of the human mind and preferences of specific things in the surrounding for spatial cognition and to connect the gained model with dynamic processes in professional discourse.

What is new in the presented paper is the attempt to construct my own synthesis of successive analyses of complex word-combinations of the terminological sphere of English. Each step of the analysis may exist independently and irrespective of the other, but all of them ensure good results as a whole in the end.
3. The strategy of the analysis

The formal analysis of cognition in linguistic units addresses a wider spectrum of different issues. One of them has correspondence to associative networks, the other one is the attempt to study the unconscious basis of personality, to suppose which elements are left unexpressed in the surface structure of a unit. Such issues often come into contact. Exploring the organization of complex nominal phrases I take into consideration the following fact that there is some difference between the linguistic structure and how the complex realizes the conceptual information. These aspects of research are impossible to display without the description of the naming process\(^1\) and a set of categories performing their function.

Many years ago M. Dokulil (Dokulil 1962) decided to describe derivative units as representatives of the nomination process. He made an attempt to distinguish between two main categories, he called them "the onomasiological basis" and "the onomasiological sign". This view was related to the special methodology of onomasiology (or theory of nomination) developed in Russia when the mentioned categories revealed the motivated sign and the lexico-grammatical base of a nominative unit.

Over the last two decades, many Russian linguists have persistently tackled different issues in the theory of nomination, on the one hand, and related theories of cognitive processing, on the other. So, the onomasiological modeling elaborated in works by E.S. Koubriakova (Koubriakova 1981) and her followers made possible to call this analysis the mature version of cognitive onomasiology. In this case the cognitive-onomasiological modeling is able to represent relevant conceptual categories of human knowledge.

It is quite clear that the onomasiological basis being the most important part of the linguistic unit influences the formation of the whole word-combination. The onomasiological basis is tied to the semantic and lexico-grammatical nature of the head-member component of a nominative unit, denoting different things, devices, instruments, means of transport, other kinds of artifacts. So, a nominal component plays the leading role. This name is intended to be a permanent label and represents the concept of a 'THING'.

My analysis comes from the theoretical principle of correlation between linguistic and conceptual procedures of investigation dependent on main parts of speech (Koubriakova 1997). The set of ontological categories (or conceptual "parts of speech" as R. Jackendoff (1996) calls them) such as THING, EVENT, STATE, PLACE, PROPERTY, and AMOUNT is not numerous. The mentioned concepts and some other lexical categories are essential in understanding of human experience. A number of concepts (or lexical categories) may describe the elements of complex linguistic units. Thus, the head-member component of a number of nominal groups such as "geometric wing aircraft" (1), "full-metal jacket bullet" (2), "open field cryotron" (3), "back-pack parachute" (4) and others is represented by the one and the same concept – 'THING'. This is the main ontological concept that dominates upon the other ones. But not in all phrases the main component is quite that simple, expressed by only one word ("aircraft", "bullet", cryotron", "parachute").

Firstly, I started to examine the categorization process of the main element of the phrase. It occurred that the structure and semantics of this component defines the arrangement or other elements inside the whole word-group. The corpus of the analysed material corresponds to 15 thousand nominative units, 6217 of them are complex word-combinations including two or even more notional words. All these examples were collected by the author of this article from different kinds of technical literature belonging to professional discourse (monographs, textbooks, journal articles, annotations, resumé, etc.) In my opinion, the obtained results of the analysis are supported by an extensive data base.

The data presented below can show the difference in the structure of the onomasiological basis. The following English examples of terminological word-combinations can reduce the number of really distinct uses to three main groups. More than a half of complex nominal phrases (3643 examples out of 6217 complex word-groups) are characterized by a simple structure represented by a separate word, e.g.:

(5) "geometric wing aircraft" – [(geometric wing) (aircraft)];

the other group of phrases (2369 units) have a complex organization, they may consist of two or more words with subordinate relations, e.g.:

(6) "time of arrival measurement equipment guided bomb" – 
[(time of arrival) (measurement equipment) (guided bomb)];

and only 205 cases point at a more composite organization of the onomasiological basis, e.g.:

(7) "carrier-based attack-bomber" – [(carrier-based) (attack-bomber)].

Secondly, the structure of the complex group should be subdivided into two parts – the dominating one and the other piece of a complex. This part of the unit is called the onomasiological sign, it represents nominal (N\(_1\)), verbal (V, Ving, Ved) and adjectival characteristics (Adj, (AttrNed) of a phrase. The structural organization of this part of the unit is different, there may be one or more notional elements here (examples 5, 6, 7). One of the components of the onomasiological sign structure is dominating over the subordinate elements ("wing" in example 5, "equipment" in example 6, "based" in example 7).

But the categorization alone does not give enough information to determine the meaning of the whole word-combination in most cases. It is necessary to define the correlation between the meanings of onomasiological categories of a unit. The relations between the concepts expressed by the onomasiological basis and the onomasiological sign may also be different. These relations

---

\(^1\) Nomination is a many-sided phenomenon which is understood as the process of giving names to different objects and situations with the help of linguistic means, attaching a definite referent to one of the special linguistic signs. The cognitive activity of a person, his ability to classify them becomes the product of the language activity expressed by a word or expression.
are usually implicit ones and the comprehension of this part of the construction may lead to unconscious processes in human mind.

There were many scholars who tried to present special accounts about relationships of the components but in the sphere of compound words. Thus H. Marchand's treatment of "verbal-nexus compounds" and "non-verbal-nexus compounds" is the best-known (Marchand 1962). This work and many others (Levi 1978) help to explicate semantic relations between the main categories of derivative units.

I try to propose the relationship existing between two onomasiological parts in word-combinations. The third part of the model uniting the onomasiological basis and the onomasiological sign is the predicate or the onomasiological predicate. All these elements of the formula comprise the onomasiological model (See figure 1).

The 3-part structure including the mentioned categories may eliminate interpretations concerning the contextual clues of the unit, the associative networks of the main concept and other important data concerning person's knowledge of the world and particular communicative situations. This is that kind of analysis which becomes a universal means of complex interpretation procedure of human knowledge.

<table>
<thead>
<tr>
<th>Onomasiological Basis</th>
<th>Onomasiological Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>N (N₂)</td>
<td>Nominal sign N₁</td>
</tr>
<tr>
<td>{THING}</td>
<td>Verbal Sign V, Ving, Ved</td>
</tr>
<tr>
<td></td>
<td>Adjectival Sign Adj, (AttrN)ed</td>
</tr>
</tbody>
</table>

Figure 1. The formula of relations between the knowledge structures in complex nominal groups

This onomasiological model to a certain extent equals a proposition which can present an interesting material about the whole corpus of complex noun phrases in the terminological sphere of English. Though in most linguistic works a proposition is defined as a logical phenomenon, as it is "an abstract entity composed of concepts, which has a truth value and which can be asserted by a sentence" (Taylor 1976), it can help to explore semantically based units and their conceptual structures. The proposition helps to identify those elements which are observed in linguistic units and the component not found in the phrase but easily reconstructed. This component containing a predicate verb unites two other categorial concepts. So, every proposition consists of three conceptual elements.

If it is quite clear to identify the category of the onomasiological basis, difficulties usually arise with categories representing the onomasiological sign and the onomasiological predicate. The range of lexical categories for these categories (THING, EVENT, STATE, PLACE, PROPERTY, and AMOUNT) is not numerous to cover all the properties of language elements. J. Levi (Levi 1978) proposed that the predicate in her analysis of noun-noun compound words were limited to nine "recoverably deletable predicates", such as CAUSE, HAVE, MAKE, USE, BE, IN, FOR, FROM and ABOUT. Each of these abstract meanings can encompass a number of more specific predicates. A. Wierzbicka (Wierzbicka 1996) added to this list some other semantic primitives. Russian linguists extend the number of them from 20 to 30. Such categorial names permit to characterize all relations between elements of a nominative unit.

In the word-groups there may be different types of relations between the components expressed by propositional-linguistic information. In one unit THING may be connected with the other one pointing at "whole – part" relations, in the other one it is characterized by its location. Cf.: examples 8 and 9 and their onomasiological models (8a and 9a).
The main concept (THING) is connected with other lexical categories expressed by modifying elements like in associative networks. The analysis of phrases indicates some other entities salient within the particular contexts. Even more complicated nominal complexes can be represented by special "propositional schemas", containing the same three constant elements: the THING, the predicate verb specifying the object and the onomasiological sign which is a complement that makes the description of the object quite clear.

The following two examples are of a more complicated character, e.g.: "catamaran small waterline area ship" (10), "high equatorial orbit communications satellite" (11). They introduce the same universal components in their propositional structures. In example (10) the complex nominal group is also divided into two parts — "catamaran" and "small waterline area ship". These parts are represented by concepts 'KIND' and 'THING' in the proposition given below (10a). The uniting predicate here is 'BE OF':

(10) "catamaran small waterline area ship" – [(catamaran) ((small waterline area) ship)]

(10a) {THING – BE of – KIND (type, variety)}.

The other variety of a proposition is observed in example (11), where 'THING' and 'PLACE' are connected with each other with the help of the predicate link – 'OCCUR IN':

(11) "high equatorial orbit communications satellite" – [(high equatorial orbit)(communications satellite)]

In general, the quantity of cognitive-onomasiological models equals to 45 semantic relations. Some of them are observed more frequently, e.g. {THING – BE CHARACTERIZED BY – FEATURE} (563 examples); {THING – BE USED FOR (Goal) – PROCESS} (561 examples); {THING (Whole) – BE COMPOSED OF – THING (Part)} (511 examples). They may be called prototypical representatives of the category of technical artifacts or Nomina Instrumentalis. All the others are registered not so often as previous cases and they belong to the periphery of the category.

Cognitive-onomasiological models provide for the many novel nominative units. They look like the central combinatorial device in English which corresponds to the nature of activity in nomination and syntax.

What I find particularly impressing on the stage of propositional-linguistic procedure of complex nominal groups is that the predicate component is fully dependent upon the main concept (THING) expressed by the head-member component of the phrase and shows its dependence upon human perception and visual systems.

The propositional-linguistic format of complex nominal groups represents very useful information about two systems of orientation known as the "what" and "where" systems (Jackendoff 1996). Each thing may be described differently: the object may have its absolute characteristics or it is locationally oriented. Two images of the same object in our mind refer to the shared knowledge of a speaker and a listener taking part in communication. These two forms of representation touch upon our primary sphere of experience about objects. In every communicative event there are other cognitive factors which are of great importance, they are as follows: "windowing of attention" (Talmy 1996), observer's (nominator's) attitude to a certain piece of the environment he/she is speaking about and the goal of the utterance dependent on the concrete situation.

4. The absolute system of spatial representation

The "what" system of spatial representation indicates different types of objects and their peculiarities. The system is rich in various descriptive characteristics of objects expressed by nominal groups. It is more complicated than the system of relative orientation. A close distance of an observer to the described object and its static or relatively static position makes it possible to see even small details of the thing and to reveal these features by linguistic means.

The geometric vision of an object characterized by volume presupposes the existence of vertical and horizontal axes. These axes divide the symmetric object into two or more parts. R. Jackendoff mentions the example with cameras and airplanes when "the long side-to-side dimension... is a symmetric generating axis" (Jackendoff 1996: 103). The most significant feature usually specifies the generating axis, which is often found in attributive components of nominal phrases, e.g.: "geometric wing aircraft". Such marking meets the requirements of accuracy in a specialized type of discourse and depends on the "windowing of attention" criterion. It also shows that the horizontal generating axis is significantly longer than the vertical one. There can't be any noun of a complement met without any additional specifying information, cf.: "fixed wing aircraft", "swing wing bomber" or "rotary wing aircraft".

The next group of nominal complexes is associated with the absence of symmetry. This feature shows the anthropological model of inner inherent orientation of an object based on the topological principle (Talmy 1983). Different means of transport are described as being composed of some parts which touch the land or water surface by its bottom, e.g.: "half-track carrier", "air-lubricated hull submarine", "air-cushion aircraft-carrier". The traditional sphere of person's natural exploration is the surface, this horizontal position exists in egocentric orientation. The object shape is clearly seen through this specially named sufficient part.

Much is written in cognitive linguistics nowadays about various types of "containers": Objects distinguished by volume may have their own "bodies" which are represented in details in the following examples: "changeable body shape projectile", "crossed loop antenna" or "full metal jacket bullet". In these phrases containers have constant forms which remain unchanged while moving and for a certain period. The inner space of such things may be perceived as a point inside the container. Objects may contain different smaller things like

- technical and non-technical artifacts: "heavy equipment transporter", "medium lift helicopter",
- groups of people: "light armored squad carrier",
- substances: "ball powder propellant".

- 205 -
– liquids: "liquid oxygen tanker", "special liquid refiller",
– gas: "tear gas cartridge",
– information: "intelligence data processor".

Measures of velocity, frequency, pressure, volume, capacity and other physical (metric) parameters are also very important in the "what" system. They may indicate the difference between the observed object and our "cognitive ideal" of the same thing which is kept in the memory of a human being. This ideal is traditionally middle-sized, characterized by average metric indices. If the perceived and nominated object doesn't correspond to this sample, it may be additionally expressed by special words, cf.: "low-noise submarine", "very quiet submarine", "extremely quiet submarine", etc.

The "what" system relies only upon the identification of objects; location is irrelevant here. The mentioned kinds of information about different things are useful for recognizing objects. Absolute features of artifacts represented in complex nominal groups specify things and characterize them indicating many properties: volume, form, size, parts, and other parameters. Objects in this system often have their own shape, they are holistic things, with specific contours, and other inherent features. The contours of objects are so valid that this system is sometimes called the contour system (Chown, Kaplan, Kortenkamp 1995).

5. The relative system of spatial representation

The other system of orientation is usually called the "where" system. It determines spatial relationships of objects. It shows the dependence of one object upon the other ones, ways of navigation and orientation in space. The artifact is described as a thing moving in space or having its place if it is relatively static, e.g. "ground-based missile", "continental shelf mine".

The description of objects in this system doesn't depend on their norms, form, size and other characteristics because the thing in this case is usually a standard, a typical one, already stored in person's long-term memory. So, these parameters are not relevant here.

There are some other characteristics which are taken into consideration in the "where" system. The topological principle is one of them. It helps to describe the height, depth of natural objects, direction, trajectory and distance from the observer's position. Such characteristics are very important in this system of orientation but they are specified as a result of human being's understanding of relative distances and measurements. The language of technology takes into consideration person's measures in understanding the world, e.g.: "short (extended, long, ultra-long) range missile".

The relationship between the object (figure) and its place (ground) always exists in a certain event (Talmy 1996; Jackendoff 1996). The ground is relatively larger and more stable than the device. The description of the ground in English specifies four degrees of relative distance between the speaker and the thing. They are as follows: general locatives ("ground-based missile"), different kinds of particular places and artificial locatives ("continental shelf mine", "carrier-based helicopter"), and even a person himself who is the starting point of visual cognition ("shoulder-launched flame-thrower").

6. The functional status of artifacts

One more interesting fact should be mentioned in this article. The reflection of the object's function in a complex nominal group is often regarded to be a special step in human beings' analytical activity. It determines boundaries of conceptual structures in our consciousness, adds the last detail to the individual understanding of the usage of this or that object in particular situation, e.g.: "search and rescue helicopter", "pick and place mechanism".

The predicate form compares the activities of a human being with that of an artifact. This behavior may be described positively or negatively. In this case different machines, means of transport, instruments and other devices become clever ones, quick and helpful as in the following examples: "hit and run weapon", "fire and forget weapon", "search and rescue helicopter". They serve as the continuation of the human body and mind. R. Jackendoff (Jackendoff 1996: 70) thinks that spatial representations "serve as input for the formation of action in the world, feeding information to peripheral input (motor) modules". This module exists in the framework of the "where" system.

So, complex nominal groups provide valuable information on spatial experience, which is the most precious domain that helps to understand the human mind and cognitive mechanisms better. Two major visual representations – the "what" and "where" systems – have their own characteristic features salient only in one of them. The information about functions of objects is included into the relative orientation system, but becomes very important for names of artifacts. If it is not expressed in the unit itself, it is presupposed by inference. All experience of a human being about the world, language organization and communicative situations may be regarded universal. All these domains of knowledge can characterize any nominative unit belonging to the special vocabulary of English. The synthesis of the main concept (THING) and a number of related concepts represent the EVENT frame in professional and non-professional discourse, which is illustrated in figure 2.

![Figure 2. THING and related concepts in the EVENT frame](image-url)
In conclusion, I want to stress that the results of my study help to understand that noun phrases represent spatial cognition and two visual systems of orientation. Besides that, spatial experience expressed by English word-combinations of the terminological sphere shows the unity between a thing, a nominator and its cognitive system, on the one hand, and the outer world, on the other. Inference explicates different pieces of human experience in their connection with each other in the form of networks. Spatial experience dominates in representing the object, its characteristics and specific features; it may also represent the dependence of the object upon other things, reflect its navigation and orientation in space. But as it is shown here, this kind of experience is integrated with social and emotional ones. This multi-aspectual knowledge here, is of great importance especially in professional discourse.

References

3.2.4 Ingrid Simonnæs

Kommunikative Aspekte der Rechtssprache - Begriffssysteme als Hilfsmittel?

Ingrid Simonnæs
NHH (Norwegen)

English summary
In the first section of this paper I raise the question why problems of understanding may arise when experts in the domain of legal language are communicating with non-experts. Legal language is defined as legal language in the Federal Republic of Germany, thus not including legal language in other German-speaking countries. Communication in this paper is further restricted to written texts only. My focus is on legal language in the following two genres: statutes and court decisions. The reason for this restriction is that these genres are closely interrelated, as the judge makes reference to a particular statute when he formulates his decision.

In the next section I discuss some strategies to solve communication problems between expert and non-expert. The focus is on concept systems as a means of knowledge transfer. For reasons of time, a discussion about highly complex sentence structures has been left out.

As an exemplification of my (limited) corpus of German court decisions from the first instance to the last instance, I use the concept system relating to offences against property, analysing in depth some of their essential features, viz. fremd, beweglich and Sache. In order to show how the meaning of legal concepts can be conveyed to the non-expert, I analyse their paraphrases, understood as the expression of the same content in different words than used in the decision. An important reservation in this context is that the paraphrase can only be read in one direction: from the abstract level (concept level) to the particular case.

My conclusion is that linguistic and extralinguistic knowledge are closely interwoven. This insight is not new. However, to my knowledge, the approach of how concept systems in the legal language domain may facilitate communication between expert and non-expert has not been addressed. This approach should also be of interest when it comes to teaching legal translation.

1. Einleitung


2. Kommunikationsprobleme in der Rechtssprache?


---

5 Über den geschichtlichen Hintergrund für die Schwerverständlichkeit von Gesetzen s. Herberger (1983)

Anders verhält es sich dagegen mit den so genannten freien rechtswissenschaftlichen Begriffen (Engisch 1958), wie z.B. positive Vertragsverletzung. Hier birgt bereits die sprachliche Ausdrucksseite ein Kommunikationsproblem, und so lange der Laie nicht weiß, worauf der sprachliche Ausdruck referiert, so lange erschließt sich ihm auch die Bedeutung nicht und ist die Kommunikation ebenfalls gestört.


2.1 Kommunikationsprobleme und Textsorte(n)

Die Gesetzesstexte sollen sich im Folgenden aus pragmatischen Gründen besonders auf zwei wichtige Teilgebiete der Rechtsordnung beschränken, die den meisten Bürgern bekannt sein dürften: Einerseits auf ein Teilgebiet des öffentlichen Rechts, das Strafrecht, und andererseits auf das wichtigste Teilgebiet des Privatrechts, nämlich das Bürgerliche Recht. Letzteres ist in der Bundesrepublik im Bürgerlichen Gesetzbuch (BG) und prozessrechtlich in der Zivilprozessordnung (ZPO) kodifiziert, während für ersteres das Strafgesetzbuch (StGB) und die Strafprozessordnung (StPO) als zwei wichtige Gesetzesquellen gelten.


---

10 Vgl. hierzu die Kritik an der absoluten, blutleeren und dürren Gesetzessprache des - damals noch in der Entstehung befindlichen - Bürgerlichen Gesetzbuches durch Gierke (1889).
11 Vgl. hierzu u.a. die Vorgaben der Gemeinsamen Geschäftsordnung der Bundesministerien (GGO § 34 Abs. 1), dass die Gesetze sprachlich einwandfrei und soweit möglich für jedermann verständlich gefasst sein müssen.
Auf die o.a. Textsorten stößt der Laie nur dann, wenn er mit dem Recht in Konflikt gerät, exemplarisch wenn er eine Straftat begeht oder wenn er selbst Klage erhebt bzw. als Beklagter vor Gericht erscheint. Dann stößt er im Urteil sowohl auf den/die einschlägigen Paragraphen des Gesetzesstexts als auch auf die Zuordnung seines Falles auf den/die entsprechenden Paragraphen. Besonders häufig stößt der Laie dabei auf das Privatrecht, denn in den meisten Lebensbereichen hat er sich nach dem Bürgerlichen Gesetzbuch zu verhalten, sei es bei Eheschließung oder Erbfall oder so allgemeinen Dingen wie der Klärung, ab wann Geschäftsfähigkeit einer natürlichen bzw. juristischen Person vorhanden ist oder welche Rechtsfolgen sich z.B. aus einem Kaufvertrag über einen Gebrauchtwaren ergeben. In den Fällen, in denen sich der Laie mit den jeweils relevanten Paragraphen konfrontiert sieht, entsteht das Problem, die dort verwendete (Rechts)Sprache verstehen zu können.

2.2 Lösungsansätze von Kommunikationsproblemen

Eine andere Strategie besteht darin, dem Laien das (notwendige) Fachwissen u.a. durch Begriffs- systeme zu vermitteln, damit er sich an den Begriffen orientieren kann, wie sich ein Reisender in der Fremde an bestimmten Wahrzeichnen einer Gegend orientiert. Auf diese Weise kann die o.a. angesprochene Funktion von Kommunikation der Erkenntnisgewinnung am besten gewahrt werden.

Die dritte Strategie besteht darin, bereits bei der Abfassung syntaktisch komplizierte Konstruktionen zu vermeiden bzw. beim Rezipieren durch verschiedene Transformationen zu ersetzen, exemplarisch durch Relativsätze anstatt von linksseitiger Attribuierung, durch das Auseinandernehmen von langen Schachtelsätzen usw.

Hier werden allerdings hier nur die ersten zwei Strategien näher beleuchtet.

3. Zur Methode


Für die Bedeutungsermittlung spielen – in der Terminologie wissenschaft – die Begriffsdefinitionen eine wichtige Rolle, und zwar besonders die so genannte aristotelische Definition, bei der ein Begriff durch seinen Bezug zum Gattungsbegriff (genus proximum) und sein spezifisches Merkmal definiert wird. Dies ermöglicht eine Einordnung des Begriffs an der richtigen Stelle im Begriffssystem und somit eine Abgrenzung gegenüber anderen benachbarten Begriffen. Andere Definitionssarten, wie Umfangs- und Bestandsdefinitionen, spielen eine eher untergeordnete Rolle.


14 Vgl. hierzu §11f StGB. Außer Betracht bleiben allerdings die so genannten Ordnungswidrigkeiten, die in einem eigenen Gesetz geregelt sind (Ordnungswidrigkeitengesetz).
4. Exemplifizierung


Das Problem, feststellen zu können, was ein Terminus ist und was nicht, ist bekannt. Ich habe mich beim Erlassen der Termini auf die Definition von Engisch (1958) gestützt, der die Auffassung vertritt, dass jeder in einem gültigen Rechtssatz verwendete Begriff ohne weiteres Rechtsbegriff heißen darf und sehe dabei den Begriff als Wissenseinheit. Bekanntlich gelten Begriff und Begriffssführung in der Terminologie seit den Anfängen als zentrale Bestandteile. Da in meiner Analyse Begriffe als Wissenseinheiten gesehen werden, bedeutet dies, dass neben Begriffssurdungen auch Ontologien wichtig sind, wenn es darum geht, Wissensgefühle zwischen Fachmann und Laien überbrücken zu helfen. Für den Laien ist es überaus wichtig, zu verstehen, von welchem (Teil)fachbereich die Rede ist, wenn er neues Wissen zu dem bereits bei ihm vorhandenen in Verbindung setzen will. Dabei helfen ihm Fachgebietsklassifikationen bzw. Ontologien.


5. Ausblick


Normalerweise wird jedoch in der Praxis ein solch aufwendiges Verfahren nicht angewandt, um den Laien die gewählten Formulierungen zu erläutern und ihn von der Richtigkeit des ihn betreffenden Urteils zu überzeugen. Es ist die Aufgabe des Rechtsanwalts, dabei wissensvermittelnd aufzutreten und den Verurteilten bzw. die unterlegene Partei bei Zivilverfahren über die Gesetzeslage zu informieren. Dies geschieht mündlich und entzieht sich daher meiner Untersuchung. Für didaktische Zwecke ist die Arbeit mit und an Begriffssystemen allerdings durchaus von Nutzen, z.B. wenn die Rechtssprache als Fachsprache in der Übersetzerausbildung gelehrt wird und die Studierenden sich mit dem in der Übersetzungswissenschaft so häufig angesprochenen Problem der Äquivalenz auseinandersetzen müssen.

Literatur


DIN 2342 TEIL 1 (Oktober 1992) Begriffe der Terminologielehre. Grundbegriffe. Normenausschuss Terminologie (NAT) im DIN Deutsches Institut für Normung e.V.


Anhang

Rechtsordnung der Bundesrepublik Deutschland

Öffentliches Recht

Strafrecht

formelles Strafrecht (Strafverfahrensrecht)

materielles Strafrecht

Verfassungsrecht .... ....

Bürgerliches Recht

Privatrecht

Handelsrecht

Eigentumsdelikte .... ....

Zueignungsdelikte

Diebstahl

Unterschlagung

Raub & räuberischer Diebstahl

einfacher Diebstahl

schwerer Diebstahl

...
**3.2.5 Riina Kosunen**

**Terminography – a creative activity**  
Riina Kosunen  
Government Terminology Service, Prime Minister’s Office, Finland

**Introduction**

Many terminographers today feel that the traditional principles and methods of terminology work are insufficient. The work of these terminographers has shown it is impossible to describe for example near-synonymy and polysemy by using traditional, i.e. Wüsterian principles and methods of terminology, which can be found in the ISO Standard on terminology work (ISO 704) and in manuals based on the traditional terminology theory.

Consequently, terminographers have welcomed some of the newer approaches to terminology, such as sociotermology, socio-cognitive terminology, and communicative theory of terminology, which maintain that the traditional principles and methods of terminology work are insufficient. Gaudin, Boulanger, Gambier, Temmermann and Cabrè, for example, meritoriously show in their contributions in which ways the traditional theory and the methods based on it are limited. However, if terminographers expect the new theories to provide a source for ready-made ideas on how to solve problems encountered in practical terminology work, they will be disappointed.

The communicative theory of terminology (Cabrè 1999) is a welcome exception among the newer theories, since its representatives have recently started to consider the methodological consequences of their theory to practical terminology. One of the central ideas of the communicative theory is that terminological products are always created to fulfil a specific purpose or function and directed to a certain user group, and that the solutions adopted in terminography should be chosen according to these factors (Lorente 2001).

As Lorente (2001) points out, no single methodology exists that can be used in terminography independently of the function and user group of a terminological product. This is why certain terminographical problems, such as description of polysemy, require creative thinking: the traditional methods of terminology work may serve as a basis, but they have to be combined with ideas taken from newer theories of terminology, as well as with practices borrowed from lexicography and elaboration of encyclopaedias.

**Cases requiring creative solutions in terminography**

In the following, three examples from practical terminology work will be presented in which no ready-made solutions have been available, but creative solutions have been applied. The examples are taken from the glossary projects related to Finnish public administration that are being or have been carried out at the Government Terminology Service.

After presenting each case, the effect of the needs and preferences of the different user groups of terminological products on the terminographical methods will be discussed.

*How to describe near-synonymy and polysemy in a term bank?*

Terminologists dealing with almost any subject field – especially humanities and social sciences– have certainly come across concepts that can be defined in two or more ways. This is what Cabrè (2000) calls polyhedral or multifaceted concepts. According to Cabrè, any concept can be viewed from two or more different angles, and consequently, two or more definitions can be written to describe it. All these slightly different definitions are equally “correct” or “valid”.

The Finnish concept *hallituksen kehysneuvottelu*, which has been defined both in the Glossary on the Finnish Government (forthcoming) and in the Budget Glossary (2001), may serve as an example.

In Finland, when the state budget is prepared, the Government first has to make a decision on the maximum amount of money to be allocated to each ministry. The decision takes place in a session called *hallituksen kehysneuvottelu*.

The Glossary on the Finnish Government represents the viewpoint of the whole government, and from that angle, *hallituksen kehysneuvottelu* can be defined as a type of informal cabinet meeting (see example 1).

As to the Budget Glossary, the concepts are looked at from the point of view of the civil servants working at the Ministry of Finance, responsible for the preparation of the state budget. From this viewpoint, *hallituksen kehysneuvottelu* can be seen as a stage in the process of preparing the state budget (example 2).

Example 1.
Consequently, the terminology data related to both limits definitions and are therefore different (Cross-references have been used between the entries (“See also terminology database entry.

Everything is fine as far as the different definitions and English equivalents are recorded in different paper glossaries. Problems arise when the different definitions are to be recorded in a terminological database (e.g. MultiTerm), in which one entry corresponds (or should correspond) to one concept.

The two definitions and the different English equivalents refer to the same concept, but reflect different aspects. Consequently, the terminological data related to both cabinet budget framework session and government discussion on spending limits should be recorded in one database entry. This is difficult, however, since the contexts of usage of the different definitions and English equivalents are not the same, and there are no generally accepted ways of indicating these contexts in a terminological database entry.

This kind of problems have been solved at the Government Terminology Service by applying the traditional methods of terminology work, i.e. by creating two homonym entries: hallituksen kehysneuvottelu (1) and hallituksen kehysneuvottelu (2). Cross-references have been used between the entries (“See also hallituksen kehysneuvottelu (2)”). This method works, but it may not be the optimal alternative, since it erroneously leads the users of the term bank to think that they are dealing with two completely different concepts.

A better solution in a case like this might be to record all terminological data in one entry, and then somehow hide the information (definition, foreign equivalents, etc.) not relevant to the aspect of the concept in question that the user of the term bank is interested in. Lorente (2001) proposes hypertextual navigation as a possible solution in cases like this. However, the technical aspects of this matter require discussion with computational linguists.

Moreover, in order to find a solution that is satisfactory from the point of view of both terminologists and other users of term banks, surveys should be conducted to find out how the different user groups would like polysemy to be presented in a term bank. Tarp (2001), who discusses the treatment of homonymy and polysemy in lexicographical products, suggests that it is only the lexicographers themselves who are interested in making a clear distinction between homonyms and polysemes, and that for the rest of the dictionary users this kind of information is superfluous. In the same say, terminologists, who are used to distinguishing between homonyms and polysemes, might prefer presenting all the information related to a polysemous concept in one database entry. Subject field experts, for their part, might be confused by the large quantity of data recorded in one entry, and therefore might prefer the solution of two “homonymous” entries.

How to describe polysemy in a concept diagram?

One of the factors that lead to polysemy is the evolution of concepts in time (Temmermann 2000). An example of this is the concept wages / salary belonging to the Finnish public sector, in which a new remuneration system has recently been introduced. According to the new system, the salary consists of two main components, one of which is determined on the basis of job demands and the other one by work performance. In the old system, the structure was different: the salary consisted of a basic salary and certain allowances.
The diachronic evolution of concepts can be described verbally by means of notes. However, presenting concept changes visually will undoubtedly increase the informational value of a terminological product. The problem is that neither the ISO Standard on terminology work nor the newer theories of terminology provide suggestions on how to do this in practice.

Nuopponen (2000) stresses the importance of visualising concept relations in terminology work, even in the cases in which the traditional representation methods recommended by the ISO 704 cannot be applied. For this purpose, she proposes a “satellite method”, in which the most important concept is placed in a centre node, with the other concepts forming satellite nodes around it (see figure 1). According to Nuopponen, it is not necessary to use different illustrations for different concept relation types (e.g. tree diagrams for generic relations and rake diagrams for partitive relations). A satellite model may be a user-friendly way of illustrating concept relations, since it does not oblige the user to learn the meanings of the different symbols used in traditional concept diagrams.

Figure 1.

In case one wishes to use different graphical symbols for different types of concept relations, the tree and rake diagrams recommended by the ISO 704:2000 may serve as a basis. However, the ISO Standard lacks suggestions on how to describe concepts that have become polysemous because of their evolution in time. The glossary project on labour market terminology, currently being carried out at the Government Terminology Service, has adopted the solution demonstrated in figure 2. The concept wages / salary has been divided into two different (time) dimensions illustrated by thicker lines and italicised explanations, e.g. “salary structure in the old remuneration system”.
Visual description of polysemy can be carried out by using different kinds of illustration methods. Two equally valid solutions have been presented here, and the choice should be based on the needs and preferences of the users of each glossary. It would be interesting and useful to carry out a survey among users of terminological products in order to find out what type of concept diagrams they find most informative and easy to use.

**How to save time when defining concepts?**

As practising terminologists well know, defining concepts in the traditional way, i.e. writing intensional definitions[^1] is extremely time-consuming. Glossary projects of the Government Terminology Service have shown that it takes from one and a half to two years to carry out a project in which just over 200 concepts are analysed (e.g. Budget Glossary (2001) and Taxation Glossary (2002)). Translators, for their part, know that the amount of terms occurring in LSP texts (related to for example state finances or taxation) is far greater than 200.

Taking into account the needs of translators, who form one of the biggest target groups of most multilingual specialised glossaries, it would certainly be useful to treat considerably more than 200 concepts per project. However, because of resource limitations, the time required for carrying out a glossary project should not exceed two years.

A lot of time can be saved, and thus a greater amount of concepts can be included in a glossary by not writing intensional definitions. This has been proved by the glossary project on Finnish higher education currently going on at the Government Terminology Service and including approximately 900 concepts. In this project, the concepts have been defined contextually, i.e. by embedding terms in larger expressions explaining their meaning (see example 3).

[^1]: "Intensional definition" refers to a definition that indicates the superordinate concept and the characteristic(s) that distinguish the concept from other concepts (ISO 704:2000, 15).
Adult vocational education can be divided into initial vocational education and additional vocational education. Initial vocational education has been divided into seven sectors and 30 fields of study. The duration of the education ranges from 2 to 3 years. Initial vocational education can be provided by different types of vocational institutions, the majority of which are municipal, multi-field institutions. Instruction is often arranged in the form of adult study programmes or of multiform study.

Example 3.

Contextual descriptions contain same types of information as intensional definitions, the notes completing them, and traditional concept diagrams. In example 3, we have:

- information on concept relations (the bolded expression “can be divided into”, which reflects a generic concept relation)
- essential and/or non-essential characteristics of the concept (the underlined expressions “duration”, ”provided by”, “arranged in the form”)
- most typical examples or features of the concept (the circled expressions “the majority of which”, “often”).

The advantages of using contextual definitions include saving time and, consequently, money. Moreover, the contexts in which the terms are embedded may provide translators with valuable linguistic information (collocations, article use, etc.) and extra-linguistic information (so-called encyclopaedic information), which often lack in terminological products compiled according to the traditional methods of terminography.

The major drawback in using contextual definitions is that the concepts may not become thoroughly analysed, and essential characteristics of concepts may accidentally be left out. In addition, as Lorente (2001) points out, using other than intensional definitions often means that the coherence and homogeneity of the definitions is lost.

Here again, it would be important to find out the opinions of the different user groups of terminological products. Do subject field experts, for example, prefer intensional definitions? Do translators prefer intensional or contextual definitions? For what reasons? Are the users ready to content themselves with contextual definitions if, in compensation, a greater number of concepts can be included in a glossary?

Conclusions

The above examples taken from practical terminology work have showed that neither the traditional principles and methods of terminology work, nor most of the newer approaches to terminology provide practical solutions for descriptive terminography. The terminographer is often obliged to come up with creative, self-made solutions by combining different approaches. There are a number of possible solutions to every problem related to terminography, and no “correct” methods are available. Keys to choosing the most appropriate solutions in each case are the function and target group of the terminological product in question.

In order to ameliorate the quality of terminological products, and to facilitate the election of methods by terminographers, it would be important to analyse the needs and preferences of the different target groups of terminological products. Some research in this direction is currently being carried out, e.g. the doctoral thesis of Igor Kudashev at the University of Helsinki (Kudashev 2002). For his dissertation, to be published in the near future, Kudashev has conducted a survey in order to find out the opinions of LSP translators on different types of LSP dictionaries. Same kind of analyses should be carried out among other user groups (e.g. terminologists themselves; experts and students in different subject fields) of terminological products.

It seems that the homogeneity of the methods and results of terminology work has to be sacrificed in order to meet the needs of different user groups, and no single universal methodology of terminography can be obtained. This makes the work of terminographers difficult, as no generally valid and acceptable solutions are available. Therefore, it is important that terminologists and terminographs continuously keep their professional competence updated by exchanging information on the methods that have proved useful in terminography. Mailing lists, conferences and symposia, as well as journals and Internet sites dedicated to terminology provide fora that will benefit terminographers all over the world.

I hope it is not too daring to expect that in the future practical solutions to problems related to descriptive terminography will be collected in new manuals on terminology work supplementing the ISO Standards and traditional manuals in
terminography. The solutions in such new manuals should take into account the different purposes, functions and target groups of terminological products. However interesting and challenging it might be for a terminographer to apply self-made solutions to practical problems of terminology description, it would certainly be useful to have some sources of ideas at hands on those days in which one has run out of creativeness… Anyway, there’s no point in every terminographer having to re-invent the wheel daily.

References


3.2.6 Carolina Popp and Ana María Pereuilh

Terminología y disciplinas afines: un encuentro esperado

Carolina Popp
Ana María Pereuilh
TERMAR – Grupo Argentino de Terminología

1. Introducción

A pesar de las diferentes opiniones al respecto, parece innegable la necesidad de revisar y actualizar la teoría terminológica a fin de lograr lo que autores como H.Picht y Ch.Laurén nos recuerdan: el objetivo común perseguido por cualquier tipo de actividad terminológica es mejorar la calidad de la comunicación especializada. El cuerpo teórico desarrollado por autores rusos como Lotte y alemán guiado por Wüsten, según Alan Rey (1995), necesita ser robustecido por la integración de elementos nuevos aportados por diversas ciencias, lo cual requiere un esfuerzo interdisciplinario colectivo. En este sentido hacemos nuestras las palabras del epistemólogo Mario Bunge (1997:135): “la ciencia moderna se caracteriza por una peculiar síntesis de razón y experiencia, por teorías sensibles al experimento y experimentos guiados por teorías”.

El objetivo de esta ponencia es analizar algunas opiniones sobre la teoría terminológica y las diferentes propuestas de adaptación al mundo actual, e invitar al debate y a la discusión constructiva prosiguiendo la tradición de pluralismo en terminología que B.Antía (2002) y J.Mykking (2001) han sabido interpretar, al sugerir a la comunidad terminológica tomar en cuenta las distintas contribuciones para resolver diferencias de percepción y detectar problemas sustantivos. La propuesta podría ser interesante dado que, desde la práctica y la enseñanza de la terminología es importante conocer los distintos enfoques de las disciplinas científicas que contribuyen a su desarrollo teórico, para su posterior aplicación a los casos específicos.

2. Terminología: ayer y hoy.

Hagamos algo de historia para llegar a describir someramente el estado actual de la terminología. A pesar de que desde siempre, todas las disciplinas contaron con terminología para su transferencia y desarrollo, recién en los siglos XVII y XVIII se realizaron prácticas de normalización terminológica a través de la fijación de taxonomías.

Sin embargo, el primer trabajo terminológico en nuestro mundo occidental de que se tiene registro es el diccionario “The Machine Tool” elaborado por el ingeniero austriaco Eugene Wüster y editado en 1968. Sus trabajos en este sentido, entre 1930 y 1960 se fundaron en el terreno práctico, mientras que en la década del 70 Wüster se dedicó a profundizar en las bases teóricas, lo que dio como resultado la aparición de su obra “Einführung in die Allgemeine Terminologielehre und Terminologische Lexikographie” en 1979, en la cual sienta las bases de la llamada Teoría General de la Terminología, lo que le valió el rótulo de padre de la joven disciplina terminológica.

La escuela de Viena, a la cual pertenecía, dio notables seguidores entre ellos el Dr.H.Felber, el Dr.H.Picht, y más recientemente el Dr.G.Budin, entre otros. Esta escuela es la que hasta el presente ha elaborado una teoría coherente y ampliamente reconocida, basada en principios sobre los cuales se apoya una metodología de trabajo terminológico. Su importancia queda demostrada en las normas ISO emanadas del CT 37, que sirven como base y guía para la actividad terminológica mundial.

No creemos necesario ahondar sobre la TGT, no obstante ello, recordaremos algunos de sus principios básicos: 1) parte del concepto, 2) sostiene la organización lógica u ontológica de los mismos, 3) propicia dos tipos de definiciones: por comprensión y por extensión, 4) se basa en la monoensia, 5) estudia términos y conceptos desde el punto de vista sincrónico, 6) afirma que la relación término-concepto es arbitraria y 7) su perspectiva es prescriptiva. Esta situación de la terminología teórica se mantuvo hasta promediar la década del 80, cuando las necesidades propias de la época plantearon algunos cambios en los principios terminológicos para dar cuenta de ellas. Trataremos de resumir brevemente las diferentes tendencias que aparecieron desde entonces.

La socio terminologia desarrollada por autores franceses y canadienses a partir de principios de la década del 90, entre los que se cuentan F.Gaudin, J.C.Boulanger y otros es la corriente que enfoca el estudio de la terminología hacia el uso real de la lengua teniendo en cuenta el aspecto social del lenguaje en su dimensión descriptiva. Su propósito es el de mejorar el conocimiento sobre la base del discurso especializado, tanto técnico como científico (J.C.Boulanger:1995) teniendo en cuenta las circunstancias, a fin de optimizar el proceso de codificación y decodificación.

Otros investigadores entre los que se cuenta K.Kageura, presentan una clara tendencia lingüística al afirmar que la relación de las descripciones conceptuales de los términos, según la terminología tradicional, es la misma que la relación de las descripciones semánticas de las palabras. En este sentido se afirma que un concepto no se impone hasta que no se rotula, por lo tanto, la aprehensión de un concepto estaría muy próxima a su denominación. Se concluye que la distinción que hace la teoría terminológica tradicional entre el aspecto conceptual y el aspecto comunicativo es totalmente artificial. M.T.Cabré en la escuela de Cataluña también parte de la lingüística para hacer el aporte que se ha dado en llamar Teoría Comunicativa de la Terminología,
ayudada sobre la idea de la diversidad dentro de las distintas especialidades, lo cual exige principios flexibles que sustenten una metodología apropiada para dar cuenta de las diferentes circunstancias comunicativas.

La corriente más actual es la terminología socio cognitiva que cuenta con representantes tales como R.Temmerman, J.C.Sager, P.Weissenhofer y otros, cuyo fundamento consiste en que la teoría terminológica debe considerar los modos en los cuales el ser humano social adquiere el conocimiento, a fin de partir de premisas mucho más adecuadas a las diferentes circunstancias que se les presentan a las distintas disciplinas. Esto implica la comprensión, tanto de la realidad extralingüística como de los elementos lexicales.

Hasta aquí hemos dado una recorrida a vuelo de pájaro por lo acontecido en el campo de la terminología teórica durante los últimos 30 años. Ahora pasaremos a referirnos a las disciplinas más emparentadas con la terminología, cuyos aportes son esenciales para elaborar una teoría terminológica actualizada y sólida, pero dado el reducido tiempo de exposición, sólo mencionaremos en el marco de los aportes teóricos a la semántica, la ciencia cognitiva, la sociolingüística y la traductología, en el de la aplicación práctica a la normalización, mientras que nos ocuparemos de la informática y la documentación como disciplinas que pueden aportar la tecnología, el conocimiento y la metodología para concretar nuestra propuesta.

3. Aportes teóricos

3.1 Semántica

La semántica o ciencia del significado cumple un importante rol en la elaboración de una teoría terminológica actualizada porque desde el punto de vista del significado de las unidades lingüísticas, una de las críticas más frecuentes a los diccionarios generales, es su gran cantidad de fragmentos aislados de información empírica que no permite al usuario distinguir claramente entre ésta información y la información puramente lingüística. Si pasamos de las palabras del léxico general a los términos de las lenguas especializadas, donde se requiere una gran precisión al adquirir la unidad de conocimiento, resulta esencial trasmitir sólo los hechos medulares. Gracias al enfoque de la sociolingüística los estudios semánticos actualmente tienen en cuenta los aspectos relacionados con el discurso, la situación de enunciación y lo paralingüístico.

La semántica cognitiva comprende las propuestas teóricas que intentan dar cuenta de la interacción entre lo que se entiende como significado de diccionario y los conocimiento enciclopédicos (Cuenca & Hilferty). La visión enciclopédica del significado niega la existencia de límites precisos o rigurosos entre semántica y pragmática, o sea entre conocimiento lingüístico y extralingüístico. Las expresiones adquieren significado porque evocan los múltiples ámbitos del conocimiento y la experiencia, que Langacker llama dominios, de manera flexible y abierta. Los dominios más importantes son los del contexto más cercano al hablante, de modo que todo aspecto del contexto discursivo o pragmático es incumbencia de la semántica cognitiva (Langacker).

El significado es un ámbito abierto que no se puede estudiar aislado del conocimiento enciclopédico de los hablantes; no es analizable sólo a partir de condiciones de verdad ni es una lista de rasgos componenciales (el significado de diccionario), sino que comprende también factores pragmáticos y culturales porque depende de una visión del mundo. Desde esta perspectiva, la polisemia no es un problema a resolver, sino una característica connatural a los signos lingüísticos (Marmaridou:2000). Entonces, cuando se trata de definir el significado dentro de la teoría terminológica, nada mejor que los especialistas en semántica para que reflexionen desde su disciplina y den su punto de vista, siempre teniendo en cuenta que están haciendo un aporte a otro campo de estudio dentro del cual deberán conciliar diferentes aspectos de un mismo tema.

3.2 Ciencia cognitiva

El término cognición deriva del latín “cognitio” que significa aproximadamente: conocimiento alcanzado por el ejercicio de las facultades mentales. Más, el concepto de cognición se encuentra fragmentado debido al hecho de que interese a especialistas de diferentes áreas temáticas. Nosotros adherimos al enfoque relacionado con su aspecto comunicativo, y por ello decimos que la cognición es la confirmación de que el conjunto de una señal enviada ha sido recibida e interpretada y/o representada por el receptor. Desde este ángulo, definiremos a la ciencia cognitiva como el estudio de la interpretación, contenido simbólico y aplicaciones del concepto “señal” dentro del proceso de intercambio e interacción mental.

La ciencia cognitiva surgió como un reconocimiento de que no es posible comprender científicamente la cognición si no se sabe cómo representar y manipular el conocimiento internamente. La dificultad para definir la ciencia cognitiva reside principalmente en la complejidad inherente a la materia. Otros afirman que la ciencia cognitiva consiste en la investigación científica de las capacidades constitutivas de la racionalidad, desde diferentes perspectivas.También se ha dado en definir la ciencia cognitiva como una teoría científica de los procesos que implican en cierta medida una actividad de pensamiento consciente o inconsciente. La escuela de Cambridge fue la precursora del programa de investigaciones cognitivas del lenguaje, estudios que luego fueron continuados por D.Marr y N.Chomsky, quienes tuvieron un papel importante en la construcción del cognitivismo (Milner:1995).

De lo dicho anteriormente resulta que los representantes de la ciencia cognitiva podrían realizar un importante aporte a la teoría terminológica, debido a las profundas investigaciones realizadas en su área sobre el lenguaje como medio de aprehensión y transferencia del conocimiento. En este sentido, el cognitivismo considera que el hombre no sólo conoce a través de la experiencia con respecto a los objetos del mundo real (objetivismo), sino que también conoce a partir del razonamiento que resulta, por un lado, de la percepción sensorial y por otro, de las ideas que le son transferidas por los demás, y que el hombre luego procesa en su cerebro para darles forma y más tarde transferirlas a otros. En otras palabras, el hombre tiene la facultad de crear categorías, las que a su vez están estructuradas prototípicamente.
Fue precisamente a partir del desarrollo de la ciencia cognitiva durante los últimos cuarenta años, que se produjo un cambio fundamental en el paradigma del lenguaje, y es por ello que sobre la base de esos conceptos básicos, la teoría terminológica debería contemplar la comprensión de las categorías y el planteo de la interacción entre categorización y lexicalización, ya que la comprensión del mundo no puede separarse de la comprensión del lenguaje, porque éste es su medio más importante de expresión.

### 3.3.1 Sociolingüística

Creemos que el aspecto social de la lengua, es decir su uso concreto, es el aspecto de la lingüística que puede hacer mayor aporte, ya que se trata del estudio del comportamiento de las diferentes unidades lingüísticas, al ser utilizadas en las distintas situaciones comunicativas.

R.A.Hudson interpreta la sociolingüística como el estudio del lenguaje en relación con la sociedad. El conocimiento del lenguaje puede no distinguirse en absoluto del conocimiento de la cultura, y algunos aspectos de la estructura del lenguaje sólo pueden describirse adecuadamente por referencia al habla como comportamiento social (Hudson: 1981). Desde esta perspectiva, Hudson sostiene que no existe una gramática homogénea, sino que el hablante hace uso de una variabilidad extremadamente sutil que le permite adaptar su expresión a las necesidades de cada ocasión.

Los estudios cuantitativos del habla, particularmente relevantes para la teoría lingüística, se han desarrollado paralelamente a la sociolingüística. Éste modo de estudiar elementos lingústicos que poseen diferentes realizaciones, las variables lingústicas a través de textos, responde a la mencionada concepción del lenguaje: “los hablantes individuales escogen las formas lingúísticas con el fin de situarse en un espacio multidimensional altamente complejo” (Hudson 1981: 153).

Tanto las variables lingústicas como las sociales característicamente son más continuas que discretas, admitiendo un tratamiento cuantitativo de los datos y el uso de técnicas estadísticas adecuadas. El iniciador del uso de métodos cuantitativos fue William Labov y su trabajo ha estimulado a otros investigadores, quienes han hecho importantes contribuciones a estos estudios.

Beatriz Lavandera ha señalado las dificultades que surgen al extender el análisis a la variación no-fonológica, que afecta a formas con significado. Los resultados cuantitativos requieren explicaciones no sólo formales sino también sustanciales, las que “tendrían que derivarse de la lingüística, la sociología, la sicología, la antropología” (Lavandera 1984: 46).

Erica García (1985), por su parte postula que lo que sistemática y significativamente se deja afuera en los estudios variacionistas, es el valor comunicativo de las formas en cuestión: la diferencia en lo que se dice cuando se elige una forma y no la otra. Su hipótesis sobre el funcionamiento de la lengua es que la distribución sintáctica de una forma no es aleatoria ni arbitraria, sino que está motivada por valor semántico de la forma. Es la imaginación creativa de los hablantes, que perciben y articulan combinaciones coherentes de las formas que responden a estrategias comunicativas específicas.

La aplicación de métodos cualitativos en el análisis del uso de formas léxicas en variación para desentrañar los significados, conjuntamente con una validación cuantitativa de la hipótesis, un camino poco explorado en la actualidad, seguramente habrá de contribuir a la diferenciación de formas léxicas consideradas sinónimas en ámbitos que rechazan las relaciones polivalentes entre término y concepto, como es el de la comunicación en lenguas de especialidad (Diver:1995). En este sentido, el aporte de los sociolingüistas para integrar los estudios cuantitativos y estadísticos a la teoría de la terminología seguramente será muy beneficioso para las aplicaciones que registran la variación terminológica.

### 3.4 Traductología

A mediados del siglo XX, cuando después de la guerra se lanzaron los proyectos de comunicación interlingüística automatizada, el carácter científico de la traducción sobre un modelo lingústico fue ocupando el centro de la atención. Los textos técnicos presentaban una problemática diferente de la de la traducción de textos literarios, y el arte de la traducción fue dejando paso a la ciencia de la traducción. Además de precisión y exactitud terminológicas, la nueva traducción exigía inteligibilidad absoluta. La terminología moderna surgió para atender a la primera necesidad: su creador, Eugen Wüster sentó las bases para la normalización de los lenguajes científico-técnicos. Al mismo tiempo, una nueva teoría de la traducción profesional, funcional, sobre la base teórica de Bühler, Jakobson, Coseriu y Mounin, entre otros, desterraba definitivamente la correspondencia léxica entre palabra y palabra.

Las décadas del 50 al 70 constituyen la época fundacional de la teoría de la traducción moderna. El incremento de las relaciones humanas y los nuevos casos de traducción (doblaje, publicidad, subtitulación) crearon una demanda de mediadores interlingüísticos y sancionaron una nueva disciplina académica, para la que se pretendía el rango de ciencia. Han sido los alemanes quienes primero hablaron de la ciencia de la traducción, en tanto que otras versiones nacionales utilizan términos menos pretenciosos: teoría de la traducción transléctica, estudios de la traducción (Vega: 1994).

Los problemas teóricos que pone en movimiento la traducción, entre los que es posible mencionar, la noción de equivalencia entre la lengua propia y la ajena, la influencia y el contraste entre las culturas, la creación frente a la repetición, la fidelidad del traductor, la recepción de un mismo discurso en distintas lenguas, épocas y culturas (Bein:2001), hacen que el aporte de la traductología a la terminología interlingüística resulte fundamental, tanto por su vocación traslativa de sentido como en la integración de sus diversas perspectivas teóricas.

### 4. Aplicación práctica
4.1 Normalización

La acusación que se hace a la ciencia terminológica de ser normativa y prescriptiva, tiene su fundamento en el hecho de que la disciplina surge como una necesidad de ordenar ciertas áreas, sobre la base de sistemas conceptuales representados por nomenclaturas fijas e unívocas. La expansión de la industria y el comercio durante las primeras décadas del siglo XX, demandó la elaboración de pautas claras y uniformes de producción y comercialización, que impulsaron la tarea normalizadora cuyos objetivos prioritarios son la armonización terminológica y la precisión conceptual.

Sin embargo en este punto surge una contradicción muy clara en el esquema globalizado actual. Por un lado, la normalización de conceptos y denominaciones es indispensable para un mejor posicionamiento en el mercado internacional. Por otro, la ampliación de acceso a la información especializada ha posibilitado una mayor gama de usuarios de la terminología incluida en las normas. En otras palabras, si bien es cierto que el intercambio comercial cada vez está más regido por normas de cumplimiento cuasi-obligatorio, tales como las de gestión de la calidad y del medio ambiente, no es menos cierto que el ampliar el espectro de usuarios de las mismas ha aumentado el número de situaciones comunicativas en las que se utilizan estos vocabularios. Es precisamente la nueva mirada desde el cognitivismo, que ha producido una flexibilización de la rígida postura prescriptiva, hacia una posición que contempla el modo de aprehender el conocimiento de los diferentes actores, en las múltiples y variadas circunstancias de aplicación de las normas.

Frente a esta realidad, los especialistas normalizadores están comenzando a cambiar su actitud tradicional de búsqueda de consenso dentro del estrecho círculo de especialidad, por una más proclive a elaborar normas y documentos técnicos en términos comprensibles a una amplia gama de usuarios, no necesariamente dotados de conocimientos específicos. Es por ello que creemos que es muy importante que los normalizadores aporten su punto de vista, para que junto con miembros de las disciplinas ya mencionadas y terminólogos, puedan sentar las bases de una teoría de la terminología que contemple el aspecto de la normalización a la luz de las nuevas circunstancias, sin dejar de lado los aspectos positivos, desde un ángulo menos sectarian y cerrado.

5. Propuesta y disciplinas para concretarla

Ya habíamos mencionado nuestra intención de realizar una propuesta a los colegas de las diferentes disciplinas, la cual se puede traducir en la materialización de dos proyectos. Uno concebido por B.Antia (2001), la organización y gestión de una base de datos que contenga la literatura terminológica de autores provenientes de diferentes países, tendencias y perspectivas, para posibilitar la actualización de todos los interesados. En cuanto al otro proyecto, consiste en un foro virtual mediante el cual los colegas de las diferentes disciplinas y los terminólogos, puedan intercambiar opiniones y puntos de vista, a fin de actualizar la teoría terminológica enriqueciéndola con el aporte de investigadores y especialistas de otras áreas del saber. Pensamos que ambos proyectos se complementan. El compendio de literatura terminológica no tendría sentido si sólo sirviera para informar, la lectura de los textos debería ser el comienzo de un diálogo entre el autor y sus destinatarios. En cuanto al foro virtual, éste tampoco sería posible sin la existencia de un reservorio textual, que diera origen y consistencia al diálogo entablado entre los diferentes actores.

5.1 Informática

Para llevar a la práctica nuestra propuesta, es necesario contar con herramientas que pueden proveer dos disciplinas: la informática y la documentación. En cuanto a la primera, su acercamiento a la terminología es bien conocido desde la década del 80, cuando la microinformática irrumpió en la vida del hombre y se transformó en una necesidad para cualquier tipo de actividad. La evolución ha sido rápida y cada vez más notoria la dependencia entre ambas disciplinas. Por un lado, la terminología se sirve de la informática tanto para la realización de tareas que tienen que ver con la metodología del trabajo terminográfico, como para la elaboración de principios actualizados, gracias a los nuevos elementos aportados por la informática. Por otro lado, la informática usa terminología para proseguir desarrollándose.

En el caso que nos ocupa, tanto la base de literatura terminológica como el foro virtual necesitan de sistemas de digitalización de textos, recuperación de datos terminológicos, búsquedas puntuales, programas de enlace y otras herramientas de ayuda que posibiliten y agilicen tanto la lectura bibliográfica como el intercambio de mensajes de manera eficiente y veloz. Más allá de que los principios básicos de la terminología y de la informática sirven de apoyo a los objetivos perseguidos por cada una de ellas, la automatización de ciertas tareas en el caso de la terminología, y la construcción de sistemas inteligentes sobre la base del conocimiento en el de la informática, se puede concluir que en este caso concreto, los especialistas informáticos tienen mucho que aportar a la teoría terminológica, al proporcionar las herramientas adecuadas que posibiliten el diálogo fructífero entre especialistas, para lograr la estructuración de principios acordes a las necesidades del mundo actual.

5.2 Documentación

En lo que respecta a la documentación, nadie duda la importancia de esta disciplina en el entorno terminológico, ya que los bancos textuales se organizan según métodos de recopilación y clasificación documentales, para permitir la recuperación de datos terminológicos que luego serán utilizados para elaborar diferentes productos según los requerimientos de los usuarios. Actualmente se requiere una metodología de trabajo documental mucho más dúctil, puesto que la tarea de decodificación de la información se halla en manos de amplios grupos de usuarios con distintas posibilidades de comprensión del contenido documental.

Con relación al aporte de esta disciplina a la concreción de nuestra propuesta, creemos que la intervención de los documentalistas es fundamental, para asegurar una adecuada organización de los textos en la base de literatura terminológica en cuanto a su contenido y actualización, como así también para garantizar la correcta recuperación de la llamada documentación terminológica factual, por parte de quienes accedan a ella con la intención de conocer las diferentes opiniones de los especialistas en materia de
6. Conclusión

Para resumir lo expresado anteriormente, pensamos que la investigación terminológica debe enfocarse desde el estudio por parte de especialistas diversos que combinen sus distintas formaciones, para llegar a conclusiones integrales que permitan actualizar las bases teóricas de esta disciplina. De aquí nuestra propuesta de que los científicos pertenecientes a las diferentes disciplinas, destinen parte de su tiempo a presentar sus trabajos en un sitio común, para que resulten accesibles a sus colegas a fin de que la interacción comunicativa con investigadores de otras áreas sea fluida. De este modo, creemos que se podrían contrarrestar ciertas posturas reduccionistas, que tratan de encerrarse en determinadas líneas de acción, sin tener en cuenta otros puntos de vista que harían posible la elaboración de principios terminológicos más amplios y abarcativos.

La necesidad de una actualización de la teoría terminológica es innegable, queda aquí planteada una posibilidad de aunar esfuerzos para lograr este objetivo, sobre la base de las propuestas cognitivas y con la ayuda de otras vertientes disciplinarias que posibiliten una nueva propuesta teórica, a fin de flexibilizar la metodología de trabajo para su aplicación en diferentes campos del saber, ya que la terminología es absolutamente necesaria para el desarrollo y la transmisión del conocimiento especializado. Platón en el Fedón dice que “hablar impropiormente no sólo es cometer una falta en lo que se dice, sino causar un mal a las almas”. De esto podríamos deducir, que utilizar el vocabulario adecuado en cada acto comunicativo no significa solamente desampliar los conceptos representados, sino que este hecho involucra una mejor comprensión de la mente y la vida humana, al respetar y preservar ese pacto gratuito de solidaridad, libertad y felicidad sellado entre nosotros, que es nuestro lenguaje, bien gratuito, solidario e inagotable.

Bibliografía


I.1 Introduction
To make sense of the intricacies of the sociopragmatic aspects of language use which are mainly automatic i.e., not conscious because we acquired them as habits, we first look at what researchers tell us about how we take into account inter-cultural representations in meaning making. The primary function of language is for interaction and communication. According to Seaton (1982: 86): "Language is communication, the intimation to another being of what one wants and thinks; language is activity, basically of four kinds (listening, speaking, reading and writing), as well as body language and semiology".

I.2 Basic communication
Communication begins with a behavioural source (Gebhard 1999). We have a social need for information sharing and we select verbal and/or non-verbal behaviours to create and send messages. The listener takes in the behaviours and examines the meaning of the message. Then in turn the listener gives feedback, which allows the message sender to adjust his/her verbal and nonverbal behaviours. At the same time we assess our interlocutor through the words we hear, the language being used and this is done unconsciously, in other words we create or recreate the characteristics of the person in front of us. Spoken language is the major and most complex way of communicating information (Broughton 1980). The listener reconstructs from the sounds produced a useful approximation of the originally intended meaning. Sociolinguists will argue that learning the linguistic system alone is not enough for effective communication. Hymes (1979) puts forth four factors for knowledge and ability for language use: possibility, feasibility, appropriateness and accepted usage. The latter is defined as such: "whether (and to what degree) something is in fact generally accepted and done, actually performed and what its doing entails."

I.3 Communicating across cultures
Miscommunication often happens when we are not listening carefully. It also happens when people do not have a tolerant attitude. In a group, many people who do not share the same culture, although fluent in the language will no doubt experience difficulties at some time or other, whether they are made aware of it by native speakers or not.

Bachman and Palmer (1996) provide a useful organizational model for intercultural communication. They make a distinction between trait, skill and method factors. Under trait factors they list language competence and strategic competence. Language competence includes organization competence, which is both grammatical (lexis, morphology and syntax) and textual (written and oral cohesion, rhetorical organization) as well as pragmatic competence that is divided into illocutionary (language functions) and sociolinguistic (register, dialect, figurative language, cultural allusions, naturalness) competences.

Culture is at the centre of all language activity. It guides the individual's actions through interactive processes and orients in the shape of background expectations and cognitive models. In pragmatics some of these are called frames, schemata and are expected behaviour outcomes.

A fundamental question pertains to what definition of culture to adopt in language teaching. Lado (1957) proposes "ways of a people". Saville-Troike (1975) proposes a dual view, one manifestation of culture that is easily observed that she calls "material" and the other "non-material" which comprises what is more difficult to perceive.

Needless to say where the problems reside for NNS (Non Native Speakers) is in that latter part of the definition.

Adaskou, Britten and Fahsi (1990) shed more light on the question, adding three more parts to the traditional view of "culture with a small c". They propose:

a) a sociological sense of culture: it describes the organization and nature of family, home life, interpersonal relations, customs, institutions, work and leisure, and material conditions of a society;

b) a semantic sense of culture which involves the "conceptual system embodied in language" (p.3.), which conditions perceptions and thought processes, as in names and times of meals;

c) a pragmatic sense of culture which is about "background knowledge, social skills and paralinguistic skills that make communication successful, in addition to the linguistic code" (p.4), as for instance the use of language functions, politeness, conventions of interpersonal relations and of different genres.
The concept of culture is often tied to words like identity or otherness. Norton (1997:410) refers to identity as to "how people understand their relationship to the world, how that relationship is constructed across time and space, and how people understand their possibilities in the future." He defines identity as complex, contradictory and multifaceted (1997: 419).

This means that even when we are negotiating meaning in our own culture, we are constantly organizing and reorganizing a sense of who we are and how we relate to the social world. Researchers who speak of the multiple and fragmented nature of identity would concur with this statement.

If we have gained some familiarity with the way things happen in our native culture, it becomes evident that getting to such a stage in the L2 culture will require a vast amount of practice, not just exposure.

The notion of otherness or "difference" as a central aspect in intercultural communication requires individuals to find an intermediate place between the personal culture and the other culture. This presupposes an awareness of the presence of cultural differences in cross-cultural encounters and an ability and willingness to manage an intercultural space where everyone is comfortable.

According to pragmatists we construct our reality. Constructivists indicate our limits to the representations we have of reality. Objectivism can be seen as a function of language, an undetermined development as a metaphor for reality. In the world today we are developing multidimensional visions through our contacts with different objects and people. We need to make sense of everything and in our relationships with people we have to acquire an intercultural competence. Our biology enables us to distinguish between facts; our language allows us to define meanings.

The most important thing in the development of intercultural competence is to focus in a proactive way on an individual's ability to act in harmony and with success in the L2 context. Social mobility and mental flexibility are required in addition to the ability to articulate and understand concepts.

There are elements of language that belong to the automatic, ritual and routine components of a native speaker's behaviour. The same is true with cultural elements. Intentions and expectations of the cultures in contact have to be negotiated in an effort to gain understanding. An acute ability to analyse has to be developed. A certain mental distance is also required, which will help provide an appreciative attitude of how "self" and "other" separate within respective cultural boundaries. This aptitude to appreciate differences can be developed by having interlocutors adopt reverse roles, not unlike what is done in conflict resolution.

In the global village the emphasis of the role of culture in understanding has, in addition, to take into account other factors as well, including political, economic and ideological aspects.

If sociolinguistic competence is a must to communicate with speakers of other language, learners have to master this practical ability. However, in addition intercultural understanding is crucial, as interlocutors need to be more and more informed about the L2 people and gain a more receptive attitude towards the society associated with the L2 language and culture.

The question of defining values remains and depends on the how and who. In helping people to come to accurate interpretations in intercultural contexts, one has to think about possibilities and ways to intervene. The problem lies in the negotiation of the split between what our being contributes to our perceptions and what we should perceive according to definitions. We make inferences taking our first language as a starting point. In order for us to communicate across languages we need to be open and learn to accommodate and be flexible if we need to learn additional subtleties unknown to us in our culture (Goffman 1974).

For a deeper understanding of mankind and the universe, we have to make hypotheses and our choices determine our interpretations of things. Baars (1980:247) suggests that we have to look at our reality as being in a state of "constant becoming" if we want to find a way to account for the creative transformations we need to go through for our adaptation to the world. Our beliefs are tested when we face challenges and we show then if we are able to cope and to blossom. We make use of language for that and to make our choices to make sense of the world. Flexibility has to be added to our negotiations of meanings. We have to be ready to back off of initial choices at any time to build in new meanings and adjust our representations. This is itself is not an easy task. Apprehending what is not familiar becomes an even more complex task (Berger 1988). Therefore cross-cultural meaning making can become very difficult and requires a constant willingness to reconsider meanings previously arrived at, which is also tiring.

For successful communication across-cultures, learning an intercultural approach is necessary; one has to understand how language and culture in L2 (second/foreign language) connect and learn how they do in one's first language. McMeniman and Evans (1997) suggest teaching language as the most overt expression of a culture. This would be a good way to learn about the culture because culture is embedded in language use and cannot be acquired through exposure only.

I.4. Otherness and identity

I.5. Awareness raising and willingness to adapt

I.6. Accessing the intended meaning

I.7. Staying on the right track
Unfortunately our use of language can also bring about distortions in meaning (Baars 1997, Charaudeau 1983).

According to Singer (1987), we interpret cultural events in a creative discovery mode, much like the process of interpretation used in psychotherapy. Perhaps we should conduct our cross-cultural meaning-making along that way, but with added caution.

There seems to be a common ground on which we base our interactions. Is this do to our need as organisms to interact? Grice's (1975) principle of cooperation could be derived from this need.

However to become comfortable at the level of interaction at which native speakers of a language communicate takes a lot of trial and error on the part of the L2 speaker. It requires constant fine tuning in an attempt to approximate comprehensibility and later using ways of doing things in the other culture. Ortega y Gasset (1955, 1975 translation) as well as Merleau Ponti (1961) suggest that for new ways of understanding to be entered into our systems, something has to be lost. Thus acquiring new cultural understandings transforms the individual. Old ways are not easily changed; it only happens through the confrontation of unrelated images that new meaning can emerge.

I.8. Adapting behaviour

How does the new meaning-making leave an imprint on our behaviour? Perhaps just as in language learning different components have to be practiced and then put together with training to attempt to integrate new meanings and new behaviours. This integration cannot take place without a strong motivation. Deci and Ryan (1985) examined the motivation types associated with language learning. They distinguish between integrative and instrumental motivations. If the intent is to become part of the community, there appears what is called integrative motivation and in this case people usually produce the required effort to achieve their goal. In the case of the study of culture because of course or job requirements, motivation is considered to be instrumental. In a given situation where the culture and language are learned for both economic reasons and integration into the society, there will be a combination of motivational factors and cultural competence will most certainly develop in addition to language competence. The paths leading to the acquisition of cultural competence will, of course, be different for different learners depending on social and contextual aspects.

I.8.1. Understanding oneself

DeGramont (1990) suggests that different factors come into play in our meaning making. It is contingent upon our own understanding of the complex components we are made of. He calls them metaphors and distinguishes four of them namely; a metaphor of self, a conventional, a conceptual and a poetic metaphor.

The metaphor of "self" helps to explain how we see the world, and how we arrive at our representations. It is said to be hereditary, environmental and biological. As children, we fit into the patterns we are placed in, when we are given frames for future references and access to meaning. Our own reflectivity stems from semiotic processes in our social contexts and we appropriate those signs. In what we accept as children there is historical, political, ideological and even prejudiced information which will mould us into a certain being because we imitate what we see and hear and we get reinforcement to comply.

The "conventional" metaphor extends our habits or ways of being to the social group. It forms part of our daily understanding of experiences and is operational without problems in our native culture, which means that in an intercultural context one has to look at the differences between two different social habits.

The "conceptual" metaphor is related to thought processes and their implicit conditioning in the minds of speakers. This area leaves much to be discovered and analyzed.

The "poetic" metaphor, associated to literature and also conversations shows the ways underlying how things are done in the culture by the use of language forms such as folk tales, proverbs, quotes, sayings, anecdotes or jokes. It shows how to put meanings through in ways typical of the culture.

I.8.2. Understanding speech acts in the L2

Before a listener understands discourse there are the components of the speech-act to be dealt with, each involving complex mental processes. In addition, the listener needs to question the specific way something was said as a choice between many alternative ways. This social editing might be indicative of specificities regarding the context, relationships and the like. These decisions are usually made in an unconscious way and in an automatic mode. A non-native speaker has to first learn how to become aware of the factors involved and then consciously learn how to integrate them in his/her productions in L2. In our mother tongue we automatically tailor what we say in order for it to be comprehensible to others. And we infer from the words we hear what we are able to arrive at. We make our own interpretation of speech, and only through confrontation with something different will we deviate from images we form. If these images persist, we transform them into moulds and create more durable representations.

I.8.3. Keeping track of changes in the culture

Meanings are contingent upon the here and now. In intercultural exchanges a pragmalinguistic and sociopragmatic awareness are necessary to reach a closer understanding of intended meanings.

Language learners are able to self-correct once they have enough of a grasp of communication in another language and are able to identify as "wrong" the forms that look somewhat unfamiliar, and attempt to straighten them out.
In the same way as regards cultural representations, learners could develop a recognition habit of the most common cultural items, not unlike what Juszczyk (1997) calls a "weighting scheme" a language monitoring system in young children. Teaching modules around capturing these abilities could be developed.

Through flexible negotiation of meanings, new meanings can be built in and our representations can be adjusted to more closely correspond to intended meanings in the other culture.

Learning to readily change our representations has to be learned. There is also a danger inherent in this much-valued attribute, indicative of empathy, which is the risk of sounding confusing, when others are not able to keep up.

DeGramont also says we have to constantly wipe our lenses clean. True intercultural understanding requires a lot of mediating and a willingness to start anew time and time again. It is a matter of adjustment of visions.

II. Practical considerations

II.1. The problem today
When we are engaged in conversations we generally assume that our interlocutor cooperates according to Grice's principle (1975). When listener and speaker are of the same cultural background they most likely will resort to the same presuppositions, i.e. they base the continuation of the dialogue treating the relationship between two propositions in the same way. This is not necessarily so during intercultural exchanges.

Moreover, during interaction there is modalisation and modulation because the speaker tries to control the image he/she projects of himself/herself to the listener as our conversations contribute to others' perceptions of ourselves, in other words we are constantly being reinterpreted. During intercultural dialogues, one cannot assume that perceptions are accurate since they are interpreted in the mother tongue culture. Whereas in the L1 (mother tongue) a speaker might sense that strong opinions will not come across well and uses softer words, also because of the ability to predict the interlocutor's reaction when one knows the person, these possibilities do not exist in intercultural exchanges unless learners are specifically trained to be prepared for such occurrences.

These aspects have to be added to other linguistic considerations like implicatures, when more is communicated than what is said.

II.2. Specific sociopragmatic concerns in conversation
Even if an L2 speaker is familiar with the different meanings of words in the L2, i.e. understands conventional implicatures as indications of contrast, addition, logical links, etc, through an ability to interpret the words used accurately, that speaker may not always be able to sense when more is communicated than what is said.

II.2.1. Use of words
The basic understanding we have in our culture when communicating with others based on Grice's "cooperative principle" includes the maxim of quantity, quality, relation and manner.

These unstated assumptions make us assume that in an L2 context, speakers will also provide an acceptable amount of information, will not tell untruths, will only say relevant things, and speak in a manner which is making the words and meanings as clear as possible.

When we do not completely adhere to the maxims, we use language to draw the interlocutor's attention to a possible deviation that may also be indicated through intonation, in each case requiring special knowledge on the part of the L2 speaker.

How can learners acquire the subtleties attached to such situations? They can be told that words in initial phrases or at the end of an utterance, to caution them about the accuracy of what is said, will let them know that the speaker respects the maxim of "quality".

Their attention can be drawn to the language used, like for the "quantity" maxim they could learn to recognize words of cautions, hedges; for the maxim of "relation", the practice of words indicating that the conversation has gone off track and words used to get back on track or end the conversation can be helpful; with the maxim of "manner" one is to expect indications of approximations when the speaker is unclear of a situation talked about.

Learners can be trained to first recognize when L1 speakers are making the types of adjustments above by using certain words and to use language that way themselves by been given a number of expressions to use for different situations.

II.2.2. Putting it together
There are violations of the maxims by native speakers and the way around it is through conversational implicature. For instance, in response to a twofold question an interlocutor may only respond to one part; this might mean that his answer to the second part is negative or that he does not know the answer. Native speakers of a language proceed in conversations through inferences. Whether Kaplan's (1987) schema on patterns in writing across different cultures is accurate or whether it is also applicable to conversational language use is not important, yet it appears that we do have ways of interacting which might be due to our cybernetics, i.e. our ways of functioning as organisms, or to our cultural backgrounds, i.e. our ways of functioning influenced by our cultures and more likely both.

II.3. Specific examples
II.3.1. Context
L2 speakers have to be aware of that way of using language and have to know that if the second part is important to them, if they are unsure, they have to specifically ask the second part of the question again, and not accept the partial answer given, before moving on in the conversation. Of course reiterating the question could be irritating to the L1 speaker or putting the person on the spot since there may have been deliberate avoidance in answering the second part of the question.

When specific additional knowledge about a context is necessary to get at the extra meaning conveyed, is an easy way to keep foreigners or "others" out of the loop, which is often the case to keep people out of a given social circle. This is even more obvious, when the speaker does not specify to the unaware interlocutor the context of situation for the enunciation, thus acknowledging that interlocutor as an active participant in the conversation. Not acknowledging this fact is an overt act of discrimination, or at least a very rude move.

II.3.2. Word value
Another major aspect that often escapes non-native speakers is the choice of the value of words chosen from a scale of values. Whereas native speakers are able to make inferences regarding the choice of value of a given meaning, the L2 speakers may not be included in the sharing of meaning of the choice of that particular value, unless taught to recognize the variances. Native speakers, in a given context, could use the lexical meaning of a word a L2 speaker might have learned, totally differently. A positive like "sometimes" can be used to give an indication of negative. In the same way "possible" could be used to infer "not at all likely", depending on the context.

Native speakers use words to place their assertions on a scale, sometimes when there is a felt conflict because a positive could be interpreted by a negative in context, as shown above, the native speaker usually self corrects to place the statement at the appropriate scale level.

L2 speakers have to develop their sensitivity to this aspect and also practice it during their conversations.

II.3.3. Question of pace
A great number of back and forth adjustments are required to learn to communicate like native speakers. An inability to do so, or a latency to put this in practice could make the L2 speaker appear as having chosen to deviate from the truth.

In addition L2 speakers are faced with situations called by L1 speakers as an inside joke. This situation might be particularly difficult. Native speakers should probably avoid putting L2 speakers in that situation. It is already taxing on another L1 speaker when knowledge is not shared, with intent to exclude; this is more traumatic for an L2 speaker, especially if such occurrences do not take place in the context of his/her L1.

II.3.4. Skipping elements of language
To add to the possibility of confusion we often find situations when the interlocutor does not respond in a linear expected way and instead jumps to the second part of the expected reply assuming that one will implicitly recreate the direct answer accurately. Short conversational turns like these look like they lack relevance, yet they do not. A non-native speaker might feel at a total loss when placed in such a type of turn taking.

Often these turns indicate knowledge that is assumed shared between the conversation partners and the L2 speaker, when included in such interactions, requires more detailed accounts.

For example, in a family where the dog when hearing the word "walk" runs to the door waiting to be taken out, the word is not spoken but spelled W-A-L-K during conversations. This has to be explained to visitors.

The same concern exists around situations which are unusual, and are picked up instantly by people from the immediate entourage but escape a frequently absent member of the group, who in turn needs an explanation in order to keep on track with the conversation. This situation should remind us that perhaps when a non-native speaker enters a setting and is included in a "scene", there is a need to situate the person, put the person "in touch" with the circumstances.

In some instances when one finds oneself in a situation when one cannot answer a question or when the answer to the question asked is obvious, we resort to answering beside the point. This could cause serious problems based on the fact that our organism tries to make sense of language at all costs, if the native speaker can get a clue the L2 speaker might be at a total loss. This problem increases with the use of idiomatic expressions and proverbs that do not exist in the L2 culture.

Where added difficulty comes into play is when implicatures are denied. Words are used in such a way in implicatures that they only carry the meaning the listener attributes to them. Listeners calculate the inferences to make, so in fact this aspect of meaning making can be attributed to our features of who we are as organisms.

Another area of concern has to do with politeness and the way you see yourself and the other. In general people like to see their needs recognized, without having to say something, here again more is communicated than said. This is often the case among people in close circles. However this could be particularly difficult if an L2 speaker were included as such and unable to perceive that the implied closeness in the use of imperative forms does not correspond to commands but rather should be interpreted as acceptance in the peer circle as a friend. The direct approach, when commands and talk could be found insulting (Yule 1996), is not inappropriate in certain social circumstances and indicates people are considered as social equals.

The same indication could be drawn from the fact that an L2 speaker will "pull the leg" of an L1 speaker. Unfortunately the L2 speaker might not recognize this intend or misinterpret it as being exclusionary practice.
II.3.5. Togetherness
The solidarity strategy known to be observable mostly among males falls into that category as well. The creation of new dialects, shared slang expressions, even abusive terms which in fact are much more inclusive than formal politeness which consists of a deference strategy and by giving more distance, is almost an encouragement to independence, in fact covering up non-inclusiveness.

Women use a different solidarity strategy around "sisterhood". Conversational practice among peers in some cultures proceeds by shortcuts as compared to others. In English for example, pre-requests are common before actually making a request, in order to avoid rejection of the request. One has to learn to interpret what corresponds to "stop" after the pre-request utterance and not continue with the request.

We also assume that cultural ideology, educational and political practices are understood in the same way when two interlocutors from different cultures interact. This is only possible through a formal study of cultural aspects. Different models have been proposed. The most important ingredient is the understanding of one's own culture before venturing into trying to understand another's. We recommend reading first what foreign authors have written about one's culture in order to first become aware of implicit aspects that we do not see. We can then look at the other culture knowing what and how we will see it through our own cultural lenses. Finally when spending time in the other culture, a necessary step for intercultural understanding, we can take notes and compare the two cultures in order to learn to put things in perspective.

II.3.6. Taxing situations
How can we, with all these demands on us, still make sense of each other linguistically? One of the problems is that our working memories are limited and with the additional load in intercultural contexts of communication, we get tired more easily and one cannot engage in intercultural interaction unless one is ready to produce the required effort. It is crucial to also take into account psychological concepts in our interpretations in a conscious way, finding out what the L2 interlocutor's background knowledge, beliefs and expectations are.

III. Areas in need of further investigation

III.1. Cultural values in intonation
The lack of studies on the specificities in the use of intonation adds yet other hurdles. We have tremendous ability in recognizing features of language use in communication. On the one hand, we are able to complete the sentence started by someone who speaks our language, we are able to avoid certain reactions by displacing the conversation, we can carry out social actions in conversation with relatively few words when we are in a good social relationship, and yet on the other hand we might be unable to pick up the fine intonation markers in the L2 speaker's utterances.

If we assume that a L1 speaker is using comprehensible language that the conversation is coherent, that thoughts and experiences can be shared and understood across the L1 and L2 cultures we can expect successful communication. This might not be sufficient.

What people have in mind can often be accessed through intonation, emotional cues are very subtly colouring utterances in a way that signals information to the native listener but escape or are often misinterpreted by the L2 speaker, and this after years of language contact.

Changes in intonation patterns are often to be construed as mitigating devices. Special intonation features are generally shared by everyone within a given group. It is based on pre-existing knowledge of a cultural nature, which is often implicit and not part of the group's awareness.

A similar knowledge base dictates the rules of turn taking, which include subtleties not obvious to the untrained ear.

Intonation patterns in oral discourse are also indicative of the sequence of events yet to be told, in a pre-emptive sort of way. It allows much to be communicated without having to be said. In intercultural contexts this can lead to miscommunication. For instance, the energy used by a French native speaker when starting to tell an exciting story, discovery or finding, is often interpreted as aggression on the part of the native English speaker for instance.

Surprise in the voice of the L2 speaker when there is no reason for it in the eyes of L1 speakers can lead to misinterpretation. As interlocutors assess each other during their dialogues, creating or recreating the other based on perceptions, the danger exists for the NNS to be qualified as naïve, uninformed or stupid.

Hesitation identified in the voice of a L2 speaker, when in the context of pragmatics one is expected to follow a set cultural schema, might add to the unsaid and might lead the L1 listener to look for an expression of an intention, which in this case would not exist.

Adding up all such aspects in interaction across cultures can add to the confusion to say the least.

A deviation from the expected intonation pattern, which is obvious to a native speaker in the case of a L2 speaker who has not grasped the L2 very well, can become very problematic in other circumstances when the L2 speaker appears knowledgeable and fluent.
III.2. Meanings in silence

The way meaning is constructed cross-culturally is a question for pragmatics as much as it is for translation. A basic analytic framework exists through dictionaries in which concepts and terminology are provided, nevertheless it is apparent in the context of the "construction of a unified Europe" that concepts and terminologies do not easily cross borders.

Beyond the tendency of people to choose the negative or the positive face of language in their use, and whether they resort to positive or negative politeness, there remains the choice of "not saying anything" in certain cultures, silences filled with meaning. In French it could indicate that a speaker makes an objection to the familiar ways of his/her interlocutor, thus indicating a refusal to cross social group borders, silence is preferred to the saying "On n’a pas gardé de cochons ensemble"; which would be very offensive. Instead passive resistance is much more acceptable, and are in fact deemed to be honourable.

The length of silences in conversations can indicate several things, like for instance, turn-taking. The length varies across cultures. Shorter silences between taking turns in one culture may prompt a speaker of this culture to start speaking at the wrong moment and be considered rude and be dismissed.

Not marking silences in conversations, when turn-taking clearly requires to look for silences before starting, would mean that the interlocutors are not willing to give the floor to the L2 speaker who is unable to catch the different signals native speakers have for starting their turn.

In conclusion, the intricacies involved in meaning making across cultures explain the difficulties people encounter in the world, going the full spectrum from the personal level to the political scene and to global dimensions.

With our increased need for trading at world level, researchers as well as practitioners have to come together and explore further how to improve channels of communication and most importantly delineate strategies to avoid cross-pragmatic communication failure. There could be a heavy price to pay for humanity if we continue to ignore the importance of sociopragmatic aspects in interaction.

References


Introduction

ESP learners with a background in the natural sciences often need to present their findings at conferences. Even learners who can read English fairly well sometimes feel uncomfortable about speaking in front of an audience and tend to read out everything. This almost always results in imperfect but high-speed English which is too fast for the audience (presumably made up of native and non-native speakers alike) to follow. Using concise notes is a better technique, but many speakers read out the notes as they would the paper.

It is not the special vocabulary which presents such enormous problems. Scientists are normally comfortable with vocabulary from their own subject (pronunciation problems occurring in the use of internationalisms are a different matter). It is the everyday academic structuring vocabulary which causes worry and anxiety.

The use of visuals can provide relief – if they are well-designed. Scientists use visuals in their presentations anyway. Often, these visuals refer to content rather than structure, but the structure of the paper and the structuring vocabulary can be visualised, too. The use of visuals I propose in this paper has several purposes. Firstly, it helps the speaker to memorise the language needed for giving the paper a clear structure as well as choosing structures for presenting his findings. Secondly, it is the basis upon which the structure of the presentation will then be built. Thirdly, it does not only help the speaker but also the audience who will find it easier to follow the presentation and to memorise its contents. The visual material used for these purposes can be kept extremely simple. Artistic talent or complex graphics software are not needed.

The ideas presented here are useful for weak language learners rather than good language learners. They can, with some changes, be adapted to subjects outside the natural sciences. They can also be applied to any medium, handwritten transparencies as well as presentation programmes on the computer.

1 Visuals in the sciences

The use of visuals in the natural sciences is fairly advanced. Texts in the natural sciences are almost always multimodal, that is, they consist of verbal texts and illustrations. Moreover, students and researchers in the natural sciences do not only write presentations and articles; they also design scientific posters. The latter genre depends heavily on a good feeling for page layout and generally for the use of visuals (examples in Fleischer 1989).

Unfortunately, the genres “presentation” and “poster” seem to call up two different schemes in their creators’ minds. All the good habits connected with postmaking are suddenly forgotten when it comes to designing presentations. The visuals for presentations, no matter whether they have been designed for the OHP or the computer, are hardly ever as sophisticated as are those the same person would use for a poster.

This is a pity, because visuals are not only extremely useful for structuring and simplifying a paper, but also for making it more stimulating. Pictures can arouse emotions in a way words cannot. This is also true for pictures in the sciences – they are not neutral and sober, although this is often claimed.

If visuals are used properly during a presentation, they help the audience understand and memorise structure and contents. They also slow down the speaking speed of the person giving the paper (unless this person uses the visuals as a background display and rambles on and on without commenting properly on the visuals).

1.1 Visuals and vocabulary learning

The most important use of visuals presented here is the link between vocabulary, picture and presentation. The first problem the speaker is confronted with is that he has to memorise the vocabulary needed for his paper, and visuals can already be helpful in this early stage of preparation.

Often, handbooks on how to learn foreign languages offer ideas how to memorise vocabulary by using pictures or paths (the latter means sticking vocabulary cards to the walls in your flat so that you pass them by several times per day as described in Kleinischroth 1992). Handbooks on how to do presentations, on the other hand, have information about what kind of visual help will be useful for the audience (e.g. Fleischer 1989).
These two can be combined. Visual representations of certain structures can be used as mental models for memorizing the vocabulary connected with these structures. The same visual representations can then be used as visuals during the presentation. The speaker can thus remember the vocabulary connected with them.

As to the actual vocabulary learning, the speakers should use their preferred learning method. If they like cards, that is what they should use. If they prefer posters, fine. The learning method used has no influence on the connection between the pictures and the words later during the presentation.

1.2 Structures and visuals
Scientific papers normally follow the typical structure of the scientific article: Introduction, Material and Methods, Experimental, Results, Discussion. These conventionalised sections have typical micro structures associated with typical vocabulary. “Material and Methods” tends to be in the shape of lists and procedures, “Experimental” describes a process in detail, the Results section often consists of diagrams upon which the author comments. The Discussion section is complex and uses a variety of structures. Many of these micro structures, particularly those describing certain states or processes where facts rather than numbers are needed, can be visualised, which makes them easier to comprehend and easier to memorize.

The simplest form of structuring a presentation with the help of visuals is a numbered list. The advantage of lists is of course that the only structuring vocabulary needed is either numbers or “next…next…” However, lists are not particularly memorable or stimulating and should not be the only kind of visual used during a presentation. For experimental procedures, flowcharts combined with information graphics (e.g. pictures of special equipment) and formulas work well. Flowcharts are already a good example of how to use a visual pattern in order to provide a structure for the presentation, which again can be connected to the vocabulary needed. They are also very useful for giving a structured overview of the content of the paper, drawing on structuring vocabulary such as “first…then…my concluding remarks”.

However, there are far more possibilities for using visuals, and some of them are more original and memorable. The natural sciences rely on certain recurring patterns which can easily be brought into pictorial shape. The illustrations I use as examples in this article are simple in shape but correspond to common micro structures which can be found in the various parts of a scientific presentation. With each illustration, I will demonstrate how simple structuring vocabulary can be “attached” to the picture.

Examples for structures and word groups connected with them are, e.g. the cycle (particularly important in biology), implosion (see fig. 1) or explosion. These visuals are basically self-explanatory, as they are customarily used in science textbooks or journals, but commenting on them during the presentation improves their impact upon the audience. For implosions or explosions, cause-effect vocabulary is particularly useful and should be memorized along with the arrows. The arrows can of course also be labelled using this vocabulary.
Often, the restriction of the vocabulary needed seems to be a better strategy than that of linking complex vocabulary to visuals. If the speaker is very nervous, chances are that he will only remember vocabulary he acquired very early in his language learning career. Vocabulary needed to structure the explanation of a pyramid (fig. 2) can actually be restricted to prepositions or to “top … middle … bottom”. Complete sentences are neither necessary nor common if a presentation is not read off.

Another vocabulary group which speakers have been familiar with for a long time and will probably remember even if under pressure are colours. Using coloured visuals makes it possible to fall back on phrases such as “the blue part”. This is still much better than not using structuring vocabulary at all or than just pointing to the picture. Of course, pointing should always accompany the explanation, but again the use of structuring vocabulary is a matter of speed as well as clarity.

 neighborhoods should be iconic rather than symbolic. It is important that the audience does not have to guess what the pictures used actually mean. It is also important that the author does not have to spend time explaining the symbols used to the audience. Visual puns do not go down well with international audiences. For these aspects of visual design, manuals on technical documentation are particularly useful (e.g. Horton 1994).
There are numerous books for teachers about visuals and language learning, and many ideas presented there are useful for designing visuals for presentations, too (e.g. Wright and Haleem 1996).

2 Recycling visuals

Visuals representing structuring vocabulary can easily be applied to various topics. They have to be filled with new content, but the underlying structures are typical for academic text genres as such. They are not connected with one topic only. The structuring vocabulary can be recycled along with the visuals. The effort of learning this vocabulary once pays off rather quickly. This again increases the confidence of the speaker who can build a library of vocabulary-connected visuals and improve his command of the language along with that.

3 Structuring complex visuals: paths

Sometimes, it is not the text of a paper which needs structuring, but the pictures the speaker wants to use. In the natural sciences, we sometimes need to use complex pictures such as photographs, complex maps, or x-ray photographs. They can look confusing, and the speaker must make sure that the audience looks at the part of the picture he actually wants to show them and do not let their minds wander too much.

A path superimposed on a picture does not simply make the picture easier to read (cf. an example of an x-ray photograph of the human heart in Fleischer 1989). It draws the audience’s attention to the important parts of the picture and provides a path for the speaker, too.

![Path: migrating toads](image)

**fig.4: Path: migrating toads**

In fig. 4, the vocabulary the speaker wants to use is actually part of the visual. Many audience members will be grateful for that, too, and it helps to make the speaker far less nervous. This path should be superimposed on the transparency of a complex map of the area where the toads actually migrate. The little toad cropping up here has the character of a stimulating extra as well as providing a link to the topic. Of course, speakers who do not like this cartoon style can resort to a more sober drawing style or to a photograph. Fun elements are fine, but they should never be overdone as they can quickly become boring.

Again, the vocabulary needed to describe a path is basic vocabulary the speaker will have learned when still a beginner (every textbook has a “How do I get to the station?” chapter), and he will very probably remember it even if he is very nervous.

Another recourse to well-memorized vocabulary is the clock-face structure (figs. 5 and 6). It can be superimposed on almost any kind of picture, particularly if the speaker wants to draw attention to elements of the picture which are at places he cannot mark by superimposing other shapes such as triangles or squares (again, simple vocabulary: top left, bottom left…). The clock-face allows the speaker to use phrases such as “the tadpole at two o’clock”, and even audience members who are not familiar with this use of the clock-face will immediately understand what he means. The structure is of course preferable to shortcuts such as “this tadpole – that tadpole” which are used all too often if the speaker did not prepare the vocabulary while preparing the visuals.
fig. 5: Tadpole pond without organising structure

fig. 6: Tadpole pond and clock-face (contrasting colours preferable)

**Conclusion**

Connecting words and pictures from the beginning makes structuring a presentation much easier and helps the speaker to concentrate on the contents instead of panicking about the words. At the same time, the audience can see as well as hear the structures used, which again has a good mnemotechnical effect for them, too.

Still, it must be emphasized that visuals are not everything, and that attention must also be given to pronunciation: the speaker should pick words he can pronounce (or else check the pronunciation and note it down) and not rely on the effect of the visuals only. After all, it is the combination of vocabulary and pictures which should make an optimum impression on the audience.

Illustrations copyright by the author.
References

3.2.9 Marita Kristiansen

Concept borrowing in the behavioural sciences.
Investigating extrinsic concept changes.

Marita Kristiansen
Department of languages, Norwegian School of Economics and Business Administration (NHH)

1. Introduction

In the behavioural sciences there is a tradition of borrowing concepts from already established disciplines in order to establish new and thus highly interrelated disciplines. In my doctoral project, I attempt to outline how the origins of one such emerging discipline can be traced in its so-called mother disciplines. This discipline is organisational behaviour (also called OB in specialist texts):

(1) organisational behaviour
a discipline that investigates the impact that individuals, groups, and structure have on behavior within organizations, for the purpose of applying such knowledge toward improving an organization’s effectiveness (Robbins 1996:10).

The aim of the study is to investigate the exchange of concepts that has taken place between OB and its mother disciplines, which include psychology, social psychology, sociology, anthropology and political science.

The data consist of textbooks written for students at university level taking an introductory course in either OB or the mother disciplines. In addition, the material has been supplemented with articles taken from recognised international journals since these offer a more detailed concept description than the textbooks.

A major purpose of the project is to assess the autonomy status of OB by means of conceptual analysis. By autonomy status is meant to what degree a discipline provides independent theory development and holds a common conceptual apparatus (Kristiansen 2000, 2002). This also includes a terminology which is accepted and used by the discipline’s researchers in communication with others. An autonomous discipline should therefore hold a conceptual apparatus that differs from that of its mother disciplines.

Hence some sort of conceptual change will have to take place in the concepts borrowed by OB as the discipline emerges. In my project I have distinguished between two types of conceptual change, which I have termed intrinsic and extrinsic changes.

In this paper I want to discuss these types of conceptual change, with focus on the latter one, namely extrinsic changes. The discussion will be based on a taxonomy of the formation and change of scientific concepts presented in Thagard (1992), which I have adapted for my analysis.

Towards the end of the paper I will provide some brief examples from the analysis of conceptual changes that have taken place as OB has emerged. The analysis is based on methods of conceptual analysis as described in general terminology theory (see for instance Laurén, Myking and Picht 1998).

2. Formation and change of scientific concepts

Usually, terminology work aims at presenting the terminology of a field as it is, or in case of normative work, as it should be, at a given time. This may be why terminology theory provides little material on how scientific concepts are formed or how they change. However, theorists such as Oser (1994), Budin (1996), Ahmad (1996) and Ahmad & Jensen (1998) have dealt with conceptual changes, and sources of such changes. Recent studies conducted at the University of Surrey (such as Ahmad and Al-Thubaity (2003), and Al-Sayed and Ahmad (2003)) also focus on the evolution of scientific knowledge by investigating the special languages of scientific fields.

In his Conceptual Revolutions (1992), Thagard also addresses the nature of conceptual change. Thagard’s theory of conceptual change is an integral part of his combined computational and cognitivist model of scientific knowledge. His position is not terminology science, but artificial intelligence and cognitive science. However, his survey of concept changes corresponds well with terminology theory, as stressed in Budin (1996:30). It also offers a departure point for grouping the concept changes I have discovered in my analysis.
Figure 1 is an adapted account of Thagard’s taxonomy of various kinds of conceptual changes. However, instead of talking about belief revisions versus conceptual change, as Thagard does, I have chosen to divide conceptual changes into intrinsic and extrinsic changes:

**Figure 1: Epistemic change in scientific concepts (adapted from Thagard 1992:37)**

According to the figure, intrinsic change includes intensional concept changes and term changes. Intensional changes will be changes in the characteristics of a concept (addition or deletion of characteristics) compared with the characteristics of its mother concept. Such changes will be disclosed in the concept’s definition. Intrinsic changes also include term changes which will be relatively easily spotted in a conceptual analysis. In (2) and (3), the concept of politics is described in sociology (S) and OB, respectively:

(2) **politics (S)**
The means by which power is employed to influence the nature and content of governmental activities. The sphere of the ‘political’ includes the activities of those in government, but also the actions of many other groups and individuals. There are many ways in which people outside the governmental apparatus seek to influence it (Giddens 1997:583f).

(3) **(organizational) politics (OB)**
Organizational politics can be defined as “those activities taken within organizations to acquire, develop, and use power and other resources to obtain one’s preferred outcomes in a situation in which there is uncertainty or [disagreement] about choices” [...] In a sense, the study of organizational politics constitutes the study of power in action. It may also be said that politics involves the playing out of power and influence (Vecchio 2000:130).

In sociology, politics describes the use of power in order to influence the nature and content of governmental activities, including also actions of other groups and individuals.

The description of politics in OB also involves the use of power to influence activities (or “outcomes”). An intensional change in the OB concept of politics is, however, the limited application within organisations only. This has also motivated a term change, namely organizational politics. The single term politics is, however, used co-referentially.

Extrinsic changes will, as illustrated in figure 1, correspond to conceptual changes in the form of concept addition or deletion, simple system reorganisations, or system redefinitions.

The first type of extrinsic change may take place simply because concepts are added or deleted as new knowledge is reached (that is concept addition or concept deletion in figure 1). An addition or deletion of concepts will alter the conceptual structure of a discipline and result in new conceptual relations. The extrinsic changes will thus be found when investigating the whole conceptual apparatus and the relations that hold between the various concepts.

Secondly, concepts may undergo a reorganisation process, which will involve a reorganisation of the conceptual system. This reorganisation may be of either a simple or revisionary nature. A simple reorganisation of concepts involves a change in the existing concept relations. This may be in the form of decomposition, in which new part-relations are added. An example here
may be the discovery of atoms. Another type of extrinsic change may be the fact that new superordinate concepts are added (ie coalescence), in which two concepts previously taken to be distinct, are linked. The final type of simple reorganisation changes, Thagard terms differentiation, in which a distinction is made that produces two concepts. This type of conceptual change has taken place in the OB subarea group decision making, (see section 3).

A revisionary reorganisation is the moving around of concepts in the concept systems, with the rejection of former kind-relations or part relations as well as the addition of new ones. Finally, a redefinition of concept systems may take place. This will involve an alteration of the organising principle(s) applied in the construction of the concept system.

Thagard sees belief revisions, concept additions or deletions, and simple reorganisations of conceptual systems as common changes in the development of scientific knowledge. He thereby reserves the revisionary system reorganisations and the redefinition of systems for changes of a more revolutionary kind. Given the scope of my project, these two latter types of conceptual change have not been included in the analysis.

3. Analysing extrinsic changes

The bodies of knowledge may be viewed in different ways by different disciplines. Applied in this study this means that the same objects may be combined to form different units of knowledge with different intensions and extensions in the mother disciplines and in OB. This will result in different concept relations forming new concept systems and distinct designations.

Extrinsic changes are not evident when the concepts are viewed in isolation. Only when the conceptual structures in a discipline and the subareas of that discipline are analysed and compared with those of the mother disciplines, will such changes become clear. Of course, intrinsic and extrinsic changes cannot really be investigated independently of each other, but will have to be analysed together. Hence the conceptual analysis will have to focus on concept relations, the systematisation of concepts, in addition to the definition process. Concept characteristics will also be vital in assessing the OB concepts’ relations compared with the concepts of OB’s mother disciplines.

Extrinsic changes will, as already stated, correspond to conceptual changes in the form of either concept addition or deletion, or simple system reorganisation in figure 1. Although the borrowed concepts have retained their characteristics, they may be related differently, thus forming a new knowledge network. This is an important premise in terminological analysis (Laurén et al 1998:142ff), a view that is also shared by Thagard:

An understanding of conceptual revolutions requires much more than a view of the nature of isolated concepts. We need to see how concepts can fit together into conceptual systems and what is involved in the replacement of such systems (Thagard 1992:30).

Although Thagard’s focus is still on conceptual revolutions, his statement is nevertheless true also for the analysis of gradual conceptual changes.

Based on my analyses, there is often very little that distinguishes the OB concepts from their corresponding mother concepts when it comes to characteristics. In fact, concepts such as conflict, conformity, group, norm and role are basically described the same way in OB as in social psychology (SP) and sociology, as the conceptual descriptions taken from textbooks on the various disciplines show:

<table>
<thead>
<tr>
<th>Concept</th>
<th>OB</th>
<th>Social psychology</th>
<th>Sociology</th>
</tr>
</thead>
<tbody>
<tr>
<td>conflict</td>
<td>Differences among the perceptions, beliefs, and goals of organization members (Northcraft and Neale 1994:693).</td>
<td>A perceived incompatibility of actions or goals between two or more parties (Myers 2000:G2, Smith and Mackie 2000:591).</td>
<td>Antagonism between individuals or groups in society (Giddens 1997:581).</td>
</tr>
<tr>
<td>conformity</td>
<td>Adjusting one’s behavior to align with the norms of the group (Robbins 1996:G1).</td>
<td>The convergence of individual’s thoughts, feelings, or behavior toward a social norm (Smith and Mackie 2000:335).</td>
<td>Behaviour which follows the established norms of a group or society (Giddens 1997:581).</td>
</tr>
<tr>
<td>group</td>
<td>[...] two or more people who interact with each other, share certain common beliefs, and view themselves as being members of a group ( Vecchio 2000:214).</td>
<td>[...] two or more people who, for longer than a few moments, interact with and influence one another and perceive one another as &quot;us.&quot; (Myers 2000:G3).</td>
<td>Collections of individuals who interact in systematic ways with one another. [...] it is a defining feature of a group that its members have an awareness of a common identity (Giddens 1997:585).</td>
</tr>
<tr>
<td>norm</td>
<td>Informal, unstated rules that govern and regulate group behavior (Northcraft</td>
<td>[...] rules for accepted and expected behavior. Norms prescribe &quot;proper&quot; behavior.</td>
<td>Rules of conduct which specify appropriate behaviour in a given range of social</td>
</tr>
</tbody>
</table>
The intrinsic changes are basically delimiting characteristics reflecting the scope of the various disciplines. In the concept of conflict (OB), the differences will be between “organization members”, whereas in conflict (S), the differences will include any argument between “individuals or groups in society” as such.

A similar distinction is made in the concept of role. Both social psychology and sociology see the concept of role as the way people ought to behave in a given “social position”. In OB, on the other hand, the concept of role is limited to an organisational setting.

If concepts are similar in OB and its mother disciplines, what then about the autonomy of OB? Is anything else distinguishing the disciplines? One answer to this question is found in the conceptual structure of the disciplines, ie how the concepts are related.

To illustrate this I will return to the final type of simple reorganisation changes discussed above, namely differentiation, and the concept of group polarization in the OB subarea of group decision making.

According to Blackwell 1998:493, social psychology research in the 1960s suggested that individual group member decisions in a potentially risky situation were, on average, less risky than the final decision of the group as a whole. This was termed the risky shift phenomenon:

\[(4) \text{ risky shift (SP)}\]

The process by which a group’s initial average position becomes riskier following group interaction (adapted from Smith and Mackie 2000:592).

An early term for group polarization, coined before research indicated polarization also occurs toward conservative positions (Deaux, Dane and Wrightsman 1993:417).

Subsequent research has indicated that the shift to risk is, in fact, a shift to extremity. Groups shift away from a neutral point beyond the average of the decisions initially favoured by individuals in the groups; in other words, shifts to caution as well as risk occur. This phenomenon is therefore more accurately called group polarization:

\[(5) \text{ group polarization (SP)}\]

The process by which a group’s initial average position becomes more extreme following group interaction (Smith and Mackie 2000:592).

The conceptual analysis shows that OB has borrowed the risky shift concept to account for decision obstacles that may arise in group decision making (see figure 4 in the appendix). The intensional change that has taken place in social psychology, followed by the term change (that is the term risky shift has been replaced by the term group polarization) has also taken place in OB (Northcraft & Neale1994:692, 704; Robbins 1996:321, 323):

\[(6) \text{ group polarization (OB)}\]

[...] in discussing a given set of alternatives and arriving at a solution, group members tend to exaggerate the initial positions they hold. In some situations, caution dominates, and there is a conservative shift. More often, however, the evidence indicates that groups tend toward a risky shift (Robbins 1996:321).

The intension of risky shift (OB) has not changed since 1961; however, this concept only describes one of the two tendencies (ie group polarization) that may result from group discussions, the other concept being cautious shift:

\[(7) \text{ risky shift (OB)}\]

Tendency of a group as a whole and each member to be more willing to accept greater levels of risk after a group discussion than prior to it (Northcraft and Neale 1994:704).

\[(8) \text{ cautious shift (OB)}\]
Tendency of a group as a whole and each member to be less willing to accept risk after a group discussion than prior to it (Northcraft and Neale 1994:692).

In OB, the concepts of cautious shift and risky shift make up the extension of the new superordinate concept of group polarisation. The concept of risky shift has therefore undergone an intrinsic change (both an intensional change and a term change), whereas cautious shift has emerged as a new concept. These changes have been adopted in OB as they have become accepted knowledge. The creation of a new concept has resulted in a simple system reorganisation: 

```
  risky shift
(1960) → group
          polarization
```

Figure 3: A simple system reorganisation – differentiation

These changes have taken place due to research in social psychology, based on which they have been adapted in OB as well.

When comparing social psychology and OB at a less detailed level (see figures 4 and 5 in the appendix), other extrinsic changes have also taken place. It is evident from my analyses that the structure of OB is different even though the borrowed concepts seem to be very much the same. The concepts of group polarisation, risky shift and cautious shift have been applied in the OB subarea of group decision making, as explanations of unsuccessful group discussions (decision obstacles). In social psychology, these concepts are discussed as part of group influence (SP). This difference may be attributed to the different research interests and purposes of the two disciplines.

4. Conclusion

In this paper I have briefly tried to illustrate the conceptual changes that may take place as a new behavioural discipline emerges. After having presented a taxonomy of the formation and change of scientific concepts, I have in particular tried to address the aspect of extrinsic changes. I have given some examples to illustrate the fact that although OB has adapted many concepts from its mother disciplines with only minor changes being made to these concepts, OB still has a conceptual apparatus that is not identical with those of its mother disciplines.

It is evident from the analysis that changes due to new research findings seem to take place in both OB and its mother disciplines. That is, the OB subareas most closely related to their origins are affected in a similar way as the original subareas.

Intrinsic changes that are distinct for OB do to a great extent reflect the special research focus of OB and its research object. The most obvious changes are, as it seems, of a relational nature. I will therefore argue that it to a great extent is the extrinsic changes that have taken place in OB that provide the discipline with a conceptual apparatus that differs from that of its mother disciplines, and which consequently strengthens its degree of autonomy.
5. References


Appendix

Figure 4: The OB subarea of group behaviour – organisational decision making

Figure 5: The SP subarea of social influence – group influence
Thematic Variation in Academic Seminars
- Discussion about Concepts and Terms

Nina Pilke
University of Vaasa, Department of Scandinavian Languages

1 Introduction

The number of people working with knowledge management continues to increase. The various duties in the different fields require new knowledge and new solutions, effective planning and excellent communication skills. Those who are experts in language and communication and have an academic education are one of the most central groups of experts in our society today. These language experts work everywhere; they are technical writers and terminologists, translators and information managers both in public administration and enterprises, interpreters, teachers, secretaries, journalists, researchers etc. The target group in my study is a group of future language experts, namely those who study Scandinavian languages (Scandinavian philology) at the University of Vaasa in Finland.

One of the most central aims of the studies on a university level is to learn academic ways of thinking. Facts (field-specific knowledge) are reconciled with knowledge concerning methods (research methods). In academic education especially seminars are the forum for learning to participate in academic discussion and giving and receiving academic criticism. Seminar discussions are one of the most student-centered modes of teaching in groups. The aim of such education is to make the students familiar with knowledge within their own field (epistemic premises), academic thought and communication.

Earlier studies (e.g. Luukka 1996) have examined among other things the students’ opinions of good seminar discussions. The results show that it is obvious that the expectations of good discussions in seminars and direction are contradictory. On the one hand the students stress that the discussion should be equal and free and on the other hand they wish a strict control of the discussion, even that the teacher forces the participants to speak.

Consequently, the seminar meeting is clearly bipartite. The first part consists of the academic discussion that presupposes equality, and the second part is the educational discussion that requires authority of knowledge.

2 Objectives of the research project

The aim of my research project is to 1) examine what kinds of opinions university students and teachers have about learning through seminars, and 2) examine the characteristics of academic discussion in university seminars. The research is comparative in nature. My aim is to compare the interaction between students in one group and between groups consisting of students at different stages of their studies. The study focuses on seminars on three different levels at the Department of Scandinavian Languages at the University of Vaasa; proseminars, thesis seminars and doctoral seminars. In the following I have placed the seminars studied into Luukka’s (1996) figure, which illustrates that the seminar discussion lies somewhere between academic discussion and educational discussion:

![Diagram of seminar types]

Figure 1. Three university seminars as objects of research.

Proseminar (ProS) is the first seminar for most students at the Faculty of Humanities (third study year). It lies therefore nearest to educational discussion; the students need on the average a lot of advice and support from the advisor when they are doing their
research, presenting the results and giving comments on each other’s reports. The proseminar plays an important role in the students’ academic studies. The first seminar gives the students an introduction to research and academic discussion and it gives a picture of how a research project is carried out in the form of a “miniature research”.

It is important that the students have experienced the research work as meaningful activity and that they have been socialized into the community when they take part in the following seminar, the thesis seminar (TS). Those who participate in thesis seminars are on the home stretch of their studies (fourth or fifth study year) and they have already knowledge of academic research work, discussion and argumentation. The functionality of the seminar plays an important role in the students’ graduation and also from the university’s point of view, i.e. the examination objectives.

Those who take part in a doctoral seminar (DS) aim at a licentiate or doctor’s degree. The participants have experience of research as well as often also of directing research projects. The discussion in doctoral seminars can be assumed to be most suggestive of group discussion and therefore lie nearest to the ideal of academic discussion (see Figure 1).

In the present paper the focus lies on the thematic variation in the seminars. An important aspect of my paper is to examine how special concepts and terms are discussed in the three different seminars.

3 The material of the study

The research material consists of three parts. The first part consists of a questionnaire (written) addressed to the participants in the seminars chosen. The second part of the material consists of the recorded seminars (video + recording tape). The analyses in this paper are founded on this part of the material, i.e. on transcriptions of the tapes.

Table 1. Recorded seminars.

<table>
<thead>
<tr>
<th></th>
<th>ProS</th>
<th>TS</th>
<th>DS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>10.04.2001</td>
<td>22.02.2001</td>
<td>16.03.2001</td>
</tr>
<tr>
<td>Participants</td>
<td>10 + 1</td>
<td>10 + 1</td>
<td>10 + 1</td>
</tr>
<tr>
<td>Length</td>
<td>63 min</td>
<td>49 min</td>
<td>96 min</td>
</tr>
</tbody>
</table>

Table 1 shows that the three seminars were recorded during the spring of 2001. There are 10 participants plus the instructor in each seminar group and the length of the seminar varies from 49 to 96 minutes. The written seminar reports, which function as the base for the discussion in the seminars, form the third part of the material and are used when needed in the analysis of the recorded material.

4. Findings

In analysing the recordings I use the concept ”turn” (Sw. “samtalstur”, see e.g. Norrby 1996; Persson 1997) as the point of departure. A turn starts when the speaker begins to speak and ends when somebody else takes over or when the speaker finishes an utterance by falling silent. A change of turns thus always implies a change of speaker, and a turn can comprise just occasional words or constitute a longish contribution to a discussion.

When I have counted turns during the three seminars, conversational support is also included in the numbers (see e.g. Norrby 1996:131 f.; Adelswärd 1992; Hakulinen 1998). The researchers who make a distinction between minimal response (e.g. yes as an answer to a question) and backings which do not demand the right to speak, do not grant the status of turns to interjections like hm and mm unless the silence between utterances can be interpreted as a pause (see Norrby 1996:136; Linell & Gustavsson 1987). Conversational support in the form of particles are, however, an indication of active listener ship and they are in my opinion important in seminars where one argues, states one’s reasons and expresses one’s point of view of different solutions. In my study I therefore think, in agreement with Hakulinen (1998), that dialogue particles even by themselves can constitute a turn.

Table 2. Turns in the seminars. (%)  

<table>
<thead>
<tr>
<th></th>
<th>ProS</th>
<th>TS</th>
<th>DS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thesis writer (W)</td>
<td>22</td>
<td>32</td>
<td>41</td>
</tr>
<tr>
<td>Opponent(s) (O)</td>
<td>28</td>
<td>16</td>
<td>45</td>
</tr>
<tr>
<td>Instructor (I)</td>
<td>46</td>
<td>42</td>
<td>12</td>
</tr>
<tr>
<td>Participants (P)</td>
<td>4</td>
<td>9</td>
<td>2</td>
</tr>
</tbody>
</table>

In the proseminar, the participants use 213 turns in 63 minutes. The instructor uses 46% of all turns (see Table 2). Table 2 shows that after the instructor comes the opponent with a share of 28% and the writer of the thesis with a share of 22% of all turns. Of the other participants, three contribute with a total of 4% of all turns. In the thesis seminar 458 turns in all are used in 49 minutes. From Table 2 appears that the instructor uses 42% and the writer of the text 32% of the turns in the seminar. The opponents’ share is 16% and that of the other participants 9% of all turns. In the research seminar 812 turns are made use of in the course of
96 minutes. Engagement in the discussion is somewhat different compared with the other two seminars, the instructor’s part of the turns being merely 12% compared with more than 40% in the other two. Judging the share of turns, the discussion seems to take place mainly between the opponents and the writers of the text. The share of the turns of the other participants is the lowest of all seminars, only 2%.

4.1 Thematic variation in the seminars

The informants in my investigation point out that it is important for the seminar to be rewarding from the point of view of their content. A particular wealth of angles of approach is seen as a sign of a successful seminar meeting (see Pikke 2003). In order to get a picture of what is discussed in the seminars and of how and to what extent this is done, I have studied the structure of the discussion in the light of main themes. By main theme (MT) I mean in this context the whole within which the content of a certain topic is discussed (cf. for instance Gunnarsson 1998). A survey of the transcriptions of the recorded seminars shows that the discussion moves between six main themes. The different themes with a brief description of their content are to be seen in Table 3 below.

Table 3. Themes of the seminars.

<table>
<thead>
<tr>
<th>THEME</th>
<th>Examples of subjects discussed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Concepts and terms</td>
<td>definitions of concepts; what is meant by a certain term, what term one should choose, relations between concepts etc.</td>
</tr>
<tr>
<td>2) Disposition</td>
<td>sections; arranging, moving something in the text, subheadings etc.</td>
</tr>
<tr>
<td>3) Literature</td>
<td>reliable sources, own text—adopted ideas, interpretation of literature, possible sources, references to relevant literature</td>
</tr>
<tr>
<td>4) Specifying and completing</td>
<td>fundamental questions concerning aim, material, method as well as the empirical approach</td>
</tr>
<tr>
<td>5) Technical details</td>
<td>typography, references to sources (form), bibliographical list (arrangement), quotations etc.</td>
</tr>
<tr>
<td>6) Language</td>
<td>linguistic correctness, stylistic questions</td>
</tr>
</tbody>
</table>

Table 4 below shows that the most discussed theme (measured in numbers of turns) in all three seminars is Specifying and completing. In the proseminar this theme is the definitely dominant one with a share of 65% of the turns. Even in the Doctoral seminar the share of this theme is high since more than half of the turns concern this theme. In the thesis seminar the share is somewhat lower, slightly over 30%.

Table 4. Turns in the six main themes. (%)

<table>
<thead>
<tr>
<th></th>
<th>ProS</th>
<th>TS</th>
<th>DS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concepts and terms</td>
<td>1</td>
<td>12</td>
<td>39</td>
</tr>
<tr>
<td>Disposition</td>
<td>11</td>
<td>13</td>
<td>6</td>
</tr>
<tr>
<td>Literature</td>
<td>3</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>Specifying and completing</td>
<td>65</td>
<td>31</td>
<td>51</td>
</tr>
<tr>
<td>Technical details</td>
<td>13</td>
<td>24</td>
<td>2</td>
</tr>
<tr>
<td>Language</td>
<td>7</td>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>

A clear difference between the seminars in my study is that the theme Concepts and terms, which is focused on in this article, is given clearly more space in the Doctoral seminar than in the other two seminars. In the Proseminar only 1% of the turns concern this theme. In the Thesis seminar the corresponding share is 12%. In the Doctoral seminar Concepts and terms is the theme to which the next greatest number of turns is devoted (39% of all turns) after Specifying and completing. This difference can at least partly be explained by the fact that the participants in the Doctoral seminar create new theories and thus need their own term systems. The new knowledge and the new terms always have to be related and defined with reference to previously existing systems, which is not always problem-free or unambiguous.

Within each main theme it is possible to distinguish a number of partial themes (PT). In the Doctoral seminar and the Thesis seminar the discussion comprises a total of 42 partial themes, while the number of partial themes in the Proseminar is somewhat
lower, 31. Within the theme that is focused on in this article, *Concepts and terms*, it is possible to distinguish only one partial theme in the Proseminar compared with seven in the Thesis seminar and 13 in the Doctoral seminar.

### 4.2 The Concepts and Terms theme

An academic text always contains terms, and it is important to both define the concepts one uses and be consistent in the use of terms (see e.g. Strömquist 1988:20). Such advice is given in all manuals, which deal with academic writing, and all seminar instructors take up the question at some stage during the introductory lectures. Thus one can expect that terms and concepts form a conspicuous theme in the seminar discussions. In the Proseminar, as mentioned above, there is, however, only one partial theme (No. 15) concerned with concepts and terms. In the Thesis seminar, the proceedings are introduced by a discussion of concepts and terms, and these questions are returned to at the end of the seminar meeting (partial themes 27–28, 30–31, 33 and 35). In the Doctoral seminar questions concerned with concepts and terms are dealt with at regular intervals right up to the 30th partial theme.

An analysis of the content of what is discussed in connection with the theme *Concepts and terms* shows that the discussions in the seminars at the three different levels are not alike. In the Proseminar the theme *Concepts and terms* remains practically undealt— with since neither the instructor nor the other participants continue the discussion after the opponent’s introductory comments on difficult linguistic terms in the text concerned. Instead of for instance asking what is felt as difficult or whether one should possibly define the concepts differently, the instructor proceeds to discuss the reliability of the source (see example 1).

<table>
<thead>
<tr>
<th>Ex. 1</th>
<th>O</th>
<th>[…] hard to understand as they are academic, linguistic terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>ProS</td>
<td>I</td>
<td>yes we can with satisfaction note that (W) has used the Swedish Academy grammar; and that is the grammar one should consult, from the proseminar stage on, in thesis and seminar connections […]</td>
</tr>
</tbody>
</table>

In the Thesis seminar the questions related to the *Concepts and terms* theme concern linguistic concepts, e.g. when it is a question of sense, when of meaning (see example 2) and what is the difference between emotively and contextually loaded and positively and negatively loaded expressions respectively.

<table>
<thead>
<tr>
<th>Ex. 2</th>
<th>O1</th>
<th>I looked at page 22 after the example where you say that drinking hero gets a positive emotive meaning, is it meaning you study or is it sense or just something that somebody uses for for…</th>
</tr>
</thead>
<tbody>
<tr>
<td>TS</td>
<td>I</td>
<td>so you mean is it a term there?</td>
</tr>
<tr>
<td>O1</td>
<td>yes</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>mmm</td>
<td></td>
</tr>
<tr>
<td>W</td>
<td>well Andersson and Furberg use…</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>what do they mean by meaning there then, what do they mean… they talk about meanings earlier on, but here meaning is rendered by another word, here it is sense</td>
<td></td>
</tr>
<tr>
<td>O1</td>
<td>that was just what I thought about, so that</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>well, well it’s a bit odd</td>
<td></td>
</tr>
<tr>
<td>W</td>
<td>problem</td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>so don’t use meaning here […]</td>
<td></td>
</tr>
</tbody>
</table>

In the Doctoral seminar the discussions about conceptual questions and the selection of terms are more many-faceted than in the two lower seminars. There are discussions about terms used for the categories of analysis selected, definitions of concepts, intensions of concepts and even whole conceptual systems with regard to super-, sub-, and co-ordinate concepts (see ex. 3).

<table>
<thead>
<tr>
<th>Ex. 3</th>
<th>O1</th>
<th>well, we were in fact just going to ask about the term acting or the concept acting, that is why we were in there—what do you understand by acting</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS</td>
<td>W</td>
<td>well, that should of course be explained. Acting is all that one does while one sits doing simultaneous interpretation, that is, one writes down numbers one hears…</td>
</tr>
<tr>
<td>O1</td>
<td>Oh</td>
<td></td>
</tr>
<tr>
<td>W</td>
<td>…one turns over one’s papers etc. Acting can also be what one does in advance</td>
<td></td>
</tr>
</tbody>
</table>
Analyses concerning who take part in the discussions involving the main theme Concepts and terms, who open the discussions and how many turns are used in the discussions also show that there are differences between the three seminars. In the Proseminar it is the opponent who tries to shift the discussion to the theme of concepts and terms after some linguistic aspects have been dealt with. Since the instructor, who otherwise markedly steers the discussion, does not take part in the discussion about terms, this theme is passed over. In the Thesis seminar the main theme Concepts and terms is four times opened by an opponent, three times by the instructor. Once the writer of the thesis himself takes up a question related to a term in the title of the thesis. In the Thesis seminar the number of turns varies between 2 and 13 (on the average 7 turns / sub theme) and in the Doctoral seminar the number varies between 7 and 77 (on the average 24 turns / sub theme). In the discussion in the Thesis seminar both the instructor and the thesis writer practically always participate; three times it is a question of a dialogue between these two actors; three times one of the opponents participates and twice one of the other participants. In the Doctoral seminar the discussion about concepts and terms most often (5 times) involves the instructor, the thesis writer and both the opponents; thus four people participate. Four times in all either of the opponents and the thesis writer have a dialogue related to the theme; three times the instructor serves as the third participant in the discussion and once one of the other participants takes part in a discussion with the instructor, the thesis writer and one of the opponents.

In order to get a still more detailed picture of the participation in the discussion with regard to the selected theme, I have studied how many turns the various participants use within the theme in the Thesis seminar and the Doctoral seminar.

<table>
<thead>
<tr>
<th></th>
<th>TS</th>
<th>DS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thesis writer</td>
<td>35</td>
<td>41</td>
</tr>
<tr>
<td>Opponents</td>
<td>22</td>
<td>46</td>
</tr>
<tr>
<td>Instructor</td>
<td>39</td>
<td>13</td>
</tr>
<tr>
<td>Participants</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 5 shows that the picture that Table 2 above presents of the participants’ activity in the whole seminar is also true with regard to the Concepts and terms theme. In the Thesis seminar the instructor speaks more than in the Doctoral seminar, where the opponents use the majority of the turns. A difference with respect to the instructor’s way of participating in the discussion on the Concepts and terms theme is that the instructor in the Thesis seminar most frequently provides a concluding comment which rounds off the discussion and gives the thesis writer a concrete solution of the problem discussed (see example 2 above). The instructor thus serves as the knowledgeable authority in a teaching situation. In connection with the Concepts and terms theme, the instructor in the Doctoral seminar most frequently participates in the discussion in the middle of the sub theme. He does not make straight recommendations but takes part in the discussion for instance by asking whether some concept should be further defined, by providing the theoretical background for a certain term or by confirming that the thesis writer and the opponents have reached a common solution of a term question. In this way the discussion resembles an equal and free academic discussion where the thesis writer himself serves as the expert.

5. Discussion

The purpose of my paper has been to describe and discuss thematic variation in academic seminars. In particular I have examined how special concepts and terms are discussed in seminars on three different levels at the Department of Scandinavian Languages at the University of Vaasa: proseminar, thesis seminar and doctoral seminar.

The outcomes of the analyses concerning Concepts and terms show that terms and concepts are most discussed in the Doctoral seminar, where 39% of all turns are related to this theme. In the Thesis seminar the corresponding share is 12% and in the Proseminar merely 1%. The outcome can at least partly be explained by the fact that those who take part in the doctoral seminars are creating their own term and concept systems, which demands that exact definitions and connections with already existing systems will have to be explicitly elucidated.

The seminars also differ from one another with regard to their content. In the Proseminar the theme Concepts and terms is passed over with a cursory comment on difficult terms. In the Thesis seminar there is a discussion about which terms represent certain linguistic concepts. In the Doctoral seminar the discussions of conceptual questions and the selection of terms is more many-facett ed. The discussion concerns terms used for the selected categories of analysis, definitions of concepts, the intentions of concepts and even whole systems of concepts in terms of super-, sub- and co-ordinate concepts. The results show that the field
specific socialization process is with regard to discussions about concepts and terms clearly at different stages in the three different seminars.

An analysis of the number of turns related to Concepts and terms shows that the instructor in the two lower seminars always participates in the discussion with concrete suggestions for solutions. In the Doctoral seminar, on the other hand, the instructor has a somewhat different role by asking clarifying/ specifying questions, making the participants responsible for how the discussion develops. It is thus possible to see a distinction between an educational discussion where the students need a knowledgeable authority who controls the discussion on all levels and a academic discussion where the already more experienced researchers argue for and against on the basis of arguments typical of science.

**Literature**


Writing tasks and development of genre awareness

Aud Solbjørg Skulstad
University of Bergen, Norway

1. Introduction

The overall aim of any ESP course is to learn to communicate - usually in both speech and writing. The present paper takes as its point of departure the increasing complexity of communication seen over the last few decades and goes on to discuss what consequences this may have for the writing tasks presented to the students. Traditionally, the term communicative competence has been applied to describe the foreign language learner's communicative ability. In the present paper genre awareness is presented as a key concept in the discussion of the aim of developing competent writers of English. ESP teachers and textbook-writers need to be able to decide what constitutes a good writing task, and identify different types of activities/tasks (drills, pattern practice, "traditional" communicative tasks and tasks for awareness-raising).

The discussion of what constitutes a good writing task is supported by authentic examples of tasks from Norwegian textbooks for vocationally oriented teaching of English in upper secondary school. These tasks are discussed in relation to the "traditional" concept of communicative tasks and to the development of genre awareness.

Four textbooks have been used as sources of writing tasks, and these were randomly selected. Two of these textbooks are used in the areas of study for building and construction, one for farming and hotel and food-processing trades and one for electricity. One of the textbooks for the area of study for building and construction is for first-year students, whereas the others are for second-year students. These students have studied English from the age of 9, and they start upper secondary school at the age of 16. The present paper starts by discussing new demands on writing ability in a foreign language (FL) and presents the concept of genre awareness. Next, limitations of the concept of "traditional" communicative tasks are presented. The next section discusses learning to write as a choice-making process which is a central idea throughout the paper.

2. New demands on writing ability

In Communicative Language Teaching (CLT), the aim of EFL and ESP teaching has "traditionally" been specified in terms of development of the learner's communicative competence. This concept is usually split into six components to illustrate what this competence comprises: linguistic competence, sociolinguistic competence, discourse competence, strategic competence (Canale and Swan 1980), sociocultural competence and social competence (see e.g. van Ek 1987 and the Norwegian 1994 English syllabus for upper secondary school: Reform '94, point 3.4).

Recent discourse analyses (often influenced by Bakhtin and Vološinov (see e.g. Vološinov 1973 and Bakhtin 1986)) have drawn attention to the increasing complexity of communication by focusing on dialogical (e.g. Nystrand and Wiemelt 1991), intertextual (e.g. Fairclough 1995), interdiscursive (e.g. Fairclough 1992, Skulstad 2002c) and multimodal (e.g. Kress and van Leeuwen 1996, Kress, Jewitt, Ogborn and Tsatsarelis 2001, Kress 2003) aspects of communication (Skulstad 2003). This means that discourse analysts and language teachers alike are becoming more aware of new demands on learning to communicate in a FL:

- the fact that addressee negotiate meaning through processes of production and perception (dialogism);
- the degree to which texts are shaped by prior texts that they are "responding" to and by subsequent texts that they "anticipate" (intertextuality, Fairclough 1992: 101);
- the mixture of types of discourses within the same text (interdiscursivity);
- the fact that texts may be realized in more than one mode (such as a mixture of writing, image, 3D representations and sound-tracks) (multimodality).

In addition, learners today will need to develop not only "traditional" literacy or print literacy, but "electronic literacy" as well, such as computer-mediated collaboration (Warschauer 1999, Skulstad 2002b). Consequently, a new concept may be needed to capture some of this complexity of communication. I prefer to use the term genre awareness as a label for the competence enabling learners to produce good texts.

Central elements of genre awareness are the FL learner’s ability to choose

- the genre or combination of genres (see Skulstad 2002a and 2002b for a discussion of genre);
- the rhetorical organization/rhetorical movement;
- authentic, genre-specific vocabulary;
- authentic structures with regard to grammar and syntax;
- cohesion and coherence strategies;
- appropriate discourse types and combine these (interdiscursivity);
- and combine appropriate semiotic resources (words, pictures, colour, sound-tracks, etc.).
• appropriate content.

As regards the ability to choose semiotic resources, the use of new technology has resulted in easy access to as well as easier production of texts which are realized in more than one mode. School-writing, on the other hand, has traditionally been limited to the production of monomodal texts (texts realized in one mode (writing) only), except for class newspapers or posters. The specific tasks introduced to ESP learners need to take this new reality into account.

In order to make successful choices the learner needs to consider the following elements:

• the communicative purposes of the genre and the writer's strategic needs;
• the role of writing (or speaking) in a "chain" of literacy events¹;
• the audience;
• the situational context;
• the institutional context;
• the wider societal context;
• norms and ideologies of the discourse community.

The development of genre awareness may enable the learners to operate successfully in central genres and to analyse their rhetorical practices when changes occur which call for new practices (Skulstad 1999).

### 3. Limitations of the concept of "traditional" communicative tasks

Richards and Rodgers (1986: 72) specify three principles of communicative activities and language learning:

- The communication principle: activities that involve real communication promote learning.
- The task principle: activities in which language is used for carrying out meaningful tasks promote learning.
- The meaningfulness principle: language that is meaningful to the learner supports the learning process.

What Richards and Rodgers call "real communication" has often been specified by terms such as information gap activities and opinion gap activities. When there is an information gap each learner or group of learners has some information not shared by the other participants. The learners have to pool their information in order to solve a problem. Opinion gap refers to a type of activity where the learners have different ideas or opinions about how to solve a problem. They will have to discuss and negotiate meaning in order to agree upon the best solution to the problem.

"The task principle" reflects the focus on problem-solving activities which was particularly prominent in the 1980s. The learners are placed in situations in which they must use the FL as an instrument for solving a given problem. Problem-solving activities aim to engage both the cognitive and affective resources of the learners.

The third point, "the meaningfulness principle", refers to the idea of engaging the learners in "meaningful and authentic language use (rather than merely mechanical practice of language patterns)" (Richards and Rodgers 1986: 72). Non-authentic language would be a piece of language which the learner is unlikely to hear outside the classroom.

Perhaps the best known definition of the "traditional" communicative task is the one proposed by Nunan (1989: 10):

> a piece of classroom work which involves learners in comprehending, manipulating, producing or interacting in the target language while their attention is principally focused on meaning rather than form. The task should also have a sense of completeness, being able to stand alone as a communicative act in its own right.

His definition reflects a central idea in CLT: communicative tasks are designed to engage the learners in communication rather than using the language for language practice. These tasks aim to build up the learners' communicative competence and to help them gain confidence in using the language.

Nunan's definition seems to be insufficient today in terms of the teaching of ESP writing. A major problem about this definition is that it fails to reflect the centrality of the specific context of communication. Awareness of the situation and context of writing are crucial to successful communication. Consider the writing task below:

**Example 1:**

**WRITING**

Write a text about the trade that interests you the most. Which skills does a person need in that trade? Why might you be good in that trade? (Guldbrandsen, Tronsen and Daniels 1996: 240)

Example 1 may be seen to comply with Nunan's definition of the communicative task: it involves learners in producing in the target language while their attention is principally focused on meaning rather than form. The task also has a sense of completeness. What is problematic with this type of task, however, is that it does not specify in which genre the learner is asked

---

¹Barton (1994: 36) defines literacy event as "all sorts of occasions in everyday life where the written word has a role". Included in "everyday life" is, of course, school life, which is the focus of attention in the present paper.
to operate, nor does it say anything about audience. If we compare this task to the one below, we find that in example 2 the ESP learner is given a particular role and purpose in writing, and both the genre and intended audience are specified:

Example 2:
You are planning to establish an environmental group at your school. Write a letter to inform the other students about your plans. Tell them what projects you intend to carry out, and urge them to join your group (Fevang, Thesen and Ulven 1998: 90).

Important criteria of a writing task designed to develop the ESP learner's genre awareness are that it should give the learners information about the situation and their purpose in communicating:

Example 3:
WRITING
You are on vacation (holiday) in a town in the US, visiting relatives. In your opinion, there are too many gasoline-driven cars in the US. Write a letter of complaint to the local newspaper, arguing for a reduction in the number of gasoline-driven cars (Guldbrandsen et al. 1996: 65).

Examples 2 and 3 are of the type I term an "imagine that"-activity (see Skulstad 2002b). The situation, the purpose in communicating and the genre are specified in this imagined setting. Below is yet another example of an "imagine that"-activity:

Example 4:
WRITING OR TALKING
Imagine that you have experienced an accident at a building site. Describe the accident (Guldbrandsen et al. 1996: 41).

Whereas examples 2 and 3 specify the type of audience, this is left for the student to decide in example 4. An important problem about this type of task is that the students are not reminded of the fact that they need to make this decision prior to communicating.

4. Learning to write: a choice-making process

If we accept that writing is primarily a choice-making process (Christie 1987, Skulstad 2002b), learning to write in a FL means to learn to make choices which are appropriate to the situational, institutional and wider societal context of the literacy event. A better term than choice is social option, because we are not talking about a privileged personal choice (Fowler 1991). As Kress (1989: 31) puts it:

Texts are given form and meaning by discourse and genre. Nevertheless texts are the product of individual speakers who, as social agents, are themselves formed in discourses through texts, attempting to make sense of the competing, contradictory demands and claims of differing discourses.

Thus, any text is the result of an interplay between genre, discourses and writers' social options. To enable the learners to learn to exercise appropriate linguistic and rhetorical choices, teachers need to help learners discover which social options are available to them.

To become a good writer the ESP student must learn to make choices at the levels of

- genre
- language forms and syntax
- coherence and cohesion strategies
- semiotic resources
- content

The important question is: Does the writing task allow the learner to make these choices or even to consider them?

In one of the textbooks all the writing tasks are headed "Something to write about". This is one of the most recent English textbooks for the area of study for electricity:

Example 5:
SOMETHING TO WRITE ABOUT
How do you think the Internet and the World Wide Web have changed the world? (Austad, Peel and Licht 2001: 231).

Example 5 signals to the students that selection according to content is what matters. They are not encouraged to consider the fact that choice of language forms and style vary according to audience and genre. In CLT using the language for real communication is seen as vital. A "classic" principle in CLT is that using language for non-linguistic purposes encourages the learners to focus on meaning rather than linguistic form. In addition, this is closer to "real-life" communication, or communication outside school. However, some of the textbook writers seem to disregard the importance of setting in terms of audience and genre.
CLT often stresses the importance of relationship to real-world activities (Skehan 1998: 95). A problem about school writing in general is that the writing situation is artificial in the sense that there is usually no real communication gap since the learners are writing for their teacher about something which he or she already understands or knows about (Nystrand 1990: 20). Consequently, the learners do not use informative or persuasive discourse, for instance, in an attempt to genuinely inform or persuade the teacher. The solution Nystrand (1990) offers to this problem is to establish non-teacher audiences for the learners to write to, such as pen pals, the use of class newspapers or peer conferencing; the latter is familiar in classroom settings in which process-oriented writing is used. The introduction of the Internet in schools has opened the opportunity for writing for native, non-teacher audiences to an extent which schools have not experienced before. Obviously, this has great advantages for developing writing ability. At the same time, this situation introduces new challenges in that the introduction of new media creates new genres. Communication via e-mail, for instance, often blurs traditional distinctions between the spoken and written modes (Skulstad 2002b). Obviously, students cannot write for real readers all the time. Then a good alternative is an “imagine that”-activity of the type discussed above.

The requirement of writing for a non-teacher audience is often met in the tasks of project work. Such tasks should also allow the learners to choose the genre and sometimes also media and mode. Consider the following task:

Example 6:

1. Prosjektarbeid [project work]
   Work in groups of three or four.
   1. Write a report on English newspapers and magazines in your country. First do some research. Go to several newsagents' shops or kiosks and find out:
      Which English newspapers and magazines are on sale.
      Where they come from.
      What areas do they write about. (news, sport, pop, current affairs, science etc)
      How much they cost.

2. Compare British and Norwegian quality and tabloid newspapers. What similarities and differences do you find?

3. Make a radio programme. Use cassette recorder and make a radio programme in English. Choose between the following topics:
   a) a news programme
   b) a quiz
   c) an interview
   d) a pop music show
   e) a documentary
   Present the programme to the rest of the class
   (Fevang, Thesen and Ulven 2001: 62).

If we look at example 6, the writers of this textbook for the area of study for building and construction fail to draw the learners' attention to the inherent relationship between context and writing. Option one in example 6 identifies the report genre, but the type of audience is not specified. Option two in example 6 does not mention choices of audience, genre and mode of communication. The task does not even remind the learners about the fact that these central choices need to be made prior to writing.

A somewhat confusing aspect of option three in example 6 is that the genres suggested are labelled topics. In other words, the textbook writers ignore generic aspects of language use. Instead they draw the learners’ attention to content of writing. Above I mentioned the fact that the use of new technology has resulted in easy access to as well as easier production of multimodal texts. The specific tasks introduced to ESP learners need to take this new reality into account. Textbooks often seem to lag behind when it comes to inviting learners to use new technology. The suggestion to use a cassette recorder in example 6 may be seen as an example of this.

Bhatia (1999: 33) uses the term genre ownership to describe the ultimate stage of genre acquisition. This stage "enables writers to use standard generic procedures creatively to recreate novel generic forms, to develop predictable forms to communicate private intentions within the framework of socially recognised generic purposes" (loc.cit.). Berkenkotter and Huckin (1995: 4) define genre knowledge as a "form of situated cognition' that continues to develop as we participate in the [communicative] activities of the ambient culture". In an LSP course it is not always possible, perhaps not even desirable, to design writing tasks which are imitations of communicative activities of the ambient culture. The challenge is to design writing tasks which enable learners to discover the inherent relationship that exists between conventionalized communicative activities and contextual and disciplinary factors.

Relevant to the idea of writing task design is that the learners should have more than one task to choose from. This idea is linked first to the central idea of my paper that writing itself is a choice-making process, and second to recent theories of learning which emphasize the element of learning how to learn, or learner autonomy (see Benson 2001). Alternatively, the learners should be encouraged to respond in writing to their own strategic needs.

However, there is always a danger that the learners may not widen their genre repertoire as much as desired, because they may prefer to "play safe" by writing texts in a small selection of genres. Similarly, learners who always write monomodal texts should be encouraged to produce multimodal texts. Today, the need for developing the learner's awareness of a range of semiotic resources is becoming increasingly urgent.
During the process of writing the learners should write a log in which they identify the reasons for their choices and specify the aims of the process. The idea is that the log-writing may assist the learner's process of awareness-raising about his or her specific learning strategies, needs and goals.

5. Conclusion

ESP learners need to become able to function in various types of discourse communities (Swales 1990 and 1998) or communities of practice (Wenger 1998). Students in vocational areas of study need to be able to function as a full member of a school community or an academic community, but it is equally important to prepare the learners for entering discourse communities outside a school context. Language programs which aim at developing genre awareness are dependent on genre analyses of the specific written genres in which the learners need to become able to operate. It is equally important to consider the social and cultural knowledge that successful operation in those genres involves. My specification of the term *genre awareness* has aimed to reflect the fact that writing is a choice-making process and to take into account the complexity of writing due to dialogical, intertextual, interdiscursive and multimodal aspects of communication.

Language teaching specialists sometimes distinguish between real-world tasks and pedagogic tasks. Real-world tasks were mentioned above. Pedagogic tasks require learners "to do things which it is extremely unlikely they would be called upon to do outside the classroom" (Nunan 1989: 40). My claim is that the distinction between real-world tasks and pedagogic tasks is not an essential one. A task may develop the LSP learner's genre awareness if it is designed in such a way that it encourages learners to:

- focus on communicative purpose and not only on the grammatical system;
- use authentic language;
- make genre-specific choices;
- have a specific audience and discourse community in mind when completing the task.

If these criteria are met, the pedagogic setting does not represent a problem. As we have seen, writing tasks should not primarily provide learners with something to write about which allows them to focus on meaning. The central criterion of a good writing task is that it should allow the learners to get involved in the rhetorical and linguistic choices we want them to learn to make.

References


3.2.12 Richard J Alexander

A candid assessment of can-do statements in relation to LSP syllabuses

Richard J. ALEXANDER
Vienna University of Economics and Business Administration (Wirtschaftsuniversität Wien)

0 Introduction

This paper argues for the utility of the Common European Framework (CEF) in our attempts to unravel the relation between language proficiency and content knowledge, on the one hand, and language performance and the context of the performance or the task involved, on the other. We shall be asking: How can an LSP syllabus "framed" by means of Can-Do statements and related concepts best serve the interests of tertiary level LSP programmes?

1 Contextualizing the can-do statements

I shall refer to the Council of Europe’s Common European Framework (CEF) (Council of Europe 2001). The curricular developments associated with this in higher and adult education of outcomes-based, learning objectives and unit-credit type language courses are familiar to many readers (Alexander 1991, 1993a and 1993b). What used to be called "graded objectives" since the 1970s in the UK are by now an established feature of many tertiary level language syllabuses.

An analysis of the ALTE (Association of Language Testers in Europe) Can-do statements can demonstrate the utility for LSP practitioners, teachers and syllabus designers of such developments for future and ongoing curriculum development projects. Framing tertiary level LSP programmes by means of Can-Do statements and related concepts, considering at the same time the implications they hold, may serve to refine and focus LSP pedagogy in the 21st century.

One of the first things we need to clarify is what do Can-Do statements purport to be doing or claim to be doing? An interim conclusion I shall be working towards argues that, together with its descriptors and with the commentaries on subskills, the CEF is a useful preliminary operationalization and reduction to manageable proportions of the communicative activities language learners require.

I have employed the word "useful", But clearly, how useful one finds these descriptors depends on how one interprets them, I suppose. The discussion of scaling and levels is extremely helpful for framing, calibrating and validating specific purposes, in our case business and academic purposes, and the accompanying tasks for which our learner group needs and requires language. This is an integral element in the "communicative approach" in language teaching which we have also experienced in LSP teaching in the past 30 years (Alexander 1983). The productive work and the approach taken under the auspices of the Council or Europe has consolidated this position.

2 Communication strategies in LSP pedagogy

We could briefly just mention, as an example of this, some of the interesting subdivisions and analyses of the "traditional" 4 language skills into communicatively oriented language activities with the broad labels "interaction, production, reception and mediation". Change management in tertiary-level BE teaching can be profitably, creatively and productively informed and enhanced by incorporating some of the principles underlying the CEF (Alexander 2002 and 2003). For, the Council of Europe approach or "philosophy of language learning", as quoted from the synopsis (2001: xv) is based on:

"an analysis of language use in terms of the strategies used by learners to activate general and communicative competences in order to carry out the activities and processes involved in the production and reception of texts dealing with particular themes, which enable them to fulfil the tasks facing them under the given conditions and constraints in the situations which arise in the various domains of social existence."

It is against the background of communicative strategies that proficiency scaling needs to be seen, argue the CEF authors (2001: 57):

"Progress in language learning is most clearly evidenced in the learner’s ability to engage in observable language activities and to operate communication strategies. They are therefore a convenient basis for the scaling of language ability. A suggested scaling is given in this chapter for various aspects of the activities and strategies discussed."

We may note that the focus is thus on higher order language activities rather than on low-level discrete items. What these entail are the performance of observable language activities and the operation of communication strategies. Essentially we can view Can-Do statements as a pragmatic and user-friendly way of bringing out the connection between the learner’s performance of observable language activities and the allocation of this on a scale of language ability.

As we shall see, this is an area not without its problems. LSP is by definition an activity where language and content come together in some form or other. The focus on Can-Do statements of the type laid out in ALTE documents (see below) can distract one from this relationship. This is a point at which far more work will be necessary to refine and polish the descriptors that can be of relevance to LSP courses. For instance a brief perusal of the ALTE Work typical abilities suffices to show that they are merely a starting point. They by no means suffice on their own for language testers or examiners who may have to deal with specialist areas. The skill areas will need to be supplemented by tasks and content statements which make explicit the specific situations or circumstances in which the skills are activated or practised. But let us now look at the ALTE Can-Do statements.

3 What are the ALTE Can-do statements?
ALTE is an acronym familiar to many LSP researchers and practitioners. It stands for the Association of Language Testers in Europe. Let me quote from the ALTE website:

“The ALTE exams are placed at one of 6 levels (Breakthrough, 1, 2, 3, 4, and 5). The levels are described by a series of Can-do statements, which: define levels of ability in terms of what language users can typically do at each level of the ALTE Framework” and “make it easier for users to understand what each level means in relation to what language users actually do.”

“The Can-do system comprises approximately 400 statements, sub-divided into 40 categories, which describe what typical language users can do: in a particular language, at a particular level, in one of the skill areas (Listening/Speaking, Writing, Reading).”

TheCan-do statements exist in 13 languages: Catalan, Spanish, Italian, French, Dutch, Finnish, Portuguese, Greek, Norwegian, Danish, Swedish, German, and English.”

Developing the ALTE level and Can-do system

“The statements were developed through a rigorous process involving leading experts on language assessment and applied linguistics. Data was collected from 10,000 language learners throughout Europe.”

After briefly reviewing the rationale behind them, let me now describe the ALTE tables. The four Can-do statement tables found as Appendix D to CEF (Council of Europe 2001) and to be found on the ALTE website and ALTE (1998) provide a cross-section of:

“1. Typical general ability at each level and in the skill areas (Overall general ability)
2. Typical ability in the Social & Tourist context at each level and in the skill areas (ALTE Social & Tourist typical abilities)
3. Typical ability in the Work context at each level and in the skill areas (ALTE Work typical abilities)
4. Typical ability in the Study context at each level and in the skill areas (ALTE Study typical abilities).”

Each proficiency level is characterized or illustrated by three statements. Focussing on levels 2, 3 and 4, as these are the approximate levels most teachers in higher education have to deal with, we can see how the increasing "difficulty" or "complexity" levels of ability can be discerned. The grading co-ordinator of UCLES, Neil Jones, (2000; 11) says the aim of the Can-do project of ALTE “is to establish a framework of critical levels of language performance, within which examinations can be objectively described.” The author underlines further the fact that “the ALTE "Can-dos" are user-oriented scales.”

In order to bring out some of the difficulties “users” may encounter in employing these scales, I will now highlight the adjectives used to render the abilities described in the Can-Do statements. We can summarize what these scales set out to do, presenting them as vertically configured, i.e. proceeding from Level 2 (Threshold) through 3 (Vantage) to 4 (Effective operational proficiency or EOP). First let me look at the ALTE general Can-Dos. There are nine statements at each level.

Table 1: ALTE General Can Dos and levels

<table>
<thead>
<tr>
<th>Level 4 (Effective Proficiency)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAN contribute effectively to meetings and seminars within own area of work or keep up a casual conversation with a good degree of fluency, coping with abstract expressions.</td>
</tr>
<tr>
<td>CAN read quickly enough to cope with an academic course, to read the media for information or to understand non-standard correspondence.</td>
</tr>
<tr>
<td>CAN prepare/draft professional correspondence, take reasonably accurate notes in meetings or write an essay which shows an ability to communicate.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level 3 (Vantage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAN follow or give a talk on a familiar topic or keep up a conversation on a fairly wide range of topics.</td>
</tr>
<tr>
<td>CAN scan texts for relevant information, and understand detailed instructions or advice.</td>
</tr>
<tr>
<td>CAN make notes while someone is talking or write a letter including non-standard requests.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level 2 (Threshold)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAN express opinions on abstract/cultural matters in a limited way or offer advice within a known area, and understand instructions or public announcements.</td>
</tr>
<tr>
<td>CAN understand routine information and articles, and the general meaning of non-routine information within a familiar area.</td>
</tr>
<tr>
<td>CAN write letters or make notes on familiar or predictable matters.</td>
</tr>
</tbody>
</table>

4 Adjectives in the ALTE General table that characterize "degree" of control

Let me isolate the epithets (adjectives) used to characterize the “degree” of control of the specific abilities viewed in the statements (Appendix D to CEF 2001). I pick out the adjectives used and place the noun collocates that accompany them in brackets.

Taking writing first, Level 2 has familiar or predictable (matters), Level 3 non-standard (requests) and Level 4 professional (correspondence) and reasonably accurate (notes).

For reading, Level 2 has routine (information and articles) and the general (meaning of non-routine information) within a familiar (area), Level 3 relevant (information) and detailed (instructions or advice) and Level 4 quickly enough for an academic (course) non-standard (correspondence).

For listening/speaking, Level 2 has limited (way) and a known (area), Level 3 familiar (topic) or a fairly wide (range of topics) and Level 4 effectively, own (area of work), casual (conversation) and a good (degree of fluency).
5 ALTE work abilities table

Let me now compare this with the work abilities Can-Do statements of ALTE. Each level has just one Can-Do statement per skills group.

Table 2: ALTE Work Can Dos and levels

<table>
<thead>
<tr>
<th>Level 4 (Effective Proficiency)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Listening/Speaking</strong> CAN contribute effectively to meetings and seminars within own area of work and argue for or against a case.</td>
<td></td>
</tr>
<tr>
<td><strong>Reading</strong> CAN understand correspondence expressed in non-standard language.</td>
<td></td>
</tr>
<tr>
<td><strong>Writing</strong> CAN handle a wide range of routine and non-routine situations in which professional services are requested from colleague or external contacts.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level 3 (Vantage)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Listening/Speaking</strong> CAN take and pass on most messages that are likely to require attention during a normal working day.</td>
<td></td>
</tr>
<tr>
<td><strong>Reading</strong> CAN understand most correspondence, reports and factual product literature he/she is likely to come across.</td>
<td></td>
</tr>
<tr>
<td><strong>Writing</strong> CAN deal with all routine requests for goods or services.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Level 2 (Threshold)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Listening/Speaking</strong> CAN offer advice to clients within own job area on simple matters.</td>
<td></td>
</tr>
<tr>
<td><strong>Reading</strong> CAN understand the general meaning of non-routine letters and theoretical articles within own work area.</td>
<td></td>
</tr>
<tr>
<td><strong>Writing</strong> CAN make reasonably accurate notes at a meeting or seminar where the subject matter is familiar and predictable.</td>
<td></td>
</tr>
</tbody>
</table>

Taking writing at work first, Level 2 refers to reasonably accurate (notes) and familiar and predictable, Level 3 all routine (requests) and Level 4 wide (range of) routine and non-routine (situations) and professional (services).

For reading at work, Level 2 has general (meaning of non-routine letters) and own (work area), Level 3 most (correspondence, reports and factual product literature), likely (to come across) and Level 4 non-standard (language).

For listening/speaking at work, Level 2 has own job (area on) simple (matters), Level 3 most (messages that are likely to require attention during a normal working day) and Level 4 effectively and own (area).

To be sure, isolating these epiphenomena cannot tell us much. It is their interaction in the broader propositions that counts. They give a flavour, though, of the meta-linguistic problems such descriptors throw up. Using natural language is necessary to generate inter-subjective comparisons and discussion. But the intrinsically vague nature of such estimates of proficiency and the difficulties of making clear, explicit, qualitative distinctions is also brought out. This exercise serves to underline the necessity for teachers and examiners / testers to exchange information and notes on their "own" assessments of what it means to allocate or recognize language learners at differing levels of achievement or proficiency.

We do well to ask whether they render the scales sufficiently well. The descriptors are formulated in the form of fairly complex compound propositions. Do they fit a scalar pattern, we might ask? More or less, may well be a possible answer. Is there a correlation between the amount of language (however "measured", size of vocabulary, mastery of "n" syntactic structures) and "qualitative" proficiency (expressed in epiphenomenes like, very good, good, satisfactory, sufficient, insufficient performance in the language)? Does quantity at a particular point "transform" into quality? Does this matter? Is this a problem?

The issue gets further clouded when we look at the items used in the international business examination boards’ characterizations of the Can-Do statements specifically for business languages syllabus.

At this point we shall compare the use to which two British business English examining boards, namely Cambridge (UCLES BEC, see UCLES 2001) and the London Chamber of Commerce and Industry (LCCI) English for Business (EfB), use the ALTE Can-Do statements as illustrations of the syllabus they presuppose for their examining schemes.

6 ALTE Work Can-Dos, BEC and LCCI (EfB) Compared

Table 3: ALTE WORK Can-Dos, BEC and LCCI compared

<table>
<thead>
<tr>
<th>ALTE work</th>
<th>BEC Preliminary</th>
<th>LCCI EfB</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Listening/ Speaking</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| CAN offer advice to clients within own job area on simple matters. | • Can take and pass on most messages that are likely to require attention during a normal working day  
• Can take part in a routine meeting or seminar on familiar topics, exchanging factual information through question and answer or through receiving instructions  
• CAN express her/his own opinion, and present arguments |  
• participate in routine interviews  
□ give more complex instructions and explanations and explain ideas  
□ make more complex formulaic presentations on familiar topics  
□ participate more fully in business meetings and discussions |  |

<table>
<thead>
<tr>
<th>Reading</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CAN understand the general meaning</td>
<td>• CAN understand standard types of letters such as orders, complaints, appointments, enquiries etc.</td>
</tr>
</tbody>
</table>
□ understand and interpret key, work-related information, eg handling |  |
<table>
<thead>
<tr>
<th></th>
<th>ALTE work</th>
<th>BEC Vantage</th>
<th>LCCI E/FB</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td><strong>Listening/Speaking</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
|  | CAN take and pass on most messages that are likely to require attention during a normal working day. | • Can understand the general meaning of reports dealing with, for example, conditions and advice  
• Can understand instructions, procedures etc. within own to a limited extent job area | customer enquiries  
☐ understand (and write) standard business correspondence and reports |
|  | • Can make reasonably accurate notes at a meeting or seminar where the subject matter is familiar and predictable. | • Can write a non-routine letter where this is restricted to matters of fact and pass these on to the appropriate person for action  
• Can write a report of a factual nature, but if the report is for external consumption her/his work will require checking and correcting  
• Can draft straightforward instructions, regulations etc. | ☐ and write standard business correspondence and reports |
| **Reading** | CAN understand most correspondence, reports and factual product literature he/she is likely to come across. | • Can understand correspondence expressed in non-standard language  
• Can, within a reasonably short period of time, understand most reports he/she is likely to come across  
• Can understand the intention of instructions etc. outside of a factual nature and begin to evaluate, advise, etc. | • understand and … |
| **Writing** | CAN deal with all routine requests for goods or services. | • Can make notes that are useful to both her/himself and to colleagues  
• Can write most letters she/he is likely to be asked to do; such errors as occur will not prevent understanding of the message.  
• Can write a simple report | • write complex business correspondence and reports within own field |
| 4 | **Listening/Speaking** |  |  |
|  | CAN contribute effectively to meetings and seminars within own area of work and argue for or against a case. | • Can ask questions outside own immediate area of work  
• Can handle a wide range of routine and non-routine situations in which professional services are requested from colleagues or external contacts  
• Can argue his/her case effectively, justifying, if necessary a need for a service and specifying needs precisely  
• Can argue effectively for or discuss against a case, and has sufficient language to be able to talk about most aspects of | ☐ use appropriate language to deal with an extensive range of oral and written tasks  
• respond to a wide variety of situations with fluency and spontaneity  
• make presentations and contribute fully at seminars and conferences |
|  |  |  |  |
I will now analyze and discuss the BEC and LCCI descriptors together with the ALTE work Can-Do statements. We will proceed from Level 2 (Threshold), through 3 (Vantage) to 4 (Effective operational proficiency, EOP) highlighting once more the adjectives used in the course of describing the abilities.

6.1 Level 2
At Level 2 for listening/speaking, ALTE work has own (job area), simple (matters). BEC Preliminary refers to most (messages) and normal (working day) routine (meeting or seminar), familiar (topics), factual (information) and her/his own (opinion). LCCI E/B Level 2 has routine (interviews), more complex (instructions and explanations), more complex formulaic (presentations), familiar (topics) and more fully.

At Level 2 for reading, ALTE work has general (meaning), non-routine (letters and theoretical articles) and own (work area). BEC Preliminary speaks of standard (types of letters), the general (meaning of reports), and own, limited (job area). LCCI E/B Level 2 refers to key, work-related (information) and standard (business correspondence and reports).

At Level 2 for writing, ALTE work talks about reasonably accurate (notes) and familiar and predictable (subject matter), while BEC Preliminary has non-routine (letter), matters of fact, a factual (report) and straightforward (instructions, regulations etc.). LCCI E/B Level 2 confines its statement to standard (business correspondence and reports).

A certain amount of "repetition" or overlap becomes evident. "Routine", "familiar" and "standard" figure in both BEC and LCCI E/B. I will not go into the more specific characterizations of tasks alluded to, nor the specific business genres given in these statements. Although clearly they serve to contextualize more narrowly what aspects and activities of business the abilities are supposed to reflect. They represent finer distinctions than the single, global ALTE work Can-Do statement can be expected to make. The generality of that statement is obvious. The question we need to ask, is how representative or "typical" can we take such preliminary statements to be?

6.2 Level 3
Moving on to Level 3 for listening/speaking, ALTE work has most (messages) and normal (working day). BEC Vantage listening/speaking refers to detailed (information), detailed (requirements), familiar (area of work), familiar (product), unpredictable (replies and difficulties) and their own immediate (job area). LCCI E/B Level 3 listening/speaking has complex (concepts), general and work-related (nature), formal and informal (meetings and negotiations), all routine (areas and aspects of work), structured (presentations) and known (topics).

At Level 3 for reading, ALTE work has most (correspondence, reports) and factual (product literature). BEC Vantage speaks of non-standard (language), most (reports), and (the intention of instructions etc.) outside of a factual (nature). LCCI E/B Level 3 refers for both reading and writing to complex (business correspondence and reports) and own (field).

At Level 3 for writing, ALTE work talks about all routine (requests for goods or services), while BEC Vantage has most (letters) and simple (report). LCCI E/B Level 3 for writing confines its statement to the same terms as in the reading section, namely to complex (business correspondence and reports) and own (field).

Again, correspondence can be found with "own" in both BEC and LCCI E/B and "all routine" in ALTE and LCCI E/B. LCCI E/B has progressed from "more complex" (level 2) to "complex" here. BEC and LCCI E/B with "familiar" and "own" respectively, emphasize a "narrower" range of use.

6.3 Level 4
Finally we come to Level 4. Here ALTE work Level 4 for listening/speaking has effectively and own (area of work). BEC Advanced listening/speaking refers to (questions) outside own immediate (area of work), wide, routine and non-routine (situations), professional (services), effectively, precisely, effectively a second time, sufficient (language) and most (aspects of his/her work). LCCI E/B Level 4 listening/speaking has appropriate (language), extensive (range of oral and written tasks), wide (variety of situations) and fully.
At Level 4 for reading, ALTE work has non-standard (language), BEC Advanced speaks of most (articles), his/her (work), complex (ideas) and complex (language). LCCI E/ F Level 4 refers for both reading and writing to highly specialised (texts/reports) and complex (arguments).

At Level 4 for writing, ALTE work talks about wide (range of) routine and non-routine (situations) and professional (services), while for writing, BEC Advanced has reasonably accurate (notes during meetings) and any (type of letter) necessary in the course of his/her (work). LCCI E/ F Level 4 for writing refers, as does reading, to highly specialised (texts/reports) and complex (arguments).

It is worth recalling that at level 2 ALTE work has "reasonably accurate (notes)", while BEC Advanced has the same phrase but with the qualification "during meetings". Presumably this draws attention to the distinction between "making" and "taking" notes. BEC Advanced and LCCI E/F agree on "complex" for "ideas" and "arguments" respectively. Note that the close cooperation between ALTE for Britain and UCLES can be discerned in the nearly identical phrasing in parts. Particularly in connection with this fairly advanced level, we see how the focus shifts to concrete types of activities such as presentations and discussions. We will return to the specific business language connection below. First let me insert a brief section concerning the validity issue.

7 How much weight should we allocate to such Can-Do statements?

The validation studies needed to extend and support the face validity of the Can-Do statements are still in their infancy. As can be expected, however, the Cambridge examinations people are doing substantive work to anchor the examinations they administer for EFL to the ALTE scheme. So it is worthwhile to consider the research they are carrying out and which they report in their publication UCLES Research Notes. What does the ongoing research on validating these Can-Do statements tell us about their applicability or utility?

Taylor and Shaw (2002) contains a table with the UCLES Common Scale for Speaking. It was used alongside the speaking CAN-DO Statements in the Certificate of English Language Skills (CELS) validation study. Taylor and Shaw (2002: 15) comment on how more advanced proficiency appears to cause more difficulty in rating than lower levels: "With regard to the CAN-DO statements, the raters were in general agreement about what candidates were able to do in terms of speaking proficiency at the Preliminary Level. At Vantage and Higher Levels, however, there was more variation between raters about which CAN-DO performance descriptors should be ascribed to which candidates." This is a significant point which probably many of us have experienced in discussions with our fellow examiners on examiners’ boards or committees about grading decisions.

My experience of working as an examiner for the now defunct OIBEC examination has sustained my view that examiners involved in "training" and standardization procedures in institutions can learn much from watching videos of candidates together and discussing and justifying our ratings in groups. Of course, to pose the problem or to approach the issue in this way is already to face up to what may still be a controversial point. Why think at all in such categories as scaling and levels? What advantage does this give us over a holistic or impressionistic viewpoint, after all? How many teachers are themselves equipped to recognize proficiency levels? Or to specify them meta-linguistically?

8 What are rating scales good for?

The question addresses the relation between Can-Do statements and exam rating scales and their application (see Alexander 2001). For examiners and teachers, as Nunn (2000: 171) notes: "Rating scales can guide the rating process standardizing the criteria for an individual rater or act as "a common standard for different raters." Finally, they also help to guide the construction of tasks which allow students to display the described behaviour at their own level.”

Nunn is a great respecter of the reality principle we LSP teachers are subject to. He also writes (2000: 171): "While there is disagreement about the significance of the "washback effect" of tests, it does not seem controversial to suppose that in graded courses in institutional learning, what is seen to be tested is more likely to be taught and learnt. Descriptions of desired performance link the students’ natural ability to pass exams to the need to develop real language skills.”

The CEF (Council of Europe 2001) also encourages language teachers to think along these lines: “The development of definitions of learner proficiency related to categories used in the Framework may assist in making more concrete what it may be appropriate to expect at different levels of achievement in terms of those categories. This in turn may aid the development of transparent and realistic statements of overall learning objectives.” That may be no bad thing! This brings us to the link to Business English.

9 The link to business English: "Can-dos" a guide or a straitjacket for business English?

As tertiary level business English (BE) syllabuses have "exploded" across Europe in the past 20 years in particular (1983-2003) so have the debates about the learning objectives proliferated (Alexander 1998 and 1999). Once we were all convinced that simple needs analyses generated by asking future employers would give us a definite answer to what our students would need to be able to do in the foreign language (English). As the professional worlds of our students change, so LSP courses must adapt. Over the years, needs analyses and language audits have produced an extensive literature on the language-using tasks a learner may be equipped or required to tackle in order to deal with the exigencies of the situations which arise in the various domains.

Can “Can-dos” be viewed as a guide or a straitjacket for business English course modules and syllabuses? Can we move from a global set of descriptors for specific purposes language activities to a more analytic one? Is it desirable to move towards more explicit descriptors for LSP courses? In the more general syllabus discussion similar dilemmas arise. Is this possible, or desirable? After all, how detailed can a teacher’s analysis of the target language use (TLU) situation feasibly become? Are we interested in highly specified purposes?
The preoccupation with the refinement of descriptors for LSP purposes will in the first instance have a theoretical and research orientation. Practically minded teachers and examiners may well prefer tests and examinations that have the potential to be more generalizable rather than less. For more discussion of the implications of the CEF for testing and examining see Milanovic (1996).

How helpful the link between CEF or ALTE Can-Do statements are seen to be for business language teachers depends, in large part, on the assumptions or presuppositions underlying their activity, I would argue. These concern two major aspects: the level of language ability in the language taught (English) on the part of their students at the outset and what prior business knowledge we presuppose or expect from our tertiary level students in order to proceed profitably in teaching BE.

Let us consider the second point first. What prior business knowledge do we presuppose or expect from our tertiary level students in order to proceed profitably in teaching business related languages? It is not enough simply to state what themes or subject matter are to be presupposed but also perhaps the degree of transferable skills we can also presuppose on the part of our students (see Alexander 2002 and 2003).

And now to return to the first point mentioned. What level of language ability in English do teachers expect on the part of their students at the outset of business language courses? Let me illustrate this from business English. We can take as a benchmark some of the written materials used in higher education European business English courses, following De Ryckere (1997). Using this as a measuring stick, we see that elementary knowledge of English (Breakthrough level in Council of Europe / UK (NVQ) National Vocational Qualification Levels scheme) will not suffice to read the A Level Business Studies (Powell 1996) or the A Level Economics Letts Study Guides (Floyd 1994). Does pre-intermediate level (Vantage level or the "former" OIBEC First Level) really suffice either, we might ask? Short of the Effective Proficiency or OIBEC Executive Level (ALTE level 4), aiming to teach with British A-Level texts would appear a daunting and nearly impossible task.

There is a sizeable group of tertiary level BE teachers who argue for subject-specific skills for business studies and economics being incorporated into business English courses at tertiary level (see De Ryckere 1997). Here we find arguments for dealing with language and content together.

There will nonetheless be various facets that constrain the teacher and researcher. These will dictate or determine where the focus is to be in his or her individual case. What facets of BE am I thinking of? These may include student-learner demands and needs, institutional settings, the degree of academic embedding in higher education that BE enjoys, the relation with the subject departments, educational objectives and so on. Business language practitioners in higher education in many countries and institutional settings are familiar with such cross pressures, I imagine.

It could perhaps be said that I am stretching the limits of what LSP has hitherto covered. Is it the task of LSP pedagogy to teach business-related tasks? Should we not be explicitly moving to content and language integrated learning (CLIL)? How do syllabus principles and Can-do Statements interact? Having said this, many researchers and practitioners of business-related LSP will perhaps recognize that the thoroughly interdisciplinary orientation of the field means that such issues are precisely at the centre of tertiary level business language syllabuses.

For my own part this has had consequences. After reading the first draft of the CEF document I determined to attempt to match up subject-specific skills for business studies and economics alongside what I take to be "corresponding" language skills / learning objectives etc. There is no space for a summary of this work. Instead, consider here a systemic-type figure 1 (in appendix) which could act as a kind of Gedankenexperiment or "thought experiment". This represents a sketch of the increasing "depth" or detail to be specified in the outcomes required and accordingly the descriptors to be formulated.

On the left the entry point to this "system" is represented by the General ALTE Can-Dos. The next choice to be made is between the broad domains: SOCIAL, WORK or STUDY. We can imagine refining these statements into ever more specific statements the further we move right. While the items to the left are relatively context-free, we end up then with practically context dependent items on the right. These might include communicative activities e.g. leave a note for a colleague who has agreed to cover for you at work while you are on a short business trip; listen to an information line message concerning consumer credit offers and note key facts; read an article to make notes for a particular company project.

Perhaps the basic language skill areas or activities need supplementing by task and content statements which make explicit the distinct situations or circumstances in which the skills are activated or practised. We can use the Common European Framework (CEF) in our attempts to unravel the relation between language proficiency and content knowledge. Perhaps we can work towards "can do" statements for our business language students at various levels, incorporating broad, analytical and integrated knowledge and understanding of business and management, for example for content-based BE oral objectives.

10 Conclusion

The main point to be emphasized is that Can-do statements and the Common European Framework can be most usefully viewed as guides. Like a guide to a place (Michelin for example) they can lay out the parameters within which the visit might take place, they can even propose a likely itinerary or a selection of places to view if time is brief. But it is up to the visitor to use the guide to pursue their own individual interests and purposes. So it goes with Can-do statements. We will all have our individual or institutional priorities.

We can also link our remarks to the plans which education ministers have begun to develop under the heading of the "Bologna process". Consider the Council of Ministers' Action plan for mobility and especially Measure 421, which makes explicit reference to language certification: "Recognised experience: issue by the Member State’s competent authorities of a document certifying the skills acquired during mobility, in particular in the field of languages, and acceptance by the authorities of the country of origin of the study or training periods successfully completed in mobility.”

Many LSP practitioners are working towards such certification procedures. Refining and developing Can-Do statements may at this point in time appear to be a very tangential connection to this project. However, I would argue that, quite to the contrary, Can-Do statements together with the developments of specific purposes Language Portfolio studies (a further Council of Europe focus) is an arena where to propose that LSP teachers and researchers and institutions that specialize in delivering such systems and
syllabuses need to be making a significant contribution.

We should be proactively shaping and forming the discussions, not sitting back and candidly or naïvely waiting for some bureaucratic procedure to direct us to the objective. After all, if we the researchers at the leading or cutting edge of this field cannot state what is needed in language proficiency terms for business languages in tertiary education, who can?

References

<table>
<thead>
<tr>
<th>ALTE CAN-DOs</th>
<th>Domain specific</th>
<th>Occupation specific</th>
<th>Job specific</th>
<th>Particular task</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOCIAL</td>
<td></td>
<td>Taxation technicians</td>
<td></td>
<td>e.g. Draft a personal financial plan</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Credit managers</td>
<td></td>
<td>e.g. Advise a client on annuities and pensions</td>
</tr>
<tr>
<td>WORK</td>
<td></td>
<td>Management accountants</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Financial advisers</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Administrative managers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GENERAL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STUDY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 1: Increasing "depth" or detail to be specified in the outcomes required
Introduction

Over the past thirty years or so, the drastic changes in the fields of linguistics, education, and psychology along with the emergence of an ever-growing need for an international language for science, technology, and trade have resulted in a new and dynamic area within the TEFL/TESL curriculum known as English for Specific Purposes (ESP). Since their inception, ESP programmes have proliferated in diverse directions and become increasingly international in scope (Johns & Dudley-Evans, 1991; Robinson, 1991; Jordan, 1997). The ESP movement has worked towards maturity through a relatively long time, evolving in certain identifiable stages (Swales, 1985; Johns, 1991). These stages/approaches roughly coincide with developmental stages in the realms of knowledge upon which ESP draws heavily; namely, linguistics, pedagogy, and participants’ special interests and needs (Robinson, 1991).

Evaluation in ESP

Evaluation is operationally defined in Brown (1989:223) as “the systematic collection and analysis of all relevant information necessary to promote the improvement of a curriculum and assess its effectiveness and efficiency, as well as the participants’ attitudes within the context of particular institutions involved”. According to Beretta (1992), the field of ELT has generally suffered from a lack of interest in evaluation. However, the swing of the pendulum towards ‘accountability’ in education, following the technological and social changes as well as educational reconstructionism of the mid 20th century (Clark, 1987; Weir & Roberts, 1994), resulted in developing and refining theories and methodologies of evaluation. In ESP/EAP, in particular, since they deal with highly specified objectives, the need for evaluation and assessing the accountability of these programmes for the purpose of providing reliable feedback to educational planners, sponsors, and instructors is paramount (Hutchinson & Waters, 1987). However, as Robinson (1991) and many others comment, the holistic and local evaluation of ESP programmes has remained a relatively neglected area at the global level.

ESP in Iran

In Iran, as in numerous other countries where English is a foreign language, ESP has increasingly expanded so that currently EAP forms a considerable part of curricula for all academic fields at universities. Specifically, although the medium of instruction at university in our country is the national language, university students need to read English language textbooks, journals, and Internet sources related to their fields of study (Atai, 2000). Accordingly, EAP courses have been designed for narrowly-defined disciplines on the assumption that they may expose the learners to academic reading tasks/skills typical of the target academic situations. The basic objective of these reading-based programmes is to bridge the gap between the learners’ general English reading competence and their ability to read discipline-based texts.

Currently, the curricula for all non-foreign language majors at Iranian universities comprise one to three compulsory EAP reading courses that are designed and sponsored on a top-down basis by the Ministry of Science, Research, and Technology (MSRT). The current trend towards course design and subsequently materials proliferation for these courses under the central management and supervision of the Ministry indicates the government’s high investment in these programmes that in turn may promise favorable prospects for this branch of ESP.

In spite of the significant weight of discipline-based EAP courses at Iranian universities, no serious research has so far addressed the effectiveness of these programmes as implemented in the target settings. The scanty unpublished literature on ESP course evaluation deals with narrow studies performed under highly controlled conditions (e.g., Gooniband, 1988). Therefore, in terms of actual implementation, there is a wide gap concerning the effectiveness of these programmes. Considering ‘accountability’ as an irreducible maxim in ESP curriculum development and renewal (Hutchinson & Waters, 1987), it is timely to review the current status of these programmes systematically.

The current assessment study was motivated by a national educational requirement to explore the effectiveness and efficiency of the present nationwide discipline-based EAP courses in Iran. That is, it sought evidence of goal fulfillment in terms of the possible contribution of these programmes to the learners’ reading comprehension of academic texts in their corresponding fields. A secondary concern of this study was to examine the relationship between the General English Proficiency (GEP) of the learners on entry to the EAP programmes and their reading comprehension performance at the end of the courses. Finally, it was intended to provide qualitative data concerning the general perceptions of EAP participants in relation to the major problematic areas in the Iranian EAP instructional system. Considering the paucity of systematic research on Iranian ESP programmes as they are implemented in the target settings, the findings may be used as input documentation in EAP curriculum planning and, more
specifically, in making informed decisions concerning refining, revising, and improving the design and implementation of discipline-based EAP instruction in Iran.

Method

Subjects
Since this study was concerned with a nationwide assessment of discipline-based EAP programmes, it was necessary to provide a representative sample of learners, courses, and universities, which, in turn, might enhance the generalizability of the findings. The Iranian EAP population is wide and varied. That is, the EAP courses are rather heterogeneous in terms of learners’ characteristics (i.e., GEP level, motivation, attitude, etc.), instructors’ features (i.e., area of specialty, methodology, experience, etc.), as well as other instructional parameters (i.e., disciplines, materials, educational facilities, etc.). Moreover, time pressure and logistical limitations in this study prevented us from taking a perfectly randomized sample of learners and programmes. Thus, attempts were made to work towards the most representative sample through some judgment procedures.

To this end, a panel of experts involving experienced faculty members from ELT and subject-matter departments as well as specialists in curriculum planning from education departments were called upon to decide on consistent standards for sampling EAP programmes and students. The factors providing justification for selecting representative samples included: the typical weight and significance attributed to EAP instruction in different academic disciplines, the learners’ opportunity to learn English before attending university and afterwards, the general patterns of university students’ English scores in the University Entrance Examination across disciplines and universities, the rank-ordering of Iranian universities based on educational facilities and qualified ELT staff, as well as the size of EAP subpopulations in different disciplines and universities.

Eventually, in light of the above criteria, a relatively large sample of discipline-based EAP university students (N=823) majoring in medicine, dentistry, computer science, sociology, and theology and Islamic sciences participated as subjects in this study. The subjects were clusters of sophomores (males and females) who were enrolled in the corresponding EAP courses in the spring semester of the 1998-1999 academic year. These clusters were taken from 13 state universities located in various parts of Iran.

The qualitative data in this study were collected from EAP students and faculty members who responded to open-ended sections of the corresponding questionnaires.

Student respondents
The respondents to the student questionnaire were 377 university students majoring in medicine, dentistry, computer science, sociology, and theology and Islamic sciences. The subjects were randomly selected from the population of EAP students employed in the evaluation phase of this study discussed above. The students were fairly evenly spread across academic fields and universities.

Faculty Respondents
The faculty respondents for this study were 200 EAP instructors and 225 subject-matter instructors. They represented all the universities from which we took our sample of EAP students. These instructors were selected as questionnaire recipients for a needs assessment study by the present researcher (Atai, 2000). The majority of the EAP instructors were M.A./M.Sc./M.D. holders (78%) and the remainder (22%) were PhD holders. With respect to the instructors’ fields, 43% reported themselves to be specialists in TESL, English literature, or linguistics and the others (47%) were subject-matter instructors who had been teaching EAP courses in their departments. The subject-matter instructors were either M.A./M.Sc./M.D. (61%) or PhD (39%) holders teaching undergraduate or graduate courses in medicine, dentistry, computer science, sociology, and theology and Islamic sciences.

Instrumentation
The measurement instruments in this study included a General English Proficiency Test (GEPT), and five subject-specific EAP reading comprehension tests corresponding to the discipline-based programmes under study. Two criteria guided construction and development of the GEPT. First, it was intended to adapt and sensitize the test as closely as possible to the learners’ characteristics. Second, the test had to meet practicality concerns for the relatively large-scale administration in this study. The GEPT employed in this study comprised all components of the conventional GEP tests (e.g., TOEFL) but due to administration limitations no listening comprehension was included. The test was pre-test ed with a representative sample of university EAP students (N=90) quite similar to the subjects in the final populations. The results were subjected to the customary psychometric checks. Reasonable measures of reliability (.86 as compared by KR-21) and validity (.89 as estimated against an actual 1985 TOEFL) were observed.

As for the discipline-based EAP reading comprehension tests, our original concern was to assess the contribution of the current Iranian EAP programmes to the task demands of the target academic situations. In order to provide a basis for operationalizing target reading tasks expected of the learners in their future academic lives, this study presupposes the existence of separate reading skills (Weir, 1993; Grabe, 1997; Urquhart & Weir, 1998). Indeed, our preliminary analysis of the reading tasks in a few current EAP textbooks such as Reading Strategies for University Students (Romstedt & McGoy, 1988) as well as a number of ESP textbooks compiled for Iranian EAP courses revealed the materials designers’ obvious adherence to the skills-oriented view of reading comprehension. Also, it seems that EAP instructors have faith in the existence of reading skills and teach reading courses accordingly.

In order to construct the EAP reading comprehension tests which may closely model the target reading tasks required of the students in their future academic and professional lives, it was necessary to go through a skills specification phase of target reading tasks as a safe basis for test construction. To this end, initially, on the basis of the current taxonomies of reading skills a scheme for analysis of reading skills was developed. Then, a taskpool containing representative random samples of reading tasks in some current EAP materials, conventional large-scale academic
Examinations, and authentic reference texts as well as journals for disciplines under study was compiled as real reflections of target reading tasks. Four experienced EAP instructors were called upon to identify the reading skills underlying the above reading tasks and tests, using the scheme mentioned above. The results of the skills specification stage were directly exploited in devising the general layout of the reading skills in the EAP tests. Accordingly, almost 70% of the items in these tests were planned to deal with assessment of reading discipline-specific texts for full understanding of main ideas and content information.

The reading passages for the EAP tests in this study were prepared through a lengthy systematic procedure involving content instructors in the corresponding academic fields and EAP instructors. It was decided not to include extractions from the currently published EAP textbooks in Iran, simply because this study addressed assessing the learners’ competence in comprehending authentic academic texts. The criteria guiding text selection comprised topic relevance, interest, and text accessibility. Text difficulty was determined through panel judgement. Further, readability formulae were used as an additional check for cross-validating the results of experts’ rating mentioned above.

Eventually, for each EAP programme, six passages were selected. After minor editing to meet the intended average length in this study, 30 multiple-choice items were constructed for each programme. Finally, a pilot phase was designed to examine the psychometric properties of the five reading comprehension measures. Special attempts were made to select the subjects with similar characteristics as those in the target samples. The reliability of the tests was estimated by KR-21 formula. Also, the tests were validated against the corresponding modules of the specimen versions of the English Language Testing Service (IELTS, 1990). Reasonable ranges of reliability (.75 - .85) and validity (.80 - .86) were found for the EAP reading comprehension tests. The total possible scores on the GEPT and EAP tests were 100 and 30 respectively.

The qualitative data in this study were elicited through an open-ended section attached to the ‘faculty questionnaire’ and ‘student questionnaire’ originally designed to examine the perceptions of Iranian EAP participants regarding the learners’ needs (Atai, 2000). The respondents were asked to comment on major problems in the current EAP instruction and provide possible suggestions for improvement.

**Procedure**

In order to motivate maximum involvement of the EAP participants under study, the directors of service English centres of the universities located in our sample were contacted to request their cooperation and coordination in this study. They were given full details of the objectives, the instruments, and administration of the tests. The instructors were assured that the results of this evaluation phase of the study would be analyzed and reported irrespective of individual instructors or courses. The GEP test was administered in the opening session of the courses.

To assess the degree of contribution of EAP programmes to the learners’ reading comprehension of academic texts, the design of the study required administration of the same EAP tests at the beginning of the semester and at the end. The pre-test phase was conducted during the first week of the fall semester of 1998-1999 academic year. The students were reminded that they would not be penalized for guessing in both GEP and EAP tests. Finally, the respondents to the questionnaire received copies of the aforementioned questionnaires directly from the research coordinators.

**Data Analysis**

Data analysis consisted of descriptive statistical analyses for students’ GEP and EAP scores, as well as three major sets of inferential statistics: t-tests on pre-test and post-test mean scores for each academic group, one-way ANOVAs to explore variations in the students’ EAP performance across university subpopulations and correlational analysis to determine the relationship between the performance of subjects on the GEP test and on the corresponding EAP test at the end of the programmes. Finally, the EAP participants’ comments concerning the problematic areas were summarized and categorized into certain categories.

**Results and Discussion**

As cited earlier, in order to assess the effectiveness of EAP instruction in Iran a pre-test -post-test design was determined. Five discipline-based EAP reading comprehension tests were administered to the corresponding nationwide samples of university students, at the beginning and at the end of the semester. In addition to descriptive statistical analysis, in order to provide a clearer picture of the students’ GEP status, they were classified into three categories on the basis of their scores on the GEP test: LOW (those who scored below 50), INTERMEDIATE (between 51 and 75) and ADVANCED (76 and above). The results are displayed in Table 1.

<table>
<thead>
<tr>
<th>Field</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>Low- High</th>
<th>Low</th>
<th>Intermediate</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicine</td>
<td>258</td>
<td>66.32</td>
<td>15.50</td>
<td>20-95</td>
<td>15.7</td>
<td>53.9</td>
<td>30.4</td>
</tr>
<tr>
<td>Dentistry</td>
<td>137</td>
<td>58.68</td>
<td>16.70</td>
<td>20-90</td>
<td>35.8</td>
<td>44.3</td>
<td>19.9</td>
</tr>
<tr>
<td>Computer Science</td>
<td>136</td>
<td>55.91</td>
<td>13.82</td>
<td>23-90</td>
<td>34.5</td>
<td>54</td>
<td>11.5</td>
</tr>
<tr>
<td>Sociology</td>
<td>109</td>
<td>37.93</td>
<td>11.01</td>
<td>20-73</td>
<td>87.3</td>
<td>7.1</td>
<td>5.6</td>
</tr>
<tr>
<td>Theology &amp; Islamic</td>
<td>183</td>
<td>31.97</td>
<td>13.00</td>
<td>13-60</td>
<td>95.2</td>
<td>4.8</td>
<td>—</td>
</tr>
</tbody>
</table>

As Table 1 indicates, the EAP learners were obviously heterogeneous in terms of their general English proficiency. That is, whereas the majority of the students in the medicine group were either intermediate or advanced, the students of humanities (i.e. sociology and theology & Islamic sciences) were generally classified as low. Concerning the dispersion of scores for each
group, the sociolinguistic group was the most homogeneous. Conversely, the largest standard deviation for the dentistry majors attested to the highest degree of heterogeneity in this group. Further examination of the differences in GEP scores across disciplinary fields through a one-way ANOVA followed by post hoc Scheffé test revealed significant contrasts between all possible pairs except for dentistry and computer science.

Second, in order to explore the possible contribution of the current EAP instruction to the Iranian students’ reading comprehension of authentic academic texts, a series of matched t-tests was performed on pre-test and post-test mean scores for each group to detect any significant differences between them. The results of computation of t-values are presented in Table 2. Skimming through the descriptive statistics provided in Table 2, one can readily notice that the general pattern of the subjects’ performances on EAP tests across various academic groups seems to be identical with that of their performances on the GEP test. That is, the medicine group, again, scored the highest on both pre-test and post-test measures. By the same token, theology students obtained the lowest pre-test and post-test means. Immediately after the medicine group, there was the dentistry group, followed by the computer and sociology majors, in that order, consistent with the GEP trend. This sounds interesting because it suggests a preliminary clue to the existence of a relationship between GEP and performance on EAP reading comprehension. This issue will be taken up further later.

Table 2. t-values for the Subjects’ Performances on EAP Tests

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>SE</th>
<th>Mean</th>
<th>M</th>
<th>SD</th>
<th>SE</th>
<th>Mean</th>
<th>t-value</th>
<th>DF</th>
<th>2-tail Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicine</td>
<td>258</td>
<td>15.1977</td>
<td>4.948</td>
<td>308</td>
<td>17.500</td>
<td>5.114</td>
<td>.318</td>
<td>810 (.000)</td>
<td>-11.90</td>
<td>257</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Dentistry</td>
<td>137</td>
<td>11.9781</td>
<td>4.321</td>
<td>369</td>
<td>15.1022</td>
<td>5.244</td>
<td>.448</td>
<td>.735 (.000)</td>
<td>-11.34</td>
<td>136</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Computer Science</td>
<td>136</td>
<td>12.1765</td>
<td>4.815</td>
<td>413</td>
<td>14.5368</td>
<td>5.536</td>
<td>.475</td>
<td>.787 (.000)</td>
<td>-8.82</td>
<td>135</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Sociology</td>
<td>109</td>
<td>10.0459</td>
<td>3.516</td>
<td>337</td>
<td>11.8532</td>
<td>3.709</td>
<td>.355</td>
<td>.598 (.000)</td>
<td>-6.22</td>
<td>108</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Theology &amp; Islamic Sc.</td>
<td>183</td>
<td>9.1913</td>
<td>3.04</td>
<td>.224</td>
<td>10.5738</td>
<td>3.57</td>
<td>.264</td>
<td>.619 (.000)</td>
<td>-6.94</td>
<td>182</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

As Table 2 suggests, there are statistically meaningful differences between pre-test and post-test performances of EAP learners in all academic fields under study. Further, compared with pre-test means, the post-test indices show some amounts of gain for all EAP groups ranging from 1.3825 to 3.1241 points.

However, in this study our main concern was to assess the overall effectiveness of Iranian EAP instruction in terms of its degree of contribution to the learners’ reading comprehension of academic texts. Therefore, it was necessary to go beyond detecting statistically significant differences between pre-test and post-test means for the corresponding groups. To this end, the ability to read the authentic academic materials in respective fields with seventy percent comprehension was set as an optimal expected criterion on exit from these programmes and on entry to academic mainstream courses. This provided us with a pre-assumed standard for evaluating attainment levels in EAP courses and probing their degree of success in materializing the planned objectives. This criterion was established on the basis of technical academic discussions involving the present researcher and a considerable number of faculty members from both ELT and content departments. The above criterion was locally operationalized in this study as a mean score of 21 out of 30 on EAP measures developed for the purposes of the present research.

As Table 2 reveals none of the EAP programmes under study succeeded in reaching the above criterion and fulfilling the expected goal. Only medicine majors tended to approach the aforementioned criterion. Students of sociology and theology performed well below the expected level. Assuming that the EAP tests utilized in this study replicate the sorts of tasks the students might typically be required to fulfill during their academic studies, the findings suggest that the Iranian EAP courses in our sample did not prove as effective as expected in enhancing the learners’ reading comprehension of content-specific academic texts.

However, Iranian EAP courses are not implemented consistently in terms of syllabus, materials, methodology, learners’ GEP level, and, particularly, type of instructor (Atai, 2000). In order to examine probable differences in post-test performances of various university clusters involved in each group, a series of one-way ANOVAs was conducted. The results showed significant differences among the university subpopulations for medicine (F=8.3034, P=.000), dentistry (F=3.9215, P=.0102), and computer science (F=13.475, P=.000) groups but not for sociology (F=5.881, P=.5572) and theology & Islamic sciences (F=2.2216, P=.685). A possible reason for the consistent performance of the subpopulations in the humanities fields might be the homogeneity of these two groups in terms of GEP level (see Table 1). The great majority of subjects in these two groups were in the low-level category. It seems that the GEP level of the humanities majors is not sufficient to allow them to benefit from EAP courses and eventually to cope with the requirements of the reading tasks in target academic contexts.

Finally, the ESP/EAP literature indicates that the learners’ general English proficiency level plays a vital prerequisite role in success in ESP learning/ instruction. Indeed, some scholars in the field have pushed the argument to an unresolved debate over English for General Purposes (EGP) versus ESP as the most economical and practical path to compromising EST/EAP learners’ ‘needs’ and ‘wants’ in certain educational circumstances (Boyle, 1993). In order to probe the relationship between the learners’ GEP scores and their end-of-term performances on the EAP measures exploited in this study, correlational indices were computed. The high correlation between these two variables for all EAP groups, as shown in Table 3, attested to the vital prerequisite role of GEP in ESP/EAP instruction. The results, then, confirm the previous research in EAP reading comprehension arguing along the line that the learners’ problems might basically stem from their inadequate GEP level rather than the technicalities of the scientific texts, domain-specific background knowledge, or methodology factor (Brown, 1988; Gooniband, 1988; Tan, 1990; Clapham, 1993, 1996; Biria & Taherian, 1994; Atai, 2002).

Table 3. Correlations between Subjects’ GEP and Posttest EAP Performances

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>SE</th>
<th>Mean</th>
<th>M</th>
<th>SD</th>
<th>SE</th>
<th>Mean</th>
<th>Corr. (2-tail Sig.)</th>
<th>t-value</th>
<th>DF</th>
<th>2-tail Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicine</td>
<td>258</td>
<td>15.1977</td>
<td>4.948</td>
<td>308</td>
<td>17.500</td>
<td>5.114</td>
<td>.318</td>
<td>810 (.000)</td>
<td>-11.90</td>
<td>257</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dentistry</td>
<td>137</td>
<td>11.9781</td>
<td>4.321</td>
<td>369</td>
<td>15.1022</td>
<td>5.244</td>
<td>.448</td>
<td>.735 (.000)</td>
<td>-11.34</td>
<td>136</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Science</td>
<td>136</td>
<td>12.1765</td>
<td>4.815</td>
<td>413</td>
<td>14.5368</td>
<td>5.536</td>
<td>.475</td>
<td>.787 (.000)</td>
<td>-8.82</td>
<td>135</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sociology</td>
<td>109</td>
<td>10.0459</td>
<td>3.516</td>
<td>337</td>
<td>11.8532</td>
<td>3.709</td>
<td>.355</td>
<td>.598 (.000)</td>
<td>-6.22</td>
<td>108</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theology &amp; Islamic Sc.</td>
<td>183</td>
<td>9.1913</td>
<td>3.04</td>
<td>.224</td>
<td>10.5738</td>
<td>3.57</td>
<td>.264</td>
<td>.619 (.000)</td>
<td>-6.94</td>
<td>182</td>
<td>.000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
As for the EAP participants’ perceptions of the problematic areas in EAP courses, of all 377 completed questionnaires, 63 students provided 99 written comments on the typical problems they perceived, but no suggestions were cited in relation to those thorny areas. These comments were summarized into major categories as tabulated in Table 4. The most frequent problematic areas reported by students was their poor stock of general English vocabulary (23%), as well as the typical demotivating and boring atmosphere of classes (17%). There were a few comments on information content of the reading passages in EAP textbooks particularly among the opinions of medicine, dentistry, and computer science majors.

Table 4. Summary of EAP Students’ Comments

<table>
<thead>
<tr>
<th>Perceived Problematic Area</th>
<th>No. of Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overcrowded classes</td>
<td>8</td>
</tr>
<tr>
<td>Students’ poor knowledge of general English</td>
<td>23</td>
</tr>
<tr>
<td>vocabulary</td>
<td></td>
</tr>
<tr>
<td>Negative attitude towards English</td>
<td>9</td>
</tr>
<tr>
<td>Demotivating and boring atmosphere of classes</td>
<td>17</td>
</tr>
<tr>
<td>Excessive reliance on translation technique</td>
<td>9</td>
</tr>
<tr>
<td>No access to audio-visual facilities (e.g., a projector)</td>
<td>7</td>
</tr>
<tr>
<td>Instructors’ low level of special-content knowledge</td>
<td>5</td>
</tr>
<tr>
<td>Materials (content) being outdated</td>
<td>5</td>
</tr>
<tr>
<td>No chance for discussion of reading texts</td>
<td>8</td>
</tr>
<tr>
<td>Difficulty with following instructors’ oral presentation</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>99</td>
</tr>
</tbody>
</table>

With regard to the faculty members’ perceptions of major problems in current Iranian EAP instruction, 73 EAP instructors provided 218 handwritten comments concerning major problems in EAP instruction and some possible suggestions. These comments were summarized and categorized into 16 areas of concern as listed in Table 5. The most frequent types of comments addressed such issues as learners’ low level of general English proficiency, low learner motivation, inappropriate teaching methods, heterogeneous classes, courses being offered by non-ELT instructors, and inadequate exposure to English. The suggestions made by the respondents roughly matched the problematic areas.

Table 5. Summary of EAP Teachers’ Comments

<table>
<thead>
<tr>
<th>Area of Concern</th>
<th>No. of Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inappropriate teaching methods</td>
<td>18</td>
</tr>
<tr>
<td>Overreliance on Grammar-Translation Method</td>
<td>10</td>
</tr>
<tr>
<td>Lack of access to audiovisual facilities</td>
<td>8</td>
</tr>
<tr>
<td>Outdated and inappropriate materials</td>
<td>8</td>
</tr>
<tr>
<td>Inconsistency between ELT methods at school and university</td>
<td>5</td>
</tr>
<tr>
<td>No uniform conceptualization of the nature of EAP instruction among curriculum designers, faculty, and Students</td>
<td>10</td>
</tr>
<tr>
<td>Low status of EAP courses in the University curriculum</td>
<td>10</td>
</tr>
<tr>
<td>Lack of qualified EAP instructors</td>
<td>7</td>
</tr>
<tr>
<td>Courses being offered by non-ELT instructors</td>
<td>15</td>
</tr>
<tr>
<td>Inadequate exposure to English and low number of English courses in university curriculum</td>
<td>14</td>
</tr>
<tr>
<td>Lack of any academic research centre for designing and evaluating EAP courses</td>
<td>5</td>
</tr>
<tr>
<td>Heterogeneous classes (wide gaps in learners’ GEP level)</td>
<td>18</td>
</tr>
<tr>
<td>Learners’ low level of general English proficiency</td>
<td>40</td>
</tr>
<tr>
<td>Overcrowded classes</td>
<td>10</td>
</tr>
<tr>
<td>Lack of any inservice training courses for EAP teachers</td>
<td>8</td>
</tr>
<tr>
<td>Learners’ poor knowledge of general English vocabulary</td>
<td>7</td>
</tr>
<tr>
<td>Low learner motivation</td>
<td>25</td>
</tr>
<tr>
<td>Total</td>
<td>218</td>
</tr>
</tbody>
</table>
Finally, the subject-matter instructors’ comments included broad suggestions on enhancing EAP learners’ ability to read scientific textbooks and journals in English. Among the suggestions most frequently mentioned by this group, we can name the need to use authentic sources in content courses specially sources taken from the Internet, team teaching of EAP programmes, closer collaboration between EAP teachers and subject-matter instructors specially in the materials production phase, and joint evaluation of EAP courses by the language departments and content departments.

**Conclusion**

To sum up, the results of the evaluation of Iranian EAP programmes indicate that although there were statistically significant indications of the contribution by these courses to learners’ reading comprehension performance, as operationalyzed by differences between pre-test and post-test performances, the overall reading comprehension ability levels of the learners on exit from these courses were far from the minimal expected criterion established in this study. Thus, it is concluded that the EAP programmes in our sample failed to fulfill the objectives underlying EAP instruction. That is, these courses could not significantly contribute to the improvement of the candidates’ ability to read authentic academic English textbooks and journals in their mainstream courses. Additionally, highly significant correlations were documented between the subjects’ GEP and their end-of-programme performances on EAP tests. This provides further supporting evidence on the facilitating role of general English proficiency in ESP/EAP achievement. The qualitative data gave clues to certain obstacles in the current status of EAP instruction in Iran.

The findings emphasize the point that an adequate command of general English plays an influential role in success in EAP instruction. The Iranian EAP context is a specially marked one because the students do not generally enjoy optimum GEP levels prior to enrolment in EAP courses. Assuming that our findings are valid, foreign language curriculum planners are seriously invited to diagnose faults in the curriculum and decide on appropriate remedial or renewal procedures. To improve the state of the affairs in the Iranian ELT context, curriculum planners and practitioners should reconsider general English instruction and ESP/EAP instruction as a single coherent and interconnected system rather than as two independent successive stages of ELT. We suggest that English departments or service English centres assume the responsibility of designing, implementing, and evaluating English courses for university students. EAP instruction, then, may help bridge the gap between general language ability and specialized language ability. Also, we may suggest the necessity to invest in general English instruction as a safer shortcut and a more economical approach to obtaining the overall objectives of ELT in Iran. Another alternative may be to reconcile and integrate EGP and EAP in our university foreign language curriculum. Such ‘content-based’ English programmes may improve the learners’ proficiency in the English language skills and facilitate their transition to academic mainstream courses. Indeed, content-based approaches have been found to result in higher proficiency in language skills and better performance in academic mainstream courses (Kasper, 1997). Finally, further follow-up investigation, involving different designs and sample characteristics is warranted to confirm our findings and, additionally, to explore the underlying causes of underachievement in Iranian EAP programmes.

**References**


3.2.14 Klaus-Dieter Baumann

A communicative-cognitive approach to emotion in LSP communication

Klaus-Dieter Baumann (University of Leipzig)

1. Introduction

Since the end of the 20th century the shift of modern LSP research towards an interdisciplinary analysis of LSP texts has increasingly led to the exploration of their emotional dimension which can be regarded as the result of complex appraisal processes of LSP text author(s) and/or recipient(s).

As a result of this, theories of emotion which have been ignored by LSP research for a long time are of increasing methodological and methodical significance because they offer far-reaching strategic orientations for the communicative-cognitive analysis of information processing in LSP texts (Baumann 2001).

Finally, the development of different - sometimes even controversial - psychological theories of emotion makes it clear that there are varying ways of dealing with emotion, defining its fundamental relation to cognition and describing the complicated mechanisms of integration between emotion and cognition (Otto / Euler / Mandl 2000).

Therefore, we have considered the substance of all existing theories carefully in order to piece together those exponents that are undisputed and essential to an interdisciplinary approach to emotion in LSP communication.

In our LSP text analyses, we commenced from a multidimensional, interdisciplinary theory (Baumann 1992) that understands emotions as complex processes caused by cognitive appraisals of objects, processes etc. that have varying intensities. Undoubtedly, emotion and cognition are two complementary aspects of human activities.

2. An interdisciplinary approach to emotion in LSP communication

As a result of the cognitive turn of contemporary LSP research, the analysis of the correlation between emotion and LSP communication has become - especially from the point of view of information processing - one of the main fields of interdisciplinary research (Jahr 2000; Baumann 2001: 32).

In considering the findings of the emotional theories and of the extensive inductive-empirical German and English LSP text analyses, this research systematically deals with a) the realisation of emotions on the various levels of LSP communication (Baumann 1992; 1994; 2001) and b) the interrelation between emotion and LSP text comprehension.

The first phase of the interdisciplinary analysis is based upon an inductive-empirical analysis of English and German LSP texts - all belonging to one and the same text form, namely the article (articles from an encyclopaedia, scientific articles, popular-science articles) - from the fields of medicine and linguistics.

The corpus analysed comprises 27 paragraphs, 142 sentences and 3022 words in English, and 32 paragraphs, 137 sentences and 2330 words in German - with 92 paragraphs, 497 sentences and 9419 words in total.

This limitation of the LSP text corpus was intentional because the seven texts were presented, together with questionnaires, to 80 test subjects - all of them students of applied linguistics/LSP communication at the University of Leipzig (Baumann 1995: 107-117).

The second phase of the interdisciplinary analysis of emotion in LSP texts is based upon the inductive-empirical analysis of English, German and Russian LSP texts, comprising 795 printed pages in total (Baumann 1992).

The interdisciplinary approach to the LSP text corpus is based on descriptive, functional, structural, comparative, statistical and other methods which unfortunately cannot be explained in detail here due to lack of space.

Finally, we found that fifteen different, hierarchically ordered dimensions determine emotion in LSP texts:

2.1. The cultural dimension of emotion

Since the 1990s, several contrastive LSP text analyses have demonstrated that LSP communication is largely culturally specific (Baumann / Kalverkämper 1992; Clyne 1981: 61-66).

The present integration of cultural determinants into the emotional analysis of LSP communication makes a considerable step further in the direction of a cognitive and cultural extension of the contemporary LSP research.

According to most of the emotional theories, emotions can be regarded as a culturally specific knowledge that is socialised, constructed, controlled and conventionalised (Vester 1991: 98).

As expected, it is especially the transfer of emotions in LSP text translations which opens new prospects of research (Salnikow 1995).

In the past several years, cross cultural investigations have brought to light that there are many emotions which cannot be translated into other languages equivalently.

In Japanese, for example, the rituals of spoken LSP communication are extremely relevant in avoiding non-adequate communicative behavior between the partners.

Furthermore, the field of complimentary language means in Japanese LSP is by far more extensive than in any other European LSP (cf. the expression of social ranking by complimentary language means depending on the relative junior/senior position of the communicative partners; the high frequency of hedging in LSP texts to avoid the impression of intellectual superiority or of self-confidence) (Krusche 1983).
Lastly, contrastive analyses of English, Russian and German LSP texts have shown that there are many culturally specific rituals of communicative interaction which have profound emotional effects (e.g. phrases of routine, negative appraisal of silence in LSP discourses in Western European scientific communities vs. positive appraisal of silence in the Asian scientific communities; different strategies of respect towards LSP communicative partners in Eastern / Western Europe; existence of different communicative strategies to realize a specific self-image / to characterize other communicative partners in Western, Eastern and developing countries; use of culturally specific functions of overstatement / understatement in LSP texts - especially in UK / USA) (Baumann 1992).

2.2. The social dimension of emotion
In the last years, the psycho-social approach has opened up a promising method of relating the use of emotions to social characteristics of the communicative partners.

In LSP text analyses, we have concentrated on the dynamic relation between the social position of the communicative partner(s) and the use of emotions.

In this context, the concept of the ‘emotional role’ has been defined as a part of the social knowledge (or social competence) comprising the prototypical reactions, conventions and norms of the communicative partners (Averill 1996: 24-38). These have to be finely delineated in order to guarantee a communicatively adequate expression of emotion (cf. conclusion of agreements / business negotiations / sales talks; communication between physician and patient; judicial hearings etc.).

Interestingly, socio-emotional analyses of business communication have unmistakably confirmed our assumption that there are complex interrelations between the cultural background of the communicative partner, his/her social position within the corporation and the realization of emotional behavior (Baumann 1991: pp. 23).

From the methodological point of view, the concept of corporate identity is especially suitable for demonstrating the social character of emotional behavior on account of its complexity as a specific cultural, socio-economic, psycho-emotional and communicative-cognitive phenomenon (Baumann 1994: 105-125; 2001: 107-126).

2.3. The situational dimension of emotion
Without doubt, an interdisciplinary emotional analysis of LSP communication has to make use of all situational conditions which determine the production and reception of LSP texts (Baumann 1992: pp. 171).

In LSP communication, these include the following aspects:

2.3.1. elements of the technical situation of activity:
- constellation of the communicative partners,
- specific character of the (technical / social / natural-scientific) field,
- stage and speed of development in the science (cf. genetics, biotechnology, theory of information processing etc.),
- correlation between the primary specialized activity and the LSP communication etc.

2.3.2. elements of the social situation:
- scientific status of the communicative partner(s) (cf. level of prior knowledge, (non-) symmetrical communicative relations),
- standards of value, social norms, traditions and thinking habits of the communicative partners,
- familiarity / social distance of the communicative partners.

2.3.3. elements of the situation surrounding the communicative partners:
- quality of the interpersonal relations,
- scientific, professional and language competence,
- age, sex etc. (Baumann 1992: pp. 170).

The concept of feeling rules has played a fundamental role in many emotional theories for some years.

According to A. R. Hochschild (1979: 551-575) the category ‘feeling rule’ is understood as a normative model of behavior determining in what situation what emotion can be regarded as adequate (cf. the situation-bound use of emotional variables in the LSP text form necrologue as a communicative part of memorial rituals, or laudation as a speech of praise about colleagues’ scientific achievements).

LSP analyses have made clear that the situational dimension of emotion is aimed at directing the communicative partners’ attention to selected information.

2.4. The cognitive dimension of emotion
We broadly agree with the exponents of the emotional theories who define emotion as a process of appraisal and a basic determinant of LSP communication. Clearly, emotions can influence the information processing of the individual LSP communicative partners to a high degree because of the following reasons:

A. Emotions are the basic cognitive driving force of information processing, directing the focus of attention to specific information.
B. Emotions influence the ongoing integration of information into the long-term, temporary and immediate memory.
C. Emotions combine functionally equivalent cognitive elements and determine the hierarchical order of the contents of thinking.
D. Emotions i) restrict and ii) convey the wealth of cognitive information (Ciompi 1997).

From the point of view of LSP research strategy, the concept of LSP thinking styles has opened a promising avenue for analyzing the interrelations of cognition, emotion, science and subject systematically. Concerning the complexity of thinking styles, L. Fleck explains as follows:

„Vergleichen wir Denkstile untereinander, so bemerken wir ohne weiteres, dass die Differenzen zwischen zwei Denkstilen kleiner oder größer sein können. So ist im allgemeinen die Differenz zwischen dem Denkstil der Physiker und der Biologen nicht sehr groß, wenn letztere sich nicht gerade zum Denkstil der Vitalisten bekennen. Sie ist viel größer, wenn es sich um Physiker und Philologen handelt, noch viel größer zwischen dem Denkstil des modernen europäischen Physikers
und eines chinesischen Arztes oder eines Kabbala-Mystikers: in diesem Falle ist die Divergenz der Denkstile so groß, dass ihr gegenüber diejenigen zwischen dem Physiker und dem Biologen überhaupt verschwindet... Je größer die Differenz zweier Denkstile, umso geringer der Gedankenverkehr. “ (Fleck 1994: 142-143).

In addition, R. Fowler (1977) tries to analyse thinking styles on a more comprehensive textual basis. Instead of using the term “thinking style” he prefers the expression “mental style” to refer to the cognitive dimension of emotion. In this context he remarks:


Future analyses must be extended to other LSP thinking styles in order to systematically expand on the insights concerning the interrelations between the emotional characteristics of LSP texts and the underlying cognitive processes of the communicative partners.

2.5. The subject-specific dimension of emotion
In the last few years, the LSP experts have become aware of the enormous significance of the subject-specific dimension for the emotional analysis of LSP texts. Most often when somebody has an emotion it is about an object, a state of affairs or a process. This means that emotions are undeniably object-directed.

The quality and intensity of the emotions toward the object depend on the actual appraisal and the personal confusion of the communicative partners.

As early as the beginning of 1990s, S. Skudlik emphasized the outstanding importance of the subject-specific determinants in the following way:


In reference to LSP texts in the social sciences, she continues:


As a result of comprehensive LSP text analyses, it has become possible to differentiate the following aspects that determine the subject-specific dimension of emotion:

A. the differentiation of the totality of sciences into natural, social and technical sciences,
B. the institutionalization of scientific findings as special branches of knowledge,
C. the degree of subjective orientation (psychological nearness) of the LSP author to the text contents (rational vs. emotional; distant vs. close; objective vs. subjective etc.),
D. the attitude of the LSP text author to the (individual /social) significance of the text contents,
E. the degree of authenticity of the contents (real vs. fictitious) and
F. the accentuation of methodological positions of specific scientific schools of thought.

Further LSP text analyses still have to make clear the actual relevance of the subject-specific dimension for an interdisciplinary theory of emotion in LSP communication.

2.6. The functional dimension of emotion
The analysis of the functional dimension of emotion demonstrates how important it is to regulate adequately the intensity of the exchange of ideas, thoughts and information from one communicative partner to the other. After all, the functional dimension can be regarded as the key to the communicative development of social relations among partners who are linked by a common communicative activity.

As a result of the interdisciplinary LSP text analyses, the following functions of emotion have been discovered:

a) the regulative function: this is directed at adapting the communicative behavior of the partner to the norm of LSP communication (cf. communicative signals of acceptance, refusal, exclusion of a partner from the scientific community) (Baumann 2001: 9-34),
b) the directive function: the influence of emotions on the processes of planning, preparing and realizing communicative activities. The communicative procedures stimulating – requesting – appealing – demanding – instructing and commanding are appropriate for expressing different degrees of emotional engagement (Michel 1985: pp. 92),
c) the informative function: this gives information about the extent to which the communicative purpose of the LSP text author has been realized through emotions (c.f. emotional way of informing LSP text recipients) (Schmidt 1981: 24),
d) the function of information retention refers to the existence of an emotional memory, e.g. emotions help in bringing about a higher sentimental value of LSP information and
e) the function of making information processing more effective aims at making LSP text comprehension easier by integrating emotions into communication (cf. use of communicative procedures: vivid description, narration in LSP texts of historiography).

The functional differentiation of emotions has clearly shown the methodological relevance of this dimension for an interdisciplinary approach to emotion in LSP communication.
2.7. **The textual dimension of emotion**

One of the most challenging tasks of LSP research, cognitive science and emotional psychology is to develop an interdisciplinary theory of LSP text production and LSP text reception that illustrates the transfer from the mental reflection of the objective reality into language structures.

Communicative-cognitive LSP text analyses have clearly shown that the reception of LSP text structures is based on information processing that comprises all components of the communicative knowledge system (Baumann 2001: pp. 83).

Clearly, LSP text reception is not only a data- and knowledge-controlled process, but is also a process of appraisal activating the consciousness of the recipient(s).

The textual dimension of emotion manifests itself in the sequence of macro-structural units of LSP texts, the so-called “text construction plan”.

The text construction plan can be defined as linear-sequentially and hierarchically arranged basic cognitive patterns of subject matters transferred to language on the different levels of LSP communication. The concept of the text construction plan has proved to be appropriate for demonstrating the principles of information transfer on the level of LSP text.

Interestingly, the analyses of social scientific LSP texts especially have shown that not each individual LSP text form has a strictly conventionalized text construction plan (e.g. scientific essay, popular-scientific article, non-fiction book, guide etc.). Additionally, some of the compositional units of LSP text forms can vary depending on the branch of science (e.g. the text construction plan of historiography vs. psychology) (Baumann 1992).

As a result of our analyses, we have found the following reasons for the macro-structural variability of social scientific LSP texts:

1. the (non-)binding character of the LSP text contents (e.g. hypothesis, law of nature, rule etc.),
2. the sort of background knowledge (e.g. expert knowledge, layman knowledge),
3. the individual scope of experience of the communicative partners,
4. the orientation of the LSP text to a specific group of recipients,
5. the specific communicative context in which the LSP text is embedded,
6. the ease or difficulty of comprehension of the LSP text,
7. the integration of appraisal in the LSP text,
8. the institution where the underlying transfer of knowledge is realized (e.g. school, college, university, open university etc.),
9. the communicative transfer strategy of knowledge (e.g. digression, glossary etc.) and
10. the integration of the LSP text in a pragmatic context (theory / practice).

The following paragraph from the English LSP text form *monograph of historiography* clearly demonstrates how the above-mentioned aspects work together to transfer information. Those textual elements which have been italicized express an emotionally-colored appraisal by the LSP text author:

- Of the two, I should say that Gladstone was the more unforgettable as a personality. I take as the test what one would have thought of each if one had met him in a train without knowing who he was. In such circumstances Gladstone, I am convinced, would have struck me as one of the most remarkable men I had ever met, and would have soon reduced me to a speechless semblance of agreement. Lenin, on the contrary, might, I think, have seemed to me at once a narrow-minded fanatic and a cheap cynic ... (T-Nr. 11, TT 12).

Undoubtedly, the textual dimension of emotion decisively contributes to the communicative structuring of the information transfer.

2.8. **The stylistic dimension of emotion**

The analysis of the stylistic dimension of emotion opens up new epistemological perspectives in making the correlation between contents and form and between LSP text style and emotion more transparent (Baumann 1996, 355-388). From the point of view of interdisciplinary-oriented LSP research, the stylistic dimension of emotion refers to the structural and functional aspects of stylistically relevant elements and relations that contribute to the interpretation of LSP text content.

Our LSP text analyses have shown that there are numerous influences of stylistic devices on the aesthetic coloring of LSP texts which are closely connected to the following aspects:

1. Stylistic elements can make LSP text recipients understand the facts and processes better by building bridges between communicative partners’ different presuppositions. In addition, stylistic elements can improve the LSP text comprehension because they transfer information in a highly activated cognitive state (e.g. parenthesis, parallelism, antithesis etc.).

- Afterward he described him as the ‘uprightest and most conscientious man’ in his three kingdoms (England, Scotland and Wales) (T-Nr. 8, III, TT 14/H 2: parenthesis).

2. Stylistic elements can contribute to the realization of specific partner-related LSP texts by breaking up monotonous sentence structures (e.g. chiasmus where the main sentence elements are reversed) (Baumann 1992: pp. 58):

--- our concepts develop as we organize the environment to which we respond and we organize our environment through developing our concepts; we know ourselves through knowing the world and we know the world through knowing ourselves (T-Nr. 3, 2, TT 20/58).

3. Specific stylistic elements can help to bridge a socially asymmetrical relationship between the communicative partners by varying, deepening and repeating facts in LSP texts (e.g. repetition, synonymy, emphasis etc.):
- The flame was glorious - radiant with the colours of antique knighthood and the flashing gallantries of the past; but no substance fed it; flaring widely, it tossed to and fro in the wind, it was suddenly put out (T-Nr. 36, TT 2/11: characterization of Elizabeth I).

4. The so-called mind style elements (e.g. amplification, syllogism, isologue as mental parallelism, antithesis, simile, allegory, irony, hysteron / proteron etc.) can help to explain the effects of emotion in the processes of LSP text production and reception. Mind style elements significantly activate the attention and receptiveness of the communicative partners so that they are able to perceive the objects and processes in an intensified way.

The mind style elements have the following emotional potentialities:

a) the intensification of impressiveness

The author wants to emphasize the mental relations in order to achieve an enduring effect in the argumentation by using pictorial comparisons, metaphors, personifications and epistemes.

- The Leveller challenge was altogether dispersed - although the spectre of a Leveller revival was often conjured up, as the Scylla to the Charybdis of Papists and Jacobites between which the good ship Constitution must steer her course. (T-Nr. 1, TT 12/18) (pictorial comparison).

- As the gulf between monarch and people widened the lonely King turned to his French Catholic wife for comfort and advice. (T-Nr. 8, 18, TT 8/52) (metaphor).

b) the focusing of clearness

- You can put rats in mazes and men in barbed wire cages, and observe their methods of escape. You can administer drugs and observe their effect. You can turn a male rat into a female [...] (anaphora + parallelism) (T-Nr. 11, 9, TT 22/37-39).

The author tries to make the LSP text comprehension easier by using emotional schemata.

c) an increase in clarity of LSP text contents by inserting / postponing examples

- In the first place, language serves for the expression of the content: it has a representational, or, as I would prefer to call it, an ideational function (This is sometimes referred to as the expression of ‘cognitive meaning’, though I find the term ‘cognitive’ misleading; there is after all, a cognitive element in all linguistic functions) [...] (parenthesis, colon + explanation) (T-Nr. 12, 14, TT 8/38-39).

- In spite of this conservatism, however, legal language has changed, even if slowly. (postponed information) (T-Nr. 9, 8, TT 48/29).

The inserted / postponed information is typical of an associative mind style.

d) the support of text reception by the interplay of general and particular information principles

- ... and English is still a major language for international communication in many scientific and technical fields. (The language of air traffic control, for instance, is largely English). (T.-Nr. 2, TT 18/199 - 200).

These interplays of information can offer a pause to reflect on the text content (syndetic / asyndetic repetition, synonymy). Stylistically colored (sub-)titles of texts can function as text-structuring devices and as important sources of information. In social scientific LSP texts especially, it seems to be common to introduce into the text aphorisms or good pegs used as a base for argumentation:


Our interdisciplinary LSP text analyses have clearly shown that the stylistic dimension of emotion has an important epistemological function. We have also discovered that stylistic elements point to information processing in a very effective way.

2.9. The syntactic dimension of emotion

The complex cognitive structure of the special knowledge which has to be materialized in the communicative process needs a specific syntactic modification. In this respect, our interdisciplinary LSP text analyses have shown that emotions are transferred by the following text-syntactic categories:

a) use of tenses (historical present),

b) use of mood indicating what the LSP text author is doing with a proposition in a particular communicative situation,

c) functional sentence perspective indicating the information structure (theme – rheme),

d) formation of ellipses,

e) use of syntactical stereotypes (as a kind of emotional prejudice) in specific LSP text forms (e.g. in law),

f) use of reference and predicate structures (pro-forms, deictics, indefinites, proper names, appellatives),

g) syntactic coherence of LSP text and visual code,

h) paratactic and hypotactic sentence configurations,

i) sentence cohesion referring to specific features that link different parts of the LSP text,

j) forms of speech or writing: monologue, dialogue, polylogue,

k) literal repetition of speech / writing in form of quotations, and
The connotative-syntactic equivalences are demonstrated in the following paragraph:

1) text-constituting function of word order (Baumann 2001: pp. 57).

According to the linguo-statistical analyses carried by L. Hoffmann and R. G. Piotrowski (1979), the above-mentioned text-syntactic phenomena have different relevance to the communicative process, but all the categories have the same function: to express emotion.

This is realised by the following strategies:

1. accentuation of relevant information by foregrounding:

- This is not a humor of hostility or resentment, it is a humor of superiority and condescension (T-Nr. 4, TT 8/25 initial sentence; negation in front position of the sentence + repetition)

- The joke-tellers themselves often recognize that the butts of their jokes about stupidity are a closely related people who are perceived as flawed and ambiguous rather than alien and disliked (T-Nr. 4, TT 9/39 initial sentence).

2. intensification of the conspicuousness of relevant text information by topicalization (theme-rheme-interaction, inversion, emphasis):

- What is critical is not what each measurement culture does, but in what it prioritizes (T-Nr.5, TT 53/48).

- What should be a force for internationalism has in reality become an isolationist force (T-Nr. 5, TT 25/29).

3. focusing of LSP text content by re-structuring communicative activities (adopting other points of view by: reporting, quotations, question-answer sequences, contrast and repetition of facts):

- Welche Kenntnisse erlauben die Dekodierung der Metapher? (T-Nr. 3, TT 12/54 – initial sentence; answers from sentence 55)

- “Yes, science and technology have changed the nature of power. We are living…”(T-Nr. 6, TT 25/pp. 21, quotation)

4. modification of the LSP text author’s communicative intention (e.g. mood: subjunctive, imperative):

- Consider the following ethnic jokes:...(T-Nr. 4, TT 14/79; imperative)

- We would like now to examine the working hypothesis more closely. (T-Nr. 5, TT 43/94; subjunctive in the initial sentence).

To sum up, text-syntactical categories offer a wide range of possibilities for expressing emotion.

2.10. The punctuation dimension of emotion

This dimension refers to those graphic signs (e.g. exclamation, question and quotation marks) signaling certain attitudinal or appraisal qualities of the LSP text author(s). This can be demonstrated by the following example:

- Später führt der Weg des Symbols in die Gegenwart: Es wird zum Firmenzeichen der Shell Oil Company, die Reisende mit Öl versorgt! (T-Nr. 1, TT 24/130; use of exclamation mark – emphasis).

Our interdisciplinary LSP text analyses have clearly shown the enormous emotional potentialities of punctuation.

2.11. The lexico-semantic dimension of emotion

The lexico-semantic dimension of emotion concentrates on the analysis of the emotional circumstances under which lexical items are selected and used in LSP texts.

Our interdisciplinary LSP text analyses have confirmed that the lexico-semantic dimension of emotion is closely connected with the cognitive contents of the LSP text (J. Hoffmann 1986; Baumann 2001).

Consequently, the complex approach to the lexico-semantic dimension of emotion has to consider the proportion of connotative and denotative meaning elements in LSP texts carefully.

In this connection, we start from the following methodological positions:

1. From the point of view of semantics, the extraordinarily complex interrelations between cognition and emotion have to be described functionally and structurally (Schippan 1984).

2. The connotative meaning elements can be understood as the emotionally determined image of facts or processes in our mind. They also make clear the personal associations of the individual LSP communicative partner. In this respect, connotative elements open a possibility for analyzing the process of cognizing more efficiently.

3. The meaning of LSP texts is firmly embedded in the concrete practical activities of the people functioning as the basis of mental processes. Interestingly, both kinds of activity are closely interrelated with denotative and connotative meaning elements of LSP texts.

4. The differentiation between LSP text meaning and LSP text sense corresponds to the differentiation between denotation and connotation.

In analyzing the lexico-semantic dimension of emotion, connotative-semantic equivalences play a central role. They illustrate specific emotional recurrences repeatedly connecting specific sequences of events in LSP communication.

The connotative-semantic equivalences are demonstrated in the following paragraph:
Among eminent philosophers, excluding men still alive, the most personally impressive, to me, was William James. This was in spite of a complete naturalness and absence of all apparent consciousness of being a great man. No degrees of democratic ... (T-Nr. 11, 11/TT 3, 11 - 13).

A positive appraisal is being expressed by the connotative-semantic equivalences: eminent, most personally impressive, complete naturalness, absence of all apparent consciousness of being a great man.

The individual standard of appraisal is being expressed by: to me.

Obviously, the mental picture of an object can decisively be determined by the subject of communication (Wotjak 1977).

2.12. The morphological dimension of emotion

It refers to those morphemes capable of conveying expressive meaning (e.g. prefixes: an-, counter-, extra-, mis-, non-, sub-, super-, ultra; suffixes: -ful, -hood, -able, -ish etc.) (Hansen / Hansen / Neubert / Schentke 1982).

2.13. The phonetic dimension of emotion

This dimension refers to spoken LSP texts and comprises those emotions which can be expressed by intonation, articulation, pauses etc.

2.14. The semiotic dimension of emotion

This dimension can be sub-classified into two groups:

2.14.1. The kinetics dimension of emotion dealing with the use of facial expression and body gesture to communicate meaning in spoken LSP texts (Mole 1999), and

2.14.2. The visual dimension of emotion referring to the effects which are caused by the integration of visual code into written LSP texts (Stöckl 1997).

3. Summary

The interdisciplinary LSP text analyses have shown that a great amount of the emotional dimension of an LSP text is intimately bound up with the complexity of cognition. This outcome creates new prospects for further communicative-cognitive description of LSP communication and broadens the cognitive dimension of LSP research in general.

4. References


Emotion and translation - using the example of popularising medical texts in Paediatrics

Dr. Michael Wittwer
University of Leipzig, Institute of Applied Linguistics and Translatology

1. Introduction

In this paper we study the possibility of the translation of emotions and emotional expressions that can be found in popularising medical texts in paediatrics. First of all we look at the emotionality of the source text, but we also try to consider the role of the emotions of the translator within the translation process as well as the influence of the recipient’s emotions to the understanding of the translated text. Hence we try to answer the following questions within this study:

1. What is the emotionality of the source text and how it can be determined by the translator?
2. What kind of categorization of emotions of the source text can be undertaken and is itself emotionality measurable?
3. How should the translator accommodate to the emotionality of the source text or what influence has the emotionality on the translation process?

We consider understanding as a precondition for the linguistic-cognitive processing of the source text. In our paper we want to show possible strategies that can help the translator to reach the linguistic-cognitive and emotional processing of the source text. At the same time we outline which productive processes are started up by these strategies within the cognition of the translator.

2. Emotionality of text

The starting point of our study is the determination/definition of the emotionality of text. We proceed on the assumption of a complex analysis because also several dimensions have an influence on emotionality, in the world of emotions of the respective recipient (see Wittwer 2002:171).

As seen in picture 1, the situation “hospital” which is unknown and strange for the child is depicted by a drawing of a child. The picture shows a social interaction between the nurse and the patient as well. Since the text deals with a small child the translator can estimate its cognitive abilities. The dimension of content is delimited by the subtitle “chemotherapy”. The translator evaluates the technical information from the terms “special medicines” and “drip”. “to make me better” can be understood as a linguistic expression of emotions and the countenance of the child can be seen as an extra-linguistic expression of emotions.

Hence the emotionality of a source text is represented to the translator as a reflection of the cultural, social and cognitive characteristics of the respective situation of communication within the dimension of content which is characterized by professionalism and understandability using appropriate language as pointed out in Wittwer (2002). The comprehension of the source text means for the translator at the same time that he perceives the emotions contained in the text and anticipated by the author.
As Schmidt (1981) pointed out, the change of the recipient’s relationship to the reality can be obtained by a conscious arising or amplifying of emotions that are based on a positive or negative assessment. The following example underlines his statement:

"When I was told I had cancer I was upset, but I thought well I’ve got it and there’s nothing I can do about it but get on with it and try to get better.”
Colin, 10 (Our Cancer:10)

The term “cancer” determines the emotional state of grief, sorrow, worry, despair (“I was upset”) nevertheless the author uses within the further sentence consciously the positive emotion of hope (“try to get better”) to induce the recipient to assist the therapy of the disease.

In other words, the author of the text (and a translator is to some extend an author himself) wants to induce the recipient to an emotional motivating of the cognition. This is also pointed out by W. Kintsch (1998) saying:

"The continuous flow of emotions in interpersonal interactions, but undoubtedly also in less direct interactions, such as occur in reading a story, functions as a modulator and motivator of cognition“ (Kintsch 1998:22).

Hence the comprehension of the source text can be understood as a cognitive process, which is reflected within the linguistic-cognitive and emotional processing of the source text.

It follows from this that the translator has to take into consideration the following two main strategies:

2.1 Strategy I: Understanding the emotions of the source text as a whole
This strategy starts up a few constructive processes within the cognition of the translator. These processes include the analysis of the social situation of communication of the source text, the activating of specific cultural patters, the classification of the emotions and the evaluation of the cognitive abilities of the group of recipients of the target text.

The analysis of the social situation of communication of the source text contains the investigation of the author-recipient-relationship as well as the estimation of the situation in which the reception of the target text will take place. At the same time there is made an analysis of the emotional situation of communication by the translator.

"We are between the ages of 3 and 13. We are part of the Children’s Cancer Unit at the Royal Victoria Infirmary, Newcastle". (Our Cancer, inside cover)

The authors of the source text are infantile cancer patients and the recipients are children with cancer as well. The special situation of text reception is represented by the diagnosed serious disease and the hospital’s everyday, that means the situation is strange for the child, it is a situation frightening the child, the child is helpless and this is the same for the most part of the people to relate to – the parents.

Accordingly we agree with the following statement of N. Fries (2000) concerning the emotionality of the situation of communication: "The semantic-conceptual complexity our feeling words enables a complex picking our emotional concepts out as a central topic, our feeling related to its expression and to the involved subject. That may be a suitable precondition for our social behaviour“ (Fries 2000:84).

The following example elucidates this „picking our emotional concepts out as a central topic“ (Original example incl. the defects of the source text):

My fears of Leukaemia  By Beverly age 10  Meine Furcht vor Leukämie  Beverly, 10
Sitting in hospital feeling unhappy, sitting,  Sitze im Krankenhaus, fühle mich unglücklich, waiting,  und warte.
A doctor came over, ein Arzt kommt.
He talks to us, er spricht mit uns
mum listens carefully, und Mutti hört genau zu.
The doctor goes away, Der Arzt geht wieder.
Mum talk to me, Mutter spricht mit mir.
Hot than cold, shivering with fear, Erst heiß, dann kalt, zitternd vor Furcht.
Then I went to sleep, Dann ging ich schlafen.
I kept wakening, wachte ständig auf,
Sweating. Schweißgebadet.
…
(Our Cancer: 8) …
(Translation by the author)

In turn, our social behaviour activates specific cultural patterns in our cognition. The activating of specific cultural patterns in the cognition of the translator is executed by recognizing and understanding the cultural systems used in the source text. In this connection H. Gerzymisch-Arbo gast (1994) makes the following statement:

"The recognizing of these systems which their distinction is of course dependent from the level of knowledge of the reader/translator respectively from their ability to develop themselves such cultural systems objectively” (Gerzymisch-Arbo gast 1994:84).

The relevant literature gives various concepts for the understanding of emotionality. U. Mees (1983) distinguishes three categories of emotions – the emotion of relationships, empathy and purpose that are again subdivided into 13 classes. D. Ulich
and Ph. Mayring (1992) arrange emotions in 4 groups: affection (like), aversion (dislike), well being and discomfort (Ulich/Mayring 1992:138). Another concept thoroughly acceptable for translators gives A. Wierzbicka (1999). Within her concept the emotions are arranged into the following categories: (see table 1):

Table 1: Categories of emotions acc. to Wierzbicka (1999)

<table>
<thead>
<tr>
<th>Category</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Something good has happened.</td>
<td>Joy and fun, luck and happiness, satisfaction, pleasure, delight, relief, excitement, hope, love</td>
</tr>
<tr>
<td>Something bad has happened.</td>
<td>Sadness, bad luck, grief, distress, sorrow, pain, despair, disappointment, frustration, hate</td>
</tr>
<tr>
<td>Bad things may happen.</td>
<td>Fear, dread, fright, horror, concern, panic, anxiety, excitement, anger, worry</td>
</tr>
<tr>
<td>I do not want that such things happen.</td>
<td>Grudge, displeasure, disappointment, fury, rage, indignation, bitterness, shock</td>
</tr>
<tr>
<td>Thinking about other people.</td>
<td>Envy and jealousy, regret, mercy, compassion and self-compassion, gloating, admiration and self-admiration, contempt</td>
</tr>
<tr>
<td>Thinking about ourselves.</td>
<td>Shame, pride, regret, guiltiness, embarrassment, thoroughness</td>
</tr>
</tbody>
</table>

Another constructive process is the evaluation of the cognitive abilities and facilities of the group of recipients of the target text. That means for the studied translation of popularising special texts in paediatrics that the translator has to carry out an exact analysis of the recipient’s age. With reference to the emotionality Battacchi, Suslow and Renna (1996) determine in that connection cognitive processes as a base of emotional reactions formulating that there is always a cognitive process at the beginning of an emotional situation, the realisation of the situation which releases an emotional reaction (Battacchi et al. 1996:42).

At that point we go back to the poem quoted above. The first two lines ease the realisation of the situation even though utilized unknowingly by the author and at the same time they verbalize the emotional reaction “to be unhappy”.

Sitting in hospital feeling unhappy,
waiting.

Sitze im Krankenhaus, fülle mich unlücklich, und warte.

(Our Cancer:8)

Hence the translator has to think oneself into the emotions of the author of the source text and he has to represent these emotions according to the cultural specification of the target group taking into consideration the recipient’s cognition. That, of course, depends from the cognitive abilities as well as from the social and cultural knowledge of the translator.

The presented above strategy can be abstracted as a strategically constructive process of the comprehension of the source text.

2.2 Strategy II: Production of adequate emotional words matched with the cultural, social and cognitive particularities of the target text recipients

The production of the target text follows the constructive processes. Thereby the dimension of content and the linguistic dimension of the source text are linked together taking into consideration the situation of communication and all elements of text construction.

The translator’s task is to convey the source text and its information with regard to contents and professionalism to the recipient of the target text avoiding conflicts of communication. The communicative functions and grammatical structures are in a close coherence to the dimensions of understandability but also to the dimension of professionalism of the translation.

In an earlier study of grammatical structures and communicative functions of the comics in paediatrics we stated that professionalism and professional knowledge can be conveyed to the recipient by means of linguistic skill together with a high-level understandability taking into account the emotionality of the recipient (see Wittwer 2001: 207).

It goes for the translator as well as for the author of the source text as stated by S. Jahr (2000) that an emotional style as a piece of circumstantial evidence for the attendance of the self and the mental sympathy of the text writer can encourage the vested interest of the recipient (Jahr 2000:230). He will understand the content of a text much easier if his thought-process is tied up to his emotional world. In the studied popularising special texts of external communication in paediatrics this attendance of the self is basically presented by the partly autobiographical character and also thereby that the recipient is addressed in person.

“We decided to tell you our stories. We hope they help you to understand. We send you our love.”

(Our Cancer: 1)
The translator represents the highest level of the comprehension of the source text – the clarity about it – as a mental and linguistic representation of the source text within the target text, which is related to practice.

2.3  Strategy III: Oppression of own emotions
A particularity of that mental and linguistic representation of the source text is the oppression of own emotions that may occur during the comprehension of the source text (for example the consternation of the translator). It is impossible for the translator himself to proceed with the reception of the source text without emotional sympathy in particular since the popularising special texts of external communication in paediatrics deal with the topic “Diseases in children”. However the translator’s own sensibility has to be oppressed while creating the translation to eliminate the misrepresentation of the emotionality of the source text.

3.  Measurability of emotions
At this point it seems reasonable to discuss the measurability of the emotions of the source text. There are to analyse the linguistic dimension as well as the dimension of content of text. Theret the source popularising special text of external communication in paediatrics can be classified as an emotional text according to its topic and to the relevant target group. But such an intuitive classification is not sufficient at all to set down the degree of emotionality.

In our study we estimate the general degree of emotionality based on the relationship of sentences with emotional phenomena to the overall number of sentences and constituents of a sentence within the text. (see table 2). Theret we don’t distinguish between stylistic, lexical, syntactical or contextual encoding of emotions.

Table 2: Example for the estimation of the degree of emotionality

<table>
<thead>
<tr>
<th>Overall number of sentences and constituents of a sentence:</th>
<th>Simon</th>
<th>Our Cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sentences with emotional phenomena:</td>
<td>49</td>
<td>78</td>
</tr>
<tr>
<td>Percentage:</td>
<td>27,68</td>
<td>31,97</td>
</tr>
</tbody>
</table>

Another starting point is the analysis of the emotions used in the source text in detail. In popularising special texts of external communication in paediatrics there can be detected emotions of the categories ”well-being”, ”relationship”, ”calming down”, ”expectation/hope”, ”sorrow/grief”, ”anger/discomfort”, ”fear”, ”pain” and ”pleasure/gladness”. The following table shows these emotions including some examples (table 3)

Table 3: Emotions in the corpus „Our Cancer“ (analysing approximately 30% of the corpus)

<table>
<thead>
<tr>
<th>well being</th>
<th>relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>It was nice to be home.</td>
<td>I couldn’t be bothered with myself or anyone else.</td>
</tr>
<tr>
<td>… feel much better</td>
<td>Louise as feeling left out.</td>
</tr>
<tr>
<td>… made me feel much better</td>
<td>… friends</td>
</tr>
<tr>
<td>… felt alright</td>
<td>… made friends</td>
</tr>
<tr>
<td>calming down</td>
<td>expectation/hope</td>
</tr>
<tr>
<td>… not to worry about it</td>
<td>My hair will grow back.</td>
</tr>
<tr>
<td>I would not feel any pain.</td>
<td>… last treatment … celebrate</td>
</tr>
<tr>
<td>… that it wouldn’t hurt.</td>
<td>… back at school</td>
</tr>
<tr>
<td>It did not hurt (2x).</td>
<td>… hair is back</td>
</tr>
<tr>
<td>It didn’t hurt.</td>
<td>I hope my story will help you.</td>
</tr>
<tr>
<td>sorrow/grief</td>
<td>anger/discomfort</td>
</tr>
<tr>
<td>Mum looked worried.</td>
<td>I felt like crying.</td>
</tr>
<tr>
<td>We wondered what was going to happen to us.</td>
<td>I felt cross.</td>
</tr>
<tr>
<td>… being upset</td>
<td>I was cross.</td>
</tr>
<tr>
<td>… be upset</td>
<td>… felt sick and tired</td>
</tr>
<tr>
<td>… had worried</td>
<td>I didn’t like it.</td>
</tr>
<tr>
<td>… this might happen</td>
<td>… felt miserable</td>
</tr>
<tr>
<td>… felt sad</td>
<td>… made me sick</td>
</tr>
<tr>
<td>… we all worry</td>
<td>… be naughty</td>
</tr>
<tr>
<td>fear</td>
<td>… felt angry</td>
</tr>
<tr>
<td>I was frightened.</td>
<td>... my leg started hurting</td>
</tr>
<tr>
<td>… being frightened</td>
<td>... felt the pain again</td>
</tr>
<tr>
<td>I was scared.</td>
<td>The pain kept coming back.</td>
</tr>
</tbody>
</table>
… a bit scared
… felt frightened
It frightened me.
… treatment … horrible
pleasure/gladness (1) … have lots of fun

4. Results

In general it can be noticed that there will be no difficulties in decoding the linguistic expressions of emotions if the translator applies the above-mentioned strategies for the comprehension as a precondition for the linguistic-cognitive processing of the source text. Nevertheless it seems essential to point out that popularising special texts of external communication in paediatrics relies in particular on emotionality and therefore it is inalienable to reproduce the emotional expressions precisely and accurately. Hence the role of emotions within the process of translation cannot be underestimated and it should accordingly be a subject of further studies to proceed with the clarification of the general translatability of emotions.

References:


Ulich, D., Mayring, Ph.(1992) Psychologie der Emotionen. Stuttgart, Verlag Kohlhammer


Corpus:

Our Cancer. A collection of drawings and writings from young children who share the experience of cancer. Compiled and Edited by Avril Trapp. The Royal Victoria Infirmary, Queen Victoria Road, Newcastle upon Tyne, NE1 4LP, 60 pages, 770 sentences, 8825 words

Simon has Cancer. Written by Lisa Brazier, Avril Trapp, Nancy Yates. Illustrated by Pauline Joyce. Victoria Publications, The Royal Victoria Infirmary, Queen Victoria Road, Newcastle upon Tyne, NE1 4LP, 35 pages, 180 sentences, 1918 words
Cultural aspects in the translation of texts in the domain of information technologies

Dr. Guadalupe Aguado de Cea  
e-mail: lupe@ifi.upm.es

Dr. Inmaculada Álvarez de Mon y Rego  
e-mail: jalvarez@euiit.upm.es

Departamento de Lingüística Aplicada a la Ciencia y la Tecnología, Universidad Politécnica de Madrid

1. Introduction

Translation studies are no longer limited to a purely linguistic approach. The importance of cultural implications for translation is increasingly emphasized and experts have been highly interested in cultural aspects, especially in the field of literary translation as many publications of the 1990s show (Snell-Hornby 1995; Toury 1995; Hatim and Mason 1997; Hatim 1997; Nord 1997; Bassnett and Lefevere 1998). Bassnett and Lefevere (1998: 132) even claim that translating can be defined as an “intercultural transfer”.

When compared to literary translation, technical translation is usually considered to be free from cultural information. Technical texts are thought to be more informative and addressed to an international discourse community that share the same knowledge and values. Newmark (1988: 151) stated that technical translation is “potentially non-cultural, therefore “universal””. However, he also specified that it is far from “actually non-cultural”. Since then, the importance of culture for technical translation has greatly increased especially in the field of information technologies (IT). Nowadays, the users of these technologies are a large and varied group that cannot be labelled solely as subject experts. Technical knowledge is no longer restricted to the workplace and has become part of our daily lives. This fact is reflected in texts and therefore affects the process of translation. Many of the translations concerning this domain are not addressed exclusively to a specialized audience but to the general public. At present, there are many IT magazines published for readers who cannot be described as theoretical experts belonging to an international community but as sophisticated computer users from a language community located in a geographical area at a specific time. Moreover, the social and cultural background of the writer or the country of publication exert a strong influence on how technical information is provided.

The aim of this paper is to analyse several examples of technical translations that illustrate the way in which the information is adapted to the cultural background of the new audience. The source texts are selected from Byte, a computer magazine published in the United States and the target texts correspond to its European edition in Spain. The articles found in this American computer magazine usually present a new product, which is compared to others in the market and both its advantages and disadvantages are taken into account. The main purpose of these articles is informative and the text type is expository. The intended reader is a computer user that knows quite a lot about these machines and is highly interested in the constant innovations brought about by technology, but this prototype reader is neither a theoretical expert nor an intellectual belonging to an international discourse community.

The examples selected make clear the need for cultural adaptation, as the intended audience are European Spanish speakers. From a theoretical point of view, the functional theory of translation, also known as the theory of skopos (Reiss and Vermeer 1991/1996) and relevance theory (Sperber and Wilson 1986; Gutt 2000) provide a sound theoretical basis to justify the adaptations exemplified in this paper.

2. A brief overview of technical translation

Technical translation refers to the process of translating those texts belonging to what are called specialized languages and is usually classified along with other varieties such as legal translation, scientific translation or the translation of medical texts. But an exact definition is a moot point. For a well-known expert like Newmark (1988: 151), technical translation is distinguished from other forms of translation by the presence of terminology. In a recent study of technical translation by Gainero (2001: 23), the key feature is the type of texts this form of translation deals with, technical texts. However, it is sometimes difficult to specify which texts to include under that label. On the one hand, the difficulty stems from the real meaning of the adjective “technical” which does not imply the same in “technical terms” and “technical texts”.

Gamero (2001) distinguishes thirty different genres for technical translation in German.

1 Some of the linguistic features of Byte articles, which classify them as a specific genre of computer discourse, are discussed in Posteguillo (1996).
2 For a thorough discussion on the usage of the adjectives “technical” and “scientific” for qualifying language or texts both in Spanish and English, see Álvarez de Mon (2001).
3. The theoretical framework

The functional theory of translation, which has been so successful in the German context, is not totally new. Already in 1974, Nida and Taber talked about “dynamic equivalence” which meant an important development from the previous notion of formal equivalence. In later works, Nida emphasized the importance of the target reader and the cultural aspects involved in translation. Notwithstanding, his theories were strongly influenced by Chomsky and his approach to language.

Later, other linguistic theories such as Halliday’s systemic functional grammar also influenced translation theorists that became attracted by the communicative approach. Hatim and Mason (1990:10) distinguished three dimensions for the translation process: the communicative, the pragmatic and the semiotic dimension.

But for translation specifically, the functional approach corresponds to what is known as Skopostheorie, which was developed by Reiss and Vermeer (1991/1996). For these authors, translation is not simply a linguistic activity but a human action and the prime principle determining any translation process is the purpose, skopos in Greek, of the translation action. As Vermeer explains, ”Any form of translational action, including therefore translation itself, may be conceived as an action, as the name implies. Any action has an aim, a purpose... (...) The word skopos, then, is a technical term for the aim or purpose of a translation. (...) Further: an action leads to a result, a new situation or event, and possibly to a “new” object” (quoted in Nord 1997: 12)

To that idea of purpose, Nord, also a functionalist, adds the notion of "loyalty", which she describes as the "responsibility translators have toward their partners in translational interaction" and, as she explains "loyalty means that the target-text purpose should be compatible with the original author’s intentions" (Nord 1997: 125).

The implications for translation of the functional approach seem also to coincide with the explanations4 on the process of translating provided by the application of Relevance theory (Gutt, 2000). Relevance theory (Sperber and Wilson 1986) is an attempt to elaborate on Grice’s maxim that most human communication is the expression and recognition of intentions, presenting at the same time a cognitive core which is central to all human communication efforts. When people communicate following the principle of relevance they achieve the most benefit for the least cost, being the benefit the effect on the receiver and the cost, the amount of mental processing required. Applied to translation, this means that the translator must take into account the readers’ assumptions in order to achieve the same effect as the source text. This perspective is especially attractive for translators and with it the importance of cultural knowledge comes to the fore. As Gutt (2000: 238) himself states. translators, "...realize that language differences are only one of the barriers that stand in the way of communication across languages; the other, and sometimes more formidable, barrier is that of differences in contextual background knowledge”.

4. Cultural problems in technical translation: the Spanish version of Byte

The analysis of the source texts and the target texts used in this research reveals that cultural problems can be grouped into four categories:

a) The presence of the American way of life and real events that are closely linked to the development and changes in computer technology in the United States.

b) Politeness and stylistic features that are different in Spanish technical articles.

c) Specialized terms, which have different connotations in the target language.

d) Source language metaphors that do not have an exact equivalent.

The examples chosen belong to different sections of these articles, which are clearly affected by cultural implications. Firstly, headlines; secondly, the sentences in the articles whose purpose is to exemplify and clarify the information given by means of examples based on the cultural reality of the source reader; thirdly, the sentences in which the writer involves the reader. Finally, some lexical and terminological problems derived from the different use or connotations of the terms in English and Spanish.

4. 1. Headlines in articles

Headlines in articles can be compared to titles in books as they make clear the importance of cultural differences. For the literary genre, Nord (1990: 153) states that titles of books illustrate both the need and the possibility of a functional translation. Titles are independent units of meaning and closely linked to factors such as the time, the place or the purpose of the message of the ST. Besides, titles are highly conditioned by the effect they should produce on the audience, and therefore they should play a specific role in the target culture. In technical magazines, the effect they produce is especially important because the headline functions as a sort of decoy that draws the reader’s attention towards the article. In the following example, the translator does not maintain the original headline because it is not appropriate for the new audience.

<table>
<thead>
<tr>
<th>ST</th>
<th>TT</th>
</tr>
</thead>
<tbody>
<tr>
<td>When will E-cash jingle in your e-pocket?: Already successful in Europe, e-cash is hitting the U.S. – with answers and questions</td>
<td>En Europa ya funciona... ¿y en EE.UU.? El dinero electrónico suscita preguntas y respuestas en los Estados Unidos, mientras que en Europa ya funciona</td>
</tr>
</tbody>
</table>

4 Gutt (2000: 203) makes it clear that his relevance-theoretic study of translation intends to explain “how the phenomenon of translation works. It does not constitute or advocate a particular way of translating”.
For the European readers of the TT the question in the ST, *When will E-cash jingle in your e-pocket?*, would be irrelevant as the electronic money is already in use in Europe. For that reason, the translator has chosen for the first sentence of the headline a question that could attract a European reader who can feel curiosity about the idea that Europe is ahead of the United States in technology, *Already in use in Europe; What about the U.S.?*. The second sentence restates and explains the question making the topic explicit, *E-cash raises questions and answers in the U.S. while in Europe it is already working satisfactorily*. For the Spanish reader, the informative interest lies in the unknown future of electronic money in the United States. In this way, the technical translator acts as a mediator and facilitator of the informative content and therefore plays the role of writer or even editor of the target text (Cabré 1999: 188).

### 4.2. Different cultural reality

In technical texts it is possible to find references to the culture of the source text. In literary translation, these *culture-specific items*, as Franco Aixela (1996: 70) calls them, can be eliminated from the target texts or, otherwise, they can be explained in a footnote. But footnotes are neither common in *Byte* nor in similar publications; therefore, these cultural references are usually adapted or eliminated as in the following examples

In example 2, the author of the ST supposes that the reader can visit New York and experience its way of life. The European readers of the TT may know about Manhattan but probably they would not feel included by the proposal of buying a paper or a hot dog since it is not probable they will visit New York in a near future. The changes carried out by the translator can be justified from a functional perspective. The statement in the TT fulfils the same rhetorical function as the imperative in the ST: to convince the reader of the advantage of choosing New York as the first city to try e-cash in the States. Few Spanish readers would feel involved if the text would suggest this unlikely individual experience *intente comprar un periódico o un perrito caliente en Manhattan con un billete de cincuenta dólares*. This would not be a successful way of achieving the communicative purpose, however a generalising sentence restricted to those who have already visited the city would also sound adequate for those readers that may feel the appeal of visiting New York some time.

**Example 2**

<table>
<thead>
<tr>
<th>ST</th>
<th>TT</th>
</tr>
</thead>
<tbody>
<tr>
<td>It shouldn’t come as a surprise that the first major U.S. trial of electronic cash is taking place in New York City. Try buying a newspaper or a hot dog in Manhattan with a $50 bill</td>
<td>No es de extrañar que los intentos más serios para implantar el dinero electrónico en los Estados Unidos se estén llevando a cabo en la ciudad de Nueva York. Cualquier persona que haya estado allí sabe lo difícil que resulta conseguir un periódico o un perrito caliente con un billete de cincuenta dólares</td>
</tr>
</tbody>
</table>

The translation proposed “anyone who has visited New York knows how difficult it is to buy a paper or a hot dog with a fifty dollar note” includes only those people that have visited New York and therefore results more appropriate for a European audience. Finally, the shift from Manhattan to New York as the place where the hot dog or the paper is paid for is highly suitable following relevance theory. For the Spanish reader, New York “is” Manhattan and the choice of a smaller geographical context only would be required if there were other boroughs such as Brooklyn or the Bronx also mentioned in the text.

**Example 3**

<table>
<thead>
<tr>
<th>ST</th>
<th>TT</th>
</tr>
</thead>
<tbody>
<tr>
<td>While trials are just beginning at the U.S., approximately 50 e-cash systems are already operational around the world</td>
<td>Aunque en Estados Unidos las pruebas no han hecho más que empezar, en el mundo ya funcionan aproximadamente 50 sistemas de dinero electrónico. En España, por ejemplo, ya conocemos las tarjetas monedero del sistema Visa Cash, adoptado por numerosas entidades bancarias como la Caixa y Caja de Madrid, y los modelos 4B y Euro6000, impulsados por la filial europea de Mastercard</td>
</tr>
</tbody>
</table>

Example 3 presents a situation similar to the previous one, but solved inversely. In this case, the translator adds new information, which is relevant only for the reader of the target text. For a Spanish readership, the information in the source text would be too general and therefore it could even lead to wrong conclusions as it is not sufficiently updated for the target reader’s background knowledge. For this reason, the translator considers it relevant to add some information concerning the systems used...
in Spain. In this way, the target text fulfills the same informative purpose as the source text and provides information congruent with the general knowledge of the target reader.

4.3. Different writer and reader’s involvement
Byte, in its original version in English, is characterized by an informal style that is generally achieved by the explicit presence of the writer and the reader in the text. However, Spanish expository writing favors an impersonal style. Therefore, in the Spanish version of Byte, neither the writer nor the readers are present in the text in an explicit manner and informality is attained by a different strategy: the use of informal and colloquial words.

There are several reasons for the different involvement of the writer and reader in the ST and TT. Apart from Spanish expository style, the translation process itself contributes to impersonality. The translator does not comply with the strong statements of the original author and being only a mediator of the writer in the transmittal of the ST information prefers to be less direct. Impersonality also derives from a linguistic feature of the Spanish language, which does not require subject pronouns in front of verbs.

<table>
<thead>
<tr>
<th>ST</th>
<th>TT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Here’s why today’s PCs are the most crash-prone computers ever built – and how you can make yours more reliable</td>
<td>Algunas razones que explican por qué los actuales PC son los ordenadores más proclives a las averías...y algunos trucos para mejorar su fiabilidad</td>
</tr>
</tbody>
</table>

Example 4

In example 4, the literal translation of “how can you make yours more reliable”, cómo hace el suyo más fiable, does not conform to the more informal style of technical articles in Spanish where the explicit mentioning of the reader is usually avoided. For this reason, the translation proposed is successful. The Spanish word, trucos, which in this use could be paraphrased as “skilful ways to solve a problem”, implies a reference to the target reader since the reader would be the one to apply those trucos. Besides, the Spanish word truco is also equivalent to the English word “trick” and thus it brings to the TT the colloquial flavour of the ST maintaining at the same time the technical purpose of explaining how to solve a problem. Besides, the choice of the Spanish word truco by the translator supposes that the target reader is an expert or at least skillful enough to carry out the action successfully. The definition of the word in the Spanish dictionary makes clear those connotations of skilfulness acquired through practice and time. The Spanish dictionary (DRAE, 2001) defines the word as cada una de las maneras o habilidades que se adquieren en el ejercicio de un arte, oficio o profesión.

Example 5

<table>
<thead>
<tr>
<th>ST</th>
<th>TT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readers of my column know that I’m wildly excited about the uses of HTML-aware e-mail and conferencing.</td>
<td>Los lectores habituales de esta revista se habrán percatado de que existe un gran revuelo alrededor de las posibilidades del correo electrónico y los sistemas de noticias con soporte HTML</td>
</tr>
</tbody>
</table>

Again the more “impersonal” style of the Spanish version of Byte is revealed in example 5. Now, it is the writer the one that is left out of the target text. Firstly, “my column”, is translated into esta revista to avoid the presence of the original author, as the Spanish edition is not an exact version of the whole magazine and does not always include the same sections as the original. Secondly, the translator avoids the first person pronoun in “I’m wildly excited” by using an impersonal expression, existe un gran revuelo, something like “there is a great commotion” or “a great stir was caused”. This translation transfers successfully the two main features of the ST expression wildly excited: the reference to an emotional state and the familiarity of the writer. Revuelo implicitly conveys the verbal process of feeling an emotion as its definitions prove. The Spanish dictionary (DRAE, 2001) defines revuelo as turbación y movimiento confuso de algunas cosas, “disturbance and confused motion of some things” or agitación entre personas “stirring of people”. The word implies the idea of emotion or excitement of the English expression but now it is not a personal feeling of the writer but a feeling of a group of people. In journalistic language, the idea of causing revuelo is nowadays a very popular stylistic device used in order to emphasize the importance of something.

4.4. Terms in the ST with a different range of use and different connotations in the TT
In specialized languages, terminology plays a key role and designates a concept or an object that is known across different cultures. However, new terms are not created out of nothing; more often than not old words receive new meanings. Consequently,

---

5 Frequently, the articles of Byte include a section under the heading of “Tip” where the reader can find a useful way to avoid the negative consequences of a certain action or an explanation of how to solve specific problems. This section is equivalent to the “Troubleshooting tables” typical of “Instruction Manuals”.

6 Knack or skill achieved in the practice of a craft, trade or profession.
when used in a text, specialized terms are not always free from the connotations of that word in the general use and writers play with that usage, and these connotations are not easily transferred to the target readers\(^7\). In the texts analysed, it is possible to distinguish two types of terms that reveal these cultural problems. They can be domain specific terms as in example 6 or metaphorical expressions used by the author as in examples 7 and 8.

<table>
<thead>
<tr>
<th>Example 6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ST</strong></td>
</tr>
<tr>
<td><strong>TT</strong></td>
</tr>
</tbody>
</table>

In example 6, two specific telecommunications terms “telcos” and “local loop” have been avoided, as its presence in the TT would cause confusion for the Spanish reader. “Telco” is a shortening for *telephone company*. In Spanish, a similar shortening *las telescos* is already being used but its meaning is broader as it refers to any telecommunications company, not only telephone companies. Even the expression *compañías telefónicas* would not be adequate in Spanish. *La (compañía) telefónica* was the name of the only Spanish telephone company working in the country until a few years ago. Consequently the use of this expression to refer to any telephone company does not seem appropriate. For that reason, the solution *compañías concesionarias*, “licensed companies” manages to convey this general idea of any telephone company.

Concerning “local loop”, “loop” is the term used to refer to the subscriber’s line, that is, the telephone line that links the subscriber’s telephone to the central exchange. Consequently, the translation chosen *rendido*, which could be paraphrased as “those lines that are laid out”, is suitable as this is the physical realization of the telephone lines.

Recently, in the Spanish news about the liberalization of the local calls, the term “loop” was literally translated by *bucle*, but except in this case, in the field of telecommunications, the usage and connotations of the word *bucle* make it unsuitable for the Spanish reader of *Byte*. Besides, in Spanish, the collocation, *bucle de cobre*, is not used at all. *Cobre* collocates with the superordinate *cable* and the usual term is *cable de cobre*.

Cultural problems in the translation of *Byte* into Spanish also come from the use of metaphors in the source texts. These metaphorical expressions, rather than being created by the writer of the article, are lexical metaphors used in order to obtain a more attractive prose and a brighter style As they do not have an equivalent in Spanish the translator frequently chooses to omit them.

<table>
<thead>
<tr>
<th>Example 7</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ST</strong></td>
</tr>
<tr>
<td><strong>TT</strong></td>
</tr>
</tbody>
</table>

The metaphorical expression “take the world by storm” in example 7 is not created by the writer, but could be described as a lexical metaphor as it is possible to find it in a general purpose dictionary such as *The Oxford Advanced Learner’s Dictionary* (1995). In Spanish there is not an exact equivalent metaphor reflecting this idea of success by means of a physical phenomenon like a storm. Thus, the Spanish translator prefers to express the metaphor differently and uses a verb that implies a personal feeling *connocionado*, “shocked”.

A similar solution is the one adopted for the translation of the term “driven”. This participle also refers to a physical process and makes the reader imagine a world controlled or guided by the Internet. However, the translator has preferred to express the great importance of the Internet by using a verb that describes its effect on people. The world is *obsesionado*, “obsessed”. These two examples show that now it is the Spanish text, which is more personal as the translator prefers to use verbs denoting emotion instead of physical processes.

<table>
<thead>
<tr>
<th>Example 8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ST</strong></td>
</tr>
<tr>
<td><strong>TT</strong></td>
</tr>
</tbody>
</table>

---

\(^7\) For a detailed account of many of the problems of computer terminology and its translation into Spanish see Aguado (1994/1996)
Example 8 also shows the preference of the source text for visual metaphors that the Spanish translation omits. In the TT there is a more neutral style focusing mainly on transmitting content. The target text maintains the expression “steps”, pasos, but does not play with its meaning of “dancing steps”, conveying only the meaning of “stage”. As the TT does not translate “back and forth”, the allusion to a dance is lost and for that reason the “delicate dance” turns into an asunto delicado “a delicate matter”.

5. Conclusions

It is important to stress that technical translators working in the field of information technologies have to face several problems that deal with cultural aspects, which traditionally were not typically considered as characteristic of technical translation.

Among the main cultural aspects that affect the translation into Spanish of the magazine Byte we can mention the following:
- American customs and way of life that illustrate technical developments.
- Different information content adapted to the interests of the new target audience, as technology does not reach society at the same pace and in the same way in Europe and the US.
- Stylistic conventions specific of the target community as Spanish expository writing does not favour the explicit involvement of the reader
- Fossilistic metaphors typical of the source language which do not have an equivalent in the TL.
- Different connotations that English terminology has in Spanish

In order to translate successfully, IT technical translators need to know about the technology and the society of the language community of the writer or the publication, the textual characteristics and stylistic conventions of the specific genre being translated, the background knowledge, the norms of politeness and the expectations of the target audience, the words, expressions and metaphors typical of the language community of the writer of the SL and their equivalence in the TL and, of course, the specific terminology and also its variations in usage and its connotations in the TL.

Consequently, translators “become experts in cross-cultural communication” (Pym 2000:182) and act as intercultural mediators who do not merely translate⁸. If technical translation is seen as intercultural mediation, the translator is allowed to adapt the source text to satisfy both the publisher and the target reader. As stated in Nord (1997: 86) when referring to the changes carried out when translating technical texts, the following words of Sager (1993: 113) should be given attention:

“All modification of a text is carried out in the perceived interest of an improvement of the text as part of a specific message. It involves making texts more effective for and in a particular communicative situation”

REFERENCES


---

⁸ This intercultural mediation is even more important in the IT domain, in what is known as software localization.


**Corpus used in this research**


Joch, A. “Call control, for the rest of us” *Byte*, January, 1998: 86


Mace, S. “La guerrilla de la banda ancha”, *Byte*, Enero 1998: 141

Mace, S. “Getting the message” *Byte*, January, 1998: 87

Mace, S. “Mensaje recibido” *Byte*, Enero 1998: 152


Udell, J. “Groupware HTML” *Byte*, Enero, 1998: 133

Udell, J. “Stop the insanity” *Byte*, January, 1998: 64


Yager, T. “E-mail servers for the enterprise” *Byte*, April, 1998, 114-118

3.2.17 Giuditta Caliendo

Intercultural traits in legal translation

Giuditta Caliendo
Università degli Studi di Napoli Federico II, Dipartimento di Scienze Statistiche – Sezione Linguistica
Via Leopoldo Rodinò, 22, 80138 Napoli, gcaliend@unina.it, giuditta_caliendo@yahoo.com

Il n’èst chose en quoi le monde soit
si divers qu’en coutumes et lois […]
Montaigne, Essais, II, 12

This paper runs in parallel to a national research project on interculturality in LSP\(^1\) and investigates, through a comparative approach of different legal systems, the problems related to the translation of legal texts in multilingual and multilegal organizations.

After an introductory analysis on the aspects of precision and ambiguity that coexist in international law texts, the paper takes on an intercultural slant in illustrating the translation strategies and choices used to transfer legal messages across different cultures and legal systems, namely English and Italian. To this purpose, the last section presents the results gleaned from a previous study on comparative law, which led to the creation of a legal glossary on human rights and criminal law. This terminological work, compiled for the translators of the European Commission in Brussels and Luxembourg, is entirely based on a source corpus of international criminal law: a judgment of the European Court of Human Rights (Case of Rowe and Davis vs. the United Kingdom\(^2\)).

I. Introduction

Recent developments in the fields of judicial cooperation, human rights and war crimes have gradually enhanced the role played by international organizations within the political arena. After the Second World War, the appearance of these institutions on the world stage fuelled the consequent spread of multilingualism in transnational politics and diplomacy. This also coincided with the issue of providing an accurate and official translation for those legislative acts which, being legally binding in target countries, needed to be unequivocally translated into different legal systems (Taylor 1998). Since then, translation and language services have been increasingly recognized as the axis of global and interinstitutional communication as greater efforts have been made to guarantee accurate and homogeneous application of the law throughout different judicial systems.

With regard to the linguistic and technical difficulties that legal translation entails, international institutions are often placed on the same footing as bilingual and trilingual countries. However, it is important to stress that in countries like Switzerland, Belgium or Finland the translators’ burden is considerably alleviated by the presence of a common judicial background, what Šarčević describes as a shared legal system of reference:

> The chances that the receivers will attach the same meaning to the parallel texts of a plurilingual instrument are greatest when all the texts derive their meaning from the same legal system irrespective of the language. The fact that the receivers share the same knowledge base means that they also use a common system of reference, thus greatly simplifying the interpretation process. (1997: 68)

In the case of international organizations, such “common ground” is replaced by a mosaic of divergent legal systems. Legal translation is not simply confined to matters of linguistic discrepancy, but intrinsically bound to the numerous recipient cultures and legal orders. The complexity of text production at international level will therefore increase in proportion to the Member states involved: a higher number of official languages will correspond to more legal systems to be taken into account in the translation process.

Today, the number of official languages in international bodies may vary from two, like in the case of NATO (English and French), to six, as for the UN and the WHO (English, French, Spanish, Russian, Chinese and Arabic). The judgments of the European Court of Human Rights (ECHR) are only delivered in English and French although complaints may still be lodged with the Court in one of the official languages of the “contracting states” (those which have signed and ratified the European Convention of Human Rights). The most linguistically crowded is the European Union, which now counts 20 official languages following the fifth wave of enlargement which has opened the doors to new countries from central Europe and the Mediterranean. Multilingualism thus leads to “multilegalism”: on one hand there is the need to produce a plurilingual legislation and, on the other, the intricacy of adjusting specific concepts to different judicial settings like common and civil law, the two principal and most contrasting legal systems in the western world today.

A further difference between bilingual countries and international organizations is that the latter lack co-edition procedure in their legislative drafting process. Legal documents are not drafted simultaneously in different languages, as would happen in

---

1. Intercultural Discourse in Domain-specific English: http://www.unibg.it/centerprogetti.htm
the Canadian administration, but are translated from one “original” source and subsequently recognized as official and equally authentic. The absence of a “pivot” language is asserted by Art. 33 of the Vienna Convention on the Law of Treaties (“Interpretation of treaties authenticated in two or more languages”), which precludes any reference to an original and dominant text. Specifically, in cases of misinterpretation or inconsistencies between different languages, the Article states that the interpretation that best reflects the intention of the whole text will prevail:

When a treaty has been authenticated in two or more languages, the text is equally authoritative in each language […].
The terms of the treaty are presumed to have the same meaning in each authentic text […].
[…] when a comparison of the authentic texts discloses a difference of meaning which the application of articles 31 and 32 does not remove, the meaning which best reconciles the texts, having regard to the object and purpose of the treaty, shall be adopted. (Vienna Convention on the Law of Treaties, Art. 33)

2. Vagueness and diplomacy in international law

Vagueness and ambiguity are some of the key features generally attributed to legislative writing. Hiltunen (1990: 82-84) agrees on the need for legal language to be vague and inclusive enough to cover a “maximally wide variety of different circumstances”, also because the deliberate use of flexible meanings can safeguard the legislator’s position should the interpretation of the law be questioned.

At the international level, the use of broader expressions and definitions responds to the double need to find a political compromise between different countries and leave the text open to different interpretations. The lack of specificity in international law also favours all-inclusiveness, which helps accommodate legal rules to different judicial systems and varying circumstances. Translators thus find themselves in the difficult position of maintaining a fair balance between different orientations. In addition, their margin of manoeuvre remains extremely limited since “strategic” ambiguities cannot be interpreted in one way or another but need to be left unbiased in the target text.

An example attesting the importance played by vagueness in instruments of international law is the United Nation Council resolution 1441 (November 2002), which proved to be a crucial step in the outbreak of the Second Gulf war. From the outset, the wording of the resolution was at the centre of heated negotiations and kept on fuelling debates on a global level in the months that preceded and followed the military attack in Iraq. The first draft of the resolution initially authorized Member States to use “all necessary means” to restore international peace and security in the area. This document, produced jointly by the United States and the UK, led to tumultuous negotiations, particularly with Russia and France. The latter, threatening to veto the document, questioned the phrase “all necessary means” and stated that any material breach found by the inspectors should not automatically lead to war. These objections ultimately led to the final draft of the resolution adopting a much vaguer stance: the formulation was removed and replaced by a warning stating that Iraq would face “serious consequences” as a result of its continued violations.

The tensions and disagreements that accompanied the drafting of resolution 1441 also stemmed from the lingering influence of the language used in previous resolutions, as if it had set some sort of precedent in the history of the relations between the UN and its members. Specific reference can be made to the UN Security Council resolution 678 which, adopted in response to the Iraqi occupation of Kuwait in 1990, authorized the USA-led forces to intervene and restore security in the region. The text contained the same reference to “all necessary means”, which, given the historical and political circumstances, meant war. Twelve years later, in the light of this “precedent”, resolution 1441 had to be cautiously worded to avoid any particular formulas which, used in previous occasions, would engender “automaticity” and trigger an authorization to use force.

In terms of its general content, the amended version of resolution 1441 also turned out to be extremely vague. It clearly evaded any direct specification as to what “serious consequences” would follow in the event of Iraq’s continued violations of its obligations. In this respect, Melinkoff (1963: 22) interestingly lists “serious” amongst the law adjectives deliberately used for their flexible meaning and vagueness.

One of the reasons behind this highly diplomatic wording was the attempt to reach a wide political accord among the parties involved. A watered-down version was in fact the easiest way to obtain majority support from the full 15 members of the Security Council and avoid any veto from the five nations that possessed such power. Having failed to give an explicit consent or proscription, the text remains still open to conflicting interpretations and can be placed in what Hart (1961: 119) describes as “a penumbra of uncertainty”.

3. Standardization in international legal instruments

The elusiveness and ambiguity that typically distinguish legal language are equally widespread in instruments of international legislation (Šarčević 1997). However, many scholars have underlined how such features paradoxically clash with the conditions of certainty and precision that are stringently required for texts imposing obligations and conferring rights (Covacs 1982; Gibbons 1994).

One of the means employed in international law to minimize ambivalence and confusion is the use of fixed formulas and repetitive patterns that contribute to setting out the structure and progression of text contents. Conservatism includes not only the choice of lexical constructions but also the entire layout, the manner by which different sections are arranged and hierarchically ranked within a text.

Judgments of the European Court of Human Rights are a clear example of texts adhering to a standardized format and style. With direct reference to the Case of Rowe and Davis vs. the United Kingdom (§ 4), introduced here as a representative example of ECHR judgments, it is possible to recognize separate and numbered paragraphs, in turn divided into various subsections.
The introductory unit. It includes the title of the judgment, the case application number and date of delivery, followed by the list of judges composing the Chamber.

b) “Procedure”. This section provides information concerning the identity of the parties involved, together with their representatives and advisers. When the official title of a body or a party is mentioned for the first time, a shorter name is given in brackets and then used throughout the entire text (Alcaraz and Hughes 2002), e.g. “European Commission of Human Rights (the Commission)”, “The United Kingdom Government (the Government)”, “Rowe and Davis (the Applicants)”.

c) “The facts”, comprising two subcategories:

(i) “Circumstances of the case”, which reports on all the details concerning the applicants and, diachronically, the circumstances that generated the offence and led to the first trial before a domestic court;

(ii) “Relevant domestic law”, which offers an overview of the rights and obligations provided under the relevant national legislation. It also illustrates the practice followed according to different juridical circumstances.

d) “The law”. This section is entirely based on the Convention for the Protection of Human Rights and Fundamental Freedoms and develops into two subparagraphs opening with the following formulas:

(i) “Alleged violation of Article X of the Convention”, which refers to the applicants’ claim of a presumed breach of a Convention Article;

(ii) “Application of Article 41 of the Convention”, immediately followed by the relevant quotation:

If the Court finds that there has been a violation of the Convention or the Protocols thereto, and if the internal law of the High Contracting Party concerned allows only partial reparation to be made, the Court shall, if necessary, afford just satisfaction to the injured party.

(Art. 41 Convention for the Protection of Human Rights and Fundamental Freedoms)

The section continues with an exhaustive list of the pecuniary and/or non pecuniary damages claimed by the defendants.

e) The final formula “For these reasons, the court unanimously holds…”. It anticipates the summarizing conclusions of the case: “The Court holds that there has been a violation of Article X of the Convention”. The respondent State is therefore to pay the applicants, within an established period of time, a certain amount of money in respect of pecuniary/non-pecuniary damages, costs, expenses and interests.

Throughout the whole text, paragraphs are invariably numbered to facilitate reading and cross-reference with parallel texts in different languages. Uniformity is also respected in terms of punctuation and capitalization that help to keep the flow of the text “under control” (Hiltunen 1990: 83-87).

4. A case-study on comparative criminal law: translation as cultural transposition

In an era of expanding communication across nations and intensified contacts between different legal systems, international law is acquiring a growing weight over domestic legislations. The international legislator is constantly faced with the need to overcome cultural divergence and make legal instruments fit multiple recipient countries. In the European Union for example, Community law is directly applicable in all Member States, where it is guaranteed primacy over national law. Decisions and Regulations enacted by the Council of the European Union are directly applicable and legally binding in all EU countries. Likewise, judgments delivered by the European Court of Human Rights can affect the legal status of all contracting states. On the subject, Tebbens (1982) recalls the Case of Marcks vs. Belgium, a famous ECHR judgment which had immediate legislative repercussions in Europe and laid the foundations for later jurisprudence on legal relationships between parents and children. The Court found that Belgian law unreasonably limited the rights of unmarried mothers and discriminated against “illegitimate” children with regard to inheritance rights. Still today, the decision is considered as a major achievement in European legislation for equal rights between children born in and out of wedlock.

This closing section starts from another ECHR judgment with the intent to put forward some practical solutions to the terminological problems arising in the area of comparative criminal law, with specific reference to the English and Italian legal systems. The analysis originates from a previous lexicographic work, a comparative glossary on criminal law and human rights (Caliendo 2001), written within the framework of a collaboration with the Translation Service of the European Commission.

The project originally started with the translation of a case brought before the European Court of Human Rights (Rowe and Davis vs. the UK) concerning a series of violent robberies that led to the arrest of three men, convicted of murder and sentenced to life imprisonment. The trial caused wide uproar in the UK since, although the victims reported that two of the attackers were white, three black men were finally convicted. The text of such controversial judgment proved particularly prolific from a linguistic point of view and was thus selected as the source corpus of the glossary itself. Dealing with criminal law, one of the most incompatible and therefore interesting fields in legal translation, the text also offered solid grounding for a cultural and linguistic analysis of the two systems of common and civil law.

From the outset, the general aim of the glossary coincided with the production of a specialized lexicographic work that could find functional and recipient-oriented solutions to transfer legal messages across cultural contexts, even when the target language lacked parallel concepts or an appropriate specialized terminology. The terms were translated resorting to flexible parameters, according to which translation could detach itself from the original text and introduce an analogous notion.

---

3 http://www.echr.coe.int/Eng/Judgments.htm (13/06/1979, REF00000119, Application n. 00006833/74)
representing the “closest natural equivalent of the source language message” (Nida and Taber 1969: 12), always respecting the legislator’s original intent (Garzone 1999).

The glossary followed a semasiologic structure (starting from the sign to explain its content), although it was conceived and compiled according to an onomasiologic approach (analysing the content and then naming it with a sign). Due to the enormous discrepancies between common and civil law, a comparative evaluation of the two concepts was the essential first step in identifying common content and then finding parallel signs in the target language.

Before moving on to the practical analysis of the structural and lexical differences existing between English and Italian criminal law terminology, it is important to underline that the examples selected represent only a limited number of the translation strategies adopted during the drafting: Amplification, Diffusion and Divergence (Fawcett 1997; Taylor 1998).

i. Amplification

This strategy is particularly suited to meeting the requirements of precision and accuracy. It is generally employed for those terms that do not seem to pose any particular translation problems and are wrongly “taken for granted”. In some cases in fact, words are morphologically parallel but not semantically so. Amplification makes the reader aware of the existing contrasts in semantics and content by adding extra elements to the texts, generally footnotes or bracketed additions. By doing so, the translator can provide all the explanatory comments that emerged from his research work and comparative analysis, as shown in the examples below:

(1) Appeal ~ Appello

The translation of “appeal” might deceptively look like an example of equation, e.g. an automatic equivalence based on a one-to-one correspondence. In spite of their morphologic parallelism, the two terms are given a different semantic interpretation in their respective legal systems:

- in English law, an appeal refers to the mere correction of the questions of law considered to be wrong in the judgment, whilst the Italian appello can imply the entire re-examination of all the questions of law and questions of fact that had already been decided on;
- unlike common law, the Italian system suspends the effects of the decision being contested;
- common law does not guarantee the same principle of appealability: a specific decision can be declared “final” and therefore incontestable.

From a diachronic perspective, de Franchis (1984) also remarks that, up to 1907, the right to appeal did not even exist in English criminal law.

(2) Grievous bodily harm ~ Lesione personale grave

This legal term denotes a serious injury that can constitute an element of several offences (such as burglary) and takes on different semantic nuances in the two languages. Interestingly enough, while the English term places emphasis on the purely physical aspect of the violence, the Italian translation lesione personale grave also encompasses the possible mental injury that can be caused by the offence.

(3) Criminal records ~ Precedenti penali

The “note of previous crimes for which someone has been convicted” (Collin 2000: 95) represents an additional example used to describe different procedures in common and civil law. In Italy, it is incumbent upon a citizen to prove the absence of previous criminal records. A precedente penale can also affect the gravity of the penalty or compromise the chance to be placed under probation order. In English law, on the contrary, criminal records cannot influence the jury and they are not unveiled before the defendant is found guilty by the jury.

ii. Divergence

As for divergence, the strategy consists in choosing a terminological option from a range of possible alternatives according to the context in which the term is translated:

(4) Conviction ~ Sentenza di condanna/Verdetto di colpevolezza

The English term “conviction” can correspond to two possible translations into Italian: verdetto di colpevolezza and condanna. Considering the jury’s participation in the trial, the two alternatives indicate, respectively, the finding of guilt by the jury (“verdict of guilty”), and the imposition of the penalty by the judge (“sentence”). Although related, the two concepts remain independent as the judge can still decide to order the defendant’s discharge in spite of the jury’s verdict of guilty.

(5) Defendant ~ Imputato/Convenuto

Another example of divergence is represented by the word defendant, which can be translated by both imputato in criminal law and convenuto in civil law cases (de Franchis 1984: 627).

(6) Compensation ~ Indennizzo/Risarcimento

“Compensation”, the payment made to cover the cost of damage or hardship caused to another person, has a wide meaning in English law and can be expressed by the Italian indennizzo. However, when the damage is the result of a wrongful act, it is then called risarcimento. The term compensazione is a “false friend” and corresponds to the English “set-off”.

iii. Diffusion

In the case of diffusion, the lexical relation between source and target text can be summarized as a “1: >1” ratio. The following example shows how the original concept is conveyed through a longer lexical elaboration in the target version.

(7) Burglary ~ Furto aggravato con violazione di domicilio

From a comparative analysis of English and Italian criminal law, it emerges that “burglary” covers a wider semantic area than furto. The latter lacks the intrinsic idea of “trespass” and needs to be lexically stretched into furto aggravato con violazione di domicilio (here the lexical ratio is 1: 6!), which encompasses the aggravating circumstances of furto con scasso and violazione di domicilio (Caliendo 2003).
5. Concluding remarks

The post-war establishment of supranational organizations has contributed to expanding governments’ views on foreign policy and external relations. A broader platform of exchange on commercial and political grounds has called for an institutionalization of international relations between countries, especially from a legal perspective. As a consequence, an intense network of conventions, treaties and joint agreements has started to consolidate and acquire a dominant position vis-à-vis national legislations.

Upholding the idea that no legal system can be eradicated from its social and cultural substrata (Pigeon 1982), the paper draws attention to the challenges facing these institutions to simultaneously represent different legal traditions on a global stage. In order to be democratically representative, international bodies must be able to give a single voice to the different languages and to the divergent interpretation of the law that unfolds across national courts. Such linguistic and cultural equality is also guaranteed by the adoption of a multilingual regime, which can be described as a neutral forum where different judicial systems converge in spite of their diversity.

A great share of the task is fulfilled by the work of linguistic services, which are steadily growing and offering their contribution to make international legal instruments available to an ever-increasing number of nations. Hence, translation becomes the herald of interculturality, the instrument to interpret single identities and harmonize the different needs dictated by national legislative settings.

Linguists working for European and international organizations are faced with the same linguistic difficulties as national legal translators: ambiguous messages to unravel and extremely rigid types of text to handle. In addition, they have to play into the legislators’ hands and “respect” the vagueness that often lies behind multilateral political agreements. Target texts have to maintain just as diplomatic, all-inclusive and unbiased a tone as the original document, also in view of the fact that they are vested with the same legal value.

The contribution culminates in a presentation of the outcomes of a practical terminological work drawn up in the field of comparative law within an international environment. Based on the dichotomous relationship between common and civil law, today’s most representative and conflicting legal systems, the analysis of the translation strategies applied aims at exemplifying how conceptual and semantic differences are practically faced and solved in a professional context.

REFERENCES


**DICTIONARIES**


**ELECTRONIC SOURCES**


4 Terminology and Knowledge Management

Terms—the basic building blocks for the LSP of a specific domain—and the study of terms and terminologies will play an important role in the newly emerging subject of knowledge management. The term ‘knowledge management’ was coined to assert the fact that in addition to land, labour and capital, the knowledge within an organisation is equally—or arguably more—important. In our knowledge-based economy innovation and change are critical to the survival of organisations, societies and nation states. The pioneers of knowledge management (Nonaka & Takeuchi 1995) were keen to emphasise that the dissemination of knowledge such as best practice and ‘knowledge of doing’ within an organisation, across departmental and technological boundaries, is essential for successful competition. And it is often in texts that knowledge is stored and disseminated across a range of genres: organisation-specific memoranda, reports, manuals, as well as journals (experts communicating with experts) and textbooks (experts communicating with novice experts).

However, in books and journals in knowledge management, there is seldom any discussion of the language in which knowledge is disseminated. While linguists like Herbert Clark (1996) have contributed to one important aspect of knowledge management, namely communities of practice, by discussing how people with different experience and from different backgrounds form a ‘common ground’ for communicating effectively, no mention of specialist terminology is made. For the LSP community, it is the understanding of terms inter alia across disciplines and occupational boundaries that is essential for the management of knowledge.

Terms and the concepts they represent in the highly-specific domain of cattle disease in Cameroon are shown by Bassey Antia, Y. Mahamadou and T. Tamdjo in the first lead article to be variously understood by veterinary personnel professionally trained in French on the one hand and nomadic cattle farmers typically speaking Fulfulde on the other hand. The fact that the knowledge is mapped differently—veterinary personnel, for instance, list nine diseases, the farmers thirteen—can lead, the authors point out, to dangerous false assumptions on the part of the farmers about the relevant treatments which can in turn cause public health problems by allowing diseased animals in the food chain. The conceptual differences are also overlaid with linguistic mismatches within the local language e.g. different relations of synonymy, and between languages, where equivalences remain unclear. It is concluded that terms and their predications provide access to knowledge structures and that studying terms as understood by different but mutually interested discourse communities can therefore make a contribution to knowledge management. In the second lead article, Alexandra Lavrova discusses the notion of a distributive dictionary. For Lavrova, sublanguages within an LSP are vital for systematising the organisation and use of terminology. Her experiments include work on the sublanguages of organic and physical chemistry, aiming to capture the distributional patterns which characterise the behaviour of particular words and terms within and across sub-languages organised according to their level of specialisation. The methods outlined can be related to changes in the lexicon, arguably reflecting shifts in knowledge development. In the third lead paper, Guiseppina Cortese picks up the theme of problems in multilingual communication, which could be exacerbated by the challenges of multiculturalism. Cortese discusses LSP implementation policies and the ‘hegemony of English’, suggesting ways of dealing with this. In management sciences, for instance, she argues that the influence of English is pervasive with profound effects across the globe. Hence, English has become the linguistic tool for managing knowledge. So, in her view, it is important to understand how to manage knowledge across disciplines, languages and cultures.

As we have seen from Lavrova’s distributional analyses, dictionaries can also be seen as a kind of knowledge management, attempting to systematise and codify a body of knowledge, or, as in the case of the Czech-English law dictionary described by Marta Chromá, two systems which are themselves codifications with the aim of regulating human behaviour. The conceptual approach outlined by Chromá is realised in the inclusion of ‘explanations’ (chosen to avoid the strict interpretation of ‘definition’) to facilitate transfer between two different legal systems, or seen from a different perspective, to manage the transfer of knowledge and its application in particular cases. In managing knowledge, assumptions can and are made about the level and scope of knowledge possessed by different interlocutors in the communication process. Based on their analysis of the translations of legal texts between Danish and English by student translators, Dorrit Faber and Mette Hjort-Pedersen note that in interpreting some language texts, their subjects may give priority to ‘their own perception of relevance’ based on common sense and world knowledge rather than their linguistic, legal and genre knowledge. Hence, the deployment of knowledge of various kinds in the process of translation is a topic for future research. Discussing the teaching of legal translation from the perspective of student strategies, Suzanne Ballansat-Aebi proposes the use of a questionnaire with the aim of fostering an explicit awareness of strategies that might otherwise remain implicit. Starting from the uncontroversial claim that students’ linguistic knowledge is stronger than their specialist legal knowledge, she emphasises the importance of system-based terminological research. Students are encouraged, with the help of the pedagogical questionnaire, to map out relevant knowledge areas. The language pairs on which Ballansat-Aebi bases her discussion are English-German and French-German. Focusing more on the linguistic level, Stanislaw Gozdź-Roszkowski aims to link ‘restricted combinability in legal language’ with genre. This study is based on a subcorpus of contract law taken from a 3m word corpus covering a range of legal subdomains and genres. The genres investigated in relation to the chosen domain are contracts, judgements, text books and reports. His detailed analysis of the phraseology of the legal term/concept of ‘consideration’–a kind of compensation or recompense–reveals examples of genre-specific patterning. Remaining with the legal theme, Nicola Langton argues that insights into the ‘learning-to-learn’ process can play a crucial role for students of law in the development of their reading skills particularly through genre knowledge and linguistic skills. By engaging students in the development of a web-based course, Langton claims to foster students’ own ability to learn.
In his contribution on the little researched ‘lecture note’ *(Vorlesungsskript* in German), Hans Lechleiter describes a corpus-based study related to German for chemistry students. Of particular interest in Lechleiter’s paper is his case-study analysis of how a particular student has annotated his/her lecture notes. It is shown that the verb plays a crucial role in the student’s understanding, even in LSP, that syntax and lexis form ‘parts of a unity’, and that metaphors can lead to learning problems. The study provides interesting insights into one student’s attempt to map the domain of chemistry through a second language.

An overview of the extensive Iranian primary school vocabulary project (2000-3) is given in Shahin Nematzadeh’s paper (see also Nabifar in Chapter 1). She describes the objective of developing a core vocabulary for school textbooks and the methods used to achieve the project’s goals, before outlining future plans. The core vocabulary is intended to reflect the needs of primary school students based on their development and other social and linguistic needs rather than on authors’ intuitions, as hitherto. Hence the project aims to improve learning by matching lexical content to cognitive and knowledge development. Knowledge is often mapped differently across languages and cultures— an interesting case is presented by Nasrin Parviz of the Academy of Persian Language and Literature, who describes the Academy’s project to develop principles for the formation, selection, or coinage of equivalents for foreign terms. Each subject field considered turns out to have a different ‘profile’ as defined by the dominant conceptual characteristics used in term selection or formation, thereby indicating a link between linguistic and conceptual levels and suggestive of domain types. Returning to the core vocabulary project, the accessibility and utility of various textbooks for young children is the theme of Jafar Alaghemandan’s paper. Based on the claim that the language of children is a sociolect, he discusses how a core vocabulary can reflect not only their psycholinguistic development but also their curriculum-based subject needs, mapping out knowledge with a vocabulary appropriate to their age and experience and clearly different from the adult view. In the final paper here on the core vocabulary project, Akram Tayyebi outlines a model for identifying and comparing the actual use of basic vocabulary by pre-primary school children with the vocabulary used in text books which they will be expected to use in the first grade. A semantically-based classification system lies at the basis of the chosen model. It is concluded from the analysis of the data collected in interviews and from observation sessions that current text books are in need of revision if they are to benefit the children of the information age.

The chapter concludes with two papers on the use of terminology on the one hand to manage the production of documents in a technical environment and on the other to organise documents in a financial environment. Susanne Göpferich reports on the DAiSY project conducted with the DaimlerChrysler documentation department which aims to use a concept-oriented termbase or ‘thesaurus’ in order to support content management rather than the more usual document management such as the consistent use of terms across departments. Writing on the management of financial news, or more specifically, on two different methods for categorising specialist texts according to (sub-)domain, Pensiri Manomasipat, Khurshid Ahmad and Bogdan Vrusias describe an experiment to use termbases as the basis of a text classification system but conclude that financial news items contain more general terms, consistent with their intended readership thereby reducing their potential for domain classification purposes. Self-organising maps of terms is the second method of classification attempted. The overall aim of this ongoing research is to enrich text categorisation methods by using domain terminology, a novel approach to this important task in our information age.

In his paper on multilingual financial terminology based on EU legislation, Mall Laur of the Estonian Legal Language Centre considers how banking and stock exchange terms travel from English to Estonian, Finnish, French and German, with particular reference to ‘colourful’ metaphorical elements. It is concluded that the figurative element usually disappears in the translation process and also becomes less salient in the original language to the general user over time. The third paper on financial terminology concerns a comparison of Sweden-Swedish and Finland-Swedish accounting terms as used in balance sheets. The main point of interest here is that Swedish is a ‘pluricentric’ language, being an official language in both Sweden and Finland. Niina Nissilä also explores the reasons for terminological differences by studying social, political and historical factors concerning language use in Sweden and Finland.

This chapter encompasses many domains and many different perspectives on knowledge management, indicating increasing research synergies between terminology studies and applications and the key role of knowledge in economics and in society generally.

References


4.1 Lead Articles:

4.1.1 Bassey Antia, Yaya Mahamadou and Tiougum Tamdjo

Terminology, knowledge management and veterinary anthropology

Bassey Antia, Yaya Mahamadou and Tiougum Tamdjo
University of Maiduguri, Nigeria

1. Introduction

The economic and other costs of recent epizooties such as bovine spongiform encephalopathy (BSE) and foot-and-mouth disease have been mind-boggling. At the end of its efforts to contain the latter disease, the UK had spent some 10 billion Euros. The ensuing blame game suggests that broader sections of society need to take an active interest in what happens in certain professional spheres, especially those activities that directly impinge on society (safety, food safety, etc). One is reminded here of those definitions that view public health as the concerted action of society in assuring health.

This paper discusses the role of communication in discussions on animal health. The importance of communication is underscored by the following description of the challenges by the League for Pastoral People (LPP):

In the implementation of a support project for camel pastoralists in Rajasthan/India, one of the major challenges for L.P.P. and its partner-NGO has been to act as an interface between pastoralists on the one side and project staff with academic backgrounds in animal science and veterinary medicine on the other.

We have observed that, due to a lack of reference points and concepts, communication between them is very problematic. (Köhler-Rollefson/Bräuning 1998:1).

This paper illustrates how the different knowledge configurations of veterinarians and livestock raisers can create problems of communication and, *ipso facto*, concerns of food safety and public health. From the analysis it should be obvious that communication in this sector requires some of the same kind of care and management as communication in other safety-critical areas as aviation or weapons manufacturing. It should also be evident that assuring food (animal protein) safety and public health is not just the responsibility of veterinarians and animal scientists, but also of scholars of language for special purposes (LSP). A related point was made elsewhere (Antia 2002, Antia & Yassin 2001) in respect of the management of childhood diseases.

2. Framework

The analysis offered rests on the tripod of veterinary anthropology, knowledge management and terminology. Veterinary anthropology is a term coined in the 1980s to refer to an approach to animal health care that: (a) realises that to reach the animal you cannot circumvent the owner who, like his animal, is embedded in a cultural context; (b) requires observing, interviewing and participating in the activities of the owner. For this paper, therefore, understanding and facilitating communication assumes some preparedness to do anthropology.

All anthropology is, in some sense, the beginning of knowledge management (KM). We take a view of KM as the explicitation of implicit or tacit knowledge typically undertaken in order to facilitate sharing and reuse. While anthropology shares with KM the idea of explicitation, KM tends to be additionally concerned with application or operationalization of unlocked knowledge. We may thus say that in doing KM we are doing an “audit of intellectual assets” (*sensu* Grey 2003) possessed by both livestock raisers and veterinarians who provide advisory services in order to determine what resources are available, how they are deployed and what the bottlenecks are.

Terms have been described as “a means of acquiring, retrieving, creating, communicating, storing, representing and operationalising specialised knowledge” (Antia 2000:xxv). Terms designate units of specialist knowledge and are therefore the building blocks of specialist knowledge and communication. In this sense, terminology is an obvious ancillary to unlocking the ontology of knowledge possessed by actors in the pastoral world. The use of terms as heuristic is therefore appropriate for this exercise in veterinary anthropology and knowledge management.

3. Study background & method

Data for the study was obtained in the Far North Province of Cameroun, a region that shares borders with northeastern Nigeria. Both regions have the highest livestock population in the respective countries. Cattle farmers are typically nomadic (opposed to sedentary), speak Fulfulde (severally referred to as Fulani, Peuhl, etc.) and have available as relevant intellectual assets traditions of animal husbandry. Veterinary personnel (doctors, particularly assistants) typically speak Fulfulde as well, but have received Western veterinary education in the medium of the French language. In providing extension services, veterinary personnel use Fulfulde and mentally translate between French and Fulfulde, back and forth. It is this mental translating activity that explains question b shown below.

Focus group discussions were organised for each of three groups of actors in the pastoral world: livestock raisers (*n*=12), veterinary doctors (*n*=3) and veterinary assistants (*n*= 4). Agenda for discussions revolved around establishing a list of the most prevalent cattle diseases in the community (thus, terms) and obtaining descriptions of these diseases (aetiology, symptomatology, pathogenesis, therapy, etc.). In a second round of discussions, terms of diseases mentioned were to be sorted in descending order of perceived gravity. An additional task for veterinary assistants involved providing French equivalents for Fulfulde terms mentioned by cattle farmers. Further details of the study design may be obtained from Antia, Mahamadou, Tamdjo (in press).
4. **Study questions**

a. In the knowledge of livestock farmers as well as of veterinary personnel, what is the term – concept relationship like?
b. Do French terms which veterinary personnel say are equivalent to Fulfulde terms refer to the same concepts?
c. Do farmers and veterinary personnel have the same view of the epidemiological significance of diseases as may be revealed by a term sorting task?
d. What are the consequences of asymmetrical knowledge evident in any of the questions above?

The latter question is answered in the context of answers to the preceding questions.

5. **Results**

As can be seen in appendices 1 and 2, cattle farmers list and describe thirteen diseases (that is, terms) while veterinarians list nine. As they are extremely compatible, data obtained from veterinary doctors and from veterinary assistants are conflated. The following analysis is based on diseases (n=9) appearing on both the livestock-raisers’ list and that of the veterinarians. On term – concept relationships, the data showed instances in which a term (for a disease in one language) corresponded to more than one term in the other language. Examples:

i. (French) charbon symptomatique (blackquarter. Syn: black leg)  
   = (Fulbe) Gaouyel and Boutou

ii. (Fulbe) doularé = (French) trypanosomiase et constipation (trypanosomiasis and constipation)

To comment on example (i), for instance, in their listing and description of diseases, cattle farmers present Gaouyel and Boutou as different diseases. However, veterinary personnel, when asked to provide French equivalents of all terms mentioned by cattle farmers, assign ‘charbon symptomatique’ (black quarter) to both Gaouyel and Boutou. They, in other words, consider these two terms as synonymous. In descriptions provided of diseases mentioned, it is apparent that the presence of oedema in charbon symptomatique, Gaouyel and Boutou may suggest some similarity, but this is hardly sufficient basis as oedema is present in other conditions (Boumsoude, Boudi, Baccalé, Fouloukké).

Imagine, therefore, a scenario in which veterinary personnel (who have charbon symptomatique in mind) tell farmers not to let into the food chain animals that have Gaouyel. They might use the term in the erroneous belief that its synonymic relationship to Boutou is well known. Farmers, in whose nosology Boutou and Gaouyel are different, would obviously not consider that advisory as applying to cattle with Boutou, which thus ends up on our dinner plates. From a communication standpoint, it is clear that providers of veterinary services need to understand the nosology or disease ontology of their client communities in order to pass on knowledge effectively.

With respect to the second question on the conceptual intension of French and Fulfulde terms described by veterinary personnel as equivalent, the degree of (a) symmetry is provided in Table 1. To arrive at the degree of similarity, we use the description that has more symptoms as denominator. We have also taken an extremely flexible or modulation view (sensu Vinay & Darbelnet, 1995) of the descriptions, which allows us for instance to consider a description of a cause in one language as equivalent to a statement of an effect in the other.
| Table 1: Conceptual correspondence of Fulfulde-French terms considered to be equivalent by Vet. Assistants |
|--------------------------------------------------|--------------------------------------------------|--------------------------------------------------|
| **Kikoyel**                                      | **Pasteurollosis**                                | **Pasteurollosis**                                |
| a. Animal is weak                                | a. Weight loss                                    | a. Weight loss                                    |
| b. Lags behind herd                               | b. Constant diarrhea                              | b. Constant diarrhea                              |
| c. When touched animal jumps, falls then dies     | c. Oedema of the throat                           | c. Oedema of the throat                           |
| d. (Autopsy) Enlarged spleen                     | d. Whizzing respiration                           | d. Animal may appear healthy on leaving the ranch in the morning, only for it to die in the evening |
|                        | e. Animal may appear healthy on leaving the ranch in the morning, only for it to die in the evening |
| **Mbaliki**                                      | **Fascioliasis**                                  | **Fascioliasis**                                  |
| b. Inability to walk                              | b. Weight loss                                    | b. Weight loss                                    |
| c. Refuses to drink until it dies                | c. Constant weakness                              | c. Constant weakness                              |
|                          | d. (Autopsy) Enlarged spleen                      | d. (Autopsy) Enlarged spleen                      |
| **Damal**                                        | **Anthrax**                                       | **Anthrax**                                       |
| a. Initial appetite loss                          | a. Non-pitting oedema which, on excision, looks dark |
| b. Refusal to eat for 3–4 or even more days      | b. Whizzing respiration                           | b. Whizzing respiration                           |
| c. (.Autopsy) Enlarged spleen                    | c. Ruminations                                     | c. Ruminations                                     |
| d. When severe, may lead to loss of tongue       | d. Nail and interdigital injuries                 | d. Nail and interdigital injuries                 |
| e. NB: Djohou has all of the above symptoms + ulcers around the neck | e. Ulcers on the udders                           | e. Ulcers on the udders                           |
| **Boutrou/Djohou**                               | **Foot-and-mouth disease**                        | **Foot-and-mouth disease**                        |
| a. Excessive salivation through mouth and nostrils | a. Affects all oxen, but calves have highest number of deaths. | a. Affects all oxen, but calves have highest number of deaths. |
| b. Injury to the nail area                        | b. Excessive salivation                            | b. Excessive salivation                            |
| c. Animal releases foul-smelling odour            | c. Pustules in the mouth                           | c. Pustules in the mouth                           |
| d. When severe, may lead to loss of tongue       | d. Nail and interdigital injuries                 | d. Nail and interdigital injuries                 |
| e. NB: Djohou has all of the above symptoms + ulcers around the neck | e. Ulcers on the udders                           | e. Ulcers on the udders                           |
| **Bontou**                                       | **Anthrax**                                       | **Anthrax**                                       |
| a. Muscle enlargement                             | a. Pitting oedema in the muscle groups (shoulder or thigh) | a. Pitting oedema in the muscle groups (shoulder or thigh) |
| b. Animal unable to go out in search of pasture  | b. When oedema is excised there is a foam surrounding dark spot | b. When oedema is excised there is a foam surrounding dark spot |
| **Boumouédé**                                    | **Contagious bovine pleuropneumonia**             | **Contagious bovine pleuropneumonia**             |
| a. Enlargement of the abdomen                     | a. Lungs affected                                  | a. Lungs affected                                  |
| b. Difficult breathing                            | b. Pleura becomes thick                            | b. Pleura becomes thick                            |
| c. (.Autopsy) Rotten lungs                        | c. 1 lung more affected than the other            | c. 1 lung more affected than the other            |
| **Bouslé**                                       | **Trypanosomiasis + constipation**                | **Trypanosomiasis + constipation**                |
| a. Affects only calves                            | a. Constant fatigue                                | a. Constant fatigue                                |
| b. Looks like malaria                             | b. Excessive lacrimation                          | b. Excessive lacrimation                          |
| c. If animal drinks water within 2 days of onset of disease | c. Loss of tail hair                              | c. Loss of tail hair                              |
| d. Occurs once in an animal’s life time           | d. Weight loss and anaemia                         | d. Weight loss and anaemia                         |
| **Baccalé**                                      | **Brucellosis**                                   | **Brucellosis**                                   |
| b. General body swelling                          | b. When oedema is excised there is a foam surrounding dark spot | b. When oedema is excised there is a foam surrounding dark spot |
| c. Animal’s ill health does not prevent reproduction | c. Bacterial oedema                                | c. Bacterial oedema                                |
| **Gouyel**                                       | **Black quarter/black leg**                       | **Black quarter/black leg**                       |
| a. Inexplicable + dangerous disease because an animal that is apparently healthy in the morning may die while grazing | a. Pitting oedema in the muscle groups (shoulder or thigh) | a. Pitting oedema in the muscle groups (shoulder or thigh) |
| b. Often body swelling and when touched swollen parts make noise. These parts appear black. | b. When oedema is excised there is a foam surrounding dark spot | b. When oedema is excised there is a foam surrounding dark spot |

- a = a; 1 symptom of 5 shared, i.e. 20%
- a = b; 1 symptom of 2 shared, i.e. 50%
- a = b; b = c; 2 symptoms of 3 shared, i.e. 60%
- a = b; b = c; 3 symptoms of 5 shared, i.e. 60%
- a = b; b = c; 3 symptoms of 7 shared, i.e. 42%
- a = b; b = c; 3 symptoms of 5 shared, i.e. 60%
- a = b; b = c; 3 symptoms of 7 shared, i.e. 42%
- a = b; b = c; 3 symptoms of 5 shared, i.e. 60%
- a = b; b = c; 3 symptoms of 7 shared, i.e. 42%
- a = b; b = c; 3 symptoms of 5 shared, i.e. 60%
- a = b; b = c; 3 symptoms of 7 shared, i.e. 42%
Of the nine term pairs, there is less than 50% conceptual symmetry in four, with two of these five actually having 0% symmetry. Admittedly, further symptoms could have been mentioned that might have had the effect of increasing the percentage of symmetry. However, it is conceivable that symptoms mentioned are the ones perceived as most pathomonic. It is also conceivable that the stated degree of symmetry could reduce if divergent views on therapy were factored in. Damal, Mbaliki and Mborou are said to be incurable whereas their putative French equivalents (charbon bactérien, douve, fièvre aphteuse respectively) are curable. Factor into the foregoing the observation that in some cases (e.g. Baccalé vs. Brucellose) the descriptions are contradictory (does not prevent reproduction vs. induces abortion). The picture that emerges is one of a perfect recipe for dysfunctional communication, with far reaching consequences.

The veterinary extension worker, who for self-serving reasons chooses to base his diagnosis on cattle owner reports, as opposed to physical examination, would process a complaint of Kikoyel as pasteurrollosis. He would probably prescribe sulphadimidine or broad-spectrum antibiotics. Suppose that this diagnosis is incorrect and that the animal has la douve (fasciolasis) which, though sharing certain characteristics with pasteurrollosis, is treated with Nitroxymin or Rafoxonide. This wrong therapy would have had a number of effects. There is the spectre of resistance to sulphadimidine when later the animal does in fact have pasteurrollosis. There are cost implications of developing alternative drugs. There is the issue of toxicity, given that every medication contains toxic material which over time can affect vital organs.

With respect to the third question on the epidemiological significance of diseases mentioned, the results of the term-sorting task are presented in Table 2 below. The table presents (on the left column) diseases which cattle farmers say belong to class one and (to the right) the only diseases which veterinary personnel mentioned (and which they believe to be the only ones worth worrying about).

<table>
<thead>
<tr>
<th>Cattle farmers</th>
<th>Veterinary personnel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Bodewu or petou (rinderpest)</td>
<td>1. Contagious bovine pleuropneumonia - CBPP (Boumsoudé)</td>
</tr>
<tr>
<td>2. Boumsoudé (CBPP)</td>
<td>2. Rinderpest (Bodewu) – already eradicated</td>
</tr>
<tr>
<td>3. Damal (anthrax)</td>
<td>3. Anthrax (Damal)</td>
</tr>
<tr>
<td>4. Gaouyel (black quarter)</td>
<td>4. Black quarter (Gaouyel/Boutou)</td>
</tr>
<tr>
<td>5. Kikoyel (pasteurrollosis)</td>
<td>5. Pasteurrollosis (Kikoyel)</td>
</tr>
</tbody>
</table>

There is a large measure of agreement in the ordering of these five diseases, which therefore suggests that perception of epidemiological significance is extremely compatible. The only instance of incongruence is Bodewu – peste bovine (rinderpest). Although veterinary personnel mention it, for them its significance is more historical than contemporary. Rinderpest is believed to have been eradicated. Cattle farmers, however, hold a different view. There could be several explanations. Firstly, a disease can be said to have eradicated, even with an 80% success rate (which is adequate to guarantee generalised immunity). Secondly, from a cognitive linguistics standpoint, it would appear that for cattle farmers rinderpest is the cattle disease par excellence, or something of a prototype for assessing diseases. The hypothesis here is that this functional role and memories of the devastation caused by this disease inadvertently make real what is presumably a conceptual device for ordering and a recollection.

6. Conclusion

We have used a term-driven approach to unlock some of the ontology of knowledge possessed by livestock raisers and veterinarians. The exercise has shown areas where there is disarticulation between the knowledge possessed by actors in the pastoral world and what the threats to communication and to public health are. It is obvious that for optimal communication to take place veterinary extension providers need to understand knowledge possessed by their client communities, and to negotiate between that knowledge and that which they seek to pass on. Just as pilots must come to terms and be at home with a great variety of accents of English (possibly as many accents as they are control towers), veterinary personnel, because they are also involved in safety-critical communication, need to gain familiarity with the emic knowledge which they seek to supplant, complement, reinforce or augment. We have shown that much of this knowledge resides in terms and in their predications.

References


### Appendix 1: Names and descriptions of diseases, according to livestock raisers

<table>
<thead>
<tr>
<th>Name of disease</th>
<th>Symptoms</th>
<th>Cause, treatment, prevention, etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Bodewou ou Petou</td>
<td>a. Bloody diarrhea</td>
<td>(a) Break two (a white and a red nut of cola) into seven pieces; read verses (112) of the Holy Koran on the pieces of cola. Boil the pieces in a pot that has just been used in cooking the evening meal. Make the sick animal and the rest of the herd drink the mixture the following morning. (b) Pound millet that is two seasons old, and administer on sick animal and rest of the herd.</td>
</tr>
<tr>
<td></td>
<td>b. Eyes very red</td>
<td></td>
</tr>
<tr>
<td>2. Kikoyel</td>
<td>a. Animal is weak</td>
<td>(a) Apply red hot metal to the joints of sick animal (b) boil the bark of a calicedra plant, and give the animal to drink (c) very contagious disease</td>
</tr>
<tr>
<td></td>
<td>b. Lags behind herd</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. When touched animal jumps, falls then dies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. (Autopsy) Enlarged spleen</td>
<td></td>
</tr>
<tr>
<td>3. Mballi</td>
<td>a. Appetite loss</td>
<td>cannot be cured</td>
</tr>
<tr>
<td></td>
<td>b. Inability to walk</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a. Refuses to drink until it dies</td>
<td></td>
</tr>
<tr>
<td>4. Damal</td>
<td>a. Initial appetite loss</td>
<td>(a) No traditional therapy; (b) refer to Veterinary authorities (c) very dangerous</td>
</tr>
<tr>
<td></td>
<td>b. Refusal to eat for 3 –4 or even more days preceding death</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. (Autopsy) Rotten spleen</td>
<td></td>
</tr>
<tr>
<td>5. Mborou/Djoubou</td>
<td>b. Excessive salivation through mouth and nostrils.</td>
<td>(a) apply honey on the surface of infected parts (b) disagreement as to whether there is a western cure, with five farmers answering in the negative (c) does not prevent reproduction</td>
</tr>
<tr>
<td></td>
<td>c. Injury to the nail area</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. Animal releases foul-smelling odour</td>
<td></td>
</tr>
<tr>
<td></td>
<td>e. When severe, may lead to loss of tongue</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NB: Djoubou has all of the above symptoms + ulcers around the neck</td>
<td></td>
</tr>
<tr>
<td>6. Boutou</td>
<td>a. Muscle enlargement</td>
<td>apply red hot iron to joints</td>
</tr>
<tr>
<td></td>
<td>b. Animal unable to go out in search of pasture</td>
<td></td>
</tr>
<tr>
<td>7. Fouloukké</td>
<td>a. Enlargement of abdomen</td>
<td>(a) Pound Baobab leaves (dry or fresh), add pepper, mix in water and give to animal (b) apply red hot iron to enlarged abdomen</td>
</tr>
<tr>
<td></td>
<td>b. Appetite loss</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Animal still ruminates</td>
<td></td>
</tr>
<tr>
<td>8. Bounsoudé</td>
<td>a. Enlargement of the abdomen</td>
<td>(a) When an animal with this disease dies, its lungs are cut up into pieces; these are then rubbed over deliberately abraded right ear of healthy animals (b) very dangerous disease</td>
</tr>
<tr>
<td></td>
<td>b. Difficult breathing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. (Autopsy) Rotten lungs</td>
<td></td>
</tr>
<tr>
<td>9. Doularé</td>
<td>a. Affects only calves</td>
<td>(a) Keep animal under sun; (b) apply red hot metal to joints; (c) give animal water (hot) only when it is very thirsty</td>
</tr>
<tr>
<td></td>
<td>b. Looks like malaria</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Sudden death if animal drinks water within 2 days of onset of disease</td>
<td></td>
</tr>
<tr>
<td></td>
<td>d. Occurs once in an animal’s life time</td>
<td></td>
</tr>
<tr>
<td>10. Mmri</td>
<td>a. Bugs on body of sick animal</td>
<td>Pound leaves of the Worba plant (resembles sorrel) and apply all over the body of sick animal.</td>
</tr>
<tr>
<td></td>
<td>b. Excessive hair loss</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b. General body swelling</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Animal’s ill health does not prevent reproduction</td>
<td></td>
</tr>
<tr>
<td>12. Boudi ou Dousé</td>
<td>a. Animal progressively becomes lean in spite of feeding normally</td>
<td>(a) Boil the bark of a calicedra and make animal drink it (about a litre) (b) Mix dried bark of same tree into animal feed</td>
</tr>
<tr>
<td>Boulé</td>
<td>b. Lacrimation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>c. Swelling all over the body containing pus</td>
<td></td>
</tr>
<tr>
<td>13. Gaouyel</td>
<td>a. Inexplicable + dangerous disease because an animal that is apparently healthy in the morning may die while grazing</td>
<td>(a) in the past, locality had to be deserted because evil spirits were believed to be responsible (b) burn fresh (tamarind) leaves, and allow the fumes to envelope herd; repeat over several days (c) sickness associated with sudden stop of the rains</td>
</tr>
<tr>
<td></td>
<td>b. Often body swelling and when touched swollen parts make noise. These parts appear black.</td>
<td></td>
</tr>
</tbody>
</table>
## Appendix 2: Names and descriptions of diseases, according to veterinary doctors and assistants

<table>
<thead>
<tr>
<th>Name of disease</th>
<th>Symptoms</th>
<th>Cause, treatment, prevention, etc.</th>
</tr>
</thead>
</table>
| 1. Pasteuriosis | a. Weight loss  
                   b. Constant diarrhea  
                   c. Oedema of the throat  
                   d. Whizzing respiration  
                   e. Animal may appear healthy on leaving the ranch in the morning, only for it to die in the evening | Tetracycline  
                                                                  Prevention: pasto-vax® vaccine |
| 2. Black quarter/ black leg | a. Pitting oedema in the muscle groups (shoulder or thigh)  
                               b. When oedema is excised there is a foam surrounding dark spot | Antibiotics  
                                                                  Prevention: symptovax vaccine |
| 3. Anthrax | Non-pitting oedema which, on excision, looks dark | Antibiotics |
| 4. Contagious bovine pleuropneumonia | a. Lungs affected  
                                   b. Pleura becomes thick  
                                   c. 1 lung more affected than the other  
                                   d. Difficult breathing  
                                   e. Productive cough  
                                   f. Catarrh  
                                   g. Marked weight loss | Antibiotics  
                                                                  Prevention: Perivax vaccine |
| 5. Tuberculosis | a. Weight loss  
                   b. Cough  
                   c. Inflammation of the ganglions  
                   d. Diarrhoea | Treatment should not be attempted. Animal should be slaughtered as soon as possible and disposed off. |
| 6. Trypanosomiasis | a. Constant fatigue  
                       b. Excessive lacrimation  
                       c. Loss of tail hair  
                       d. Weight loss and anaemia  
                       e. Loss of appetite | Trypanocidal drugs  
                                                                  - Berenil  
                                                                  - Tryparadium  
                                                                  - Novidum  
                                                                  Prevention: Trypanocidal drugs |
| 7. Fascioliasis | a. Foul-smelling diarrhea  
                    b. Weight loss  
                    c. Constant weakness | Fascioliasis drugs |
| 8. Foot-and-mouth disease | a. Affects all oxen, but calves have highest number of deaths.  
                               b. Excessive salivation  
                               c. Pustules in the mouth  
                               d. Nail and interdigital injuries  
                               e. Ulcers on the udders | Self-resolving benign disease |
4.1.2 Alexandra Lavrova

A distributive dictionary

Alexandra Lavrova
State Nizhnij Novgorod Technical University

The idea of a distributive dictionary is associated not with an ordinary and traditional way of storing specific vocabulary and systematizing it, but with the specific vocabulary of special texts. A distributive dictionary (DD) studies the distribution of words in sublanguages occurring over a narrow stratum viewed synchronously. The necessity for such a detailed interpretation of special words arises from the intensive development of specific domains of LSP and the concomitant changes in the vocabulary units in the corresponding sublanguages. The analysis of these distributions is achieved by comparing the sublanguage examined with those in the same stratum and also by dividing it into sublanguage domains of the lower range which are located in a neighboring stratum of the hierarchy or the sublanguage strata. Theoretically, such sublanguage strata can amount to an infinite number although in practice there are no more than ten; this number is characteristic of the level of development of branches of science and technology. While comparing these sublanguage strata and given that further subdivisions are feasible, the possibility presents itself to fix and register the common vocabulary which is characteristic of the whole set of sublanguages. This is a neutral register that represents the nucleus around which special and terminological words are grouped.

Word specificity and neutrality

Neutralization of some portion of the vocabulary in the upper stratum is realized at each new transition to a lower stratum of the hierarchy. In parallel, neutral vocabulary can become specific in the next stratum. Going deeper into the strata of the hierarchy, neutral vocabulary can again exchange its neutrality for specificity when the terminological aspect comes true. This new terminological dominance can also be neutralized to reflect the characteristics of the nucleus: the possibility to get back to terminological characteristics is also preserved. In the stratum of more narrow and special sublanguages, this change between neutral and specific characteristics can be fixed repeatedly.

In contrast to such variations, which are characteristic of most lexical units, so-called "through" vocabulary preserves its feature of neutrality with stability without undergoing any changes.

When the specificity and neutrality of any word is undergoing change, a question concerning its polysemy often arises. We can differentiate material and additional meaning in a polysemous word. In a material meaning, specificity is neutralized at the highest point of the sublanguage hierarchy; if specificity is neutralized at lower points of the same hierarchy or is not neutralized at all, this is called ‘additional’ meaning. In this context, it is also necessary to differentiate a historical original meaning from a modern material meaning as meanings change diachronically.

The resulting data in a DD can be used to determine formally whether a word is a term or not. A word represented as a term in one sublanguage can lose this terminological characteristic in another.

Organizing principles of a distributive dictionary

When speaking about the principles of organizing a DD (Lavrova 1994), existing systems of sublanguages can be used. However, to increase the reliability of the scientific data, all the texts should be tested for sublanguage homogeneity, all sublanguage material first having been divided into standard units (the length of each standard unit consists of 1,000 word forms). The text is then subjected to statistical tests in order to establish whether it can be considered to be homogeneous. The arrangement of the standard units represented is formed by one standard unit taken out of each text to be considered homogeneous.

The described algorithm of such a text arrangement is very time-consuming and so it is recommended that processing is computerised. The vocabulary filling the sublanguages is interesting from the lexical and morphological point of view. Sufficient lexical and morphological information is given by connecting words, e.g. prepositions, which are usually concentrated in the neutral portion of the nucleus.

As a rule, syntactic links between the words studied are of no concern for the purposes of a DD. However, the semantic characteristics of words and the connection of concrete words with the phenomenon of polysemy and even with functional stylistics is very important for the organization of a DD. All the analyzed words are grouped inside the sublanguage in strata and that is why it is right to analyze lexemes in one, two, three and so on strata. Such an analysis is very informative: stratified data in the combinatorial distribution illustrate the fact that a lexical stratum is a part of a complex organization system linked not only with other strata but also with socio-linguistic phenomena.
The principles of organizing a DD are the following: a DD is defined by a notion of a given sublanguage; this sublanguage is represented by a concrete time period; the given sublanguage is divided into a row of more narrow specialised sublanguages (e.g. of science, technology etc.), which are united into strata to produce a hierarchy. By analyzing selected words in different strata in the hierarchy, valuable information can be accumulated to show that the vocabulary is organized as a system. Data handling is computer-processed to get quick, reliable and exact findings. Further technical details can be found in Andreev (1967), including the possibility of differentiating common words from special words and terms from non-terms.

Problems which a DD can help to solve

A DD can help to solve the following problems: the first is a theoretical one, namely to specify the way in which a highly-organized set of semantic relations is realized across different strata. The second problem is a technical one, namely to organize information searching systems based on the concrete DD computerized data bank. The third is concerned with developing methods to use the carefully selected narrow vocabulary of a concrete sublanguage to study the corresponding special language. The methods used to develop a DD can be used to formulate the criteria to select lexical units to compile dictionaries (depending upon the specification of the latter), and finally to develop the theory as well as the practice of quantitative lexicography.

The experimental procedure

The current investigation is based on the sublanguages of organic chemistry, five sublanguage strata of which are considered, represented by chemical and technological sublanguages, of which there are 32. The first stratum was filled with the sublanguages of mathematics, chemistry, physics, prose, drama, poetry, law, politics, economy and sport. Such a set of sublanguages in the first or common linguistic stratum could demonstrate the representativeness of the experimental material.

The second stratum was packed with seven sublanguages: physical chemistry, organic chemistry, electrical chemistry, high molecular compounds, biochemistry, inorganic and analytical chemistry. This stratum (a common chemical one) involved the principal divisions of chemistry; the number of sublanguages was limited to those provided in the chemical literature.

The third stratum divides the sublanguages of organic chemistry into four narrow sublanguages: aliphatic, aromatic, heterocyclic and alicyclic compounds. Six sublanguages of aromatic compounds are considered over the fourth stratum; they are: alcohols, carbonyl groups, acids, ethers, amines and amides. As for the fifth stratum, it contains five (the most narrow and special) sublanguages of organic acids chemistry: acetic, benzoic, acrylic, trifluoroacetic and formic.

The hierarchical structure of organic sublanguages was accepted without any preliminary testing. The organic literature was sourced from English and American periodicals. The total number of standard units per sublanguage was 100 in the first four strata and 20 in the fifth stratum.

The theme of the texts is various but always corresponds to the actual sublanguage; texts belonging to several sublanguages were not considered. The experimental data were computed. The most interesting words to interpret linguistically seemed to be the words belonging to many strata; they are so called “through-stratum” lexical units. The results revealed the distribution of words across the five strata of sublanguages, including when and in which stratum a word under analysis was marked as neutral and when it was of significance, as one of the principal problems of a DD is to reveal the neutral marking of organic sublanguage words.

The experimental distribution of words

The experimental investigation into the vocabulary of organic sublanguages revealed the specific distribution of words across the special sublanguages. Under modern conditions the process of common and special vocabulary interaction becomes the following: special sublanguages enrich the common scientific vocabulary with terms. This process is precisely fixed by a DD. Local regularities of sublanguages lower in the hierarchy are displayed mostly when the stratum is placed towards the top of the hierarchy and, correspondingly, when the semantics of the stratum is more specialised. Lexical units not belonging to the first stratum to fix the distribution in any sublanguages, but also not manifesting this characteristic in other sublanguages of the same stratum, belong to the common vocabulary of the marked sublanguage.

Polysemy is usually followed by an uneven distribution across sublanguages; this is compatible with the action of social factors. A DD fixes the development of polysemy in different strata, meaning that a word can combine one common linguistic and one or more special meanings; when polysemy involves not one but different strata, membership of the mixed group is realized at the position of maximum contrast in some sublanguages and at a neutral one in others.

Evenness of distribution registers the characteristic of monosemy; the more dominant the main seme, the more clearly its type is manifested, and that is clearly shown over the lower strata. Words united by one and the same semantic field usually possess one-type distribution over sublanguages. Word distribution also depends on whether they are a part of word combinations or phrases. Many peculiarities of distribution demand some minimal set of requirements below which the distribution is not fixed.

The experiment proved first of all that many stratum words cover the full range of specificity types. The most analyzed words displayed neutrality starting with the second stratum (i.e. the common chemical stratum); this neutrality is represented by the following variations: absolute, arising, preserving, alternate and losing.
Data observations

The characteristic of neutrality regarding the lower strata is semantically more definite when compared with the upper strata because it is concerned with fewer meanings. The problem of compiling a DD is closely connected with a vocabulary which can be considered as a system realizing changes in the specificity and neutrality of words as a regular interlingual phenomenon. Linguistic reasons for changes in specificity and neutrality are also influenced by many various extralinguistic (social) factors.

The experimental data shows that sublanguage specificity in the ‘deep’ strata is inevitably followed by zone changing. Moreover, a special word can become a neutral one at the moment of its transfer to a lower stratum, whereas a neutral word can acquire specificity or just lose it, and so on. The observed cases of change are due to some dynamic movement in the semantic links manifested in the sublanguages studied, not only syntagmatically but also paradigmatically.

This statement confirms the thesis that the highly organized semantics of any words in the sublanguages analyzed intersects structurally with the semantics of lower stratum special sublanguages with respect to given linguistic laws, and that leads a word to belong to one of the three linguistic registers in the sublanguage strata.

Similar phenomena can be studied, fixed, observed, but lack the possibility to influence dialectic language development which is at any particular time too systemic and full of inner contradictions interacting immediately with extralinguistic processes. Such processes are the consequence of sublanguage vocabulary changing. Language development is not defined only by its structure because the structure itself only creates the background and is not considered as a decisive factor in this process.

One of the main tasks in organizing a DD is to prepare reliable original data to classify texts automatically; these data can be extracted if information is available concerning the magnitudes of correlation function regarding the words that are specific to concrete sublanguages.

References

4.1.3 Giuseppina Cortese

LSP: multilingual deficiency, multicultural ambiguity*

Giuseppina Cortese (Università di Torino)

1. Aims of the paper

The world of work, as well as linguistic heritage and recent sociolinguistic modifications in local environments, are increasingly demanding multilingual and multicultural competence. Instead, the educational sphere conservatively seems to emphasize a monolingual approach geared to ESP in a perspective of narrow practicism. Whilst paying lip service to “the importance of languages”, those responsible for educational policy all too often stick to an “English only” attitude, supine to an opportunistic, utilitarian view of the predominance of English. The current negative phase in the economic cycle is often invoked to justify limited provisions for languages and, further, to restrict domain-specific English to the “service courses” of old. Such negligence hardly leaves room to foster and to apply current research into multilingual and pluritextual domain-specific literacies (Bhatia 2002: 49-53; Candlin and Hyland 1999) which are crucial to a knowledge-based society and, more specifically, to communities of practice which construct and disseminate knowledge through synergy with educational institutions and agencies.

This paper explores both the sociocultural practices and the epistemic persuasions nourishing ambiguous stances on multiculturality as well as deficiencies of choice, that is to say limited learning opportunities with regard to multilingual specialized discourse, focussing on local manifestations (in the region of Piedmont and the city of Turin) of a more general trend. The paper claims: a) that language teachers need to work on perceptions and representations of languages; b) that the LSP profession needs to endorse a policy of domain-specific multilingualism; c) that LSP scholars should promote appreciation of their concerns amongst the wider public.

2. History and histories: linguistic heritage and sociolinguistic repertoire

For good or ill, at the end of the second millennium AD and the fifth full millennium since recorded history began, English is unique. No language has ever before been put to so many uses so massively by so many people in so many places – on every continent and in every sea; in the air and in space; in thought, speech, and writing; in print on paper and screen; in sound on tape and film; by radio, television, and telephone; and via electronic networks and multimedia. It is also used as mother tongue or other tongue – fluently, adequately, or haltingly; constantly, intermittently, or seldom; happily, unhappily, or ambivalently – by over a billion people. (McArthur 1998: 30)

A region never “speaks” a single history. Particularly in border areas, language policies reflect the vicissitudes of neighbouring nation states, their alliances or antagonisms, as well as changing circumstances / ideologies in domestic affairs. Current toponomastics in the Italian region of Piemonte, for example, shows a return to ancient French place names for which Fascist autarchy had imposed a translatio into Italian: thus, Salabertano or Salice d’Ulizio are again officially named Salbertrand and Sauze d’Oulx. Parallel to this, there has been the spread and primacy recognition of the Italian standard, though the local Patois and its variants specific to valleys and villages along the alpine border have survived to a degree. On the French side, remarkable Italian migration since Word War II has produced enclaves of Italian usage which have not escaped the attention of sociolinguists.

The language map traced by official policy is constantly blurred by the flow of human beings following the basic human drive to seek a better station in life. Thus my great-great-grandfather, Guillaume Humbert, left his home town of Château Queyras, on the French side, and crossed the Alps to find a new niche for himself in the shade of the fortress which, beautifully restored, still towers over my grandfather’s home village of Exilles. A skilled knife-grinder, he found plenty of work with the bayonets of the army garrison populating the fort, and also developed some medical skills which, so the legend goes, were highly appreciated in the village. His descendants became firmly rooted in the new local and then in the new national identity, till post-war world scarcity led some to migrate back to France.

Such hints of family history would hardly deserve any attention; the fact that my mother’s grandmother, known in her village as “Tante Pauline”, had received her primary instruction in French and never quite mastered standard Italian is no special memory, for a large number of families native to the region share such linguistic precedents. Yet anecdotal evidence, dating back to the early Seventies, sets the picture in a different light. I distinctly remember a young English-language graduate trying to convince my mother that she was mispronouncing her own family name, for, surely, Humbert is to be pronounced *hømbɛr* (‘Humbert’). How off-putting, this rash denial of her own roots coming from another Piedmontese: was Nabokov’s Lolita so popular as to make people forgetful of their own linguistic heritage? In terms of language consciousness, this episode was a “tip of the iceberg” – besides replacing French as the dominant second language, English was effacing linguistic memory from our regional identity.

American English was gaining popularity with young adults, who liked the language for ideological and symbolic reasons. Such reasons were, however, very different from those of our wartime predecessors; North American literature, music and culture no longer represented the (elitist) nourishment they had been for the imagination of the Resistance heroes, supporting

---

* National research project MIUR 2002, prot. 20021042353.

† See e.g. Lucci and Miller (1992) on the linguistic repertoire and linguistic attitude emerging from the names of shops in Grenoble: whereas the “bänlieue blanche” has an exclusive preference for English, the “bänlieue rouge” only rarely uses English and shows an orientation, though not an exclusive preference, for Italian (p. 85).

‡ Whilst North American literature started acquiring a “mythical” aura as the carrier of alternative values to the regime in the early Forties, what needs to be stressed here is that the dominant pedagogical model in EFL, till very late in the century, remained “British” English.
them in their effort to create “another country” of courage and honour. Whilst the city of Turin turned into one of the major poles of immigration from our rural South, American texts were nourishing contestation and sociocultural criticism of the very consumer society which was attracting Southern labourers and white collars. Fluently spoken by relatively few amongst the affluent and the progressively-minded, English was at the same time growing into a prerequisite for career advancement, with in-house language courses mushrooming in mid to top-level companies. It firmly gained the position of first foreign language in the school system and made its ingress in non-literary University curricula.

Nearly thirty years later, and with several generations of learners, teachers and teaching methods involved in this English-first policy, what are the tangible results? Most school leavers with five to eight years of English complain that their knowledge of the language is of little use in actual interaction. Parents observe with perplexity the swings of the pedagogical pendulum and voice their complaints: from “too much grammar, the kids do not get any chance to practise the language” to “too little grammar; the kid has no systematic approach to the language”. They encourage their offspring to pursue international certification and make substantial investments in study-abroad programmes.

Are people really motivated to use and learn the language? Do they perceive language-learning as a lifelong process? A most eloquent answer comes from an anonymous native speaker, who was recorded in the course of field research: “I am tired” – goes the revelation – “of teaching people who have no desire to learn the language” (my emphasis). Thus, explicit recognition of a need to learn the language often goes hand in hand with a deep-seated indifference to it: awareness is not the same as willingness. The comment identifies ambivalent and resistant attitudes to language power, nourished, I suspect, by sociocultural representations associating mastery of the English language with social promotion and hierarchy – a form of prejudice and a stereotyped belief which only the recent increase in transnational mobility has seriously started to erode. Fluency in English is a socially sensitive topic.

Thus, in spite of “early bilingualism” (initiation to English in primary / pre-primary education) and of whole colonies of NS (for the myth of the native-speaker is a die-hard one) teaching learners from all walks of life, access to the language as a daily affair is still an opportunity and a competence reserved to the few. At the same time, in this city which used to be French-speaking, dwellers no longer seem to recognise French street names: the culture loss is a fait accompli. Further, this divorce from past linguistic heritage seems paralleled, as regards young people, by a loss in their own “crib language” – the vocabulary of Italian adolescents being down to about half the expected size.7

The many histories of the region and of its main city, especially migration history but also industrial history, labour history and intellectual history, chart the course of a complex linguistic heritage and changing sociolinguistic repertoire. The context now appears to be largely monoglot in the sense that the majority are actually “native” (though not “uncontaminated”) speakers of Italian sociolects, with Northern Italian prestige features tinged by more or less marked traits from the local as well as various other dialects.5 As argued above, there is evidence of language oblivion as regards French, with a clear predominance of English as a foreign language. Further, like many other European metropolitan areas, Turin is now coping with a highly diversified non-EU immigrant population: 32% of the newborn in 2002 had a “multiethnic ribbon” (Minucci, 2003), with one or both parents of a foreign nationality.

In terms of their linguistic repertoire, the fragile newcomers speaking alien idioms, from Eastern European to Chinese, South American and African tongues, are truly multilingual. Forming ethnically cohesive networks and neighbourhoods, they may practise more than one native language and often extend the repertoire through marriage with other foreign nationals. Their shop-windows, fashion, produce and “culture scripts” (Wierzbicka 1998) are revitalising our ethnolinguistic urban landscape (Landry and Bourhis 1997) as much as identifying specific spaces of marginalisation: all too often, the perverse effects of cultural impermeability make this multilingualism into a barrier and a curse.6 Whilst educationalists, social workers and the police try to implement local programmes for the negotiation of mutual fears and mutual boundaries into solitary feelings, full citizenship will eventually involve heavy curtailment of this multilingual repertoire in the complex transformation of social identities.

3. EFL: heyday ad beyond

The multilingual situation amongst the old and new disenfranchised, in their native lands as well as in their refugee contexts, demands language policies that will not force them into a linguistic and cultural no man’s land, alien to their own culture.8 Only a fine-tuned agenda of intercultural dialogue can avoid these risks, and if such dialogue is diversified instead of being channelled exclusively through the major international language, a wider range of participants will become involved and take responsibility:

---

7 An Italian-speaking US news commentator commemorating the late Senator Agnelli included amongst the reasons for his excellent relations with the US political and financial elites the fact that he was one of the few Italian industrial leaders who could speak English fluently.

8 “The expansion of English has brought about a sociologically profiled gradient of social presence and exclusion”, writes Duszak (2002a: 17), who also notes, and her point is indeed crucial, that the gap between people’s assumptions about their knowledge of the language and their actual language skills needs investigating (ibid.: 228). It is worthwhile noting that, according to recent research at the University of Turin, learners may underestimate their own EFL competence (Solly 2003).

9 In his regular column on La Stampa, well-known specialist in English world literatures Gorlier has often reported on this cultural loss; for example (see e.g. Gorlier 2002), he reports local speakers using the English tonic stress for such historically significant names as Cavour.

10 For recent comments by psychologists and linguists concerning Italian adolescents within this widely attested, transnational trend in the language of youth, see La Stampa, 14 Jan. 2003, p.15.

11 For an accurate, statistically documented sociolinguistic appraisal of dialects –their current revival, positive perception and re-positioning in the local repertoire of Italian speakers, with code-switching and code-mixing phenomena occurring now in all regions and in ordinary conversation – see Berruto 2001; for the “quant” usage of dialect as part of a fashionable revisiting of “the old ways”, see Telmon 2002 on the catering business (restaurant names reveal both a retrieval of dialects and a taste for plurilingualism).

12 For a discussion of hate speech and a view of multiculturalism as a coverup for the fear of a hybrid society, see Fish 1997.

13 On language programmes in developing countries that will valorise the mother tongue and on other key issues of multilingualism that will be only marginally mentioned in this paper, such as language maintenance within migrant communities and multilingualism in the construction of a “European public sphere”, see contributions in the International Journal of Bilingual Education and of Bilingualism Vol. 5 N. 6, 2002.
would the petitions from Italy that saved Safya from death by lapidation in Nigeria have been so successful if the texts had been in English?

Moreover, the spread of English throughout the world has backlashed on the language itself, increasingly manipulated by different indigenous identities. An advertising campaign in Italy during the 2002 Christmas season, for example, clearly exploited linguistic “domestication” in a striking hybrid. The phonemes of famous Christmas carols had been turned into sequences of Italian morphemes, reproducing the sounds of English captured by an Italian ear, e.g.

GINGOL BEL
GINGOL BEL
GINGOL OL DE UEI

Such cross-cultural graphics is the creative side of a process which more often consists of an ambiguous misappropriation of English especially by the media, as in the job advert below (fig. 1):

![Fig. 1. Source: La Stampa, February 2002.](image)

Italian job advertising makes lavish use of English to identify work positions (manager etc.), so the reading public is familiar with such loanwords (Duszak 2002b also stresses this with regard to the Polish media). However, one may wonder here what readers will make of La “mission” della posizione. The “false friend” position is a rather bizarre instantiation of the Italian posizione, which usually applies to a secure or settled job / successful career and consequent good station in life (una buona posizione)\(^\text{11}\) and certainly sounds odd in the context of job descriptions. Even more awkward is the occurrence of “mission”, which in English advertising or job announcements usually refers to company ethics and pro-social commitment (see the last two lines in fig. 2 below). But mission is now frequently used in Italian in-house language (or rather, the jargon of linguaggio aziendale) to mean the specific tasks/competencies involved in a job.

![Fig. 2: Source. The Washington Post, August 1998.](image)

Such deviance from the standard collocation in the English genre pattern, like other distorted echoes and citations, seems to be common currency in the Italian media and may well be an embodiment of the advertiser’s power, as in this case, to select out potential applicants who are unfamiliar with the current business language. These loanwords, then, are more than manifestations of an “anglomanie paressesse et aveugle” (Galisson 2002: 502); they are socially loaded forms of linguistic manipulation, which discursively construct new lines of social discrimination (see Duszak 2002a: 6 on similar strategies in Polish media).

The Italian government, even, is producing major examples of this “outgroup” rejection strategy. Recent guidelines concerning research in science and technology include statements like the following:

*impiego di venture capital per spin-off della ricerca e di capitale di rischio per lo start-up di nuove imprese*

as well as numerous other English noun phrases or premodifiers (*knowledge intensive, knowledge based, turn over, reverse market*) freely imported into the Italian register of science and technology.\(^\text{12}\) One is tempted to say that English works here to don

\(^{10}\) More recently, a Valentine poster by the same jewel factory: AI LOVIU BEIBI. Notice that Happy Valentine cards and Valentine celebrations are less popular in Italy than in anglophone cultures.

\(^{11}\) For an authoritative literary source see e.g. C. Levi, *Cristo si è fermato a Eboli*: “Il ragazzo voleva entrare ora al corso per sottufficiale dei carabinieri, e sarebbe partito tra poco. Non sognava che la divisa. Non era questo l’avvenire che il padre aveva sperato per lui, ma era tuttavia una buona posizione” (Torino: Einaudi, p. 53, my emphasis).

an image of competitive efficiency to research marketing policies which carbon copy “international” standards and procedures. This linguistic and textual “sell-out” to Anglocentric models in important sectors such as business, the print media and the production of knowledge smacks of the hegemonic “center”-“periphery” relationships eloquently discussed in Canagarajah’s (2002) study of geopolitical inequalities – a study which is of much interest to my present topic, particularly its analysis of ethnocentric mystification and silencing of ways of producing and textualizing domain-specific knowledge outside predominant canons.13

This is not to predict a “decay” of Italian, nor a “balkanisation” of English. It seems that Italian firms have started to realise that the promotion of their products draws an advantage from the parallel promotion of a strong sense of identity carried through language, so a reduction of this anglicising trend is likely to occur. As for English, the very history of the USA mainstream is a massive example of one culture being “done” differently by various groups. Rather, it is interesting to note how the variegated geography of EFL / ESL contexts increasingly shows a drop in competence standards everywhere, often coupled with a more or less subterranean resistance to the language. This would seem an expected outcome in postcolonial situations, or in contexts where the language may dramatically symbolize the very opportunities which are denied to the local populations. However, one doesn’t need to travel such cultural distances to perceive the problem; the anonymous EFL teacher quoted in part 2. above shows how, even in Western countries, the higher the compulsion the lower the disposition to learn the language, especially as regards mature learners with an instrumental motivation. The concern in language pedagogy to differentiate objectives and approaches, well-exemplified in the volume edited by Candlin and Mercer (2001), shows how the linguistic profession has become deeply aware of the need for practitioners to place themselves on the same contextual wavelength as their learners and to negotiate methodologies in terms of local representations of the language.

Whilst English celebrates its heyday as the primary international language, on the European continent the recognition is spreading that empathy and mutual cognitive environments are built on more secure foundations when intercomprehension across the respective languages is possible. Young graduates initiating their work experience within mobility schemes; students leaving the home cocoon and discovering different lifestyles through Socrates exchanges; travellers growing aware that tourism means more than a “cultural gaze”; the sick pursuing advanced care protocols in highly specialised institutions abroad – all these are newcomers to the value of plurilingualism.

At the start of the new millennium, the citizens of Europe seem to be perceiving a public space which is no longer a distant entity in the hands of the “Eurocrats” but rather an arena where individuals are responsible actors in the definition of a new balance between unity and heterogeneity.14 This new balance requires equitable recognition of needs and opportunities, for which expanding intercultural competences are a prerequisite. Whilst regional sociolinguistic landscapes are being incisively modified by migration and immigration, regional identities are reworking cultural schemata, particularly the perception of multilingual/multicultural social groups, hopefully toward the defeat of xenophobia and anti-foreigner discourse. At the same time, ethnocentric and linguistically self-defeatist prejudice viewing the appropriation of foreign languages as something meant only for the upwardly mobile elites is another attitude that is beginning to change.

Such ambiguities in folk ideologies of multilingualism/multiculturalism identify relevant dimensions on the agenda of the linguistic profession,15 indicating that important work needs to be done on representations of languages, on “impression management”16 concerning national/ethnic/racial affiliation – in one word, the ineliminable component of social identity which Dusza (2002a) calls “Othering” – and on their implications in terms of social distance.17

4. Tertiary education: plurilingual or anti-languages?

Thus, civil society is spontaneously – though not quite straightforwardly – moving towards an appreciation of multilingual practices. Expert guidelines issued by the Council of Europe and investing all stakeholders, from Ministries of Education to families, are disseminating the notion that acquisition of “the other” second language is a timely and necessary educational bonus. Clearly then, for job market entrants to be enabled to face the world of work with plurilingual competences, it is crucial that tertiary education address the issue.

Does the question of providing opportunities to cope with academic and professional demands in more than one language appear to be a substantial concern for academic institutions? The current scenario looks disheartening. Although official reports, Ministry guidelines and the grey literature issuing from international agreements all stress “the importance of foreign languages”, facts show a dramatic setback. In Italy the new university reform, carrying an aura of managerial practicism, seems to be producing a threefold regression: first, a growing intolerance for LSPs which are seen as “stealing” space from the core academic or professional subjects that qualify the specificities of curricula; secondly, a return to the “English-only” policy, mostly as a face-saving operation to show that at least one foreign language is offered; thirdly, a revival of the notion of ESP as a “service” to be provided with minimum expenditure of human and financial resources.

The main reservations concerning LSP seem to be: a) there has been a decline in the native language competences, therefore teaching more than one foreign language may be unrealistic; some provision should be made instead for improvement in the standards of the national language, especially as regards writing skills; b) outsourcing for minimal language competence can be a more efficient, practical and above all cheaper way to “solve the problem”; c) credits “spent” on language study reduce or limit the specific formative content of the degree curriculum.

Following this agenda, and giving it further credibility on the assumption that “languages are expensive” as teaching may require laboratory equipment besides posts and salaries, an “English only” policy is often pursued, using the left-over credits from

13 See also Canagarajah (2001) on the need for new approaches to the pedagogy of ESL academic writing, which will help language-minority students “negotiate a place for for their local discourse conventions, intellectual traditions, cultural practices and the vernacular” (p. 117).
14 For a discussion of an “active” European identity and cultural / linguistic pluralism, see Murphy-Lejeune and Zarate (2003).
15 On language ideologies and language myths, see Milroy 2000.
16 On “impression management” and the fear of conveying racist sentiments, see Condor 2000.
17 Early plurilingual education is key to these issues (Cortese 2003).
the allotment of degree credits to the various disciplines, for example two credits, for this ESP “course”. In numerous cases, one lecturer is facing hundreds of students with heterogeneous levels of language competence – situations invariably justified by a scarcity of funds. Finally, international certification is turning into a formidable excuse (Solly 2003) to do without ESP courses: an engineering student with PET is considered to have sufficient “languages” to face the profession! Once again, lip-service has come to mask an ideology effacing cultural and linguistic pluralism as an objective in higher education.

Obviously there are exceptions to this situation, but in the main the “renovated” academic setup has involved a negative turn for languages in special domains. This is both the manifestation and the consequence of a political disequilibrium in the decision-making arenas, where linguists are all too often a powerless minority.

We, as a professional community of linguists, need to re-negotiate our Lebensraum in our local sphere of action, and to argue for a valorisation of language education in specific domains. Experience suggests that such a conspicuous lack of fit between declarations of intention at policy level and actual scarcity at implementation level cannot be corrected by individual negotiation – indeed it may, but at a formidable cost in terms of individual energy and emotional investment. It is therefore high time for the profession to take a stand and to produce authoritative policy statements to be disseminated to decision-makers, from Rectors’ Conferences to Faculty Deans, so as to shake the current lack of disposition to hear, when it comes to local realisation of national and international directives on plurilingual education.

5. Academic language planning and “epistemic oligarchies”

Who are, then, the potential addressees of an effective LSP implementation policy? Academic and research institutions in general have developed de-territorialised epistemic communities characterised by subgroupings. These “schools of thought” nourishing different theoretical/methodological persuasions are now increasingly networked, with a remarkable degree of knowledge transfer through researcher mobility that is no longer predominantly bound to English-speaking contexts; the scientific community is aware of the increase of human and social capital connected with the accumulation of experiences of work and life in different countries.

Whilst transnational, plurilingual activity is more and more ingrained in the actual practices of scientific communities, allocation of space for language study in higher education institutions is a different story altogether and is bound to local administration. From the interlocking of knowledges with the corporate world sponsoring research, and from local power relations within the institutions, new “epistemic oligarchies” are emerging locally and deploying the mundane strategies which affect, and are affected by, economic policy in the increasing characterization of education as a marketplace. In spite of the fact that a very large share of the new start ups as well as large corporations are concerned with communications, these local oligarchies, I believe, prefer to ignore the principal dimension of human communication, that is to say multilingualism. It is these oligarchies, then, that need to shake off what seems to be an ambiguous and short-sighted attitude on multiculturalism / plurilingualism within the academy and the professions. They are the key interlocutors for linguists, since they are the ones who wield the power to curtail and deviate the financial flows from the Ministries or central Administrations: whilst governments decide to support language-learning / teaching, locally these power structures may well decide to prioritise outsourcing instead of enabling the university to implement diversification of language learning.

When the ascendancy of English as the international language became an obvious process, many a voice was raised to warn that anglicisation would involve linguistic loss by foreignising great national traditions of scientific writing. Lexical, syntactic and rhetorical assimilation of English patterns would equally involve – indeed, both processes were considered to be well underway – increasingly anglicised ways of doing science. The impending risk was an impoverishment of cultural pluralism. Such alarms proved perhaps excessive, at least as regards Mediterranean Europe, for its scientists do not appear to be prone to “submit” to the English language (Carrio 2002) or too interested in seeking excellence in its use; rather, it would seem that they ambiguously stick to the old preconception equating language use in specific domains with a “toolbox” of specific terminology (Nuccorini 2002).

Now, it is precisely this persuasion which is guiding the myopic policies on LSP at tertiary level described above. According to this view, language is the linear sequencing of discrete units; a “specialist language” is characterised by specialised vocabulary; special vocabulary is the heart of the “vehicular” role of languages in special domains. Thus goes the syllogism centred on the idea that language is a mere container – “a conceptual other, which linguists, on the contrary, argue can legitimately be seen in the first place as a linguistic construction” (Cortese 2002: 369). Nothing has done more damage to LSP pedagogy and caused so much misunderstanding about language education in specific disciplines and professions than this notion of language as mere vehicle. It is easy to see how, within this reductive equation of LSP with special lexicon, two credits are deemed to be enough for a language course; it is just as easy to see how, in conservative quarters, testing is again predominantly seen to consist of word-for-word translation (ibid.: 371).

We are then entitled to speak of a deficiency in the academic interpretation of multilingualism: at the local policy level, provision of a diversified language pedagogy is increasingly seen as unnecessary; at the level of language awareness, ignorance of the communicative focus of language pedagogy and research leads to a commodity view of languages, as a mere utility grafted on
a specific body of learning. The paradox is clear when one considers the increasing plurilingual experience both in society at large and in the epistemic communities themselves: hence “epistemic oligarchies”, inasmuch as they fulfill the role of local gatekeepers, are deploying a deliberate avoidance strategy. The plurilingual / pluritextual nature of our knowledge-based economy is simply left alone: let the young researchers or job-market entrants cope on their own. If they do not possess the language competences to cope, there’s always some handy scapegoat: teachers, teaching methods, lack of adequate technology etc.

6. Conclusions

What we need to set out to do, then, is negotiate the common ground with the professions which Bhatia (2002: 41) finds lacking. Show the gatekeepers how linguistic education consists above all in the development of a culture of texts. Show how academics and professionals constantly engage in the production and consumption of documents pivoting on different genres and text-types, addressing different interlocutors for different purposes. Show how interpretive and critical skills are the very foundation of LSP, whose formative role makes the “special vocabulary” view of language appear to be a naïve, “efficient” but ultimately ineffective reduction of LSP research and pedagogy – “la dérive instrumentaliste actuelle, qui fait de certains enseignants les monteurs (presses) d’une langue rudimentaire, pratique-pratique, à usage strictement professionnel” (Galisson 2002: 498, my emphasis).

Here, Fairclough’s (2001: 234) emphasis on the centrality of discourse in the constructs of “knowledge economy” and “knowledge society” is crucial:

Of course knowledges (science, technology) have long been significant factors in economic and social change, but what is being pointed to is a dramatic increase in their significance. The relevance of these ideas here is that “knowledge-driven” amounts to “discourse-driven”: knowledges are generated and circulated as discourses, and the process through which discourses become operationalized in economics and societies is precisely the dialectics of discourse.

Such dialectics involves the projections of “possible worlds” as well as materialization of discourses into actual worktools and into discoursal genres which may or may not be eventually “owned” by those who apply the related speechstiles, but certainly entail a positioning of subjects, a dialectic of identity (ibid.: 235-36). In this sense, even the most technical discursive formation and communicative genre involves semiotic activity – reflexive practices, values and awareness. It involves, therefore, culture-bound phenomena and world-views which, when given a voice, indeed make the knowledge-based economy / society mean much more than the Western economy and the Western way of knowing prevalently textualized in N-NNS English.

It needs to be persuasively argued that the literacy activities and genres within epistemic communities are diverse, and also differentiated from those characterising communication in the respective worksites / professional arenas. A pluralist view of the author function, of such crucial factors as identity and positioning in writing practices, and awareness of the complementarity of literacy with spoken communication, needs to be conveyed. As shown by Riley (2002), this “culture of texts” in special domains proceeds from the epistemological framework of a knowledge-based society wherein written / spoken / multimedia communication evolves from shared knowledge: but knowledge is differently constructed, valued and exercised in discourses by academics, professionals, specializing apprentices, industrial leaders, policy-makers, trade unionists and other social actors.

At the same time, key aspects of writing as social action, such as the imbrication of the social and the epistemological in the actual texture of spoken and written communication, need highlighting in order to show that social practices are differently perceived and conveyed in different cultural systems, so that it is profitable for today’s highly interconnected, transnational firms to acquire a consciousness of “language” skills extending to a plurality of texts in more than one foreign language and literate tradition.

The issue no longer is, or not simply is, that the hegemony of English needs to be contained, but rather that there is much to be gained from a culturally pluralistic perspective obtained by tapping knowledge resources and discourse traditions in their own linguistic embodiments.

Arguing for genuine and widespread plurilingualism in LSP is no quixotic defence of languages against academic authority. There are advantages to be gained in plurilingualism: for a less opportunistic approach to English as a foreign language; for the re-appropriation of the local multicultural heritage and, last but not least, for a re-appropriation of fine-tuned literacy in the “cumb language”. Within the framework of “universalistic contextualism” so well illustrated by Martinelli (2002), intercultural dialogue through multilingual communication is a fundamental prerequisite for self-reflexivity, the critical self-awareness of local identities which provides the cornerstone for overcoming particularised behaviours and for the diffusion of equity in socioeconomic relations. These goals should be priorities in tertiary education everywhere – in universities as well as other formative agencies which make up systems of learning, synergically producing and disseminating knowledge.

It is no coincidence that the Turin School of Engineering, which has a long-standing tradition of excellence also outside national boundaries, recently published guidelines for dissertation writing. This reveals the degree of concern within the profession about the decline of writing standards in the national language. However, to revive those standards it is not sufficient to recommend that the language of engineering documents bear no frills. The blueprint would have been much more effective if linguists had been involved, maybe with a view to providing a comparison of text types across a number of languages which are of primary importance in terms of our School of Engineering’s strategic collocation in Europe and in the Alpine ecosystem. Here, to return to my familiar context of Piedmont in which I have grounded my discussion, is a “rhetorical affordance” gone lost; discursive investigation of the genres used in engineering (besides the well-researched “engineering report”) across different institutions and their respective languages would usefully promote intercultural attitudes and literate skills much needed by engineers who are out to face the requirements of transnational professional practice.

I have outlined, with particular reference to the region I know best in sociolinguistic terms, a two-tiered multilingual situation – one level referring to the new configuration of ethnolinguistic space due to migration, and one referring to the intensifying transnational mechanisms of the knowledge-based economy. Both are ridden by ambiguities and misrepresentations which the linguistic profession is called upon to investigate and to make manifest to decision makers for a viable policy of multilingualism. As regards the future of LSP, a strong commitment to the formative value of pluritextuality is needed. Academic and corporate gatekeepers should be led to understand that the responsible exercise of the professions today is geared to the capacity to use and
to produce a plurality of text-types in more traditions of writing. The present provision of plurilingual services in educational institutions and in the world of work presents crucial deficiencies in this respect.

Besides intensifying work on “impression management” concerning multilingualism, the LSP community needs to elaborate a forceful statement endorsing language diversification, especially in higher education and in the publishing industry, spelling out very clearly that the construction and dissemination of knowledge is a discursive enterprise with a multilingual / multiliterate communicative focus and pluriterial realisations.

To conclude, I would again like to recall Bhatia’s claim for “more meaningful and collaborative initiatives to integrate LSP and professional practice in what might be considered a shared vision” (Bhatia 2002: 41). This gap with the extra-mural world can also be filled, in my view, by efforts to “popularise” the linguistic profession’s specialist knowledge, following the example of the natural scientists.

Exhibitions and events such as “science parks” for the lay public – using media, cinema, theatre and public shows besides public lectures – are successfully spreading a positive approach, and consequently substantial support, for research in contemporary science:

It is necessary for public opinion and politicians alike to develop an understanding not only of the facts, but of the methods in science. Public communication by scientists is turning into one of the most relevant factors of democracy in what has been called “the society of knowledge”. (Fasolo 2003; my translation)

Why not promote communication of LSP scholars with the general public? Outside and beyond the “ivory tower” of cultural institutions, the knowledge-based economy needs to understand in order to negotiate: to promote a pluralist culture and a critical pedagogy of texts, and to find support for it, we also need to make it more widely appealing.

References


Wierzbicka, A. (1998) “German ‘cultural scripts’: public signs as a key to social attitudes and cultural values”, *Discourse and Society, 9*, (2), 241-82.
4.2 Case Studies:

4.2.1 Marta Chromá

The Czech-English Law Dictionary with Explanations:
A conceptual approach to dictionary-making

Marta Chromá, Charles University Law School, Prague, the Czech Republic

1. Introduction

Building specialised bilingual dictionaries has always been intricate and subtle work; while usually produced by linguists (and only exceptionally by domain experts) they are intended to serve multiple user groups such as specialists in and students of the respective subject area, translation and interpretation practitioners and students, and other potential users of varying subject-area, linguistic backgrounds and experience. A specialised bilingual dictionary should be the outcome of extensive comparative research, and, as its constituent part, taking an approach and using such methods which are applicable in specialist-language lexicography and terminography.

Modern jurisprudence in the developed world has interlinked with, and been based on, social sciences (Knapp 1995: 4-5); therefore law always depends on the political environment of the society to which it applies. Unlike other social sciences, law is a normative discipline formulating rules binding on members of the respective society. So that they are observed by the members of the society the rules should be written in a language which allows for a uniform interpretation within that society. Each system of law, as well as the language through which the law is communicated to those on whom it is binding, is determined by, and often limited to, the history, traditions and culture of the society in question. A bilingual dictionary which covers two different languages (such as Czech and English in our case) and two different legal systems (i.e. Anglo-American law based on common law and continental law based on Roman law) should facilitate adequate “cross-understanding” and reasonable “cross-interpretation” of legal rules existing within the two different social contexts.

The definition of the user group is widely recognized as one of the most influential factors at the pre-lexicographical stage (Atkins 1993: 12). It may be admitted, however, that potential users of the dictionary would constitute a group diversified in motivation, and heterogeneous in the aggregate of their previous experience in language and law.

The primary objective of the Czech-English Law Dictionary has been to assist those who deal with Czech legal texts when trying to understand and transfer them into (legal) English. Potential users can be generally subdivided into two major sets of individuals: those primarily educated as linguists and usually without any legal background (primarily translators and interpreters, but also Czech teachers of legal English); and graduates or of students at law schools, usually lacking formal linguistic education. In addition there are numerous dictionary users who are neither linguists nor lawyers, such as journalists. For such users, their educational background may be unrelated to either law or the English language but their professional careers have brought them in a field relating to and dealing with law.

The most common reason for a Czech lawyer to consult the Dictionary would be his or her need to explain relevant details of Czech law to a client or colleague from another country who speaks English. Teachers of legal English would use the Dictionary with the same motivation (i.e. explaining Czech law), but to make such explanation to a different audience (students of law). Translators and interpreters would use the Dictionary when translating a Czech legal text into English, trying to be as precise and accurate in their communication as possible. Journalists may search for specific information when they need to understand particular legal facts and comment on them. Whichever subgroup a potential user of the Dictionary belongs to, he or she will look for more than mere law taxonomies. Specific contexts of individual branches of law, larger syntactical units, explanations of polysemic (or polysemous) terms and concepts, etc., are useful tools in assisting their orientation in the language of law.

Therefore a comparative legal and linguistic study was carried out to primarily analyse three main aspects forming the basis for the writing of the “Czech-English Law Dictionary with Explanations”:

1. the language of law in the Czech Republic (legal Czech) and major English-speaking countries (legal English),
2. approaches to the translation of legal texts, and
3. approaches to dictionary-writing in the area of bilingual special-purpose lexicography.

This paper will concentrate on some selected items in each of these areas.

---

1 Surprisingly, the term terminography has not yet been included in the Oxford English Dictionary, CD-ROM, 3rd ed. 2002.
2. The language of law

Language for Legal Purposes (LPL)

as an LSP variety, is used to facilitate interaction within legal discourse. It is a variety of language strongly determined by the respective discourse event and context. Research of this subsystem of the general language system consists of describing and analysing the selection, combination and use of existing morphological, lexical and syntactic units, structures and patterns that would best serve the specific stylistic, genre and discourse functions of a text in a concrete subject area, and specific social context. Specificity of the discourse seems to be primarily a pragmatic category reflecting the communicative purpose and needs of the users – professionals in the respective subject field and, possibly, lay (or paralegal) persons charged with legal assignments.

Pearson (1998: 31) lists six factors which help to characterize an LSP variety:

(a) limited subject matter (such as law);
(b) lexical, semantic and syntactic restrictions (such as the use of terminology);
(c) “deviant” rules of grammar (such as the English legal term “an information”, which preserves in procedural meanings a status of countable noun, which is considered obsolete and rare in general language; see, for example, OED, electronic ed.);
(d) a high frequency of certain constructions (such as highly formalized sentence patterns in statutory texts);
(e) text structure (such as legislation or contracts), and
(f) the use of special symbols.

The first three features as applied to the Czech and English languages when used for legal purposes were included in our study; items d) and e) were beyond its purpose. The last feature, although limited in appearance, deserves to be mentioned here primarily in relation to translating citations of various legislative sources or translating laws. A substantial difference between Czech law and Anglo-American law exists in the use of the symbol “§” (read as “section” in English). Whereas Czech statutes are subdivided into “sections” each of which starts with the symbol “§” and a respective Arabic numeral, British legislation

is completely free of the symbol although it subdivides its statutes into “sections” too. Visual discrimination in British statutes is made in bold type the respective Arabic numeral followed by a dot. Sections in both systems are further subdivided into subsections (C. odstavce), paragraphs (C. písmeno), and subparagraphs (C. věta). Thus a citation of a provision in a Czech statute may appear as: §12, odst. 3, písm. a, věta třetí. The same citation of a British statute would be: s. 12 (3) (a) (iii). For a translator or any other person dealing with the two texts and unaware of the differences in the designation of the parts of a law, the situation is more complicated in a translation from English to Czech. While a literal translation of the whole of the Czech citation into English would be odd but, in principle, comprehensible to an English lawyer, our experience suggests that a literal transposition of the English citation into Czech would be hardly understandable even to a lawyer (with no previous knowledge of the British legal system).

2.1 Legal framework

There are many potential problems in the translation of legal information from Czech into English, which should be somehow reflected upon by the bilingual law dictionary; these problems, in summary, can be seen as resulting from the three issues explained below:

(a) Czech legal terminology, as well as the whole legal discourse, has been unstable, developing, expanding, exposed to substantial foreign law influence, and out of strict legal and linguistic control for at least the last eleven years;
(b) systemic and conceptual differences between continental law, from which Czech law has been derived, and common law, one of the main sources of the Anglo-American system of law, should induce translators to not only intersemiotic (translation) analysis but also necessarily to intrasemiotic analysis (Tomášek 1991: 153), i.e. legal interpretation of the source text (ST); and
(c) the Anglo-American system of law comprises five major legal systems - those of the USA, the UK, Ireland, Canada and Australia - and dozens of others which employ English as an official language and whose legal systems have been based on common law (such as former and present members of the Commonwealth, or Scotland); thus an extensive synonymy and polysemy of English legal terms may be expected.

European Community and European Union law and the acquis communautaire written in English have been another source of equivalents in law as well as language. However, due to the fluctuating quality of translations, this source has not always been reliable or trustworthy.

Limited reliability of Czech in law

3 Unlike the Czech language which uses only one term, odborný jazyk, to denote the language of specialized domains of knowledge, an English speaker can choose from a few: language for specific / specific purposes, sub-language, scientific language, specialized language (Pearson 1998: 28) or domain-specific language (Meyer, Skuce, Kavanagh and Davidson (1997)).

4 The symbol “§” can be found in US legislation, however its occurrence and purpose do not correspond with legislative drafting rules applicable to Czech law.

5 The English subparagraph is visually structured and preceded by small Roman numbers. The Czech věta is set out in a simple order of individual sentences making a complex statement without any visual structuring or numbering.

6 Acquis communautaire is a French term widely used in all EU languages. It means all written documents, whether legally binding or not, passed by the EU institutions.

Moreover, the terminology of European law has not yet been fully standardized within the system of Czech law. The standardization process, undertaken by a specialized department within the Office of the Government of the Czech Republic, has primarily been aimed at fixing, reducing or expanding the existing meanings of Czech legal terms and terminological phrases, or coming new legal terms corresponding to the reality of European law; Czech in this context serves as the target language. In contrast to the above project, the main task of the Czech-English Law Dictionary has been to find English equivalents of existing Czech legal terminology reflecting the national legal system; Czech has been the source language.
One factor which partially affects the research of discourse in Czech law, with a special emphasis on legal terminology and upon which the writing of the Dictionary was based, is the question of the validity of legislative acts and the reliability of their language. According to Kořenský and Črvěk (1999: 32-33) almost nothing has been done since 1918 to purify Czechoslovak, and later (since 1993) Czech legislation or make it transparent in this respect. Among the 30,000 texts published in the Collection of Laws since 1918, one sixth are not legislative acts (e.g. various editorial announcements and comments, resolutions etc). About 10,000 acts have been expressly repealed. The remaining 15,000 can be subdivided, with respect to their validity, as follows:

(a) one third is hardly to be classified due to a “legislative muddle” (i.e. during the years some parts have been repealed, some amended, and no accounts of such changes have been kept); in contrast, for example, any new or amended law passed by the Australian Parliament is accompanied by an exhaustive list of all laws or regulations adopted earlier which have been affected by the new law, and the changes to the respective provisions are included in the list (e.g. the Corporations Act 2001);

(b) the second third consists of laws still in force but obsolete (not implemented, such as the State Budget statutes where a new statute is passed every year but the previous one is not repealed);

(c) the remaining 5,000 legislative acts create the core (more or less) of our legislation which is in force.

Generally, the first (“muddled”) group has a tendency to expand. Naturally, every legislative amendment represents a change in the scope and quality of concepts used. The changes after 1990 (the collapse of the communist regime) and 1993 (the split of former Czechoslovakia into the Czech Republic and the Slovak Republic) have been unique within Czech history with respect to the quantity of adopted legislation, and we can justifiably assert that it has led to a quite chaotic situation not only within the legal order itself but also within the sphere of legal terminology and language, which is our main concern. Moreover, the approaching accession of the Czech Republic to the European Union, accompanied by the legislative “flurry” by the Government and Parliament since 1996 to quickily approximate Czech laws to those of the EU, have substantially contributed to uncertainty in the language of Czech law, followed by its obscure and ambiguous interpretation. Unlike in Anglo-American legislation, in Czech statutes a section in which the terms used in the respective law are defined or otherwise contextualized, is usually absent. Essentially, neither legal tradition, culture or customs (see, for example, Knapp 1998), nor legislative practice (see the Rules of Legislative Drafting 2000) allow for such a part to be inserted into a statute; however, due to the recent hectic and chaotic situation in Czech legislation there are some laws equipped with an interpretative part - not necessarily reducing general confusion.

Differences between legal systems

The existing material differences between Czech law as a continental law derivative on the one hand, and the Anglo-American systems of law based on common law on the other, create a large area of potential discrepancies in finding semantic English equivalents of Czech terms, terminological phrases and larger syntactical units. Zgusta calls equivalent such a lexical unit of the target language (TL) which has the same lexical meaning, i.e. designation, connotation, or/and range of applications as the respective lexical unit of the source language (SL) (1971: 312). Looking for a suitable equivalent requires an inquiry into the system of Anglo-American law in order to find an identical, similar, or close in meaning legal concept rather than following the pure lexical meaning of the word or phrase.

We tend to uphold Šarčević’s distinction among three basic degrees of (semantic) equivalence (2000: 238) (referring to research on the conceptual analysis of legal terms pursued by the “Internationales Institut für Rechts- und Verwaltungssprache” in Berlin, Germany):

(a) near equivalence, where concepts in the SL and TL expressed by the respective terms share all of their essential elements and most of their accidental characteristics;

(b) partial equivalence where concepts in the SL and TL share most of their essential elements and only some of their accidental characteristics; and

(c) non-equivalence where concepts in the SL and TL share a few or none of their essential elements and no accidental characteristics.

It should be added, however, that both essential elements and accidental characteristics of concepts in different legal systems under analysis should be considered with regard to issues (questions, matters) of law and issues (questions, matters) of fact. Equivalence (near or partial) of concepts occurs only if both corresponding legal and corresponding factual elements can be traced. For example, the English term “birth certificate” has a near Czech equivalent: “rodný list”. In both jurisdictions the terms denote a sheet of paper issued by an official authority to prove the date and place of birth and the child’s parents: this is the factual aspect of the concept. Legally, the certificate may entitle the person in whose name it was issued to benefit from the social security system, succession laws, etc.

On the other hand, the lack of an equivalent legal term in the Anglo-American system of law requires a certain degree of explanation, and the creation of what Arntz (1993: 16) calls an “equivalent paraphrase”. The explanatory paraphrasing of a source language term previously unknown in the target language may be demonstrated, for example, in translating the Czech legal term “přestupek” into English. As a matter of fact, “přestupek” in general Czech means any violation of any rule; in Czech law, it

---

8 Since 1990, despite a few affirmative resolutions of the Government, no attempts have been made to free the valid legislation of all provisions affected by hidden derogation or otherwise; therefore, the legislative confusions and irregularities have become more solid and somehow “standardized”.

9 Five major Czech codes have been materially affected by that process, namely, the Civil Code, the Civil Procedure Code, the Criminal Code, the Criminal Procedure Code, and the Commercial Code. The Civil Procedure Code, adopted in 1963, was amended 5 times before 1990 and 36 times between 1990 and 2002; the Commercial Code, adopted in 1991, has been amended 22 times; the Trade Licensing Act, adopted in 1991, has been amended 50 times. As an example, among those 22 amendments of the Commercial Code, there have been three “big” changes in basic terminology; what was mostly changed however was the form (designates, significant) and not the content (designatum, signifié) of the respective concepts.

10 For example, terms such as consumer or supplier, and their rights, are defined in a slightly different manner in two laws (the Civil Code 40/1964 Sb. as amended, and the Consumers’ Protection Act 634/1992 Sb. as amended). One can think of situations such as when a person makes a complaint about defective goods sold by a retail shop: the shop assistant would insist on the regulations of the Civil Code whereas the client would rely on the Consumers’ Protection Act which is more beneficial to him: both positions would be right.
denotes a specific transgression of administrative law by an individual – Czech law does not consider such acts to be of sufficient gravity to constitute a criminal offence and necessitate entering in criminal or police records. The Anglo-American system of law classifies unlawful acts based on identical facts as crimes, for example traffic offences or breaches of the peace. In this sense the two systems correspond with regard to the question of fact, but no correspondence exists with regard to the question of law; therefore neither near nor partial semantic equivalence may be found. In order to precisely translate both legal and factual requisites of the Czech “přeůučený” into English an explicative term such as “administrative infraction” may be used: “administrative” suggests the legal aspect of an act, “infraction” denotes its factual substance.

**Differences among individual English-speaking countries**

Differences within Anglo-American law terminology among individual English speaking countries constitute another problem for translation. For example, the British legal term “company”, as defined in the Companies Act 1985, is identical in its legal meaning and effect to the US “corporation”; defined by the (Revised Model) Business Corporation Act 1984; thus, considering their linguistic features, one may assume these terms are synonyms. However, the two terms should not be used interchangeably within the British or US legal systems since the term “company” in US law usually denotes an unincorporated entity\(^1\), whereas “corporation” in original British legal texts regularly means an entity established not primarily for profit-making but to provide public services under the authority of public administration.

Similarly, the British term “frustration” (as a kind of discharge of contract) has its US counterpart “impossibility”; the British “theft” (defined by statute in The Theft Act 1967 as a proper legal term) is termed “larceny” in US legislation; the British word “jail” is a popular name for a prison; “jail” in American English\(^2\) denotes a place for pre-trial temporary confinement, close in its usage to a “police cell” or “holding cell”; and dozens of others. Consequently several questions arise: which of two or even three terms (British “statutory instrument”, American “executive/regulation”, or Australian “legislative instrument” – for Czech “podzákonný právní předpis”) should be suggested as the better equivalent of a Czech term in a Czech-English law dictionary? Should there be any preference at all? Should there be as a part of the dictionary instructions on how to translate legal texts? The answers to these questions are fully dependent on the linguistic, subject-field and social contexts, as well as the publisher’s policy.

We are inclined to claim that no specialist bilingual dictionary may precisely instruct users in such or a similar situation: the choice of equivalents will depend on the purpose for which the dictionary is consulted (translating a legal text, informing a client, teaching legal languages, the linguistic and legal competence of the users themselves, the addressees (or recipients of the target text), and the genre of the legal text in the SL and its counterpart in the TL, and so on. It would be rather impractical to produce instructions or guidelines due to the wide range of legal topics and genres, the large scope of legal texts to be translated, and the extensive coverage of functions to be met by the translated legal texts.

### 2.2 Linguistic framework

Although Newmark (1987: 160) suggests that terminology makes up perhaps 5-10% of a text, it is traditionally considered the basis of a LSP variety. It is the part of vocabulary for specific purposes that has been profoundly described, analysed and standardized (ISO R 1087 1990). Our experience has suggested however that lawyers without sufficient linguistic background use the concepts terminology and LSP variety indiscriminately, thus mistakenly reducing the language of law to a mere set of legal terms.

Law terminology encompasses a wide range of special-purpose expressions, phrases and higher syntactic units that can be subdivided into five groups:

(a) Terms of art, or “pure” law terms including legal Latin; it is a somewhat limited in number group of words or phrases that are not used outside the branch of law unless stylistically marked. For example, the Czech term “cedent” and its English counterpart “assignor”.

(b) Terms “generalized” in everyday non-legal communication; these are words with related legal meaning (such as Czech “pozemek”, “nedbalost” and their English counterparts “land” and “negligence”, translated respectively).

(c) Expressions of general import acquiring specific legal meaning if so defined by legislation; one example can be mentioned – that of a British law called the Welfare of Pigs Act 1998 which provides a definition of a “pig” for the purposes of that law (i.e. only “an animal of the porcine species of any age, kept for breeding or fattening” is a “pig” within the ambit of the Act). In Czech law, the Family Act introduced the Czech word “žodpovědnost” as a legal term in an unprecedented context of “rodčeská žodpovědnost” (“parental responsibility”): this is the only occurrence of the prefixed “žodpovědnost” whilst the essential legal term is “odpovědnost”.

(d) Phraseological and semi-syntactical units; (i) the so-called phraseemes are multi-word terms usually formed by elliptical nominalization (e.g. C. “zákonoo doměnka svědčící manželu matky” translated as “statutory presumption of paternity of husband of mother”, or E. “maliciously damaging the property of another”, translated into Czech as “úmyslně poškození majetku jiného”); (ii) repeatedly used stipulating clauses hardened into terminological units, such as Czech “pokud zákůn nestanoví jinak” and its English counterpart “unless the Act provides otherwise”; and (iii) clauses such as “má-li soudce za to, že” (translated as “where it appears to the judge that”), or “žalovaný měl způsobit škodu” (in English “the plaintiff is alleged to have caused damage”), where the legal usage has shifted their function from a simple assumption without significant implications to the determination of circumstances that would create legal consequences.

(e) Jargon creates a significant portion of terminology in both legal Czech and English. Jargon may not be confined only to the lexic of a subject-field; as a subvariety of language it also covers morphology and syntax. The elliptical language in everyday legal and judicial practice tends to condense and economize the legal speech (and unofficial writings), thus shifting to jargon. One example of this dichotomy can be given: the Czech Code of Criminal Procedure provides for

---

\(^1\) The latest edition of Black’s Law Dictionary admits the term company as being synonymous with corporation, however the latter remains the statutory term.

\(^2\) The term jail in the USA denotes a confinement established and run by a local authority such as a county; prison is a penitentiary institution established and operated by a State or the federal government.
“peněžitá záruka” (E. “pecuniary security”) to be granted under certain circumstances to remand the defendant’s attendance before court. In Galkinski’s understanding (1982: 189) it is a prescriptive term declared as such by law. In legal practice, however, the term “kauce” (E. “bail”) is widely used. Whereas the Anglo-American legal system employs the term “bail” in both statute and everyday legal practice, Czech law practitioners use the two terms discriminately according to the “formality” of the situation (such as an attorney approaching the judge in a courtroom asking for “peněžitá záruka” for his client, and the attorney talking to his client explaining what “kauce” is).

Conceptual analysis is considered a cornerstone of terminography (Meyer et al. 1997). It should be pursued whenever an identical term in the target language does not exist or its equivalent is in doubt. The more general the legal term that is in question, the higher the degree of probability that can be presumed with respect to the existence of a terminological counterpart in the TL. Dealing with terms denoting more particular concepts means that conceptual analysis need always be undertaken in order to determine the boundaries of the SL and TL concepts, and to decide the manner in which the SL term should be transposed in the TL term preserving the maximum of the characteristics of the former. Conceptual analysis helps decide whether semantic equivalence suffices to adequately transfer legal information in a particular case, or whether functional equivalence should be employed. Conceptual analysis usually leads to finding a suitable functional equivalent, i.e., an expression, phrase or a larger unit not necessarily semantically equivalent, which serves the same function in the target text (TT) as the SL term in the ST. The term functional equivalence is used in general translation theory (e.g. Newmark, 1987: 83) and in comparative law (Šarčević, 2000: 236); Šarčević admits (2000: 238), and our own experience supports her conclusion, that most functional equivalents are only partial semantic equivalents.

3. Legal translation

There are at least three interlinked questions to be considered when talking about legal translation:

(a) what it is,
(b) by whom it is pursued,
(c) for what purpose it is done and to whom it is addressed.

The first two questions will be briefly dealt with here; the third reaches beyond the scope of this paper.

Law belongs to a wider category of humanities, the vocabulary of which is based on abstract words and expressions which however bear quite precise meaning. Legal terminology consists primarily of abstract terms deeply and firmly rooted in domestic culture and intellectual tradition, remaining first and foremost a national phenomenon (Šarčević, 2000: 13). However legal language is not just composed of technical terms, of a specific terminology. It is rather a formalized language at all levels: lexical, syntactic, textual, (Reed 1993: 81) and that of genre (cf. Chroma 2003: 70).

The primary objective of legal translation is that the target recipient should be provided as explicit, extensive and precise legal information in the target language as is contained in the source text, complemented (by the translator) with facts rendering the original information fully comprehensible in the different legal environment and culture, and serving the purpose of translation.

Legal translation should be based primarily on comparative genre analysis in order to ensure the transfer of legal information is as precise, accurate and comprehensible as possible, and to shape TT in a manner adequate to its purpose.

Since legal information contained in the ST is often (slightly) ambiguous and indefinite it should be interpreted within the SL first, then translated into the TL, and finally conformed to the purpose of translation and genre of the TT.

Tomášek (1990: 113) points out that legal translation is a procedure based on both linguistic and legal comparative approach. He asserts that the content of legal information should be fully preserved and transposed into the TL so that the TT corresponds with usage in the target legal environment. What is denoted as “intralingual” translation by Beyer and Conradsen (1995: 175), Tomášek (1991: 147) calls “intrasemiotic” translation and describes as the transfer of information from the first to the second semantic level - i.e. the interpretation of law by means of the transfer from the legal language to the legal metalanguage. The “intersemiotic” translation then means the translation of a legal text from one language to another.

We can go a bit further: legal translation can only be based on (legal) interpretation of the original text in the SL and its transposition into the language and legal culture of the recipient. Reasonable interpretation of the ST and its adequate transposition into the TT may be practicable only if we know the respective legal topic in both systems. For example, a British statute translated into Czech will never have the same degree of normativity for a Czech national living in the Czech Republic; in many cases such translation would be done to inform a Czech recipient (for example to inspire a Czech legislator). Moreover, the purpose of translating a Czech law into English for a British living and working in the Czech Republic will also be only informative: if the British person needs to rely on such a statute before a Czech court he or she should refer only to the Czech text of the law officially published in the Collection of Laws of the Czech Republic. On the other hand, a private contract made between a British and Czech parties will most likely be written in English and Czech, both versions being considered equal counterparts, and parties might rely on either language version in the case of conflict; so although the legal systems differ the purpose of both texts is identical – to bind parties and provide them with agreed and/or statutory rights and obligations.

The process of legal translation can be generally visualized as follows:
The competence of translators (and interpreters) of law\textsuperscript{13} is a crucial issue in quality legal translation. As Pich\textsuperscript{t} and Draskau (1985: 20, 21) emphasize, the acquisition of the language for specific purposes is compulsory for those employed in the special field and mediators of texts with a professional content (e.g. translators). They extend Picht’s earlier demand that translators should have been trained in terminology (Picht 1982: 172), which forms only a minor portion of a specialist language. Thus, Beyer and Conradsen’s (above) assumption that legal translation requires both linguistic skills and some basic understanding of legal concepts seems to be rather an underestimation.

The three prerequisites which exist for successful translation of legal texts (a basic knowledge of the legal systems, familiarity with the relevant terminology, and competence in the specific legal writing style of the target language) constitute practical rules which should be respected by each translator and this is supported by our own experience: translation of legal texts should not be done without quite an extensive knowledge of the respective legal topic in both the SL and TL - i.e. the knowledge of concepts, terms denoting these concepts, sentence patterns visualizing the information, genre classification of the text, and knowledge of legal culture, etc., in both languages, roofed over by the purpose of the concrete translation.

It should also be noted that translators and interpreters form a user group of a specific type and ultimate significance for a lexicographer writing specialized dictionaries. As Varantola (1998: 189) argues, translators try to find non-dictionary type information in dictionaries because it is not readily and systematically available from other sources; they also need information relating to longer stretches of text than a single lexical item. Supporting such an opinion, Rogers and Ahmad (1998: 195) maintain that “translators might justifiably expect specialised dictionaries to codify the conceptual, grammatical and pragmatic information which is observable in language use by experts, technicians, marketing specialists, and so on, and in some cases, to normalise their use”. We tried to at least partially satisfy such expectations in our “Czech-English Law Dictionary with Explanations”. It should be noted that, however underestimated and disregarded by lawyers, translators and interpreters assist and influence the process of transposing one legal system (or its elements) into another legal language and system, and thus facilitate international collaboration among individuals or entities\textsuperscript{14}. Many in the Czech Republic act under the state license of “court interpreter”\textsuperscript{15} granted by the Ministry of Justice of the Czech Republic. The round seal they affix to their work should be a guarantee that the translation is linguistically and legally correct and accurate\textsuperscript{16}.

\textsuperscript{13} Translators’ excellent bilingual competence is a matter of course.

\textsuperscript{14} Our own recent expert experience showed that the bad translation of official procedural documents had substantially contributed to the decision of a foreign court not to extradite a criminal (Czech citizen) from a foreign country to the Czech Republic.

\textsuperscript{15} There are more designations of these licensed translators: sworn interpreter, certified translator or interpreter, and forensic interpreter. All the names suggest that a certain official procedure must have been taken for that person to have been so appointed.

\textsuperscript{16} It should be admitted, however, that such guarantee is quite frequently unjustified and unreasonable: the Ministry has not provided for a uniform system of qualifications to be required from translators applying for the licence; as a result each regional court in charge of registers of court translators has set its own requirements thus sometimes admitting translators with inadequate competence in legal translation.
4. The writing of the dictionary

The main theoretical resources for the writing of the dictionary were two books bearing identical titles – *Manual of Lexicography*. The first one was written in English by L. Zgusta in 1970 and became a lexicographer’s bible worldwide; the second was written in Czech by F. Čermák in 1995 and reflected recent developments in dictionary-making including corpus linguistics and lexicography.

A dictionary which helps its users to produce legal texts in the TL as well as adequately translate source legal texts into the TL must be founded upon a profound comparative legal and linguistic study that would (a) determine (semantic or functional) equivalents at the levels of vocabulary, syntax and genres, and (b) select the appropriate lexicographic material to be included in the dictionary. A bilingual law dictionary should contain not only the SL terminology but also syntactic units that are relevant to the language of law. Since Czech law is derived from continental law based on written codes and statutes, the SL and TL corpora, facilitating conceptual and functional analyses, should encompass essential legislation relating to private and public law, materials based on the legislation, such as annotations and textbooks or authentic documents, and law dictionaries. Case law will play an important role in searching for relevant conceptual equivalents in legal English. A user-friendly approach should be chosen for the formatting of the dictionary (for example, the repetition of examples should be higher) as a strong linguistic background cannot be expected of all users.

The title of the dictionary “Czech-English Law Dictionary with Explanations” is meant to suggest that the dictionary contains more than simple equivalents of Czech legal terms. Fillmore (1978: 167) claims that law has its own sort of semantic principles; the semantics of the technical stratum of legal language are founded on stipulative definitions. Such assumptions, however, would not apply to dictionary-making since the purpose of definitions contained in bilingual dictionaries is rather different.

Defining can have different discoursal functions (Swales, 1981: 111), and our intention was to provide as much conceptual information as may be permitted by the scope and size of the dictionary (and by the publisher) and needed by translators in deciding what equivalent to select for their particular purpose. The term “explanation” was chosen to avoid an authoritative connotation of the word “definition”. However we maintain Swales’ conclusion that the function of definitions “is more to furnish explanations of terms than to establish axioms which form part of a logical system of postulates and theorems” (1981: 107). Pearson (1998: 117) supports this assertion, claiming that dictionaries are *rephrasing*, i.e., clarifying usage, rather than *defining* in the sense of *prescribing*, and that dictionary definitions are merely reporting rather than defining for the first time.

Dictionary-writing in the era of electronic media cannot dispense with reliable hardware and efficient software. Most publishing houses which concentrate on lexicography possess prodigious corpora and databases worked on by efficient teams of lexicographers. Since our task was much more modest and the “team” consisted only of one member we had to choose reliable software that would help us fulfill our objective. Paradox 5 for Windows is the database software used for storing and processing excerpts; the database consists of more than 80,000 records. The OUP software “Wordsmith Tools” was selected to set basic statistical data about the corpus: the database of Czech excerpts consists of approximately 167,000 words, of which approximately 145,000 were selected either to serve as headwords or for the exemplification of use on the Czech side of the dictionary; the database of English equivalents of headwords and examples of use consists of approximately 253,000 words, of which 215,000 were selected to be included in the dictionary. Corel WordPerfect 8 was used as a word-processor for the ultimate processing of individual entries; the final version of the dictionary consists of approximately 9,200 Czech headwords, 29,000 Czech terms, terminological phrases and semi-sentences, and about 46,000 of their English contextualized equivalents.

References:


4.2.2 Dorrit Faber and Mette Hjort-Pedersen

Aspects of legal language understanding and translation: a discussion

Dorrit Faber & Mette Hjort-Pedersen
Copenhagen Business School (CBS)

1. Introduction

This paper represents a pilot study aiming to describe and discuss some of the stumbling blocks experienced by Danish trainee translators in the process of understanding and ultimately translating legal texts between Danish and English.

According to relevance theory the understanding of texts may be explained in terms of the concept of ”relevance”. A text is understandable to a receiver if it complies with a principle of relevance:

Relevance is defined in terms of contextual effect and processing effort. Contextual effects are achieved when newly presented information interacts with a context of existing assumptions in one of three ways: by strengthening an existing assumption, by contradicting and eliminating an existing assumption, or by combining with an existing assumption to yield a contextual implication: ... We claim that newly presented information is relevant in a context when and only when it achieves contextual effects in that context, and the greater the contextual effects, the greater the relevance. (Wilson, 1994:45)

This means that from a relevance-theoretic viewpoint the sender must take into consideration the contextual assumptions that the receiver can be expected to have so that the receiver may access the sender’s text with as little effort as possible. Contextual assumptions may be formed through interpretation of the preceding text and through expert knowledge, cultural knowledge, common sense assumptions, etc.

Gutt (2000) discusses the issue of relevance specifically with respect to translation where the translator acts as a kind of intermediary between an initial sender of a text and the ultimate receiver of this text. In this situation the translator has a dual function, firstly to infer a source-text (ST) meaning which is in accordance with the principle of relevance, and secondly, to produce a target text (TT) which as far as possible corresponds to the original sender’s intended meaning. In the process of producing the TT, the translator must like any other communicator in all respects take into consideration the contextual assumptions of the ultimate reader of the TT. If the translator is herself a member of the target community, the process is relatively unproblematic. Gutt does, however, recognise that in many situations the process is not quite so uncomplicated, e.g. if the translator does not have sufficient knowledge of the original context:

Suppose the translator is dealing with technical material for some specialist audience without being expert himself/herself. In this case, both original and target audience may have similar specialist knowledge – but the translator may not. […] From the relevance-theoretic perspective, it is a must that the translator have a good grasp of both the receptor and the original context. In some situations this may require substantial preparation and research (Gutt, 2000:173).

Such a situation is a great problem, Gutt says, because the translator may be trying to produce a translation of something which he or she does not fully understand. According to Gutt, this problem is particularly acute in connection with legal translation, which is in fact the topic of this paper, although we are not considering the difficulties that the professional translator may experience, but rather the bumpy road towards becoming one.

The data on which our study is based consists of legal translations produced by trainees at the Faculty of Languages, Communication and Cultural Studies of the Copenhagen Business School (CBS). Not surprisingly, these translations show that our trainees experience problems when they are doing translations of legal texts. From a relevance-theoretic perspective the texts (ST or TT) have not achieved the contextual effects that the sender intended them to have, because the trainees have not been able to arrive at the intended interpretation in the course of their own understanding of the texts or to transfer the intended meaning into the target language. The point is that the trainees seem to stop too early somewhere in the process. In other words they fail to ask themselves if they have chosen the intended set of assumptions for their processing or transfer of the sentence or text.

From a pedagogical point of view the described situation calls for reflections on what is the general nature and cause of the stumbling blocks experienced by trainees when they try to achieve relevance both in the understanding and the translation process.

It is uncontroversial that terminology is a major problem in legal translation and therefore that legal and terminological knowledge is one type of contextual assumption which plays a major role in the understanding of legal texts. Trainees therefore need to acquire legal and terminological knowledge specifically with relation to the topic of the source text. Contextual assumptions of this nature will thus be an inter-textual variable (different texts are about different topics). The importance of terminological knowledge has been dealt with by various scholars, eg. Rayar (1988), Sarcevic (1997), Alcaraz & Hughes (2002). In the following we will disregard terminology and terminological knowledge. Instead we take our point of departure in relevance theory and in the three subtasks involved in the recovery of any propositions expressed, namely ”reference assignment”,

330
“disambiguation” and "enrichment" 1, and on the basis of trainee translations we will proceed to describe and discuss types of stumbling blocks other than terminological that

- interfere with the interpretation and/or transfer of a legal ST
- are generalisable, i.e. they cut across legal topics and/or legal text types

2. Data

As stated the data used for our pilot study is product based. Our discussion on the other hand is mainly process oriented. Although the trainees’ products represent individual choices we believe they do tell us something about the process the trainee goes through when trying to understand a legal source text and ultimately transferring the text into a target text. However, we plan to analyse the findings of this study in more depth at a later stage by subjecting trainees e.g. to think-aloud tests.

The trainees whose translations form the empirical basis of our discussions are all students who have a relatively high level of general linguistic skills in English and who wish to be able to read and produce legal language in Danish as well as in English in order to become certified LSP translators. We therefore assume that in their approach to the legal translation assignments they are set, they are committed to trying with all the means available to them to achieve a correct understanding of the source texts as a basis for producing a translation which will enable the TT receiver to recover the intended interpretation of the utterance.

The legal translation programme at the CBS trains students in translating texts into and from their native language, which for the majority of students is Danish. Danish being a minor language, it is not possible (and perhaps not desirable) for commissioners of translations into English to use only English native speakers, which means that there is a market for the training of native speakers of Danish in the production of legal translations into English.

3. Analysis of data

3.1 Reference assignment and disambiguation problems
The first type of stumbling block appearing in relatively great numbers in the trainee translations has to do with ambiguity caused by reference assignment problems in Danish and English legal language. Such problems are for example acute either in connection with the understanding of the role that qualifying phrases, in this case prepositional phrases, play when meaning is assigned to sentences in a legal ST or when such meaning is transferred to a TT. Example (1), which involves translation from Danish into English, serves to illustrate this aspect:

(1) Vedrørende spørgsmålet om rette vermenting antog sagsøgeren først, at der i dette tilfælde var aftalt voldgift i London (og derfor indledte sagsøgeren en sådan voldgift [judgment])

It appears from the proposed translations that the underlined qualifying phrase in (1) results in ambiguous readings for the trainees at the ST level or in less successful products at the TT level. Consider (1a) and (1b):

(1a) With respect to the issue of proper venue, the claimant first assumed that in this case arbitration had been agreed in London, (and consequently, the claimant commenced such arbitration proceedings)

(1b) With respect to the issue of proper venue, the claimant first assumed that in this case arbitration in London had been agreed (and consequently, the claimant commenced such arbitration proceedings)

In (1a) reference is made to an agreement, the defining feature of which is that it has been entered into in London. In (1b), on the other hand, reference is made to a legal action (arbitration proceedings), the defining feature of which is that it is to be conducted in London.

A similar ambiguity caused by reference assignment problems arises in (2):

(2) Sagsøgte har misligholdt sine forpligtelser i henhold til kontrakt indgået den (dato) [judgment]

Judging from the proposed translations the trainees see some kind of ambiguity in the meaning of (2). One understanding seems to be that another contract than the present one had been made at a given date in which it was stated - maybe as part of the premises of that contract - that the defendant has breached his obligations. This understanding of (2) is illustrated by (2a):

(2a) According to the contract concluded on (date) the defendant has breached his obligations ...

1 cf. e.g. Blakemore (1992).

2 (1) is a reduced version of a sentence appearing in a Danish judgment involving foreign parties. The full sentence reads as follows: Sagsøgerens advokat har vedrørende spørgsmålet om rette vermenting anført, at sagsøgeren først antog, at der i dette tilfælde var aftalt voldgift i London og derfor indledte sådan voldgift.

[With respect to the issue of proper venue Counsel for the claimant has stated that initially the claimant assumed that in this case arbitration in London had been agreed and consequently commenced such arbitration proceedings.]
According to another understanding (2) refers to certain obligations the claimant has breached, namely certain obligations resting on him because of the contract, as illustrated by (2b):

(2b) The defendant has breached his obligations under the contract concluded on (date)

Corresponding problems of ambiguity may arise when trainees are to translate from English into Danish. (3) is an example:

(3) This Agreement and the Distributor’s Distributorship hereunder may be terminated …..

Some trainees either experience reference assignment problems in the understanding process or have problems communicating their understanding in the transfer process as illustrated by (3a):

(3a) Højle nærværende aftale kan forhandlerens forhandling (af produkter) ophæves …

[According to this Agreement, the Distributor’s Distributorship may be terminated …]

In their translation in (3a), the trainees seem to fail to understand or transfer the underlined prepositional phrase as material specifying or referring to the exact type of distributorship at hand, namely the distributorship resulting from the agreement. It appears that the constructions used by the legal sender to enable the reader to identify the entity referred to in the utterance actually end up becoming stumbling blocks for the trainees.

In a simple communication situation it is common sense that speakers will need to express themselves in a way that will enable hearers to assign reference to entities and actions described. This requirement is particularly acute in legal texts where the receiver will expect a higher degree of explicitness in the text to facilitate the reference assignment process. Explicitness or precision is an often mentioned characteristic feature of legal texts, cf. e.g. Garner (1994) and Bathia (1993):

Traditionally, lawyers have aimed for a type of “precision” that results in a cumbersome style of writing, with many long sentences collapsing under the weight of qualifications (Garner 1994:1).

And it is this seemingly impossible task of achieving the dual characteristic of clarity, precision and unambiguity on the one hand, and all-inclusiveness on the other hand, that makes legislative provisions what they are (Bathia 1993:103).

The translations of examples (1-3), however, illustrate that our trainees either are undecided about the role of the qualifying phrases in the ST or they are unable to transfer these phrases to the TT as referring expressions aiming at precision of identification. Thus, it seems that they do not take the explicitness feature into consideration.

According to relevance theory a large part of utterance meaning is not encoded linguistically, but is inferred by the receiver. In legal language, however, this is true to a lesser extent since to the legal sender of a text the more that is left to the inference of communicators, the more there may be room for disagreement about the intended meaning. Cf. also Carston:

P utative eternal sentences are usually longer and more complex than the underdetermining (non-eternal) linguistic expressions standardly used by speakers, …; one might think here also of the terrible convolutions of many legal documents where the aim is full encoding” (Carston, 2002: 30).

Legal documents such as judgments and contracts are meant to be used by judges and lawyers as instruments of action in legal situations. In the nature of things, judgments and contracts are ”about” certain parties. It goes without saying therefore, that in such documents specific reference to the parties the documents intend to provide rules for is of paramount importance. However, judgments and contracts are also ”about” or regulate activities that the parties have engaged in or undertake to engage in. Therefore it is equally important in legal documents that specific reference is assignable to types of human activity described or prescribed by legal documents, eg. by including information about time, place, manner and maybe also the cause and consequences of such activity. Outside the legal discourse community, if encoded linguistically, such information is normally provided in adverbial clauses in verbal style sentences. Due to the nominal style of legal documents, however, information of this kind is often linked to nouns.

Figure 1 illustrates the various parameters:
In terms of relevance theory, it is expectations of such information types that will govern the intended text receiver’s enrichment of the semantic representation of legal sentences such as (1) – (3). Put in another way, this is the overall context that would be relevant for the interpretation of (1) – (3).

In this overall context the intended text receiver of (1) will probably - in the minimum context of the issue of proper venue - expect a specific referent for the activity “arbitration”. In other words: in order to be able to assign reference to the entity “arbitration”, the intended text receiver is entitled to expect information about where the arbitration is to be conducted (arbitration in London) rather than information about where arbitration was agreed (agreement in London). In terms of relevance theory, it is the intended receiver’s expectation combined with the text producer’s fulfillment of this expectation that will result in optimal benefit at lower costs. Conversely, if specific reference is not immediately possible for the intended text receiver (as in (1a)), extra effort creating an alternative scenario for the legal activity described will be necessary to arrive at optimal benefit.

Likewise, in (2), which is also part of a judgment text, it is natural to expect a specific referent for the obligations the defendant has breached because it is precisely breach of these obligations and not similar breach situations also referred to in the document the judgment would be dealing with. Therefore, the scenario outlined as possible background in (2a) necessitates extra processing effort on the part of the text receiver. Consequently, in terms of relevance theory, (2a) will result in higher costs for less benefit.

Similarly, in (3), which is taken from a contract, a specific referent for the distributorship mentioned is expectable and necessary, i.e. the distributorship created by the contract in question (to the exclusion of all other distributorships). The reason is of course that it is the nature of the distributorship that defines the parties’ rights and obligations in relation to each other.

Even if the aim is full encoding in legal texts, as Carston says (ibid:30), that is of course not entirely feasible, and the receiver will still have to make inferences in order to arrive at the meaning intended by the sender. But assumptions about the type of information to expect in fully encoded form will differ depending on the reader’s discourse community membership. If a trainee is unfamiliar with legal genre demands, such fully encoded information as in (1) – (3) will not be interpreted by him or her on the basis of the relevance criteria used by the legally trained receiver. An alternative explanation may be that the trainee may be interpreting the utterance correctly but fails to realize the importance of explicitness and therefore of transposing it precisely into the TT. Thus, to the trainee who has different expectations from those of the legally trained about which elements of meaning should be fully encoded, such full encoding may result in different and unintended conclusions about relevance.

3.2. Problems relating to enrichment

A rather different type of stumbling block experienced by the trainee has to do with the process of enrichment. This type of problem may originate at the ST level when the trainee herself tries to develop the semantic representations of legal sentences in order to arrive at unambiguous utterance meaning, cf. Sequeiros (2002:1069):

Enrichment is viewed as a pragmatic process whose function it is to develop the vagueness found in natural language utterances in order to arrive at fully determinate thoughts.

Enrichment may also relate to the TT. This second type of interlingual enrichment is defined by Sequeiros as follows (ibid:1078):

An utterance is a case of interlingual enrichment if its semantic representation is the intended enrichment of the semantic representation of an utterance of another language.

In interlingual communication languages of course differ as to the means available to express thoughts. Interlingual enrichment is therefore necessary to cope with for example cultural bumps.

It follows, therefore, that enrichment problems on the ST level may block the trainees’ arrival at fully intended determinate thoughts, to use Sequeiros terminology. On the TT level, interlingual enrichment problems will be caused by the trainee being unable to or undecided about how to cater for the needs of the TT recipient.

Consider (4), which forms part of a Danish agency agreement.

(4) Mandanten udarbejder en liste over laveste udsalgsspriser [contract]

[Principal make list of lowest sales prices]

The vagueness our trainees are faced with is illustrated by translations (4a) and (4b):
(4a) The Principal makes a list of lowest sales prices

(4b) The Principal shall make a list of lowest sales prices.

Seen in isolation, the meaning of a sentence like (4) is that the subject of the sentence [mandanten/Principal] performs the act described by the predicate [udarbejde en liste over laveste udsalgspriser/make list of lowest sales prices]. Depending on the context, however, the time reference differs; hence the vagueness. Thus, the act described by the predicate may relate to general time. This is the meaning conveyed in (4a). Or the time reference may be specific, but with relation to different points in time: The act described by the predicate may relate to the time of the utterance, or it may relate to a time after the time of the utterance. In the specific meaning, the act described may occur in the normal course of events. However, in the context of an agreement, (4) needs to be enriched with the higher-order explication of performativity. Or in other words: in a contract, (4) creates as a result of the contract an obligation resting on the subject of the sentence to perform the act described by the predicate at a time after the time of utterance. In a contractual context, therefore, (4b) is the meaning with which (4) will have to be enriched and which must be transferred to the TT². In Austin’s terminology (Austin 1962), (4) in this context represents a performative speech act as opposed to the other three which represent descriptive speech acts.

Figure 2 outlines the ways in which (4) may be enriched:

As can be seen from the proposed translation (4a), however, our trainees either do not necessarily enrich (4) with the higher-order explication of performativity on the ST level, or they fail to make linguistic choices in their translation that will facilitate such enrichment on the part of the ultimate recipient on the TT level.

It is difficult to say anything definite at this stage about what has prompted our trainees to make the choices represented by (4a). As we see it now, two possible explanations spring to mind.

One explanation might be that the interpretation represented by (4a) was in fact considered relevant by our trainees on the basis of their existing contextual assumptions. They are more or less beginners in the field of legal translation and have never before in their trainee career been faced with having to translate texts whose function it is to create their own reality, so to speak.

Another explanation might be that our trainees did in fact themselves enrich (4) with performative meaning but left it to the TT recipient to make the same enrichment on the basis of similar linguistic choices (albeit in the English language). In using such a strategy the trainees set aside what Sequeiros calls the requirement for “interlingual enrichment carried out on linguistic grounds, which is necessary when the target language can only express the thought communicated in the original language by means of a sentence which is made linguistically explicit.” (Sequeiros 2002:1078).

Another but rather different example of enrichment problem appears in connection with the trainees’ understanding or translation into Danish of (5), which is taken from an English contract:

(5) Nothing in this clause shall confer any right on the Buyer to return the goods. [contract]

(5) is not lexically vague or ambiguous. Yet some sort of vagueness or ambiguity seems to develop in the trainees’ understanding or transfer process. This is illustrated by the proposed translation (5a), which actually turns the world upside down, so to speak.

(5a) Intet i denne bestemmelse pålægger køber pligt til at tilbagelevere varene.

² In English legal language, “shall” / “will” are frequently used as markers of this kind of performativity.
There may be several explanations for the trainees’ choice of translation, but difficulty understanding the individual words constituting (5) is presumably not one of them, because no complex legal terminology is involved. As we see it, one possible explanation may be that the trainees actually did understand the meaning of (5) but that they disregard this interpretation because the set of contextual assumptions they bring to bear on the interpretation of (5) clashes with the set intended by the speaker. As consumers they are familiar with contractual situations where the focus is on securing the buyer’s rights rather than the seller’s. In their search for relevance they apparently set aside the intended contextual assumptions and enrich the text according to their own perceptions of relevance. It therefore seems that the assumptions the trainees bring to bear on the interpretation – what they know or think they know – are presumably more powerful than the linguistic form and content of (5).

The translation of (5) is an example of interlingual enrichment, where the trainee’s focus away from the linguistic form of the ST in favour of her own assumptions induces her in the TT to tell the ultimate receiver something which is not true. Similarly in translation (6) below, the trainee again apparently focuses on her own assumptions rather than on the linguistic form of the ST. In this case, however, she does not end up saying something which is not true but something which the ultimate receiver of the TT already knows. Consider (6) and the proposed translations (6a) and (6b):

(6) Når levering har fundet sted, er køber forpligtet til omgående at foretage en undersøgelse af leverancen. (contract)

(6a) When delivery has taken place, the Buyer shall immediately examine the goods.

(6b) When delivery has taken place, the Buyer shall immediately examine the goods to make sure that they are free from any defects.

In (6b), instead of leaving it to the ultimate receiver of the TT to enrich the text with the purpose of the examination, as in (6a), the trainee chooses to make her own enrichment of (6) explicit thereby encoding linguistically what the ST sender had intended the receiver to recover by inference.

As in the translation of (5) it appears that the assumptions brought to bear on the interpretation – what the trainee knows or thinks she knows - conflict with the form of (6).

We have earlier stressed the assumption of explicitness in legal texts as a salient factor of interpretation for the members of the legal discourse community, but the explicitness encoded into (6b) differs from what we find in (1) – (3). When trainees in their interlingual enrichment of a text make explicit what they perhaps needed in their own intralingual enrichment process of the ST, they run the risk of making the ST sender seem patronising in the eyes of the TT receiver, in that the TT receiver is forced to process something which is already highly accessible to him or her. Sometimes such lack of encoding may also have been the result of a compromise between the parties to the contract, which should be preserved in the TT. (Cf. also Blakemore, 2002:65)

What may be involved in the translation of (5) and (6), therefore, is the phenomenon described by Kussmaul (1995:35) as misuse-of-top-down-knowledge-hypothesis.

A similar tendency towards learners giving priority to their own perceptions of the world against linguistic evidence has been observed by Susanne Feigenbaum (2000:456ff) in a study of adult learner’s behaviour in a German text-reading course. The focus of her study is the interplay between lexical and encyclopaedic knowledge. Her conclusion is that beginners are unable to repair their own grammatical errors or draw on the co-text; instead they are led astray by the encyclopaedic knowledge they have in order to be able to establish some sort of coherence – or in our terminology – relevance in their own understanding.

4. Concluding remarks

Based on translations produced by trainees translators at the CBS we have described and discussed selected types of stumbling blocks apparently experienced by Danish trainees when trying to interpret or translate legal texts between Danish and English. Setting aside legal terminology, which is an inter-textual variable known to be difficult to handle in legal translation, we have concentrated on other stumbling blocks that cut across text types and/or legal topics. These stumbling blocks have been diagnosed with reference to the subtasks involved in understanding texts, namely “reference assignment”, “disambiguation” and “enrichment” and they are concentrated in the interface between linguistic and legal knowledge.

In our discussion we have pointed to various types of contextual assumptions that support the understanding and subsequent transfer of the legal texts at hand. These assumptions, which represent knowledge types between which there is a free flow, are summarised in figure 3 below:

- assumptions about legal system(s) and
- principles, legal scenarios and
- activity types
assumptions about legal genres, expected text functions (incl. performativity), degree of explicitness, etc. general world knowledge (incl. common sense)

knowledge about linguistic features (incl. co-text, lexical and terminological knowledge)

**Figure 3**

From the examples discussed it appears that the trainees draw only to a limited extent on legal system and legal genre knowledge for their interpretation or translation of the legal text. That, of course, is not surprising considering that they are relative beginners in the field of legal translation. What is perhaps more interesting is that they appear to draw fairly heavily on general world knowledge and common sense assumptions. Instead of allowing a free interaction of linguistic and general world knowledge they seem to give priority to their own perception of relevance sometimes to the detriment of their linguistic and genre knowledge. In view of their relatively advanced level of linguistic skills and the genre knowledge that they have so far acquired, this is puzzling. The next step will therefore be to explore whether that is in fact what they do and if so, why they are doing it.

For example, in connection with the problems emerging from examples (1) – (3) we find it interesting to know whether it is in fact problems understanding the role played by the prepositional phrase in the source text, i.e. lack of knowledge of the means used to achieve explicitness in the legal genre, that have an effect on the TT. Or whether there is interference from other considerations, e.g. grammar rules relating to adverbial position in general English. Also, we need to look into the interplay of the different contextual assumptions that the trainees bring to bear on the text to be interpreted and transferred so that we may determine what prompts the trainees to use their common sense or general world knowledge to overrule the linguistic form and content of relatively simple sentences in legal texts, as seems to be the case with (4) – (6).

Most of our questions may be answered at a fairly general level with reference to the concept of relevance, but seen from a pedagogical point of view we need to have more detailed insight. As we see it the main purpose of legal translation teaching is to raise the trainees’ process awareness level thereby improving the self-monitoring skills of the individual trainee rather than to aim for the fairly impossible, i.e. the legal knowledge level of the legal professional. For our purposes, the concept of relevance alone is consequently insufficient to guide the trainees in their process.

The next step will, therefore, be to set up introspective studies that will hopefully enable us to know more about the process our trainees go through on the SL and TT levels. Why is it that textual elements that are not difficult in themselves tend to become difficult to handle in legal texts?

**References**


4.2.3 Suzanne Ballansat-Aebi

Der Entscheidungsprozess beim Übersetzen juristischer Texte: wie können Studierende die Lösungsvorschläge von Hilfsmitteln kritisch beurteilen lernen?

Suzanne Ballansat-Aebi
Universität Genf

1. Einleitung

Studierende übernehmen bei der juristischen Übersetzung oft ziemlich unkritisch eine Lösung eines Hilfsmittels oder wählen zufällig unter mehreren Lösungen aus, was häufig zu falschen Ergebnissen führt. Wie kann man sie dazu bringen, bewusster vorzugehen?


2. Ergebnisse von Untersuchungen über das Rechercheverhalten von Übersetzerinnen und Übersetzern


Ziel des Fragebogens ist es jedoch, ökonomische Recherchestrategien zu fördern. Da Übersetzerinnen und Übersetzer gewöhnlich unter Zeitdruck arbeiten, können sie nicht alle erdenklichen Hilfsmittel benutzen, sondern müssen selektiv vorgehen und jene auswählen, die im vorliegenden Fall die zuverlässigsten Resultate liefern. Nur so kann der Zeitaufwand für die Recherche auf ein vernünftiges Mass beschränkt werden. Es gilt also nicht, alle Felder des Fragebogens auszufüllen, sondern jene auszuwählen, die in der konkreten Situation wesentlich erscheinen.

3. Besondere Schwierigkeit bei der juristischen Übersetzung: Systemgebundenheit der Begriffe

Bei der juristischen Übersetzung muss besonders berücksichtigt werden, dass die Begriffe systemgebunden sind. Dies macht eine Rechtsvergleichung notwendig (Vergleich der Rechtsordnung des Landes, auf welcher der Ausgangstext beruht mit der Rechtsordnung des Landes, auf welcher der ZIELtext beruht, im Folgenden Ausgangs- und Zielrechtsordnung genannt; siehe de Groot 1999). Die Rechtsvergleichung ist eine anspruchsvolle Aufgabe und wird gewöhnlich erst von fortgeschrittenen Juristinnen und Juristen auf ihrem Spezialgebiet vorgenommen. Übersetzerinnen und Übersetzer, die sich zwar Grundkenntnisse in der Ausgangs- und Zielrechtsordnung angeeignet haben, sehen sich also einer für sie zu schwierigen Aufgabe gegenüber, die unter Zeitdruck umso weniger zu lösen ist. Es besteht also eine grosse Diskrepanz zwischen den immer wieder geäußerten Anforderungen an Übersetzerinnen und Übersetzer einerseits und ihren konkreten Fähigkeiten und Möglichkeiten, eine

4. Aufbau des Fragebogens

Es werden drei Phasen beim Entscheidungsprozess unterschieden: die Phase vor der Hilfsmittelbenutzung, die Phase der Hilfsmittelbenutzung und die Entscheidungsphase.

4.1. Phase vor der Hilfsmittelbenutzung

4.1.1. Ausgangslage

Bevor Hilfsmittel zur Hand genommen werden, muss der Rahmen der Übersetzung beurteilt werden. Nur so können Studierende erkennen, welche Hilfsmittel geeignet sind. Wie viele Rechtsordnungen sind beteiligt? Wenn es mehrere sind (Fall A), stellt sich die Frage der Rechtsvergleichung (siehe oben 3). Ist es nur eine (Fall B), liegt Mehrsprachigkeit vor (Staat oder internationale Organisation mit mehreren Amtssprachen). Bei Mehrsprachigkeit müssen die amtlich festgelegten Begriffe verwendet werden. Es ist nicht angezeigt, ein zweisprachiges Wörterbuch oder eine Datenbank zu benutzen, die auf anderen Rechtsordnungen beruht. Es müssen Hilfsmittel herangezogen werden, welche die amtlichen Begriffe enthalten, vor allem auch nichtterminologische (4.2.2).


4.1.2. Analyse des Begriffs im Ausgangstext:

Da die Terminologie in jedem Rechtsgebiet verschieden ist (die Bedeutung der systematischen Einbettung wird betont von Sarcevic 1997), ist es auch unerlässlich, vor einer Hilfsmittelbenutzung zu untersuchen, um welches Rechtsgebiet es geht. Nur so kann entschieden werden, welche Lösung im terminologischen Hilfsmittel zutrifft (4.2.1) oder welches nichtterminologische Hilfsmittel (4.2.2) herangezogen werden muss.

Die juristische Übersetzung besteht jedoch nicht bloss in der Übertragung einzelner Begriffe. Der ganze Text ist für die Bedeutung einzelner Begriffe ausschlaggebend (Sarcevic 1997). Aus diesem Grund wird im Fragebogen die Bedeutung eines Begriffes immer im Rahmen eines konkreten Texts untersucht. Dem Griff zum Hilfsmittel, um einzelne Begriffe nachzusehen, sollte eine Analyse des Ausgangstexts vorausgehen. Was kann dem Text selbst entnommen werden?

Deshalb werden im zweiten Teil des Fragebogens Felder für Definitionen, Über- und Unterbegriffe, Synonyme und Antonyme sowie Kollokationen vorgesehen. Wenn die im Hilfsmittel gefunden Lösung diesen Inferenzierungen widerspricht, wird klar, dass sie verworfen werden muss. Schon vor der Hilfsmittelbenutzung ist es wichtig zu untersuchen, ob ein Begriff im vorliegenden Text mehrere Bedeutungen hat. Dann kann natürlich nicht überall die gleiche Lösung verwendet werden.

4.2. Phase der Hilfsmittelbenutzung

Bei der juristischen Übersetzung können terminologische und nicht terminologische Hilfsmittel verwendet werden (Gile 1995).

4.2.1. Terminologische Hilfsmittel


Die Verlässlichkeit zweisprachiger Wörterbücher ist höher, wenn sie nicht blosse Wörterlisten sind. Sie sollten vielmehr verschiedene Bedeutungen klar abgrenzen (mit Angabe des jeweiligen Rechtsgebiets), Definitionen und Erläuterungen der Begriffe und Hinweise auf Gesetzestexte enthalten, Kollokationen angeben, erwähnen für welches Rechtssystem eine Lösung zutrifft und wenn möglich sogar rechtsvergleichende Hinweise geben.
4.2.2. Nichtterminologische Hilfsmittel
Da die juristische Übersetzung nicht darin besteht, Terminologeschwierigkeiten zu meistern, sondern auch einen Zieltext zu produzieren, der den Textsortenkonventionen in der Zielsprache entspricht, reichen die terminologischen Hilfsmittel nicht aus. Es müssen auch nichtterminologische Hilfsmittel, nämlich Hilftexte eingesetzt werden.


4.3. Entscheidungsphase
Je nach Beurteilung des Rahmens der Übersetzung (4.1.1) liegt Fall A oder B vor. Bei Fall A, bei welchem mehrere Rechtssysteme betroffen sind, muss entschieden werden, ob ein Äquivalent vorliegt oder welche Ersatzlösung bei dessen Fehlen in Frage kommt. Bei Fall B, bei welchem nur ein Rechtssystem betroffen ist, ist die zutreffende amtliche Bezeichnung im Rechtssystem in der Zielsprache anzugeben.

5. Verwendung des Fragebogens im Unterricht anhand von Beispieltexten


DER ENTSCHEIDUNGSPROZESS BEIM ÜBERSETZEN JURISTISCHER TEXTE
BEGRIFF: déspécialisation
TEXT: Précis-Formulaire des actes notariés, Jean-Marie Bez, Litec Librairie de la Cour de Cassation, Paris 1992

PHASE VOR DER HILFSMITTELBENUTZUNG

<table>
<thead>
<tr>
<th>Ausgangslage:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ausgangssprache</td>
<td>Französisch</td>
</tr>
<tr>
<td>Zielsprache</td>
<td>Deutsch</td>
</tr>
<tr>
<td>Ausgangsrechtsordnung (en)</td>
<td>französisches Recht</td>
</tr>
<tr>
<td>Zielrechtsordnung</td>
<td>Schweizer Recht</td>
</tr>
<tr>
<td>Nur eine Rechtsordnung betroffen</td>
<td></td>
</tr>
<tr>
<td>Textsorte des Ausgangstexts</td>
<td>Vertragsmodell</td>
</tr>
<tr>
<td>Zelpublikum</td>
<td>Gerichtsinstanz in der deutschen Schweiz</td>
</tr>
<tr>
<td>Übersetzungszweck</td>
<td>Geltendmachung in einem Gerichtsverfahren</td>
</tr>
</tbody>
</table>

Analyse des Begriffs im Ausgangstext:
Rechtgebiet: Vertragsrecht
Definition: modifier cette destination
mehrere Bedeutungen:  |
Überbegriff/Unterbegriff:  |
Synonyme/Antonyme:  |
Kollokationen:  |

PHASE DER HILFSMITTELBENUTZUNG
### Terminologische Hilfsmittel:

| Einsprachiges alphabetisches Rechtslexikon in der Ausgangssprache: Gérard Cornu: Vocabulaire juridique, Presses Universitaires de France, Paris 2002 | Modification, par le preneur, de la destination des locaux sur lesquels porte le bail commercial |
| Einsprachiges alphabetisches Rechtslexikon in der Zielsprache | |
| Zweisprachiges thematisch gegliedertes Rechtswörterbuch | |
| andere Lexika | |
| Datenbank | |
| Glossar | |

### Nicht terminologische Hilfsmittel

| Rechtswissenschaftliche Darstellung in der Ausgangssprache (Lehrbuch, Artikel in Fachzeitschrift, Internetseite usw.) | |
| Vereinfachte Darstellung in der Ausgangssprache (Zeitungsausschnitt, Broschüre, Internetseite usw.) | |
| Rechtswissenschaftliche Darstellung in der Zielsprache (Lehrbuch, Artikel in Fachzeitschrift, Internetseite usw.) | |
| Vereinfachte Darstellung in der Zielsprache (Zeitungsausschnitt, Broschüre, Internetseite usw.) | Nutzungssänderung |
| Gesetzestext im Zielrechtssystem: Schweizerisches Obligationenrecht | keine ausdrückliche Regelung dieser Frage im Gesetz; vertragliche Regelung möglich |
| Gerichtsurteil im Ausgangsrechtssystem | |
| Gerichtsurteil im Zielrechtssystem | |
| Paralleltext in der Zielsprache (gleiche Textsorte, gleiches Thema) | |
| Hintergrundtext in der Ausgangs- oder Zielsprache (gleiches oder verwandtes Thema) | |
ENTSCHEIDUNGS_PHASE

FALL A: ES SIND MEHRERE REchtsORDNUNGEN BETROFFEN:
Ergebnis des Rechtsvergleichs: gibt es ein Äquivalent?

ja. Änderung der Nutzung der Mietsache (in der Schweiz keine besondere Gesetzesbestimmung, sondern Regelung aufgrund der Vertragsfreiheit)

Lösung: Nutzungssänderung

Wenn nicht, welche Ersatzlösung kommt in Frage?
neutraler Überbegriff
Verwendung des ausgangssprachlichen Begriffs
Lehnübersetzung
Umschreibung
Neologismus

FALL B: ES IST NUR EINE REchtsORDNUNG BETROFFEN:
Wie lautet die zutreffende amtliche Bezeichnung in der Zielsprache?


Es wäre in diesem Fall nicht einmal nötig, mehrere Quellen zur Kontrolle heranzuziehen. Schon das gründliche Lesen des Ausgangstextes zeigt, dass die Lösung im zweisprachigen Wörterbuch nicht stimmen kann. Die richtige Lösung kann dank der Definition im Ausgangstext auch ohne Hilfsmittel inferiert werden. Der Fragebogen leitet dazu an, schon in der Phase vor der Hilfsmittelbenutzung wesentliche Fragen zu stellen (Rechtsgebiet? Definition im Text?), um der blinden Wörterbuchgläubigkeit entgegenzusteuern und den Fehler zu vermeiden.

Gehören Ausgangs- und Zielrechtsordnung verschiedenen Rechtskreisen an, wird die Analyse etwas komplexer, doch die Arbeitsmethode bleibt die gleiche. Als Beispiel wurde ein Begriffs paar aus dem englischen Recht analysiert.

DER ENTSCHEIDUNGSPROZESS BEIM ÜBERSETZEN JURISTISCHER TEXTE

BEGRIFF: public/private company

PHASE VOR DER HILFSMITTELBENUTZUNG

Ausgangslage:

<table>
<thead>
<tr>
<th>Ausgangssprache</th>
<th>Englisch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zielsprache</td>
<td>Deutsch</td>
</tr>
<tr>
<td>Ausgangsrechtsordnung (en)</td>
<td>englisches Recht</td>
</tr>
<tr>
<td>Zielechtsordnung</td>
<td>deutsches Recht</td>
</tr>
<tr>
<td>Nur eine Rechtsordnung betroffen</td>
<td>Lehrbuch für Rechtsstudenten</td>
</tr>
<tr>
<td>Textsorte des Ausgangstexts</td>
<td>deutschsprachige Rechtsstudenten, Rechtsvergleicher</td>
</tr>
<tr>
<td>Zielpublikum</td>
<td>Information über ausländisches Rechtssystem</td>
</tr>
<tr>
<td>Übersetzungszweck</td>
<td></td>
</tr>
</tbody>
</table>

Analyse des Begriffs im Ausgangstext:

<table>
<thead>
<tr>
<th>Rechtgebiet</th>
<th>Gesellschaftsrecht</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition</td>
<td>eine ganze Liste von jeweiligen Merkmalen</td>
</tr>
<tr>
<td>mehrere Bedeutungen</td>
<td></td>
</tr>
<tr>
<td>Überbegriff/Unterbegriff</td>
<td>registered companies, limited liability companies, companies limited by shares</td>
</tr>
<tr>
<td>Synonyme/Antonyme</td>
<td>Begriffs paar, siehe oben</td>
</tr>
<tr>
<td>Kollokationen</td>
<td>to go public</td>
</tr>
</tbody>
</table>
## PHASE DER HILFSMITTELBENUTZUNG

### Terminologische Hilfsmittel:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>private limited company (PrC) Br (etwa:) Gesellschaft mit beschränkter Haftung. Die private company ist die Gesellschaftsform für kleinere und mittlere Unternehmen. Sie muss in ihre Firma den Zusatz „limited“ aufnehmen.</td>
<td>public company: a type of registered company that can offer its shares to the public (es folgt eine Aufzählung der Merkmale)</td>
</tr>
<tr>
<td></td>
<td>private limited company (PrC) Br (etwa:) Gesellschaft mit beschränkter Haftung. Die private company ist die Gesellschaftsform für kleinere und mittlere Unternehmen. Sie muss in ihre Firma den Zusatz „limited“ aufnehmen.</td>
<td>public company: a residuary type of a registered company defined under the Companies Act 1985 as any company that is not a public company. This form of company is prohibited from offering its shares to the public at large (es folgen weitere Merkmale).</td>
</tr>
<tr>
<td></td>
<td>Zweisprachiges thematisch gegliedertes Rechtswörterbuch</td>
<td>private company: a company which does not have a listing on the London Stock Exchange and is debarred from offering its shares to the general public</td>
</tr>
<tr>
<td></td>
<td>andere Lexika</td>
<td>public limited company: a public company limited by shares or by guarantee and having share capital and which may offer shares for purchase by the general public. Only plc's may qualify for listing on the London Stock Exchange.</td>
</tr>
</tbody>
</table>

### rechtswissenschaftliche Darstellung in der Ausgangssprache (Lehrbuch, Artikel in Fachzeitschrift, Internetseite usw.)

<table>
<thead>
<tr>
<th>vereinfachte Darstellung in der Ausgangssprache (Zeitungsartikel, Broschüre, Internetseite usw.)</th>
<th>vereinfachte Darstellung in der Zielsprache (Zeitungsartikel, Broschüre, Internetseite usw.)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Gesetzestext im Ausgangsrechtssystem</th>
<th>Companies Act 1985</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gerichtsurteil im Ausgangsrechtssystem</td>
<td></td>
</tr>
<tr>
<td>Gerichtsurteil im Zielrechtssystem</td>
<td></td>
</tr>
<tr>
<td>Paralleltext in der Zielsprache (gleiche Textsorte, gleiches Thema)</td>
<td></td>
</tr>
<tr>
<td>Hintergrundtext in der Ausgangs- oder Zielsprache (gleiches oder verwandtes Thema)</td>
<td></td>
</tr>
</tbody>
</table>

**ENTSCHEIDUNGSPHASE**

**FALL A: ES SIND MEHRERE RECHTSORDNUNGEN BETROFFEN:**

**Ergebnis des Rechtsvergleichs: gibt es ein Äquivalent?**


**Wenn nicht, welche Ersatzlösung kommt in Frage?**

<table>
<thead>
<tr>
<th>neutraler Überbegriff</th>
<th>nein, klare Unterscheidung nötig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Verwendung des ausgangssprachlichen Begriffs</td>
<td>ja, im Text selbst werden die Merkmale der beiden Formen dann erklärt</td>
</tr>
<tr>
<td>Lehnübersetzung</td>
<td>Publik./Privatgesellschaft: verwirrend; öffentliche/private Gesellschaft: missverständlich!</td>
</tr>
<tr>
<td>Umschreibung</td>
<td>nicht nötig, da Erklärungen im Text selbst folgen</td>
</tr>
<tr>
<td>Neologismus</td>
<td>-</td>
</tr>
</tbody>
</table>

**FALL B: ES IST NUR EINE RECHTSORDNUNG BETROFFEN:**

**Wie lautet die zutreffende Bezeichnung in der Zielsprache?**


Eine besondere Situation im Rahmen von Fall A liegt vor, wenn es im Text um zwei Ausgangsrechtsordnungen geht. Dies war der Fall in einem Beitrag zum Internetrecht, in dem die Autorin Ehrverletzungen auf dem Internet erörtert ¹. Sie bespricht einen Beispielfall, in dem die schottische und englische Rechtsordnung betrifft und verwendet die Ausdrücke „libel“, „defamation“ und „defamatory statement“. Im zweisprachigen Wörterbuch werden für „libel“ eine ganze Reihe von Lösungen angegeben: Beleidigung, Ehrverletzung, ehrenkränkende Behauptung, schriftliche Verleumdung, üble Nachrede; Ehrverletzung in schriftlicher oder anderer dauerhafter Form, nicht nur als „tort“, sondern auch strafrechtlich verfolgbar; Gegenteil: slander ². Der

---


6. Erfahrungen mit dem Fragebogen im Unterricht


Bibliographie


---


3 Art. 173-177 Schweizerisches Strafgesetzbuch; vgl. zivilrechtliche Bestimmung: Art. 28 Schweizerisches Zivilgesetzbuch.


4.2.4 Stanislaw Goźdz-Roszkowski

Legal terms in context: phraseological variation across genres

Stanislaw Goźdz-Roszkowski
Department of English Language, University of Lodz, Poland

1. Introduction

It is no accident that the title of this paper bears some resemblance to the now classic book by Jennifer Pearson Terms in Context. Pearson’s book belongs to those invaluable studies in which it was demonstrated that corpora can be successfully used in terminology work. What may seem to be an established practice in general language lexicography is not necessarily so in specialised lexicography. Pearson (1998) pointed out the lack of appropriate corpora and a reluctance on the part of “traditional” terminologists to rely on ”authentic” texts as the possible reasons for the discrepancy. The situation has apparently been constantly improving along with the increased availability of electronic text and linguistic tools to create one’s own specialised corpora.

The present study has been premised on the necessity of studying terms in context and on placing particular emphasis on usage by means of real texts used as a primary source of data. Retrieving relevant contextual fragments can have a disambiguating function in the case of related lexical units. In legal English there is, for example, the notorious abundance of terms used to refer to court decisions in disputes which have the meaning of ”revoke” such as: annul, cancel, dismiss, overrule, recall, reverse, set aside etc. LSP users and translators alike would greatly benefit from linguistic tools that could deal systematically with the troublesome area of synonymy. The access to ample contextual information is particularly important for non-native LSP users whose tasks include specialised text production in English. In Poland, for instance, translating into non-native tongues, especially into English is a common occurrence due to the acute shortage of qualified native speakers of foreign languages who would know Polish well enough to translate. The situation might improve in view of Poland’s entry into the European Union but it is not likely to be entirely remedied in the foreseeable future. Other Polish LSP users, such as, for instance, legal professionals are also expected to write texts where fluency and accuracy of expression are vital. It is in such context that the issue of correct use of word combinations in specialised texts strikes one as particularly important. The absence of this problem in the context of LSP had been noticed (cf. Bergenholz 1995). In the general process of language learning, it is very characteristic for language learners, even at a fairly advanced stage, to produce sentences which conform with the grammar rules but they tend to sound unnatural. A special language user with inadequate linguistic knowledge and a rudimentary grasp of a particular domain appears to be in a somewhat similar situation to that of the child or student of language (Bergenholz 1995:17) He or she may know a term but has little idea of how to use it. The LSP user might also face the problem of not knowing or not being certain whether certain word combinations conform with their standard usage in a field of knowledge, i.e. if they are acceptable by a particular LSP community. In the author’s view, this issue is particularly pronounced in legal texts because legal systems exert a varying degree of influence on the writer’s choice of words. Indeed, in extreme cases, failure to employ word combinations according to specific formulations prescribed by law could result in the entire text being invalidated (Kjaer 1990a). Other, less harsh penalties for disregarding restricted combinability in legal language could include affecting the legal force of a text, affecting the stability of the law or rejecting the text by a particular LSP community if this text fails to include routine conventional phrases which are widely recognised as preserving the generic integrity.

Unfortunately, most specialised mono-, bi- and multilingual dictionaries do not very often provide explicit contextual information on word combinations. The exception are some dictionaries with encyclopedic information or those few which apart from providing definitions include example sentences (a recent example is the Słownik Prawa/English Law Dictionary published by Peter Collin Publishing).

In this paper it is argued that any terminological resources providing information on combinability of terms should take into account a genre or genres in which a given term appears. Sometimes, it might not be enough to produce a list of possible collocations. If, for example, we take a set of lexical collocations of a basic, widely used term, such as contract: (reproduced here from Alcaraz & Hughes 2002:167) void contract, voidable contract, binding contract, exclusive contract, breach of contract, terms of contract, the law of contract, rules of contract, it would be extremely useful to know the distribution of those items across legal genres within the domain of contract law. It would be interesting to find out, for example, if the term voidable contract appears only in textbooks, or also in statutes, judgements, law reports and contracts. It might appear only in two or three genres or in all of them. Equally, data on frequency of a term and its combination in different genres could be of real help. It is suggested in this paper that there seems to be a strong correlation between restricted combinability of a term and a genre in which it appears and such information could be of great importance to the LSP users working with legal language.

2. The case of consideration

To illustrate the point made above, we shall look at the term consideration. . It is a basic term in the Anglo-American common law of contract. In the legal lexicion consideration belongs to the category of semi-technical terms. Apart from its general meaning, it designates ”whatever is given or accepted by each party in return for the other party’s reciprocal meaning”(Alcaraz & Hughes 2002:160). Black’s Law Dictionary defines consideration as "That which is actually given or accepted in return for a promise. The inducement to a contract. The cause, motive, price, or impelling influence which induces a contracting party to enter into a contract. Some right, interest, profit or benefit accruing to
one party, or some forbearance, detriment, loss or responsibility, given, suffered, or undertaken by the other“ (Black’s Law Dictionary).

Clearly, there exist different schools of phraseology and various ways of classifying word combinations. A very useful overview of word combinations in language for specific purposes can be found in Kjaer (1990) and in Thomas (1993). Below, we shall examine the collocational patterns of the term consideration based on frequency, that is, attention is drawn to lexical items which display a significant co-occurrence within the specified co-text. Adopting the frequency criterion means that one is provided with raw output yielded by the concordancing programme. It is raw in the sense that the combinations are of different form and nature. Some will be collocations or terminological phrases (usually of the verb + noun form, the noun being a term) some still phraseological terms (especially multi-word terms) characterised by restricted commutability. Both types are relevant for the group of LSP users specified above. In the author’s belief, the following are the most crucial questions for the user:

1) Is the distribution of a particular term restricted to a particular genre or genres, or does it appear universally in a given domain? 2) In which most frequent combinations can a term be found? 3) Are these combinations unique to a particular genre or genres?

2.1 The Legal corpus

The corpus which has recently exceeded 3 million running words comprises texts from different branches of law, for instance, contract law, family law, constitutional law, etc. and it contains a range of different legal genres. For the purpose of this study, a subcorpus of contract law was isolated with texts grouped in four different samples representing the genres of contract, judgement, textbook and report. The contract sample contains standard-form commercial contracts. The judgements are those handed down by the House of Lords in their capacity as the highest court of appeal in the UK. The textbook sample contains a random selection of different texts concerning the theory of contract law. The texts were culled from various standard textbooks on this subject. Finally, the reports are papers of the Law Commission working on the reform of law in England. The samples are of roughly equal size of 60,000 words, which can be assumed to be sufficiently representative of each genre. The analysis was aided by the Wordsmith Tools software.

2.2 The analysis

Figure 1 presented below represents a very simple piece of statistics, which is however quite interesting because it shows that there is a neat division between the four genres with respect to the raw frequency of the term in question. Consideration appears in the textbook and the report with a similar frequency, which is markedly higher than that of the contract and the judgement, where the difference between the two is negligible.

<table>
<thead>
<tr>
<th>Genre</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>textbook</td>
<td>0.12</td>
</tr>
<tr>
<td>report</td>
<td>0.10</td>
</tr>
<tr>
<td>contract</td>
<td>0.05</td>
</tr>
<tr>
<td>judgement</td>
<td>0.04</td>
</tr>
</tbody>
</table>

Fig. 1

It is interesting to notice that consideration is strikingly more frequent in genres that represent the juristic language, that is the ‘metalanguage’ of the law, than in contracts and judgements – the language in which law is actually laid down.

Before we look at the examples of the actual use of ‘consideration’ in the texts, in Figure 2 we can see the most commonly found (in dictionaries) adjective + noun forms with ‘consideration’ as the ‘nucleus’.

<table>
<thead>
<tr>
<th>standard/institutional terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>concurrent consideration</td>
</tr>
<tr>
<td>executed consideration</td>
</tr>
<tr>
<td>executory consideration</td>
</tr>
<tr>
<td>good consideration</td>
</tr>
<tr>
<td>inadequate consideration</td>
</tr>
<tr>
<td>(ill)legal consideration</td>
</tr>
<tr>
<td>past consideration</td>
</tr>
<tr>
<td>sufficient consideration</td>
</tr>
<tr>
<td>valuable consideration</td>
</tr>
</tbody>
</table>

Fig. 2

It is interesting to note that the adjectives (except one) are not past participles, which is very common for such compounds in most special languages (Thomas 1993). These are standard, institutionalised terms in the sense that they can be commonly found in mono- and bilingual dictionaries of law as well as in textbooks on contract law. As a side issue, it will be interesting to see if those terms actually appear in legal texts. If so, do they appear in all the four genres or is their occurrence in any way restricted?

2.2.1 Contracts

Let us however see in what combinations we can find consideration in contracts. The phrases in bold preceded by bullets have been placed according to their frequency in descending order.

<table>
<thead>
<tr>
<th>standard/institutional terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>concurrent consideration</td>
</tr>
<tr>
<td>executed consideration</td>
</tr>
<tr>
<td>executory consideration</td>
</tr>
<tr>
<td>good consideration</td>
</tr>
<tr>
<td>inadequate consideration</td>
</tr>
<tr>
<td>(ill)legal consideration</td>
</tr>
<tr>
<td>past consideration</td>
</tr>
<tr>
<td>sufficient consideration</td>
</tr>
<tr>
<td>valuable consideration</td>
</tr>
</tbody>
</table>

Fig. 2

It is interesting to note that the adjectives (except one) are not past participles, which is very common for such compounds in most special languages (Thomas 1993). These are standard, institutionalised terms in the sense that they can be commonly found in mono- and bilingual dictionaries of law as well as in textbooks on contract law. As a side issue, it will be interesting to see if those terms actually appear in legal texts. If so, do they appear in all the four genres or is their occurrence in any way restricted?
Almost half of all the occurrences of consideration in this genre appears in the prepositional phrase in consideration of as exemplified below:

(1) NOW, THEREFORE, in consideration of the mutual covenants and conditions herein, the parties agree as follows: (…)

The use of this phrase implies the reciprocal nature of the transaction. Its sense is “in return for” or ‘in exchange for’. The distribution of this phrase seems to be restricted to virtually one point in contract documents where the parties’ commitments are introduced. In the sample under consideration, in consideration of has not been found anywhere else in the documents, although the corpus evidence did admit of possible, however slight, variations such as, for example, the one below:

(2) It is therefore agreed, in consideration of the mutual promises and covenants hereinafter as follows:

Here, in consideration of seems to appear in a fairly restricted environment of a specific formulaic statement. The second most frequent combination demonstrated in (2) and (3) can be found in a variant indicated by the brackets. Both, good consideration and valuable consideration are terms in their own right, as shown in Figure 2. But only good consideration can appear in the combination for good consideration, no instances of for valuable consideration have been found in the contracts section of the corpus. As we shall see below, this restriction does not necessarily hold true for other genres.

(3) For good and valuable consideration, the Seller has agreed to sell and the Buyer has agreed

…

to buy the Property upon the terms and conditions set forth in the Contract

Now, therefore, for good consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto hereby agree as follows: (…)
Finally, this combination has a similar function to the first two (in consideration of, for good and valuable consideration) considered above in indicating the mutual nature of a given transaction. This is not to say that ‘in consideration of’, ‘for good (and valuable consideration)’ and ‘for the consideration named’ mean exactly the same and are freely interchangeable. Statistically, for the consideration named is by far the least frequent. All the three, however, have a restricted distribution within the documents and a very specific function.

(11) WITNESSETH, that the Contractor and the Owner for the consideration named agree as follows (…)

2.2.2 Judgements

The combination for valuable consideration reminds one of the one that we examined in sentences 2 and 3 in section 2.2.1. Contrary to what we saw in contracts, valuable consideration is never preceded by good. It not part of a formulaic expression. Here, it appears in its strict technical sense, while in contracts it tended to be part of a larger unit, where the meaning of valuable was included in the meaning of good, i.e. in the sense of a consideration legally valid.

(12) I cannot doubt that a contract for valuable consideration to grant an easement over Blackacre would be a contract for the disposition of an interest in land (…)

In this genre, all the occurrences of the standard multi-word term failure of consideration which have been retrieved are preceded by total. As we will see in sections 2.2.3 and 2.2.4 this term can be also preceded by ‘by partial’ or it can appear without any modifiers.

(13) It follows that a claim that there was a total failure of consideration cannot succeed. Since the tapes were never delivered in accordance with the contract as varied, there had been a total failure of consideration and they were entitled to the return of the $ 12,000

Sentences 14 and 15 show some affinity to those numbered 5 and 6 because all of them seem to refer to consideration in its entirety. However, one should be wary of using the phrases interchangeably. Those in 14 and 15 refer to consideration in its strictly pecuniary sense, which is emphasized by the words “paid” and “payable” used in the immediate context of this term.

(14) The licence only became effective when the whole of the consideration had been paid

(15) The rights referred to in the first part of the contract, vested in the plaintiffs at the latest when the whole of the stated consideration of $ $$ payable for those rights had been paid by the plaintiffs to the defendants.

Agreed consideration is again an example of an Adj + N combination with a high frequency (second most frequent in this genre) but restricted to the genre of judgements.

It is listed in an English-Polish Dictionary of Legal and Economic Terms with its Polish equivalent of ‘uzgodniona zaplata’.

(16) The plaintiffs paid the agreed consideration of $ 12,000 for the licence and then requested the defendants to insure and send by recorded delivery to the plaintiffs’ nominee in Munich video tapes of the films (…)

2.2.3 Textbook

Failure of consideration means that consideration, which was legal and agreed upon originally, no longer exists or “has been extinguished partially or entirely” (Black’s Law Dictionary). The term frequently appears without any modification in this genre.

(17) Rejection of goods, therefore, usually produces a total failure of consideration.

(18) It has been shown by McElroy and Williams that discharge for impossibility and discharge for failure of consideration had different historical roots.

The situation with the for good consideration phrase is analogous to that described in section 2.2.2 about for valuable consideration. For good consideration in textbooks does not appear in the formulaic, solemn statements which introduce the parties’ obligations. Let us however note that in sentence 19 the original denotation of this phrase remains the same but in pragmatic terms it is very different.

(19) Thus, if B owes money to X, he may make a contract with A, whereby A agrees, for good consideration to discharge this debt.

(20) Where a man, for good consideration, gave a note expressed to be “for money borrowed which I promise never to pay”, the word “never” was rejected.

The combination for valuable consideration has not been found in the entire corpus of contracts. Nor does valuable consideration for that matter. It might be hypothesized that valuable consideration is a term that belongs to the theory of contract and it is extremely unlikely to appear in highly operative texts such as contracts.

(21) Lord Cairns went further and said, if parties, for valuable consideration, with their eyes open, contract that a particular shall not be done, all that a Court of Equity has to do is to say, by way of injunction. (…)

(22) Valuable consideration for this purpose may consist in any consideration sufficient to support a simple contract, or an antecedent debt or liability.

Consideration must move from the promise is a fine example of legal phraseology often referred to as “maxims”(Bergenholtz 1995). The sentences (23) and (24) show a fairly straightforward use of it, that is, the maxim is produced in its full and original wording. But sentence (25) differs in that respect by containing a truncated version of the original maxim yet retaining the collocation of consideration and move. It can be argued that sentence (25) could not be in fact fully understood if one was ignorant of the exact wording and meaning of the original maxim.
(23) It is one of the best-known axioms of the common law of contract that consideration must move from the promisee.

(24) If the rule that consideration must move from the promisee were abolished, it would help C only if A had made his promise to C.

(25) The facts that no promise was made to the daughters and that the alleged consideration did not move from them are simply ignored.

If we refer back to Fig. 2 which shows a selection of the most common standard institutionalised terms, we can notice that some of them can be found below. In fact, it is in the textbook genre that one can come across most of the standard, institutionalised terms from Fig. 2.

- executed consideration
- past consideration
- sufficient consideration
- for good and valuable consideration
- total consideration
- for such consideration ...as X may think fit
- for the consideration named
- for valuable consideration
- total failure of consideration
- the whole of consideration
- agreed consideration
- consideration must move from the promisee
- executed consideration
- executory consideration
- past consideration
- sufficient consideration

(26) Here it is to be stressed that the right does not arise out of any contract (for there need be none), but from the fact of executed consideration by the plaintiff at the defendant’s request.

(27) The writ also came to be used where money had been paid under a mistake or upon executory consideration which had wholly failed and where also it had been extorted by fraud or duress.

(28) Where a guarantee was expressed to be given to the plaintiffs ‘in consideration of your being in advance’ to J.S., it was argued that this showed a past consideration.

(29) A promise by the buyer, however, to confer upon the seller some independent benefit, actual or contingent, may constitute sufficient consideration for the acceptance of the smaller sum.

These four terms presented immediately above appear to be restricted to one genre only. Not a single occurrence of any of them have been found outside the textbook sample.

2.3 Report

Reports seem to show a rather limited range of word combination possibilities for consideration. The two most frequent are listed below. They do not differ from what we have seen in judgements and textbooks, except for ‘partial’ as another possible adjective that co-occurs with failure of consideration.

(30) There has been no total failure of consideration, and money paid cannot be recovered on a partial failure of consideration.

(31) A new contract made for good consideration after coming of age, notwithstanding that it may do the same thing as intended by an earlier contract made during minority, is not a ratification of that earlier contract.

Figure 3 lists the most frequent combinations in which consideration appears and shows how each combination is distributed across the four genres.

<table>
<thead>
<tr>
<th>Consideration Type</th>
<th>Contract</th>
<th>Judgement</th>
<th>Textbook</th>
<th>Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>in consideration of</td>
<td>v</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>for good (and valuable) consideration</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td></td>
</tr>
<tr>
<td>total consideration</td>
<td>v</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>for such consideration ...as X may think fit</td>
<td>v</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>for the consideration named</td>
<td>v</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>for valuable consideration</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td></td>
</tr>
<tr>
<td>total failure of consideration</td>
<td>v</td>
<td>v</td>
<td>v</td>
<td></td>
</tr>
<tr>
<td>the whole of consideration</td>
<td>v</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>agreed consideration</td>
<td>v</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>consideration must move from the promisee</td>
<td></td>
<td></td>
<td></td>
<td>v</td>
</tr>
<tr>
<td>executed consideration</td>
<td>v</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>executory consideration</td>
<td>v</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>past consideration</td>
<td>v</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sufficient consideration</td>
<td>v</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 3

3 Conclusions

The data presented above has shown that adding a genre dimension to the analysis of a term in context can greatly enrich our knowledge about the lexical environment of terms. For example, in the case of consideration it is possible to point to a unique set of combinations in which this term appears in contracts. The phrases in consideration of, for good and valuable consideration...
and for the consideration named as well as the combination for such consideration … as X may think fit tend to be fairly frequent in contracts but not a single instance has been found in judgements, textbooks or reports. We have noticed that the reason for this could be the macrostructural features of contracts and the existence of conventional routine phrases. Similarly, for instance, the use of total before consideration appears to be idiosyncratic. Despite the existence of other synonymous adjectives, one is by far more likely to come across in contracts the combination of total consideration and not for example complete consideration. On the other hand, in textbooks, there are certain standard terms, for example, executory consideration or past consideration not appearing at all in contracts or the other genres for that matter. We are not at this point concerned with why this is so but merely recording facts. The genre-oriented corpus search can also demonstrate that certain combinations can have a wider distribution. This was the case with failure of consideration appearing in judgements, textbooks and reports. In pedagogic terms, it seems essential that students be familiar with such restraints on term combinability if they are to produce effective highly specialised texts. Clearly, the frequency-based enquiries are meant only as first-point reference for those unfamiliar with the contextual environment of terms.

References

Dictionaries consulted:
Słownik Terminologii Prawniczej i Ekonomicznej Angielsko-Polski (An English-Polish Dictionary of Legal and Economic Terms), Jaślan J, Jaślan H. Wiedza Powszechna Warszawa
4.2.5 Nicola M Langton

Lessons from the learner: Student contributions to learning to read for legal study

Nicola M. Langton L.B., MA
Department of English and Communication, City University of Hong Kong

Introduction:

Reading is a key skill in the study of law since it is through reading legal materials that students learn to think, write and speak like lawyers. Effective reading skills development generally involves reading to learn (recall, rhetorical frame-working, inferencing) and integrating information (evaluating content and understanding etc) (Grabe and Stoller 2002), while reading for law also requires development and acquisition of deductive, analogic and syllogistic reasoning skills. Guided or semi-guided instruction in the purpose, structure, use and exploitation of the legal genres students are required to read and produce such as textbooks, reported cases, law journals, case notes, legal memoranda, contracts etc can certainly help develop effective reading strategies (Bhatia 1993, 1999; CELECR 2002). Instruction in skills development can also enhance effective reading skills since the focus is on promoting cognitive and metacognitive awareness of factors contributing to greater autonomous independent learning (Benson 2001; Naiman, Frohlich, Stern and Todesco 1978; Wenden 1991, 1998, 2002). Actively raising learners’ awareness of factors that aid effective reading and obtaining their insights into the processes involved are also crucial for overall skills development. This paper focuses on how students produced reading materials for instruction or self-access as well as insights into the processes involved. The data draws on results of a research project on promoting life-long learning skills (Langton 2003) in which students contributed to the design and content of a website designed to aid the teaching and learning of legal study skills.

Part 1 briefly reviews the literature on general reading processes and the role of cognitive and metacognitive processes in learner development, while Part 2 explains why reading legal judgments is so important for legal reading and skills development. Part 3 draws on the project results to describe and illustrate the different reading strategies students developed while creating reading materials for inclusion in the pilot website. The discussion shows that students’ self-perceived success in developing their own reading skills and strategies, creating materials to help others improve their legal reading, and suggesting improvements in the ‘teaching’ of legal reading was a result of their own ability to
- draw on genre knowledge and linguistic skills to define, refine and complete various tasks;
- recognise and use factors that enhance autonomy and independent learning; and
- provide insights/comments on materials used or created to help other students to learn to read for law.

Reading Skills

Reading plays a key role in an individual’s approach to learning and is more than an ability to extract meaning and interpret appropriately. As the literature reveals, effective reading is an active engagement in the text which involves a number of stages. For example, the SQ3R model (Survey, Question, Read, Recite, Review) adopted by York University (1997) emphasises adopting strategies to match particular reading purposes which include pre-reading planning, checking understanding (where difficulty is a sign of engaging in understanding), thinking critically, selecting relevant data for purposes and goals, and being flexible in strategy approach. The model also emphasises the key stages of recite and review and the ability to consciously raise questions before, during and after the reading at gradually deeper levels to promote critical reflective thinking. This model seems a useful one in that it views effective reading comprehension as an ability to identify, develop and engage in the necessary skills and strategies to meet reading purposes etc. However, reading comprehension a complex process where the key abilities to do it well take time to acquire and where understanding can be further affected by the type of text to be read and reading purpose. Comprehension can also be affected by the way an individual extracts, processes, interprets and uses information, as well as an individual’s experience, age, L2 proficiency, ability to set reading purposes, etc. As Grabe and Stoller (2002) point out in their review of L1 English and L2 reading research, it is important to take into account all the factors contributing to reading comprehension when assessing learner needs and planning meaningful reading instruction. For example, the type of text to be read will influence the reading purpose(s). So, while most reading is for general information and related to background knowledge and not very in depth, reading to learn is very dependent on background knowledge and requires the ability to recall key points, identify a rhetorical framework and infer meaning; and reading to integrate information further requires value assessment, rhetorical framework restructuring, composing, selecting and critiquing. Reading comprehension is therefore not only dependent on purpose but also on a complex combination of skills and strategies.

The distinction between skills and strategies is an important one and the literature on L1 and L2 reading suggests (Grabe and Stoller 2002) that skills involve mental operations and the ability to process information and linguistic content (lower-level processes) by drawing on what already know about language (or are learning). Such skills are acquired gradually and consciously but eventually operate at a sub-conscious level due to experience, repeated practice etc. In contrast, strategies (including intentionally selected skills) are a consciously implemented set of abilities which may be deliberately selected to achieve particular goals. However, identifying what processes are skills and which are strategies is difficult as they are interchangeable as
the list of sample reading strategies in Table 1 suggests. Also, the various literature on second language acquisition, reading, independent learning etc use the terms skills and strategies interchangeably or to mean different things, making the distinction between skills and strategies more blurred.

Defining skills and strategies is more than identifying whether they are done consciously or sub-consciously, it also a question of identifying the cognitive and metacognitive processes involved in the actual reading comprehension. Indeed, research on L2 language acquisition, learner autonomy, good language learners and learner strategy instruction (Benson 2001; Naiman et al 1978; O’Malley and Chamot 1990; Oxford 1990; Wenden 1991, 1998, 2002 etc) suggests that cognitive and metacognitive processes may be influential in how learning takes place and how effective the learning is. In other words, raising learners’ cognitive and metacognitive awareness of the factors which contribute to effective learning may help them to become more effective independent or autonomous readers (learners). Bearing these views in mind, it is possible to view reading comprehension more as a set of abilities and factors that work together as Table 2 suggests, and not just discrete distinctions among skills, strategies, and cognitive/metacognitive processes. This approach still makes the basic distinction between mental and conscious operations but shows how the various factors, skills and strategies operate together as well as interchangeably.

Table 1: Reading Strategies. (Grabe & Stoller 2002:16)

<table>
<thead>
<tr>
<th>Mental operations</th>
<th>Conscious operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Specifying reading purpose</td>
<td>• Identifying difficulties</td>
</tr>
<tr>
<td>• Planning what to do/steps</td>
<td>• Taking steps to repair faulty comprehension</td>
</tr>
<tr>
<td>• Previewing text</td>
<td>• Critiquing author</td>
</tr>
<tr>
<td>• Predicting</td>
<td>• Judging how well objectives met</td>
</tr>
<tr>
<td>• Checking predictions</td>
<td>• Reflecting on what learnt from text</td>
</tr>
<tr>
<td>• Posing questions</td>
<td></td>
</tr>
<tr>
<td>• Finding answers to questions</td>
<td></td>
</tr>
<tr>
<td>• Connecting text to background information</td>
<td></td>
</tr>
<tr>
<td>• Summarising information</td>
<td></td>
</tr>
<tr>
<td>• Making inferences</td>
<td></td>
</tr>
<tr>
<td>• Connecting parts of the text</td>
<td></td>
</tr>
<tr>
<td>• Paying attention to text structure</td>
<td></td>
</tr>
<tr>
<td>• Rereading</td>
<td></td>
</tr>
<tr>
<td>• Guessing meaning of new word from context</td>
<td></td>
</tr>
<tr>
<td>• Using discourse markers to see relationships</td>
<td></td>
</tr>
<tr>
<td>• Checking comprehension</td>
<td></td>
</tr>
</tbody>
</table>

It seems, then, that effective reading is the ability to sub-consciously process information and linguistic content at a cognitive level, and consciously or actively engage in metacognitive processes to draw on what already know about language learning and rhetorical structures. Other possible factors include social and affective factors which Oxford (1990) identified as indirect strategies, of which metacognitive strategies form part. However, if affective factors such as motivation, attitude to language as learning, stress control etc are included as metacognitive factors, then it is easier to see how cognitive & metacognitive strategies are interrelated and what the relationships among skills, strategies and cognitive/metacognitive processes are. As Wenden (2002) points out, students become better learners when they

a) learn how to actively draw on and develop what they know about learning / language learning, task analysis / completion, personal factors that inhibit or facilitate the process, and

b) learn and adopt appropriate strategies to plan, monitor and evaluate strategies in the learning process.

Developing Legal Reading Skills

In addition to developing an ability to draw on and develop metacognitive knowledge (person, strategic, task) and learn and adopt appropriate strategies to plan, monitor and evaluate specific reading strategies, law students must also develop and use their knowledge of the rhetorical structure of judgments, how judges use language and reasoning patterns (including use of precedent), and how to analyse and synthesise the results of a particular reading into a body of rules that elaborate a particular principle of law. This knowledge is acquired principally from reading judgments so as to understand how law is practiced in Common Law jurisdictions and how the doctrine of precedent operates in the establishment, development, interpretation, application, refinement, and amendment of the law. Students need to understand how the doctrine of precedent influences legal reasoning by ensuring that cases are read or decided in the context of other decided cases. They also need to learn that the doctrine usually manifests itself in the form of analogy in the discussion of legal authorities (Harris 1997), namely, how judges

1 Select language from established principles of law

2 Classify and phrase legal issues

3 Use language from past decided cases to frame issues

---

1 Cognitive processes involve action on material to be learned, ability to mentally process information and linguistic input

2 Metacognitive processes involve drawing on what know about language learning, task analysis and completion, factors that promote or hinder successful learning/task completion
Use of analogy is only one form of reasoning adopted by judges, other essential features of thinking like a lawyer include use of deductive, inductive and syllogistic reasoning. Extensive reading of case law therefore exposes learners to not only the legal content but also the expected language and reasoning patterns to be adopted in their own writing and speaking (Langton 2001). As such, the process of reading for reasoning is complex in that it is not linear but rather a process of reordering content around legal issues, rules, applications/reasoning/ conclusions or IRAC (Bhatia 1993, Maley 1985). This rhetorical knowledge is useful later when students discover that the structure of judgments is repeated with minor variations in other legal genres such as legal casenotes, legal memos, oral arguments, letters to clients etc (Beasley 1994; CELCR 2002; Howe 1990; Iedema 1993). Consequently, the purposes for reading judgments are to:

- Extract rhetorical structure & understanding
- Identify & analyse reasoning behind a decision
- Identify legally material facts
- Synthesise, record and evaluate reasoning and legal application in the light of other cases read

The key ability is identifying the legal analogies or reasoning patterns adopted because only then can the justification or reasoning for a particular decision be identified and evaluated (Harris 1997). Any instruction in reading for law must ensure that students focus on the reasoning section of a judgment so that they can learn from the words and reasoning of judges how to treat past precedents, what the relationship between the case to be decided and decided cases is, and what the rules are for future cases. This involves an active engagement in the organisation and evaluative functions of the language used to learn specifically how judges select, follow and apply rules or a set of rules and use language from past precedent or established rules to form the bases for legal reasoning. It is the combination of reasoning patterns and language use that ultimately shape and determine the outcome and enable the judges to comment on the status, scope and application of existing rules. (See Appendix 1 for an example of legal reasoning and rhetorical structure in a judgment)

**Law Students’ Reading Skills and Strategies Development**

The project on lifelong learning and student contributions to curriculum development (Langton 2003) aimed to discover how and what students learn over time and to integrate the findings into self-study web-based materials that a) enhance the teaching and learning of language and legal competencies, and b) involve students in curriculum and materials design to best meet their learning needs. Student volunteers from the School of Law and Department of Accountancy at City University of Hong Kong had studied with the author and represented not only a mix of non-law graduates, mature students and school leavers, but also all stages of legal study (year 1 – 4) at City University. They worked on samples of teaching materials and expert/student writing with a view to a) generally improving their reading, writing and citation/quotations skills; and b) creating materials which reflected their learning needs, development and experience. The specific goals for the reading group were to:

- Generate new or improved reading materials
- Comment on materials & processes used
- Record insights into processes adopted
- Evaluate personal benefits from task completion

Current course materials and guidelines on various reading stages and strategies were made available to help the students review suggested reading strategies and organise task allocation and completion. In order to successfully complete the project goals, the students were expected to a) draw on their existing language communication competencies, reading strategies and legal knowledge to comment on, contribute and develop materials for a number of subject areas (tort, equity, criminal law etc); and b) keep a record of work and comments on what they were learning and doing at each stage. The reading group comprised of three subgroups (novice/ intermediate, intermediate, and advanced) which focused on reading for specific topic areas and one control group which generally reviewed the reading materials and advice in the course manuals and identified areas for improvement or elaboration. They completed their work in five stages which enabled them to successfully provide comments on learning styles, independent learning, time management, team work, reading processes, task analysis etc (see Langton 2003, www.cityu.edu.hk/legalease) and to successfully contribute materials on reading and reading processes as summarised in Table 3. In generating these materials and insights, the students

- engaged in increasingly self-directed tasks and activities
- drew on personal experiences
- applied knowledge to immediate realistic tasks
- provided insights and commentary on materials and processes used
- self-diagnosed current and future learning and competency needs

---

<table>
<thead>
<tr>
<th>Analysis of key cases</th>
<th>Examples of different reading strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading Exercises</td>
<td>Comments on Reading Processes</td>
</tr>
<tr>
<td>Synthesis of a group of cases</td>
<td>General and specific advice on reading for law</td>
</tr>
<tr>
<td>Examples of analogic &amp; deductive reasoning</td>
<td>Areas for improvement or elaboration in the course manuals</td>
</tr>
<tr>
<td>Recommended reading (judgments, textbooks and law journals)</td>
<td></td>
</tr>
</tbody>
</table>

---

3: 1) general research/familiarisation; 2) general team and tasks creation; 3) specific task creation and completion; 4) information sharing and review; and 5) personal reviews/ focus group interviews
It is interesting to note how three of the reading groups decided to use their materials and how they set and modified their frameworks for task completion. The summary of frameworks in Appendix 2 illustrates not only how each group adopted, reviewed and modified a detailed framework for task completion, but also how each group went about their tasks with remarkable similarity in the early stages. This was probably a result of initial group discussions in which they identified the aims of the project, nature of possible contributions, and how they would proceed in terms of goals, task allocation etc. The common approach, seemed to be as follows

1. Review course materials – content & design
2. Review of project & contribution goals
3. Select reading materials
4. Task allocation – individual/ group
5. Materials design
6. Feedback
7. Review and redesign

However, there were key differences in task management and completion in that each group adopted different approaches to reading activities and learning materials design. For example, the novice/ intermediate group initially only used very basic strategies when reading the cases they were analyzing and over-relied on the reading course materials when creating their own materials. This resulted in materials almost identical in format to those presented in the manuals but which did not really reflect their true reading processes or experiences or indicate a clear sequence in terms of how the materials could operate together. This happened because they had allocated different tasks to one person, analysed a case alone, did no background reading, did not really seek help from all possible sources and did not discuss or integrate their individual contributions into a coherent whole. It was only after they had received feedback on how to take their initial work further did they rethink their objectives and ultimately create materials for readers like themselves who were not very experienced in reading cases or very knowledgeable in the content area. The end products better reflected their actual reading approaches and personal experiences and could be used more effectively by other novice readers of law. This was because the group focused on key background/ context information, reading for gist, identifying case structure and identifying reasoning/rationale. They had decided “to think from the reader’s point of view and make the materials user-friendly, simple and interesting (multiple choice, IRAC language exercise, matching exercise)”. This approach is clearly illustrated in the sample materials shown in Figure 1 in that they inserted their own questions and answers about criminal procedure and legal reasoning, created multiple choice worksheets on vocabulary and content, inserted the IRAC structure and reader-centered questions into analysed texts, and previewed the reading texts with summaries of key rules and vocabulary definitions that would help the novice reader extract the key points and understand the case. They also created novel exercise materials on how to extract the issues, reasoning and outcomes. It was the changes in their perspective, approach and focus that enabled this group to successfully complete their tasks and attain their personal and group goals.
Reading cases is a preliminary step in Law. During your legal studies, you will need to read lots of legal cases and take a long time to master the reading skills. The understanding and the interpretation of the case may affect your thinking process. Thus, only by strengthening your reading skills can you be a good lawyer.

Have a try with the following cases:
- R v Collins
- The Queen v Wong Wing Yuet
- R v Wong Tak Sing

Some hints for you:
1. Identify the nature of the case and the parties involved
2. Identify the structure of the case: facts, issues, rule, application and conclusion
3. Find out the reasoning and the rational behind the judgment

Now try an exercise … Are you ready?

**Multiple Choice Exercise** (R v Collins)
**Language Structure Exercise** (Wong Wing Yuet)
**Matching Exercise** (R v Collins)

You need to bear in mind the following points:

a) This case involved trespass in both tort & criminal law. If a person is charged under tort law, the standard of evidence needed is lower than a criminal case. So, can you identify what the Defendant was charged with under tort & criminal law?

b) Main Issue: Whether the appellant entered as a trespasser with intention to commit rape under S9(1)(a) Theft Act 1968?

**Rule:**

- Whether entry existed?
  - If yes
    - Whether entered as a trespasser?
      - If yes
        - Whether intent to commit rape existed at the time of entry?
          - If yes
            - Guilty of burglary (criminal trespass with intent to commit rape)
          - If no
            - No offence
        - If no
          - Civil trespass
      - If no
        - No offence
  - If no
    - No offence

This is a quite interesting case. It is about a young man who got very drunk and wanted to have sexual intercourse with a girl (any girl). So, when he saw a light on in a girl’s room, he found a ladder, climbed up to the window, and pulled off all his clothes except his socks. …

Can you think what he did next? What is the consequence of his act?

**Multiple Choice Exercise**
Here are some questions on ‘R v Collins’, please try and find the correct answer. …

1. What offence was Collins charged of?
   - (a) Burglary
   - (b) Rape
   - (c) All of the above

<table>
<thead>
<tr>
<th>Court’s reasoning</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue 2: Whether entered as a trespasser? (2nd ingredient of burglary)</td>
<td></td>
</tr>
<tr>
<td>The court adopts a rule: ‘unless, at the time of entering, he knew he was a trespasser and deliberately entered, or, was reckless whether not he was entering as a trespasser.’</td>
<td></td>
</tr>
<tr>
<td>The crucial point of the case becomes: did he enter after the girl welcomed him into her bedroom?</td>
<td></td>
</tr>
</tbody>
</table>

The intermediate reading group materials reflect similar approaches for task completion and materials design but demonstrate greater variation in skill and strategy selection. Like the novice group, the student reviewed the course materials and reading strategies and read cases in a subject he was unfamiliar with. However, in contrast, this student worked alone, did a lot of background reading, consulted the author and relevant law lecturer on three key cases and points to note, and reviewed the law course manual and student recommended textbooks to learn and check understanding. As a result, the case analyses and related materials reflect the reading strategies proposed in the course materials and clearly demonstrate the student’s actual approaches to reading and task analysis. An interesting departure was how, instead of a case note, he summarised key points and the reasoning of cases in the form of afterthoughts and comments on why particular cases should be read. The student had effectively decided to create materials that would not only reflect his personal approach but also guide others reading the case for the same time or who were new to the subject area. The sample materials in Figure 2 illustrate this approach by the way they include:

- Key language and rhetorical structure
- Definitions of key words/concepts
- Highlighting of sections of text students find important

Fig. 2: Sample Intermediate Reading Materials
Like the intermediate student, the advanced reading group materials demonstrate that the students engaged in extensive background reading to revise what they had learnt before and verify new insights obtained from their detailed reading and analysis. The cases were read and analysed in a similar way as the intermediate group, but a significant departure was the way the two advanced students independently adopted a framework that enabled them to create materials that also evidenced the following:

- Extensive review of reading strategies
- Extended periods of reflection
- Greater personal reflection
- Adapting materials to suit intended audience
- Student-centred advice

These differences in approaches and outcomes to the other two groups are quite significant and may reflect the fact the advanced students were more mature and possessed greater autonomy due to superior prior content knowledge. It is interesting that both advanced students stated that they considered their reading skills as weak because they had not acquired or been specifically taught a systematic approach to reading before joining the project. They had therefore worked their way through the course manual reading before selecting, planning and completing the various tasks they had set themselves. They felt that they had successfully fulfilled their particular reading and material creation goals because they had actively reflected on their current reading practices while familiarizing themselves with other possible reading strategies before attempting to use them. Their approach and strategies enabled them to create reading materials that reflect a thorough understanding of the complex reading processes involved and generate advice on how to go about reading a particular case, as Figure 3 illustrates.

Fig. 3 : Sample Pre-reading advice

1. Even after reading the whole case a few times, you may not be able to follow the reasoning pattern of the case. …

4. Although FIRA and the 4 move-structure may still be applicable in this case, the actual case structure is as follows:
   i. Brief Facts and Background
   ii. Detailed explanation of the guidelines
   iii. Detailed Facts and Application of guidelines (x 3)
   iv. Short conclusion for each fact.

This organization may cause you some confusion, e.g. Why are the rules/guidelines needed? Why does discussion of rules precede identification of issues? How do the rules/guidelines apply in general? How do they apply or not apply in this case? In other cases? …

6. Another problem is that the Turnbull guidelines are given by a judge when summing up to the jury on how they should go about considering the evidence presented during the trial. If you do not have a thorough understanding of the criminal court procedures, you may not realize or understand why and when the guidelines are needed.

You may have this problem if you study Law of Evidence in year 2 but have had no summer placements in Chambers/solicitors firms and so no experience of observing what happens in court or how criminal cases are conducted. Consequently, you may not appreciate the importance of the guidelines or that improper directions are grounds for appeal.

It is therefore recommended that you read the case as follows:

1. Read the whole case once.
2. Try to understand the facts of each case (there are three separate facts in this case)
3. Then, try to understand the rule by using a mind map or flow chart
4. Try to apply the rules in those facts to see if you can understand how they apply
5. Reread the rule & think of the kind of summing-up warning that should be given to a jury.
that their materials not only guide other readers on how to go about reading particular cases, but also help other readers to discover the importance of background reading, selecting a recent leading case, and synthesising the case by critiquing it against other decided cases. For example, Figure 4 illustrates how one student was able to draw on and develop her own knowledge of the rhetorical structure of a case and the language used in judges’ reasoning to test her understanding of the case, the rhetorical structure and the reading processes involved.

Fig. 4: Sample Advanced Reading Reasoning Map

<table>
<thead>
<tr>
<th>Issue</th>
<th>Case</th>
<th>Material Facts of the Case</th>
<th>Reasoning by Analogy</th>
<th>Decision/Principle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 2</td>
<td>Case #4: Caparo v Dickman [1990] HL</td>
<td>P (individual shareholder) sought information from D’s (auditor’s) financial report. A D issued the financial report without the knowledge that P would rely on the report in making investment. B P acted in reliance on the information furnished in the financial report. C P suffered from economic loss as the result of acting in reliance on the financial report issued by D. E</td>
<td>D does NOT owe P duty of care even though P relied on advice given and subsequently suffered economic loss. <strong>Factors Considered in the Deliberation of Judgment:</strong> A Similar to Case #1 B Factors A, C &amp; E C Difference from Case #1 B Factor B, D &amp; F</td>
<td>D = not liable for the negligent statements made by him. <strong>Reasoning:</strong> Test is one of ‘proximity’. The essential element to establish ‘proximity’ between P and D is that D knows that his statement will be communicated to P and it will be very likely that P will act in reliance on the statements in pursuing the transaction.</td>
</tr>
</tbody>
</table>

The same student discovered that her preferred way to read and learn was through the use of flowcharts and tables. This enabled her to create materials (Figures 5 and 6) that tested her own ability to reason analogically, deductively and inductively like the judges and provide examples of the reading/reasoning process for other students to model.

Fig. 5: Sample Advanced Reading - Reasoning by Analogy

**Fig 6: Sample Advanced Reading - Reasoning by Induction & Deduction**

**Key Factors and Decision of Case**

<table>
<thead>
<tr>
<th>Case</th>
<th>Formulation of General Rule By Induction/ Application of Rule By Deduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case 3. James McNaughton Papers v Hicks Anderson [1990] CA</td>
<td>Application of Rule in a Previous Case</td>
</tr>
<tr>
<td>↓</td>
<td>P sought advice/ statement/ information from D (A)</td>
</tr>
<tr>
<td>D’s draft account was shown to P and representative of D replied to P’s question in negotiation meeting —&gt; B</td>
<td>D’s draft account was shown to P and representative of D replied to P’s question in negotiation meeting.</td>
</tr>
<tr>
<td>D knew or ought to have known that the draft accounts were to be used in the negotiations of takeover bid of MK &amp; D’s representative was asked by P in the meeting as to the current financial standing of MK —&gt; A</td>
<td>D gave his advice to P(B)</td>
</tr>
<tr>
<td>D’s draft account was shown to P and representative of D replied to P’s question in negotiation meeting —&gt; B</td>
<td>D’s draft account was shown to P and representative of D replied to P’s question in negotiation meeting.</td>
</tr>
<tr>
<td>Case 1 and Case #4.</td>
<td>E = P suffered economic loss by relying on D’s advice</td>
</tr>
<tr>
<td></td>
<td>F = special relationship – N/A</td>
</tr>
</tbody>
</table>
The other advanced student adopted a similar approach to reading but his final materials illustrate that he had the end user very much in mind. So, in addition to his tips on how to read the cases he had analysed (Figure 3), he also created materials that can effectively be used to learn or revise not only legal content but also the role of legal reasoning through analogies, algorithms and syllogisms (Figure 7) for summarising understanding and the results of reading tasks and processes.

![Fig: 7: Sample Advanced reading - The Turnbull guidelines in a nutshell](image)

The reading group also were able to draw up guidelines on reading for novice and experienced readers of law (Langton 2003, [www.cityu.edu.hk/legalease](http://www.cityu.edu.hk/legalease)) which are remarkably similar to the skills and strategies discussed in the literature on reading skills etc in the earlier part of this paper.

### Conclusion

By actively participating in the project, students were able to activate and reflect on various cognitive and metacognitive processes which contributed to improved reading processes, awareness of factors for becoming more autonomous learners, and successful creation of teaching/learning materials to promote reading skills for law. Their personal development and the practical materials they created was possible due to their ability to draw on genre knowledge and linguistic skills to define, refine and complete various tasks; their ability to recognise factors that enhance autonomy and independent learning; and their ability to reflect on the processes and materials used to encourage themselves and others to read to learn. Other motivational factors included the fact that they were reviewing or previewing subjects studied or yet to be studied; critically evaluating their own and others work; developing materials and tips based on their own learning experiences; and applying their insights to their own work.

The materials and insights the students generated also reflected their different learning approaches and the different factors for success in dealing with input, task analysis, understanding, use of strategies etc. By developing task specific strategies to
complete their goals, they were able to integrate their learning processes strategies and tasks into relevant subject matter content. In other words, they were engaged in Nunan’s (1997) five levels of autonomy as follows:

<table>
<thead>
<tr>
<th>Level</th>
<th>Learner action</th>
<th>Content</th>
<th>Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Awareness</td>
<td>of pedagogical goals &amp; content of materials being used</td>
<td>identify strategy implications of pedagogical tasks &amp; identify own preferred learning strategies</td>
</tr>
<tr>
<td>2.</td>
<td>Involvement</td>
<td>in selecting own goals from a range of alternatives</td>
<td>make choices among a range of options</td>
</tr>
<tr>
<td>3.</td>
<td>Intervention</td>
<td>in modifying and adapting the goals and content of learning programme</td>
<td>modify/ adapt tasks themselves</td>
</tr>
<tr>
<td>4.</td>
<td>Creation</td>
<td>of own goals and objectives</td>
<td>create own tasks</td>
</tr>
<tr>
<td>5.</td>
<td>Transcendence</td>
<td>go beyond the classroom &amp; make links between content of classroom learning &amp; the world beyond</td>
<td>become teachers &amp; researchers</td>
</tr>
</tbody>
</table>

References


Langton, N.M. (2001) *To hedge or not to hedge: certainty and doubt in answers to legal problem questions*. Unpublished MA thesis, Department of English, City University of Hong Kong


LORD DENNING MR: … The reason is this: the householder is concerned to see that his windows are safe for his guests to open and close, but he is not concerned to see that they are safe for a window cleaner to hold on to. The risk of a defective window is a special risk, but it is ordinarily incident to the calling of the window cleaner, and so he must take care of himself, and not expect the householder to do so. Likewise in the case of a chimney sweep who comes to sweep or seal up a sweep-hole. The householder can reasonably expect the sweep to take of himself so far as any dangers from the flues are concerned. These chimney-sweeps ought to have known that there might be dangerous fumes about and ought to have taken steps to guard against them. They ought to have known that they should not attempt to seal up the sweep-hole whilst the fire was still alight. They ought to have had the fire withdrawn before they attempted to seal it up, or at any rate they ought not to have stayed in the alcove too long when there might be dangerous fumes about. … I would hold, therefore, that the occupier here was under no duty of care to these sweeps, at any rate in regard to the dangers which caused their death.

Even if I am wrong on this point, and the occupier was under a duty of care to these chimney-sweeps, the question arises whether the duty was discharged by the warning that was given to them. This brings us to subsection (4) which states: “In determining whether the occupier of premises has discharged the common duty of care to a visitor, regard is to be had to all the circumstances, so that (for example) - (a) where damage is caused to a visitor by a danger of which he had been warned by the occupier, the warning is not to be treated as absolving the occupier from liability, unless in all the circumstances it was enough to enable the visitor to be reasonably safe.”

We all know the reason for this subsection. It was inserted so as to clear up the unsatisfactory state of the law as it had been left by the decision of the House of Lords in London Graving Dock Co v Horton ([1951 A.C. 737]). That case was commonly supposed to have decided that, when a person comes on to premises as an invitee, and is injured by the defective or dangerous condition of the premises (due to the default of the occupier), it is nevertheless a complete defence for the occupier to prove that the invitee knew of the danger, or had been warned of it.

Suppose, for instance, that there was only one way of getting into or out of the premises, and it was by a footbridge over a stream which was rotten and dangerous. According to Horton’s case, the occupier could escape all liability to any visitor by putting up a notice: “This footbridge is dangerous,” even though there was no other way by which the visitor could get in or out, and he had no option but to go over the bridge. In such a case, section 2 (4) makes it clear that the occupier would nowadays be liable. But if there were two footbridges, one of which was rotten, and the other safe a hundred yards away, the occupier could still escape liability, even today, by putting up a notice:
"Do not use this footbridge. It is dangerous. There is a safe one upstream." Such a
warning is sufficient because it does enable the visitor to be reasonably safe.

I think the law would probably have developed on these lines in any case; see
Greene v Chelsea Borough Council ([1954] 2 Q.B. 127), where I ventured to say
"knowledge or notice of the danger is only a defence when the plaintiff is free to act
upon that knowledge or notice so as to avoid danger." But the subsection has now made
it clear. A warning does not absolve the occupier, unless it is enough to enable the visitor
to be reasonably safe.

APPENDIX 2

Task Completion Frameworks: Reading Group

<table>
<thead>
<tr>
<th>Novice/Intermediate</th>
<th>Intermediate</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Identified project aims &amp; contribution</td>
<td>1. Identified project aims &amp; contribution</td>
<td>1. Identified project aims &amp; contribution</td>
</tr>
<tr>
<td>2. Given 3 criminal cases + brief background to them</td>
<td>2. Given 4 property law cases, textbooks, course manual &amp; notes on key points &amp; general principles to note in cases</td>
<td>2. Reviewed Legal English manuals &amp; did all reading tasks</td>
</tr>
<tr>
<td>3. Notes on issues to address</td>
<td>3. Reviewed goals, set aims &amp; tasks</td>
<td>3. Selected area &amp; read textbooks, journals, own notes for background knowledge</td>
</tr>
<tr>
<td>4. Read cases alone &amp; made notes</td>
<td>4. Reviewed notes, property course manual &amp; textbooks for background &amp; understanding of general principles</td>
<td>4. Selected key case &amp; related cases</td>
</tr>
<tr>
<td>a) skim &amp; scan for gist</td>
<td>5. researched law in lexisnexis for more background</td>
<td>5. Read key case several times noting language use, structure (IRAC) etc</td>
</tr>
<tr>
<td>b) identify structure</td>
<td>6. reviewed reading strategies etc in Legal English course manual</td>
<td>a) checked vocab in dictionary</td>
</tr>
<tr>
<td>c) reread key paragraphs to check understanding</td>
<td>7. Read cases many times &amp; made notes</td>
<td>b) questioned understanding</td>
</tr>
<tr>
<td>d) analyse reasoning section to identify ratio and rules</td>
<td>a) skim &amp; scan for gist</td>
<td>c) used mindmaps etc (as in manuals) to map &amp; understand the reasoning</td>
</tr>
<tr>
<td>5. Reread (many times)</td>
<td>b) identify structure</td>
<td>6. Reviewed understanding by Q&amp;A – what are issues, rules etc. Why is rule formed &amp; how applied here (or not); what is outcome &amp; if agree with it.</td>
</tr>
<tr>
<td>6. Resolved problems with vocabulary / content / reasoning with each other &amp; senior law students</td>
<td>c) reread key paragraphs to check understanding</td>
<td>7. Reviewed case &amp; journals etc &amp; compared &amp; contrasted ratio of key case with other related cases = process of analogy &amp; deduction</td>
</tr>
<tr>
<td>7. Allocated tasks to create materials by drawing on work done during reading stages</td>
<td>d) analyse reasoning section to identify ratio and rules</td>
<td>8. Created a series of materials after reviewing Legal English manuals &amp; task aims &amp; objectives</td>
</tr>
<tr>
<td>8. Combined individual task contributions &amp; sought feedback from senior student</td>
<td>8. Resolved problems with vocabulary / content / reasoning by reviewing notes &amp; textbooks etc &amp; by asking senior law students</td>
<td>a) reasons for reading the case</td>
</tr>
<tr>
<td>9. Obtained feedback from PI</td>
<td>9. Created materials &amp; integrated notes &amp; reading onto the texts</td>
<td>b) points to note about previous decided cases</td>
</tr>
<tr>
<td>10. Designed new framework – new aims &amp; objectives + fixed goals (not present in first attempt)</td>
<td>10. Obtained feedback from PI</td>
<td>c) text analysis</td>
</tr>
<tr>
<td>11. Redesigned materials together which</td>
<td>11. Compared headnotes for same texts in different journals &amp; created learning materials</td>
<td>d) reasoning maps</td>
</tr>
<tr>
<td>a) reflect collective reading approaches and difficulties</td>
<td>12. Obtained feedback from PI</td>
<td>e) Worksheet on extracting ratio f) synthesis of key case with other decided cases (Factors)</td>
</tr>
<tr>
<td>b) are user friendly</td>
<td>13. Reviewed materials &amp; understanding during semester when studying property law</td>
<td>g) deductive &amp; inductive reasoning summary of key case &amp; related cases</td>
</tr>
<tr>
<td>c) be for the web</td>
<td>14. Created more notes on useful resources</td>
<td>h) advice to students</td>
</tr>
<tr>
<td>d) are interesting &amp; varied (MC, language exercises, drag &amp; drop to check understanding of ratio)</td>
<td></td>
<td>9. Obtained feedback from peers &amp; PI</td>
</tr>
<tr>
<td>e) are for novice readers or if new to a subject</td>
<td>15. Reviewed materials &amp; own reading processes</td>
<td>10. reviewed materials &amp; own reading processes</td>
</tr>
<tr>
<td>12. Feedback from peers &amp; PI</td>
<td></td>
<td>11. Apply new reading strategies to course materials studied this year</td>
</tr>
</tbody>
</table>
4.2.6 Heinz Lechleiter

Lecture notes and how they are read by foreign students: a case study

Heinz Lechleiter
Dublin City University

1. Introduction

At a time when student exchanges between countries become more and more widespread it seems important to look at a text-type which students are exposed to more than any other in the course of their studies: the lecture note (or Vorlesungsskript in German). While other instructional texts like textbooks have received quite a bit of attention by scholars interested in Languages for Special Purposes, lecture notes have gone widely unnoticed as a particular sub-group of instructional texts. I have started to collect Vorlesungsskripte for the purpose of a detailed corpus linguistic analysis from my Irish students of Chemistry with German on their return from their period of study abroad in German speaking countries. In the process I noticed that it is not only the lecture notes themselves that are of some interest but also what students do with them.

2. Lecture notes and text-typology

Instructional texts in the form of textbooks are relatively well researched although there are considerable differences when it comes to naming and categorising the larger group of texts which are used in the process of turning laypeople into experts. The concept of instructional text (Lehrbuch) appears in many different shapes and forms in the relevant literature of the last two decades: Hahn’s (1983) label is Vermittlungstext (mediating text), it appears as didaktisierten-instruierender (didactic-instructional) text in Göpferich (1992), or elementarisiender (recurring to fundamentals) in Ickler (1997).

The effort of categorising instructional texts results in their appearing as subject internal texts (fachintern, Göpferich, 1992), as well as subject external texts (Gläser, 1990) or their not explicitly being mentioned, at all (Hoffmann, 1987).

The subgroups of instructional texts included in these text-typologies include textbooks (Lehrbuch), correspondence course lessons (Lehrbrief), technical and instructional manuals (Handbuch, Gebrauchsanweisung), as well as experimental report (Versuchsprotokoll) and lectures. Ancillary text forms like black board notes, overhead transparencies, Power Point presentations etc. are not included.

In the sciences the training has a very pronounced distinction between the theoretical which is taught in lectures, sometimes accompanied by tutorials, and the practical training, typically conducted in laboratories. Accordingly the Skript takes two main shapes, namely that of lecture notes and manual-type notes for the lab sessions. Both are very similar in appearance, character and function and are treated the same for the purposes of this paper.

It is part of the position of the Skript in the German speaking academic world that it is frequently seen as a precursor of a published textbook or laboratory manual. Looking at one of those (Fischer, 1994) allows us to trace back the origins of his handbook to a Skript. In his introduction Fischer speaks of the “provisional and unsatisfactory raw form” of a previous edition. The editing process involves “improving text and graphics” and the “addition of a register and a list of references”. In other words, the Skript is seen as an incomplete text on the level of content, structure, design and language.

A review of about 12 Skripten of chemistry in Germany produced a great variety of forms and styles of this text-type, from fully handwritten varieties to quite sophisticated text designs (of the latter many can be found on the Internet). Some of the major characteristics they share are the following: Skripten are texts that emerge from the everyday work of academic teaching. They are meant to help students identify major points of the course content and to support their memory (the latter function applies partly to the lecturer, as well). Publication of the Skripten beyond the classroom is not necessarily intended although the conversion into a text form that is made accessible to a larger audience via a publisher’s is not uncommon. Skripten often show signs of having been put together under the strains and stresses of the academic everyday, and therefore they contain typing errors, incomplete sentences, ungrammatical sentences and spelling errors. In terms of argumentation and structure, they are often characterised by logical jumps and starts and inconsistencies in content and layout e.g. in discontinuous page numbering, different font styles and sizes, unequal margins etc. Figures are often inserted on an ad hoc basis as can be seen from missing, incomplete or wrong legends/keys; in a considerable number of cases, figures or tables are sketched in manually. In many cases, as in the one cited below, the situational rootedness of the text-type Skript and lecture note is underlined by the fact that there is no mention of the authors or authors’ name anywhere, and equally, references and index are usually not part of the Skript.

All of these characteristics (incompleteness, jumps and start, missing logical links, errors) are shared with oral language usage, and like in the case of oral language they can only be measured against an idealised perfection and completeness of usage.

---

1 These examples, and those in the following paragraph, are taken from researchers in German speaking countries because of the strong cultural difference between the German Vorlesungsskript and the English lecture notes.

2 This pertains in later published versions like Fischer (1994), who is named as the editor of the Praktikum in Allgemeiner Chemie without any mention of the other contributors to the two volumes of his work.
The rootedness of the Skript in the academic everyday business is possibly the reason why it is, perhaps more than other academic text type, culturally quite different between the various countries and intellectual styles. This becomes quite obvious in a strongly condensed overview of research done on the Skript in Mechanical Engineering by Eßer and Little (2000). In reading the overview it should be kept in mind that above remarks about the provisionality were made about the German language Skript which, in the following table, appears to be more carefully crafted than the English language lecture notes.

### Table 1

<table>
<thead>
<tr>
<th>Function</th>
<th>Vorlesungsskript</th>
<th>Lecture notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content</td>
<td>Transcript of lecture</td>
<td>Supplementary information</td>
</tr>
<tr>
<td></td>
<td>Structured, detailed, complex</td>
<td>Less structured; past exam</td>
</tr>
<tr>
<td></td>
<td></td>
<td>and tutorial questions</td>
</tr>
<tr>
<td>Length</td>
<td>130 pages</td>
<td>36 pages</td>
</tr>
<tr>
<td>Structure (topic hierarchy)</td>
<td>Subordination of topics</td>
<td>Co-ordination of topics</td>
</tr>
<tr>
<td></td>
<td>Third degree sub-points</td>
<td>Listing of topics</td>
</tr>
<tr>
<td>Style</td>
<td>Writer presence: minimal</td>
<td>Writer presence: strong</td>
</tr>
<tr>
<td></td>
<td>Reader address: minimal</td>
<td>Reader address: present</td>
</tr>
<tr>
<td></td>
<td>Formal, impersonal language</td>
<td>Mixture of formal and colloquial language</td>
</tr>
<tr>
<td></td>
<td>(passive voice, reflexive constructions)</td>
<td></td>
</tr>
</tbody>
</table>

The fact that the picture which emerges from Eßer and Little’s lecture notes and Skripten in Mechanical Engineering is in some respects different from my observations on the Skript in Chemistry indicates that there might be a disciplinary culture (in our case between Mechanical Engineering and Chemistry) that overrides differences anchored in language (English vs. German) and/or intellectual style (Saxon vs. Teutonic).

Following these few remarks on the text-type of lecture notes or Vorlesungsskript the focus is now redirected towards the traces in the text which were left by a student in the form of annotations and short translations. These are a valuable indicator as to how the Vorlesungsskript is read and understood by a student of Chemistry for whom German is a Second Language. The annotations and translations in the Skript do not give a clear indication as to when and under what circumstances they were produced by the student. There are, however, indications that they were inserted at different stages, i.e. before, during or after the respective tutorials and laboratory sessions.

### 3. Case study

The Skript in question is entitled *Praktikum “Quantitative Instrumentelle Analytik”. Grundlagen und Versuchsanhänge. 5. Semester Diplomstudiengang Chemie/Umweltchemie.* It was used in the University of Leipzig in the Academic Year of 1999-2000. On its 64 pages it contains sections on administrative and safety issues, an introduction to the theory of the analysis of elements and four experimental parts (with subgroups) on Atom Spectroscopy (Atomspektroskopie), X-Ray Fluorescence Analysis (Röntgenfluoroszenz-Analyse), Differential Puls-Polarography, and Amperometric Enzyme Electrodes.

The section on X-Ray Fluorescence Analysis contains, under the subsection “Introduction to the Theory” (Theoretische Grundlagen) in a further subsection entitled X-Rays and X-Ray Fluorescence Analysis, the following passage:


The student’s annotations are shown between forward slashes and in bold typeface. In the original Skript all annotations were written between the lines over the respective German words and expressions, and in two cases word were simply underlined but not annotated.

The passage is quite typical for this Skript and the annotations contained therein in terms of density and character of annotations. This passage comprises of 180 words (the three equations have been excluded from the count). After the deduction of function words (including articles, prepositions, conjunctions, modal and auxiliary verbs, none of which was annotated), 100 content words are left as tokens, and 70 as types. Of the types 29 are annotated, two of these by underlining without the addition of an

---

3 NB the similarity in the title with Fischer (1994).
### Table 3.1. The position of verbs in the LSP of Chemistry

<table>
<thead>
<tr>
<th>Verb</th>
<th>Compound</th>
<th>Simple</th>
<th>Stem Type</th>
<th>Word Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Z</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The table shows the nouns and verbs used in the text and the translation version as they appear in the student's annotations.*
Most verbs in the attributive position are rendered in the annotations as participles or in the –ing-form, or they are translated as adjectives (e.g. darüberliegend as higher), thus indicating correct comprehension of the original text. An exception is made by the verb erzeugen which occurs in an extended attributive phrase: *Die auf die beschriebene Weise [way/ erzeugen /produce/ Linienspektren*, where the German participle is annotated as an infinitive form in English. Similarly, in one of the two simple passive constructions the infinitive, again, is the translation of choice (aufgefüllt – fill up), and this also pertains in the passive plus modal verb construction (können ... herausgeschlagen werden – knock out). In the same vain, finite verbs can duplicate the form (as in kenzeichnet – identifies), but they can also appear in the annotations as nominalisations (gelten – worth) or neutralised as an infinitive form (ausreicht - be enough). All of these instances taken together point toward an uncertainty in the interpretation of the original verb phrases which is borne out when seen in the context of a particular form of annotation which is the translation of certain short text passages.

3.3. Translation and metaphor

In most cases annotations confine themselves to the insertion of single lexical items. However, there are some short passages throughout the Skript which were translated by the student. The reasons for these are not known, it can only be surmised that these particular passages were perceived to be either particularly important or particularly difficult, or both, which would explain the change from the less exacting annotation to the more time consuming translation.

One example for this can be found in the chapter on one form of Atom Spectroscopy (p. 18). The following is the original text with the student’s annotations followed by the translation.

*Atomspektroskopische Analyseverfahren können für die qualitative und quantitative Stoffanalyse eingesetzt /apply/ werden. Es ist in jedem Falle erforderlich /necessary/, die Probe (Feststoff, Lösung, Gas) durch Energiezufuhr /Energy supply/ in den Plasmazustand (hocherhitztes, teilweise ionisiertes Gas) zu überführen /pass over/. Die Probe liegt /have arrived in Form freier Atome vor, die selber elektromagnetische Strahlung aussenden /transmit/ oder solche, die VIS und UV absorbieren können.*

Translation (hand written)

*Atomspectroscopy analysing methods can be applied for quantitative and qualitative analysing. It is necessary to pass the sample through the energy supply in the plasma state. The sample (arrives) in the form of free Atom, which can themselves transmit electromagnetic stream or such, the VIS and UV can absorb.*

Some words remain untranslated, but these instances will not be discussed here. There is also the replacement of one plural in the German as a singular in English (Atoms – atoms), but this is interpreted as a simple writing error. It is, however remarkable, that the forms of only one or two of the verbs in this passage are translated without a change, thus underlining the point that was made above, namely that insecurity in the annotation of forms is a reliable indicator of difficulty with the comprehension of a text.

But there is a second source of misunderstanding which has to do with the metaphorical level in this LSP text. A pattern can be established which is based on the fact that misunderstandings are not isolated instances of false comprehension but they are tied into a semantic net around the concept of "movement from place A to place B" which give the author of the translation a wrong feeling of consistency, thus avoiding the impression of contradiction or lack of coherence which could lead to a re-assessment of a failed attempt at translating. In other words: the mistranslations support and amplify each other.

Most of the misunderstandings can be traced back to the annotations in the passage, but there is also an example for a non-annotated word getting caught up in the web of misapprehension.

The sentence

*Es ist in jedem Falle erforderlich /necessary/, die Probe (Feststoff, Lösung, Gas) durch Energiezufuhr /Energy supply/ in den Plasmazustand (hocherhitztes, teilweise ionisiertes Gas) zu überführen /pass over/.*

is translated as

*It is necessary to pass the sample through the energy supply in the plasma state.*

The annotation *überführen*, i.e. *pass over* which appears in the translation as the verb *pass* with the preposition *through* shows that the verb was not understood correctly in this context. The German original speaks of the transition from one state to another. We are, therefore, confronted with a metaphor in Johnson and Lakoff’s (1980, 31-32) definition. In this case a physical state is conceptualised as a container. The metaphor is not recognised in this instance, a problem that had been recognised by Bhusan and Rosenfeld as a possible problem in the didactics of LSP in their interesting article on metaphorical models in Chemistry (1995, 578):

*If one accepts that metaphors are pervasive in scientific thinking, what are the consequences of failing to recognize that a given scientific claim, or scientific model, is metaphorical rather than literal?*

Our example is, in Andrew Goatly’s (1997) terms an asymmetrical metaphor, i.e. a metaphor which is not recognised by the recipient (or, vice versa, a non-metaphorical expression which is processed as a metaphor). The consequences of such an asymmetrical processing can be studied in this instance.
The misunderstanding deepens. The use of the local variety of the preposition through instead of the intended instrumental one is to be seen as a continuation error from the misapprehension of the verb, and the accumulation of these errors is carried through to in the next sentence.

Die Probe liegt /have arrived/ in Form freier Atome vor, die selber elektromagnetische Strahlung aussenden /transmit/ oder solche, die VIS und UV absorbieren können.

is translated as:

The sample (arrives) in the form of free Atom, which can themselves transmit electromagnetic stream or such, the VIS and UV can absorb.

There are a number of problems and difficulties, which are partly perceived by the student herself. The translation of vorliegen as have arrived is put into brackets in the translation which shows that there is an awareness of a problem. But the more important problems lie in the expressions aussenden and Strahlung, translated as transmit and stream, respectively. Stream fits with the local interpretation of überführen as pass over/through, whereas transmit (instead of the correct translation emit) suits the semantic field of "movement from point A to point B" since transmit presupposes the presence of a sender as well as a receiver while the intended meaning does not require a receiver position.

4. Conclusions

Student annotations are hardly accessible by other means than individual and manual analysis, but they are worth the effort. They provide a window to the language learning process as it takes place not in a language learning but in a subject related context. Through this window much more can be seen about the L2-learning process than the few glimpses presented in this paper. It is important to note that all the examples shown above are not isolated incidences but that they form part of a consistent pattern, at least for this particular set of lecture notes and this particular student which shows that the verb plays a pivotal part even in de-verbalised LSP-texts, that lexis and syntax form parts of a unity, and that metaphors in the definition of Lakoff and Johnson are a vital part of the LSP of Chemistry which lead to specific learning problems for students. But looking at student annotations does not only provide an insight into the learning of an LSP from the point of view of an L2-learner, and, as a consequence, the chance to develop some novel ideas for the teaching of LSPs, it also provides an insight into the LSP itself and the way it functions in the process of imparting expert knowledge on future specialists.

References


Ikler, Th. (1997), Die Disziplinierung der Sprache. Fachsprachen in unserer Zeit, Tübingen: Narr (Forum für Fachsprachen-Forschung; 33).


---

* It has to be said, in fairness to the student, that the problems may be partly due to the original text: the syntactic structure and cohesion of the sentence is somehow flawed as the case of solche, which refers to freier Atome (=genitive) should also be the genitive. This is one example for the lack of stylistic care, which is so typical for the Vorlesungsskript.
Identification of a core vocabulary for Iranian primary school students:  
a brief report on a national project
Shahin Nematzadeh  
Azzahra University, Iran

1. Introduction

Three years ago in the face of multicultural/multilingual issues in Iran, the Organization of Educational Research and Programming (OERP) as the official body in Iran for curriculum programming and developing course materials recognized the need for upgrading the form and content of teaching materials. To this end, a national project entitled “Identification of Iranian Primary School Students’ Core Vocabulary” was launched, as one of the projects developed to achieve this goal.

Textbooks are critical for the mental development of school beginners. They can help build a foundation for attitudes and behaviour. The use of education to help children deal with their personal challenges and become aware of social concerns is an accepted and important part of teaching. Books afford the opportunity to explore and confront these issues by creating a simulated situation with children in a protected environment. However, curriculum developers must know the extent of children’s vocabulary in order to accelerate the learning process.

Research had shown that the necessary attention had not been paid to mutual linguistic understanding between educators and young school students. With a glance at the Persian course books in Iran, we can see that their linguistic content is far from meeting the needs and capabilities of students. Many words and phrases used in these books have nothing to do with the daily life of students or what they use to express their feelings and thoughts. In all these books we face a bombardment of phrases, most of them used only once.

This becomes a critical issue in Iran and any other multicultural/ multilingual societies with a centralized education system, where textbooks are prepared centrally and distributed throughout the country. Such situations ignore the linguistic differences between a great number of students and greatly inhibit the learning of bilingual students. Therefore it is necessary for curriculum developers to know the extent of children’s vocabulary, which is a critical factor in their linguistic development. Similar to the four language skills, basic vocabulary can be divided into four categories: speaking, listening, reading, and writing vocabulary. However, some have added thinking vocabulary as well. Basic research on vocabulary has been conducted for merely 80 years, but in Iran for less than 30 years. These 30 years of study have several weak points. For one, the studies have not enjoyed a logical continuation in vocabulary development and usage. Further, basic vocabulary development in Iran has lacked the critical eye applied in other countries. Last but not the least, vocabulary development has not been given the weight and seriousness that it warrants. Thus children’s writers and curriculum developers have applied intuition, humour and experience in applying their own conception of basic vocabulary.

Essential data in any programme must be valid and comprehensive. The development of a core vocabulary for the purposes of curriculum planning is no exception. It was for this reason that the OERP launched the national project to identify a core vocabulary for Iranian primary school students, in which appropriate methods for estimating basic vocabulary were identified. Then through a large field study, accurate first-hand data were collected from 175 schools, which were sampled using a systematic stratified cluster PPS model. The sample included 46 girls’ schools, 64 co-ed schools, 65 boys’ schools, amounting to 20,000 students and 1,885 teachers in 875 classrooms in 28 provinces. Descriptive research and interviews with children, teachers, literature experts, psychologists, and linguists were also conducted. The following principles will be applied to the research outcomes:

- Core vocabulary cannot be determined, only estimated.
- There is no upper limit to the core vocabulary
- The core vocabulary should be updated regularly
2. **Summary of the project**

**Date of creation:** 2000  
**Duration of activity:** 3 years  
**Location:** Iran  
**Goals:**  
- Upgrading the language of education  
- Providing core vocabulary list(s) for Iranian primary school students  
- Study of linguistic differences between boys and girls  
- Study and classification of spelling errors  
- Study and classification of writing problems  

**Target groups, primary beneficiaries**  
- Primary school students  
- Textbook developers  
- Children’s writers  
- Programmers of children’s shows  

**Staff employed:** 2 advisors, 4 consultants, 1 coordinator, 1 executive secretary, 20 full-time researchers, 40 test managers, 29 province managers, 350 test conductors, 12 research staff, 4 teacher consultants, 1 accountant.  

**Finance mechanisms**  
Preliminary investment: 1,500,000,000 Rials  
Operating costs in field data collection section: 197,000,000 Rials  
Source of financing: THE OERP  

**Implementation partners**  
Research Institute of Curriculum Development and Innovation; Printing and Publication Bureau in the OERP; Primary schools Bureau in Ministry of Education, Azzahra University  

**Public mobilization/awareness-raising activities**  
- Printing Posters;  
- Training workshops for test managers;  
- Training seminars for designers and graphic artists;  
- Providing training through videocassettes;  
- Newspaper interviews;  
- Making a documentation video;  
- Giving a presentation to the heads of the Ministry of Education (MoE);  
- Submitting papers for the international LSP conference.  

**Programme strategy**  
We designed and implemented a field research to capture the core vocabulary of Iranian students in primary schools (grade 1-5). For this purpose we developed the following research tools  

**Sampling method:** systematic stratified cluster PPS  
**Subject domain:** Noun, Verb, and Adjective  
**Data analysis software:** Microsoft Access  

3. **Data Collection**

**Checklists**  
Three checklists were developed in the course of this project:  

*Concrete nouns checklist*
1,641 concrete nouns were extracted from the *Persian Dictionary for School Children* and classified on the basis of semantic criteria. In this way 45 semantic domains for concrete nouns were determined.

*Verbs checklist*

2,700 verbs were extracted from the *Persian Dictionary for School Children* and classified on the basis of semantic criteria. In this way 22 semantic domains for verbs were determined. This classification benefits from 15 verb files proposed by WordNet.

*Adjectives checklist*

Categorizing adjectives from a lexical point of view does not have a long and rich tradition. Concerning the objectives of the above project, Persian adjectives were extracted from the above mentioned Dictionary and classified on the basis of semantic factors. In this way, more than 100 adjectival categories were determined.

**Content analysis**

A vocabulary card (word sheet) was developed for collecting the necessary information such as lexical entry, parts of speech, semantic field, type of vocabulary, etc. Using these cards, the content of the primary school (grades 1-5) textbooks of Iran, UK, Germany, France, and United Arab Emirates were analysed to extract the size and type of core primary vocabulary. Also, a list of the most frequently used words was extracted from 108 children’s books published in Iran (see Aleghemandan, this volume).
3. Questionnaires

Three vocabulary tests were developed in consultation with famous children’s writers, educationists, linguists, psychologists, teachers, children’s book designers, picture designers, computer graphics specialists, etc. The tests were modified by site observations of children’s behaviour. Each test booklet contained school and student information including grade, sex, urban, rural, semi-urban, etc.

Teachers’ questionnaire
This questionnaire contained 1,950 nouns, 2,331 verbs, and 612 adjectives obtained in the previous stage, using the data gathered in the checklists and content analysis.

Student questionnaire
Two student questionnaires were devised:

- Productive test questionnaire: A list of core situations was compiled with the help of educationists and handed to Hushang Moradi Kermani, an internationally-known Iranian writer of children’s literature. He wrote short stories for each situation and depending on the story, up to four relevant pictures were drawn. Students were asked to list all the words that a picture represented in one minute. In other cases, they were asked to write a story from the pictures in three minutes.

- Perceptive test questionnaire: This contained 800 illustrations of nouns, adjectives and verbs. After the test conductor read out the word, students were asked to insert a number or to colour the box in the top right corner of the relevant picture.

Observation
In order to know how children would behave with regard to the instructions in the questionnaires, a researcher observed exams at several schools in Tehran to examine and understand students’ attitudes to directional words (up/down).

Interview
Since first grade students had not yet learnt to read and write by the time the test was administered, their answers were recorded individually with tape recorders provided to the test conductors. Other groups that were interviewed included experts and high-ranking authorities. Their opinions were collected using open interviews in several sessions.

**Pilot study**
In order to ensure culturally, socially, linguistically (dialects) and economically unbiased tests, pilot studies were conducted.

### 5. Implementation

Each province had a programme executor (province manager) whose role was to find the necessary number of qualified test conductors. Each school had two test conductors, one for the productive test and one for the perceptive test. Since 175 schools were tested, 350 conductors were employed. The MoE had given us one week to carry out this test; therefore two testers were necessary to complete the tests in due time. (The schools were closed during this time).

It was critical to find local testers to ensure that the students’ responses were fully understood. 40 test managers were trained by the project director in Tehran, who in turn trained and monitored the 350 testers. Nationally the test took 45 days and up to 10 days at any particular school.

**Special characteristics**
- Collecting information from experts and students
- Collecting unbiased data
- Collecting traceable data
- Collecting and preserving linguistic differences in the sample
- Collecting and preserving the ethnic cultures of the students in the sample
- Applying a systematic stratified cluster PPS sampling model for the first time in the MoE
- Making a model for successful nationwide project sampling
- Making a model for successful nationwide project management
- Providing a collection of classified pictures with an educational orientation. (Teachers are asking for the test booklets to use them in the teaching of writing.)

### 6. Achievements to date

**Quantitative assessment of the results:**
Training 40 test managers, 350 testers; developing 3 questionnaires and 4 checklists; distributing 20,000 student perceptive questionnaires and productive questionnaires, and collecting 19,974 productive and 17,864 perceptive questionnaires, also 1,885 teachers’ questionnaires; collecting more than 10 million records in teachers’ questionnaires, 16 million records in perceptive questionnaires, 12 million records in productive questionnaires, 266 million basic information records, 76 million records of basic data for vocabularies, transferring four thousand hours recordings of student interviews (grade 1) from tape to CD.

**Qualitative assessment of the results:**
Providing traceable gender-ethnic based linguistic data, designing a new method for developing tests in Iran; using a new method for sampling in the MoE, changing the view of top managers in the MoE regarding literacy projects, making a positive impact on managers and staff, demonstrating the importance of literacy projects in primary schools, providing a new image of the situation of schools and education for MoE managers.

**Problems encountered**
- Financial constraints confined our sample size to 175 schools.
- Dialect differences. We employed ethnic testers to minimise the impact of dialect differences. Even then, in some parts of Kurdistan the dialect of Kurdish spoken by the students tested differed from that spoken by the tester.
• The instruction for the students’ perceptive test indicated the use of the colour purple for marking correct answers. However, the 20,000 packs of 6 coloured pencils that were ordered from the factory for these tests contained brown instead of purple pencils. We had to notify the testers to modify the instructions.
• On occasion, transportation to test sites required the use of airplanes and cars.
• Developing an appropriate computer program for handling the project data is currently a serious challenge which we hope to overcome with the assistance of the IT (information technology) department in the MoE.
• No graphic artist specializing in text book pictograms was available so we trained some of the Printing and Publication staff for this purpose.

7. Plans for the future
The development of digital software for the linguistic data collected in this project is the first priority. Since the MoE is very active in IT projects, we hope to receive their assistance in handling this part of the project. Our wordlist(s) will be published for public use. Simultaneously, several sub-projects mentioned below will be defined in order to use the other data in our corpus:
• Study of linguistic differences of boys and girls;
• Study and classification of spelling errors;
• Study and classification of writing problems;
• Study of the impact of geographical factors on language;
• Study of the students’ attitudes to family, city, village, Norouz (New Year), literacy, agriculture, water, and religion;
• Recognition of creative students according to their written stories;
• Study of the effect of bilingualism on the learning of Persian;
• Study and comparison of story-telling in Tehranian grade 4 students with Indian, British, French and German grade 4 students living in Tehran;
• Study and classification of orthographic problems;
• Study of the impact of living in towns and villages on students’ language.
4.2.8 Nasrin Parvizi

A study on the semantic characteristics of approved terms conducted by the Academy of Persian Language & Literature (APLL)

NASRIN PARVIZI
Terminology Department, The Academy of Persian Language & Literature

There are millions of objects and concepts in the world and in the environment around us which are increasing day by day and nominated in different societies in various ways. As science and technology improved in industrial societies, principles and methods for nominating things seemed to be essential and so, the science of Terminology was established and the schools of terminology with different views of terminology was formed. My focus (here) is the principles and methods of word-formation and word-selection in the Academy of Persian Language and Literature (APLL), considering the classification of characteristics by Felber in his book, Terminology Manual.

As every one knows, terminology is based on concepts and it is on the basis of concepts and their characteristics that a term with a specific grammatical category is formed. The characteristics or the indexes are the elements of the concept that describe or identify a certain quality of an individual object.

According to Felber, these characteristics are divided into two groups:
1- intrinsic characteristics
2- extrinsic characteristics

1 Intrinsic characteristics

They are the characteristics related to shape (the term bâfeh, in Persian means a plait or a braid of hair, as the equivalent to cable), size (the term nim setabr, means half thick or semi thick, for mediocris), material (choob farsh, in Persian means wooden carpet, for pârquet), colour (the term panir-e rage âbi, means the cheese with blue lines in it, for blue cheese), etc. (table 1).

<table>
<thead>
<tr>
<th>Examples</th>
<th>characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>bâfeh</td>
<td>Shape</td>
</tr>
<tr>
<td>choob farsh</td>
<td>Material</td>
</tr>
<tr>
<td>nim setabr</td>
<td>Size</td>
</tr>
<tr>
<td>panir-e raghe âbi</td>
<td>Color</td>
</tr>
</tbody>
</table>

2 Extrinsic characteristics

They are also divided into two groups:

2.1 Characteristics of origin, related to the method of manufacture (panir-e farâpâlâyeshi, means cheese which is filtered more than once, for ultrafiltration cheese), method of operation (’amood parvâz, means an object that can fly vertically, for vertical take-off and landing), discoverer or inventor (Xârazmi, is selected for a term in mathematics on the basis of its discoverer Xârazmi, an Iranian scientist, for the term algorithm which is the English form of his name), producer (bimâri-ye qand, means the disease which is occurred as a result of the high rate of blood sugar, for the term diabetes), country of origin (bâqela mesri, a kind of bean from Egypt, for lupine).

2.2 Characteristics of purpose, consist of application (âbzi Dân, means the place we keep fishes and other creatures living in water, for aquarium), function (akandeh sazi, means making something full of something else, for taxidermy), performance (xod kâr, means working by itself, for automatic), location (pish su, means directed towards the front, for forward), and position in the assembly (zarrât-e mo’allaq dar havâ, means the particles suspended in the air, for suspended particulate matter) (table 2).
These characteristics may be simple or complex. They are simple when referring to just one characteristic, as the term **ostovâneh**, for **cylinder**, which refers to the shape of the object, and complex when it refers to two or more characteristics, such as **châpâgar-e safrâheii**, means printer that prints page by page; so it describes both the function and performance characteristics of the term.

The intrinsic characteristics are clearer than the extrinsic ones, because they focus on the object. Also the characteristics of purpose, since they are related to the essence of the concept, are more considerable than the characteristics of origin, because, for example, the inventor or discoverer is not connected to the nature of the object, although characteristics of purpose can be changed without any changes in the intrinsic characteristics of the object occurring.

Felber (1984) has classified the characteristics into equivalent and non-equivalent and in the latter also into dependent and independent characteristics. He describes some relationships between concepts, too, which although important in terminology work, are not applicable to the classification I am going to make in the terms approved by APLL, however, we have used these classifications and relationships during the word-forming or word-selecting processes.

Now, I will explain my study in the terms approved by APLL. Until March 2003, APLL after eight years of Terminological activity has been able to form or select or coin 1717 terms equivalent to their foreign terms. These terms have been chosen from two fields of general and specialized terms. For the study and writing of this article, all of these terms have been classified based on the characteristics of concepts. There were some simple or complex terms, so the complex terms have been classified under different characteristics, therefore the number of characteristics registered is not the same as the number of terms approved by APLL. Also, some of the characteristics are considered as one, because their differences were not so significant as to consider them different.

From the 1569 registered characteristics, 421 equivalents have been formed or selected on the basis of application and performance characteristics, 302 on the location and position in the assembly, 271 on the function, 231 on the shape, material, size, color (intrinsic characteristics), 123 are considered as the result of a function, 90 shows the similarities of the object to something else, 23 are formed by considering the capabilities, 1 case shows the producer or the factor which has caused the considered concept (table 3).

<table>
<thead>
<tr>
<th>example</th>
<th>No.</th>
<th>characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>bâreshi, gomâneh</td>
<td>421</td>
<td>application &amp; performance</td>
</tr>
<tr>
<td>sim-e bâlā sar, foru bon mâyé</td>
<td>302</td>
<td>location &amp; position in the assembly</td>
</tr>
<tr>
<td>parvanjâ, parvâz-e rabbet</td>
<td>271</td>
<td>function</td>
</tr>
<tr>
<td>panir-e rage âbî, riz râyâneh</td>
<td>231</td>
<td>intrinsic characteristics (shape, size, …)</td>
</tr>
<tr>
<td>nîmpaz, âb pooshideh</td>
<td>123</td>
<td>result of function</td>
</tr>
<tr>
<td>?amood parvâz, motor chatr</td>
<td>107</td>
<td>method of production/operation</td>
</tr>
<tr>
<td>lachaki, koomei</td>
<td>90</td>
<td>similarity</td>
</tr>
<tr>
<td>pazirandeh, afozodani</td>
<td>23</td>
<td>capability</td>
</tr>
<tr>
<td>bimâr-e qand</td>
<td>1</td>
<td>producer</td>
</tr>
</tbody>
</table>

Analyzing this statistic, we can assume that APLL is more interested in using the extrinsic characteristics in word-formation. About one fourth of the terms have been formed or selected according to their application and performance characteristics. At the second level, the location and position in the assembly, and then the function.

The APLL has considered some other methods in forming equivalents to foreign terms although we can not include them in this classification as I have mentioned above, they are of importance, because they show some views of APLL in selecting equivalents and word-formation. From my study alone, 127 equivalents have been approved just on the basis of the concept of the phenomenon. The terms **derang**, **sherkat**, ‘ejârèh ba Hubbard, mangeneh, for the terms pause, company, rent, punch, are examples. In 99 cases we have borrowed foreign terms and have joined them to the Persian elements; in other words we have put them into the Persian language syntax. For example, **pastorizeh sazi**, **basinegi**, **ritmi**, which are formed by the foreign terms pasteurize plus the Persian element sazi which means making, or the base plus -inegi which means being, or rhythm plus-i, which means related to rhythm.73 cases are exactly the loan terms from different languages as the terms **note**, **dadaism**, **para magnetism**. 70 cases are translated word by word, for example, **panir-e colbeh**, for cottage cheese, ‘omr-e mofid, for service life, tool-e zamani, for interval time. In 26 cases we have used obsolete terms from ancient Persian, as **kooshk** and **kazeh** which have the same meaning as pavilion and case (in computer). And in 24 cases we have formed abbreviation for long terms, such as **NOBEK** instead of **neshast va barxâst-e kootah**, for the term short take-off and landing or **XâZ**, instead of **xâst-e oxigen-e zisthimiiai**, for the term biochemical oxygen demand (table 4).
As I have mentioned before, the APLL has approved terms in two fields of general terms and specialized terms. The views of APLL in these two fields are not the same. In general terms, from 237 cases, the consideration is more on the function characteristics, then on the application and performance, however, in specialized terms the main consideration is placed on the application and performance, then on the location and position in the assembly, and finally function, the last intrinsic characteristics (Tables 5 & 6).

<table>
<thead>
<tr>
<th>No.</th>
<th>Characteristics</th>
<th>Table 5: Special Terms in 332 Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>359</td>
<td>application &amp; performance</td>
<td></td>
</tr>
<tr>
<td>266</td>
<td>location &amp; position in the assembly</td>
<td></td>
</tr>
<tr>
<td>194</td>
<td>intrinsic characteristics</td>
<td></td>
</tr>
<tr>
<td>201</td>
<td>function</td>
<td></td>
</tr>
<tr>
<td>113</td>
<td>result of function</td>
<td></td>
</tr>
<tr>
<td>103</td>
<td>method of production/operation</td>
<td></td>
</tr>
<tr>
<td>72</td>
<td>similarity</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>capability</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>producer</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Characteristics</th>
<th>Table 6: General Terms in 237 Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>function</td>
<td></td>
</tr>
<tr>
<td>62</td>
<td>application &amp; performance</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>intrinsic characteristics</td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>location &amp; position in the assembly</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>similarity</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>result of function</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>method of production/operation</td>
<td></td>
</tr>
</tbody>
</table>

It is important to mention that the terminology department of APLL has 43 different technical committees for word-formation. Each of these committees has done the terminology work in its own way but under the rules and principles of the APLL, as emphasized in the following tables (Tables 7-27).

<table>
<thead>
<tr>
<th>No.</th>
<th>Characteristics</th>
<th>Table 7: Medicine (in 87 cases)</th>
</tr>
</thead>
<tbody>
<tr>
<td>36</td>
<td>application &amp; performance</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>location &amp; position in the assembly</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>function</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Characteristics</th>
<th>Table 8: Economy (in 25 cases)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>method of production/operation</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>location &amp; position in the assembly</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>result of function</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Characteristics</th>
<th>Table 9: Environment Eng. (in 47 cases)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>application &amp; performance</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>intrinsic characteristics</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>location &amp; position in the assembly</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Characteristics</th>
<th>Table 10: Nutrition (in 58 cases)</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>intrinsic characteristics</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>application &amp; performance</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>function</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Characteristics</th>
<th>Table 11: Visual Arts (in 29 cases)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>application &amp; performance</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>function</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>method of production/operation</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Characteristics</th>
<th>Table 12: Sport (in 25 cases)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>application &amp; performance</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>intrinsic characteristics</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>function</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Characteristics</th>
<th>Table 13: Cinema &amp; Television (in 78 cases)</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>function</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>application &amp; performance</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>intrinsic characteristics</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Characteristics</th>
<th>Table 14: Geophysics (in 44 cases)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>location &amp; position in the assembly</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>intrinsic characteristics</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>similarity</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Characteristics</th>
<th>Table 15: Tourism (in 61 cases)</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>location &amp; position in the assembly</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>function</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>intrinsic characteristics</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Characteristics</th>
<th>Table 16: Chemistry (in 147 cases)</th>
</tr>
</thead>
<tbody>
<tr>
<td>39</td>
<td>application &amp; performance</td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>intrinsic characteristics</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>result of function</td>
<td></td>
</tr>
</tbody>
</table>

378
Comparing these tables we can see that for economic terms the committee has considered loan terms from foreign languages, also for the methods of production. In visual arts, the function is the most interesting. In nutrition, shape and size and material and similarities are more noticeable. In earth-sciences, it is also the same. In air-transportation, the application and performance topped the list. In agriculture, the methods of production; in rail-transportation, the function; in telecommunication, the application and performance; in chemistry, both the application and performance and borrowing; in geo-physics and tourism, location and position in the assembly; in computer, application and performance and then function and shape and size are noticeable; in veterinary, the result of function; in cinema and television, function; in sport, application and performance; in school physics and general transportation, application and function and loaning are the same; in environment engineering, function is concerned (table 28).

3 Conclusion
By looking at these classifications, it is hard to exactly identify the point of view of the APLL, because the terms approved in each field were insufficient in quantity to be conclusive as some fields had been left out of the research. We hope that in the coming years, by increasing the activities of the Terminology Department, we can study more terms and identify the interests of APLL. However, the application and performance was rated top and function characteristics second.

The APLL is a young organization and it is the first time that its activities on terminology work have been studied. I hope this article will open the way for further studies and attract the attention of other researchers, both Iranian and foreign, to assist or to work with us here, at the Academy of Persian Language and Literature.

4 Sources


32 Booklets of Terms Approved by APLL.
4.2.9 Jafar Alaghemandan

Core Vocabulary: Serving Children’s Literature and Curriculum Development

Jafar Alaghemandan
The Organization of Educational Research & Programming (OERP) Ministry of Education, Islamic Republic of Iran

In The Name Of God The Compassionate The Merciful

Introduction

In describing social varieties of language sociolinguists mention a variety that is distinguished by the social factor of age. From this point of view, the language of children is a socioculture. Thus writers of children’s literature should pay due attention to this variety, in which vocabulary is one of the matters of concern. Vocabulary is a set of words that are used as the linguistic material for communicating with children and if words are selected from this set in a way that all children of one age group can understand, then we have ‘core vocabulary’. Experts on children’s literature, writers, translators or editors deal with core vocabulary. For more details of the project of which this work forms a part (Identification of a Core Vocabulary for Iranian Primary School Students funded by the Organisation for Educational Research and Programming (OERP), Tehran) (see Nematzadeh, this chapter, for an overview).

Although, in any language, child language is a sub-division of that language, it has some characteristics which have to be considered by curriculum developers and children’s authors as well, in order to facilitate any communication with the child’s world. One of these characteristics is the size and the type of vocabulary which is used by children. Naturally, the size of vocabulary of children is smaller than that of adults. Even though there is no consensus among researchers on the size of children’s vocabulary, it is worth mentioning some results.

Hoff-Ginsberg (1995) has reported from Templin (1957) that an average-sized vocabulary for a first grade student is more than 14,000 words (Hoff-Ginsberg 1995:80). He also reports from Anglin (1993:122) that the vocabulary consists of more than 10,000 words for the same age group. Azarie Najafabad has pointed to research conducted in Canada about the oral vocabulary of 7-8 year old children, based on counting the number of words used by children in their dialogues in a school year. According to that research it was found that 6-year old children in the first grade of primary school used about 3,321 words in their dialogues (Azarie Najaf Abad 1985:63-64). It has been also claimed that each child uses about 2,000 words when they start school, but that he/she may understand 10,000 words (Hojjatie Tabatabaie, 1998).

There is a difference between the type of vocabularies being used by children and by adults. Children know the names of heroes in cartoons that adults may not know. The child learns the connotative and metaphorical meaning of words much later; for example, the specific meaning of ‘father’ as a word is the husband of mother, but in ‘the father of physics’, ‘father’ has a connotative meaning. There are more concrete words in children’s vocabulary than abstract ones, nouns are much more frequent than adjectives, and the words used by adults have a different frequency distribution. But why does the core vocabulary have such an importance for educators? First, we want to communicate with students through textbooks. To succeed, we have to know the child’s language of which the material is vocabulary. Second, knowing the core vocabulary used by children enables us to promote education continuously by introducing new words into children’s vocabulary. This is certainly one important task of education i.e. to transfer gradually the meaning of new words to children by using the words already existing in their vocabulary. Eventually it will help us to find appropriate answers to the following questions:

- When a student in first grade primary school reads the Farsi word for ‘independence’ in a textbook, does he/she understand the meaning of it?
- When a third grade student is confronting with the word ‘lantern’ in a maths textbook, does he/she have any conception of it?
- Is it appropriate to use the expression ‘resurrection day’ in a religious textbook for fifth grade students?
- Many words have synonyms; which one should be used in children’s textbooks and other books?
- Is it better to present a more familiar word to the students rather than unfamiliar ones?
- Is it appropriate to present those words which will not be used in subsequent years?
- Are structural words, whose function is more important than their content, understandable for third grade primary students? Keeping in mind that one of the aims in primary education is helping children in the process of socialization and establishing social relationships, then the following question should be answered: which one of the generally used words could have the highest capability for the transmission of social concepts to children? Does using words and expressions like the Farsi for ‘reprimanding’, ‘refrain from’, and ‘compliance’ in fifth grade textbooks really lead us to success?

All these questions can be summarized as follows:

- Which words should be used by curriculum developers to help students develop a good understanding of educational texts?
- Which programme and what order and sequences should be observed in the presentation of these words?
• What is the logic behind the selection of words, the order and sequence of their presentation? What relations are there between culture, social characteristics, social relationships and the way in which these words are selected and presented?
• Is it possible to make a hierarchy of words as a network in the framework of vocabulary fields, in order to create coordination not only within teaching in a specific grade, but also between subsequent grades?
• How many words could be added to students’ vocabulary in each school year?

Some experts in children’s literature have pointed directly to core vocabulary and its importance for establishing a constructive relationship with children. As an example we can refer to Rahman Doust (2000:20) writing about literature for children and adolescents: ‘The core/basic vocabulary in each age group consists of those words that almost all children in that group understand the meaning of. Any writer who writes for children should be aware of the core vocabulary of his/her readers’. Others have talked more implicitly about vocabulary. Hejazi (1998:85) comments: ‘writing should promote the richness of the child’s vocabulary and the cognition of his/her mother tongue.’

The classification of core vocabulary

Linguists and educationists have specified four classes of vocabulary reflecting the four linguistic skills: speaking, listening, reading and writing. According to this classification, reading vocabulary is a collection of words which helps a person acquire reading skills; although he/she perceives certain words while reading, they are not necessarily used in speaking and writing. Writing vocabulary is a set of words which are used when writing. Accordingly, speaking vocabulary is a set of words which are involved in talking, and listening vocabulary is a collection of words which are perceived and understood through listening. It has been claimed that the number of words in the listening vocabulary is greater than any other.

From a psycholinguistic point of view, the function of processing language in the mind has two distinct processes: language perception and language production. Thus, the vocabulary may also be divided into perceptive and expressive vocabulary. Therefore reading and listening vocabularies have a perceptive nature while speaking and writing vocabularies have a productive nature. In some relatively recent works (Lerner 1977:357), the two types of vocabulary—reading and listening—are said to be an input type of vocabulary while the other two types are considered as an output type. But with regard to the type of information involved in vocabularies (visual and auditory), reading and writing vocabularies might be called written or visual; speaking and listening vocabularies can be called oral or auditory vocabularies. Besides, if we accept Lerner’s (1977:358) and other interpretations (e.g. Aitchson 1985:61) that any linguistic function is a kind of coding of the language, then speaking and writing are encoding types, while listening and reading are decoding types. So, encoding and decoding vocabularies might be added to the classes of vocabularies. Figure 1 shows these different classifications.

Recent viewpoints in the cognitive sciences and in cognitive psychology regard these classifications as a traditional one and propose an integrative classification. By raising obvious questions like ‘when we know a word what do we really know?’ or ‘what is the meaning of knowing a word?’ (Glover, Royce and Bruning 1990:248-9), different levels of knowing a word can be distinguished. The first level is finding and identifying the reference of the word, of course, a concrete one. This level of knowing is usually accompanied by the cognitive function of ‘naming’. At higher levels, ‘defining’ and ‘thinking of’ are the factors that need to be accounted for. This is the reason that some experts in this field talk about ‘thinking vocabulary’. It refers to the words that we are thinking with and about.

Taking these views into account, we can conclude that the difference between expressive and perceptive or active and passive words depends on the way in which they are processed. If the processing is deep and thorough, then it is a perceptive, expressive, or thinking type of word. But, if the processing is shallow, even if it is an expressive type, it would not last in memory and will be forgotten very soon. All of us have witnessed those students who memorize words through reciting or writing them just to pass examinations. This kind of learning, which is processed superficially, will be forgotten after the examination.
Figure 1. Classification of Vocabularies
The issue of words, especially scientific words, has been observed by science education experts from another perspective which is related to the child’s cognitive ability. Harlen, (1990) states in this regard:

> Whether a child should use a word before knowing its perfect meaning, is a complicated question. First, we need to answer another question: what do we mean by complete meaning? Many scientific words like ‘evaporation’, ‘dissolution’, ‘power’ and ‘reflection’ are conveying such concepts that might be understood at different level of complexity (Harlen 1990: 107-8).

Although handling new cognitive views is not the aim of this paper, the examples mentioned above reflect the importance and complexity of the issue.

**Studies of Core Vocabulary in Persian: Background**

Core vocabularies published under titles such as *Written Word Book, Frequency Word Book, Elementary Dictionary* and so on, have a relatively good track record. Despite their 30-year history, however, these activities did not have a rational continuity. Besides, there was no revision of or improvement in measuring and data gathering methods, because there were no evaluations to identify strengths and deficiencies. In this section, only those research projects which are a kind of field study are discussed. (For further information on theoretical studies such as Tahirian (1994) and Zandie (1996), please see References).

Badreie (1973) reports on core written vocabulary, arguing that this is quite close to other types but that it is much more important. This study was based on the letters that some primary school children, from all over the country, had sent to the centre responsible for providing reading materials for first readers. First, 4,000 letters were chosen from 80,000 letters in two stages. In the next step, 1,085 letters were selected by sampling and 102,909 words extracted from them. Badreie’s method in this research was based on counting the frequencies of words appearing in children’s writing. He identified 8,712 language forms with a frequency of 98,769. Iman (1978) is an index consisting of 2,398 words which were chosen from about 4,000,000 words gathered from best sellers and writing for 6-12 year old children. Safaarpour (1991) provides a list of 250,000 words collected from textbooks for 1-5 primary grades, and 1,000 words from literacy movement textbooks.

During the years 1991-1993, the Research Curriculum Planning and Textbook Developing Department of the Literacy Movement Organization collected the words used in elementary and supplementary literacy textbooks and also the words from Farsi primary textbooks for children in formal schooling. In another study a comparison was made by the same centre between the words in grade 1-2 literacy textbooks and those belonging to formal schooling. Zarghmanian (1992) reports on a list of 13,000 words with more than 60,000 occurrences. He compiled these words from 87 books, nine papers and stories sampled from 300 titles. There are two lists in this collection: an alphabetical list and a frequency based index. The ‘Elementary Dictionary’ presented by Shokri (1994) includes 15,000 words. The method was to compile words from formal primary textbooks and 50 informal books and many other publications for 6-12 year old children. Shobeiri (1997) analysed an exam with 400 questions from grade 3-5 students of two education districts in Teheran. Then by comparing the results with those from other relevant research, he provided an index of formal and informal elementary students’ vocabulary. Finally, Safarzadeh (1997) reviewed previous studies of speaking vocabulary and developed alphabetical and frequency based vocabularies for third to fifth grade children.

**Studies of Core Vocabulary in English: Background**

One important outcome of second language teaching is promoting a state of language awareness. This has led us to notice more about our mother tongue and its grammar, vocabularies and its other features. Therefore, in order to find out about the grammar and vocabularies of the first language, we shall look into the history of teaching a second language. Core vocabulary was introduced for the first time in teaching English as a second Language. As Carter (1988) has mentioned, core vocabulary was a plan which aimed to develop the least vocabulary needed for learning English as a second language. A core English vocabulary was first developed at the end of the 1920s, and it has been the subject of discussion ever since. Ogden and Richards were two pioneers in this field. Carter quotes from Richards that English core vocabulary is a simplified one in which the number of words has been limited to 850 (Carter 1988:24). Stein (1979) revived the issue (cf. Carter 1988 for further discussion of some key issues).

Although this research is more related to dictionary writing and second language learning, the theoretical considerations are valuable resources for research on basic vocabularies in first language studies. The core vocabulary for second language learning has a history of around 80 years in the world and for first language learning is about 70 years old. So mentioning all the research here is neither useful nor possible. Besides, the issue of basic vocabulary has become so specialized today that one cannot cover all aspects under the general topic of ‘core vocabulary’. Today there are many research topics such as: methods of measuring core vocabularies, the size of core vocabularies, methods of developing core vocabularies, the breadth and depth of core vocabularies, the growth of vocabulary in children, approaches to analysing vocabularies and the influence of each vocabulary on others.

Among the oldest research in this field two papers by Kelly (1932, 1933) are worthy of mention, as also Russell (1954). One more recent research project in the field is Saarelä, (1997), an investigation of the developmental process of primary students’ composition writing from the vocabulary point of view.
Conclusion: Core Vocabulary Project

What has been accomplished, should be utilized, but to date, this is not sufficient. The OERP project was set up to identify the dimensions of core vocabulary. The work started by consulting with many experts in the field, asking the opinion of textbook developers, searching on the internet and reviewing the experience of countries which pay special attention to core vocabularies, like Canada, the Netherlands, the U.K. and the U.S.A. Of course, in the past, the issue of core vocabulary has been discussed (Hodjatie Tabatabai 1997), but this time an effort was made not only to discuss the issue but also to take serious measures to accomplish the task. The prerequisites for defining a plan for this task were:

1. Even though in many countries, textbooks are written without being based on a core vocabulary, in our multilingual country with a central and textbook-based system of education, core vocabulary is the informational component most needed by curriculum developers especially in general education.
2. As the core vocabulary is not confined to a single field of specialization, a variety of experts in different fields needed to be involved in conducting the project, such as: children’s literature specialists, lexicographers, linguists, psychologists, computer scientists and curriculum developers.
3. The aim of the project has been to develop an educational core vocabulary. Many proper nouns or specific words in children’s vocabulary are not considered as educational words. Therefore, the project did not cover these words.
4. The purpose of project was to develop not only an alphabetical list of words, but also a classified and field-based vocabulary.
5. As we know, there are many different methods of estimating vocabulary. Different methods would lead to different vocabularies in both quantity and quality. Therefore, as a first step, an empirical study was conducted on methods for compiling core vocabularies in order to select the most suitable method.
6. To compile a core vocabulary which has the comprehensive approval of all experts involved, including researchers, teachers and planners, was almost impossible. Therefore, we focused on a common core or nucleus of the vocabulary that met the agreement of all involved.

Developing a core vocabulary is not something that can be done once and used for ever. On the contrary, it must evolve as a result of social, political, cultural, scientific and technological changes. Each of these influences adds words to the vocabulary and deletes others. So developing a core vocabulary should always be seen as a dynamic endeavour, subject to reproduction and rearrangement. Of course, this revision is itself subject to a more sophisticated study which is not the concern of this paper.

Acknowledgments
I would like to thank Dr. Farrokhlagha Rais Dana for her help in translating this article into English.

References:

Persian:
Tehran: Madreseh Publications.
Iman, Lily (1978) A List of the Most Frequent Words in 5-12 Year Old Children. Tehran: National Committee of World Confrontation to Illiteracy.

The Organiztion of Research and Curriculum Planning (Elementary Textbooks).


**English:**


When children arrive in school, they experience a different linguistic world. They meet for the first time children from unfamiliar regional, social and ethnic backgrounds, whose linguistic norms differ greatly from their own. They encounter a social situation in which levels of formal and informal speech are carefully distinguished, and standards of correctness emphasized. The educational setting presents them with a variety of unfamiliar, subject-related styles of language. They have to learn a new range of linguistic skills – reading, writing, and spelling. Moreover, they find themselves having to talk about what they are doing, which requires that they learn a special technical vocabulary—a language for talking about language, or metalanguage.

In recent years, educators have begun to recognize the complexity of the language demands being made on the young schoolchild, and to realize that progress in many areas of the curriculum is greatly dependent on a satisfactory foundation of linguistic skills. The traditional emphasis on literacy, the ability to read and write, has been supplemented by an emphasis on oracy, the ability to speak and listen. Teachers now pay increasing attention to a child’s preschool linguistic experience, seeing this as a foundations on which they can build. Special efforts are made to relate different kinds of linguistic learning: the task of writing is being brought closer to the child’s experience of reading; reading, in turn is being brought into contact with the ability to use spoken language; and oral skills are being supplemented by work on listening comprehension (Crystal, 1989:248).

Children today come to the classroom facing many challenges. We expect much of children in the early grades. Learning to read is difficult. It depends upon both learning to read words and having the background knowledge of concepts and the world in order to understand text. The sheer volume of words that children are expected to read quickly and accurately is discouraging. While the emphasis is directly on developing word recognition skill in the very early grades, we must also prepare children for the sudden large amount of concepts and information they will be expected to understand. Early school development of vocabulary and world knowledge is especially critical for children who come from impoverished homes, and those not familiar with the standard language.

One route to learning vocabulary and world knowledge is through reading: children who learn to read early on read considerably more than their peers who are still struggling to decode, and through reading they learn things that increase their text comprehension. Reading itself helps students gain both world knowledge and word recognition skill. Once a child can read enough words to independently enter the world of books, additional words are learned as a consequence of seeing them several times in print. Thus, the critical question is how curriculum policy makers / text book writers can help children gain enough skill to successfully enter this world so that, in a sense, children can read enough to become their own teachers. instruction in basic vocabulary has traditionally been a major component of any teacher’s reading programmes in the early grades. The rationale for instruction in basic vocabulary is to give the beginning reader tools with which to work, to make the task easier by enabling the child to recognize the words most commonly encountered in classroom print and to thereby boost self-confidence and encourage continued effort in learning to read (Fleet, 1991: 508-9).

Textbooks have an important influence on the mind of school beginners. They can help build a foundation for attitudes and behaviours. The use of books to help children deal with their personal challenges and become aware of social concerns is an accepted and important part of teaching. Books afford the opportunity to explore and confront these issues by creating a simulated situation with children in a protected environment. Curriculum developers must know the extent of children’s available vocabulary and reflect this in their textbooks.

This paper reports on an aspect of the recent Iranian national project to develop a core vocabulary for primary school children carried out under the auspices of the OERP (see Nematzadeh, this chapter, for an overview). A model has been developed and tested to identify the vocabulary actually used by primary school children; the results were contrasted with the results of the content analysis of current textbooks.

An effective vocabulary seems to be a necessary component of two specific communication talents of the child: expressing emotions (affection or hostility) to peers and adults and taking the lead with peers. If children are to express their feelings to important persons in their lives, they should have a vocabulary capable of communicating these feelings. While nonverbal cues will certainly play an important role in emotional messages, emotions can be vividly and clearly presented with the right words. Likewise, the task of leading others, as in giving instructions, requires a careful choice of words. A powerful vocabulary allows children to accomplish important purposes (Wood, 1981: 108).
2. Development of a model

The objective of this research was to develop and test a model for collecting/classifying basic vocabulary of school beginners, having in mind the need for developing 4 language skills and the interestingness and prior knowledge maxims.

Research hypotheses

A model was developed for collecting and classifying the basic vocabulary of Tehranian School beginners on the basis of the following hypotheses:
1. There is a basic vocabulary for Tehranian primary school children.
2. It is possible to develop an appropriate model for collecting the basic vocabulary of Tehranian primary school children.
3. Semantic fields are useful tools for this purpose.

Methodology

Developing a model

A review of the literature showed that there is no ready-made model to adopt and apply in order to satisfy the goals of this project. A new model had to be developed for the specific conditions in Iran—centralized course book development—and the specific research purpose: developing a model applicable throughout the country, easy to expand with revisable data, and friendly to users. In order to match the above conditions a map was drawn to show a clear path and to give an overall view of what should be done in general. The first box shows the grade level that the vocabulary belongs to. The second box shows whether it is a vocabulary used by students or printed in the course books. The third box shows types of vocabulary. The fourth box shows parts of speech. The fifth box shows semantic fields. Each semantic field will have a table containing words.

![Figure 1- Introducing the model](image)

Figure 2 illustrates a path for collecting vocabulary for two semantic fields of the word class noun in the spoken vocabulary that children in grade 1 actually use.

![Figure 2- The collection of Grade 1 spoken basic vocabulary](image)
The tables for these two fields for the pilot study participants are as follows:

**Table 3 - Kinship relations**

<table>
<thead>
<tr>
<th>Kinship Name</th>
<th>NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baba</td>
<td>1</td>
</tr>
<tr>
<td>Bac’e</td>
<td>2</td>
</tr>
<tr>
<td>baradar</td>
<td>3</td>
</tr>
<tr>
<td>pedar</td>
<td>4</td>
</tr>
<tr>
<td>amme</td>
<td>5</td>
</tr>
</tbody>
</table>

**Table 4 - Proper names**

<table>
<thead>
<tr>
<th>Proper Name</th>
<th>NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akram</td>
<td>1</td>
</tr>
<tr>
<td>Pari</td>
<td>2</td>
</tr>
<tr>
<td>Maryam</td>
<td>3</td>
</tr>
<tr>
<td>Jale</td>
<td>4</td>
</tr>
<tr>
<td>Tahere</td>
<td>5</td>
</tr>
<tr>
<td>Fateme</td>
<td>6</td>
</tr>
</tbody>
</table>

Figure 5 demonstrates the path for collecting text book vocabulary for these two semantic fields.

![Figure 5- The collection of Grade 1 basic vocabulary in text books](image)

The related tables are as follows:

**Table 6 - Kinship relations**
Table 7 - Proper names

<table>
<thead>
<tr>
<th></th>
<th>Tb TECH</th>
<th>Tb CDC</th>
<th>Tb T88</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>*</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>*</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>*</td>
<td>*</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 9 illustrates the data compared and contrasted for kinship and proper names.

Table 9 - Kinship relations

<table>
<thead>
<tr>
<th></th>
<th>Tb TECH</th>
<th>Tb CDC</th>
<th>Tb T88</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>*</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>*</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>*</td>
<td>*</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>-</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 8 shows how these tables / vocabularies can be compared and contrasted in order to adjust the vocabulary to the age of the children and to meet the curricular objectives for vocabulary instruction and expansion.

Figure 8- Grade 1 vocabulary - comparison and contrast
Table 10 - Proper names

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Population
All Tehranian children who are about to enter primary school (Grade 1) in one school year form the population of this study.

Sampling method
An existing sampling method (Delavar, 2001: 111) was used for selecting participants in this study. Children in the kindergarten level of the OERP’s Pre-school centre were selected as the sample. It is acknowledged that the chosen Subjects were the children of parents who were professionally involved in curriculum development; accordingly, their vocabulary is expected to be richer than children of families in which parents are less educated.

How this method attains expected outcomes
The proposed model was then able to be tested by collecting data for comparison and contrast with the content of Persian text books.

Data collection

Check lists
A check list was prepared to keep track of the work and to coordinate different parts. It consisted of 20 semantic fields: kinship relations, proper names, pronouns, body parts, clothes and ornaments, plays and toys, stationery, colours, flowers and trees, beasts, birds and insects, reptiles and fish, occupations, places, raw materials and meals, dishes, food and drink, fruit and vegetables, agriculture, transportation.

Content analysis
A list of vocabularies (nouns only) used in the three Persian text books used in Grade 1 was collected and organized in the 20 semantic fields listed above. They are sorted in columns 1-3 of the above tables.

Observation
To identify the actual vocabulary that children use, four sessions of observation were carried out in the OERP’s kindergarten. The children’s vocabularies for the 20 semantic fields were collected. They are sorted in column (kin-1) of the above tables.

Interviews
In order not to disturb the children too much, two sessions of structured interviews were held with the help of the kindergaten trainer, who asked a series of questions prepared by the researcher. The answers were written down and are sorted in column (kin-2) of the above tables. Following feedback on the content of the questions, revisions were made for the second round of interviews.

Data analysis
Data collected from the content analysis of the three Grade1 Persian textbooks (tb 78, tb CDC, tb TECH) were distributed across the 20 semantic fields. Later on the data collected from observing the OERP kindergarteners (four sessions in different situations to cover the activities of a whole day) were also sorted in the same semantic fields. In the last step, the data from the children’s
interviews were added to those fields (two sessions of structured interviews). The related tables cannot be shown here for reasons of space.

3 Discussion

The purpose of this part of the OERP project was to develop a model for identifying the basic vocabulary used by primary school children. As the review of the literature showed, previous work carried out in Iran and in other countries did not provide a tangible model for collecting the spoken vocabulary of these children. Alphabetical lists were rejected as the basis of a model in favour of a classification into semantic fields.

Teaching and learning will be most effective if children's existing understanding is engaged and extended, which is not the case for current text books. This can be considered as their main shortcoming. Written many years ago, they do not belong to the world of this generation of children. Their topics, language, teaching methodology and so on do not meet the needs of children living in information era.

The basic vocabulary identified according to our semantically-based model can be used in the following:

- Accelerating the process of understanding / learning in the mind of students
- Making books more interesting, adding / increasing motivation in reading books
- Improving language skills (listening, speaking, reading, and writing)
- Developing text books for the second generation (of Iranians living abroad)
- Developing text books for teaching Persian to foreigners
- Paving the way for “Persian core lexemes”
- Preparing mono- and bilingual dictionaries for children
- Preparing mono- and bilingual dictionaries for core lexemes
- Decentralized text books
- Translation of audiovisual materials for children (cartoons, shows)
- Writing children’s story books

Although the model described here puts forward an easy-to-use way to collect and organize age-related categorized data, there are still theoretical problems to be solved in dealing with the formal classification of some words.

References

4.2.11 Susanne Göpferich

Dynamic linking of information types via a concept-oriented termbase – A report on the DaimlerChrysler project DAiSy (Daimler Automotive Information SYstem)

Susanne Göpferich, Graz/Austria

1 The problem

In car repair workshops, several types of information are needed. The most important ones are repair methods, parts documentation, damage codes1, and work units (flat rates)2. Up to now, these types of information have been developed independently with the result that inconsistencies and information gaps have occurred. The steps given in a repair method, for example, may have deviated from those on which the determination of the work units (flat rates) for the corresponding repair was based.

Furthermore, the various types of information have been made available in different systems making it inefficient and uncomfortable for the service and repair personnel to switch from one type of information to another. If, for example, a repair mechanic wishes to find information on a part mentioned in a repair method for a specific vehicle in the Workshop Information System (WIS), he has to quit this system and access the Electronic Parts Catalogue (EPC), in which he has to re-enter the vehicle’s identification number to find the specific parts documentation for the car he is working on. This is annoying and rather time-consuming.

Another problem results from the fact that the data retrieved from the system may not apply specifically to the car for whose repair information is needed, but to a whole range of car models, so that the mechanic, in search for the information relevant for him, must read much more than is really necessary.

These are the problems the DaimlerChrysler project DAiSY (Daimler Automotive Information SYstem) tackles. Its goals are the following:

1. The four information types – repair methods, parts documentation, damage codes, and work units (flat rates) – shall be developed in a uniform manner and provided in a single system.

2. The information types shall be linked so that it will be possible, for example, to jump from the designation of a part in the repair method (e.g., control unit) to the corresponding parts documentation by simply clicking the designation.

3. Linking shall be dynamical. What this means shall be illustrated by an example: A specific repair method (e.g., “Removing cylinder head”) may be identical for several car models. The parts mentioned in such a repair method (e.g., cylinder head), however, may vary from model to model. As a consequence, the part termed cylinder head in all models may have a different part number for each model. If all designations of parts mentioned in repair methods were linked to specific part numbers, it would be necessary to create a new variant of the repair method for each car model needing a different part number, even if the wording of the repair procedure could remain identical. This would lead to much redundancy. The strategy to be applied in the DAiSY project is to create a repair method whose wording is applicable to several vehicle models only once and to link the part designations it contains not to a specific part number each, but to a data record in a concept-oriented termbase, the so-called Thesaurus. In this Thesaurus, all parts which bear the same designation and which can be grouped under the same concept are linked to the data record for this concept. Via this data record, only those individual part or parts with their specific part number(s) are called up which may be relevant in the context in which the enquiry has been started. If, for example, the user clicks cylinder head in a repair method to retrieve the corresponding parts information, he or she will not find displayed the parts information for all parts termed cylinder head, but only the number(s) of the part(s) that, first, match the vehicle model or models which the user has identified when accessing the system, and, second, the area of the car (product classification) to which the repair method refers. Such linking, of course, mandates that validities and product classification codes be attached to each information unit stored in the system (cf. section 2).

4. The user shall be supplied only with the information referring to the specific car for which he or she needs it.

5. Redundancy shall be avoided. i.e., text modules (functional units) shall be created only once and stored in a database from which they can be retrieved whenever they are needed again (database publishing).

2 The solution: a concept-oriented database

In the following, I will describe the central aspects of the approach taken in the DAiSY project. This approach is represented schematically in Fig. 1.

---

1 Damage codes are composed of two parts: a number designating the defective part and a number describing the type of damage which has occurred (e.g., corroded, broken, deformed). This information is needed for quality assurance purposes and must be supplied to DaimlerChrysler by its authorized car repair workshops.

2 Work units (flat rates) indicate the time span that a repair or service procedure may take. It is needed for calculating costs.
Fig. 1: Multi-level model

Fig. 1 shows that the various information types joined together in DAiSY (top level) can be split up into functional units (intermediate level). These functional units are text modules which can be reused in other documents without modifying them. Examples of such functional units are work units (flat rates) for repair methods (WU); basic data (BD) such as tightening torques or filling capacities; record titles (RT), i.e. headers and subheaders like “Removing engine”; safety information (SI); graphics with their captions (G); parts designations with their order numbers (P); as well as supplementary part texts (SP), which describe certain parts in more detail, for example by giving their diameter, their length or the material they are made of. Each of these functional units (except for SP; see below) is assigned its validity, which indicates for which vehicle types it is applicable, as well as a product classification, which indicates to which area of a vehicle it refers. All designations used in functional units must be consistent with the terms classified as preferred terms in the concept-oriented database, the Thesaurus. The supplementary part texts (SP) are not assigned validities and product classification codes since they contain the numbers of the parts to which they refer. These part numbers can be used to link them to the functional units of the type P. Supplementary part texts are needed in those cases in which a search for a specific part results in several hits all bearing the validity and product classification code required. In such cases, they supply the information the user needs to choose the right part.

The bottom level is formed by the three classification systems already introduced: validity, product classification, and Thesaurus. The terminology used in all texts which can be formulated freely at the top level must also be consistent with the preferred terms in the Thesaurus.

All information units are created and managed in DAiSY and supplied to the car repair workshops by the retrieval system NEWS.

2.1 Customized (situation-specific) information retrieval

When accessing NEWS, the user first has to specify the vehicle for which he or she needs information. This specification is used to put a filter on the data stored in NEWS. This filter holds back all information units that do not refer to the vehicle specified. Then the product classification is used as another filter that holds back even more information that is not applicable in the specific case. If, for example, the car mechanic searches for information on the engine, all information units which do not bear the corresponding product classification code are held back.

2.2.1 Linking different information types via concept numbers

In the different types of documents, all designations which are to serve as links to other types of documentation are assigned their concept numbers from the Thesaurus. It is via these language-independent concept numbers that links to other documents are established. Let me illustrate this by an example: A repair method contains the instruction “Fasten the bolt.” If bolt has been defined as a link, it will be highlighted correspondingly in the retrieval system NEWS. Such links may lead to different types of information. In our example, bolt may lead both to basic data (tightening torques) and parts documentation. If a link leads to several types of information, the user, on clicking it in NEWS, will be asked to which type of information he or she wants to jump – in our example above either to basic data or to parts documentation. The user then has to make his choice. Let’s suppose he or she wishes parts information. The user will then see displayed the parts documentation units for all bolts that bear the same validity and the same product classification code as the document from which this information has been accessed. If this involves more than one hit, the user will see displayed, in addition to the parts numbers, the supplementary part texts and, if available, also graphics. This supplementary information will help him to choose the part he or she needs in his specific repair situation.

This type of information retrieval requires a specific documentation process (cf. section 4) in which the Thesaurus, described in the next section, plays a central part.

3 The Thesaurus

An alternative would be to assign their concept numbers to all designations used in a text and stored in the Thesaurus as preferred terms and to provide special tags for those designations serving as links. This would have several advantages, not least of which that homonyms could be disambiguated via their concept numbers.
3.1 Concept orientation vs. designation orientation

The Thesaurus is a concept-oriented termbase. *Concept-oriented* means that each data record is devoted to just one concept and not to a designation with all its possible meanings (cf. Fig. 2).

Let me illustrate this by another example: A designation such as *mouse* may have several meanings, i.e., it may represent different concepts. It may either refer to a small, usually grey rodent or to a computer device. In a designation-oriented termbase both meanings would be dealt with in the same data record. In a concept-oriented database, however, a separate data record is created for each meaning, for each concept. In a multilingual database, this concept-orientation makes it easier to assign a specific translation to each source-language term.

Each data record has a concept number. Creating links via these language-independent concept numbers ensures that the links connect only designations referring to the same concept. If, for example, the designation *mouse* is used in the sense of ‘computer device’ in a repair method and the user wishes to retrieve information on this part by clicking it, the system ensures that he or she will not see displayed information on all types of mice, but only information on mice in the sense of computer devices.

3.2 Conceptual clarity and terminological consistency

In the DaimlerChrysler documentation developed up to now, various synonymous designations may occur for the same part. For the English term *light-alloy disk wheel*, for instance, all the synonyms shown in Fig. 3 may occur. The reader and also the translator may not recognize at once that all these terms are synonymous, i.e., refer to the same thing. This may result in comprehension problems and increased translation costs since the translator may have to search for a long time to find out whether certain terms are really synonymous and thus can be translated in the same way or not.

In DAiSY exactly one preferred term is chosen for each concept. In documentation only this term may be used. Synonyms, however, are also entered in the Thesaurus for the following reason: If a technical writer uses a synonym, a term checker (T-checker) may indicate this and at the same time suggest the preferred term he or she might use instead.

Furthermore, synonyms may also be useful in NEWS during the retrieval process, since mechanics cannot be expected to use only preferred terms when trying to access information. If a mechanic uses a synonym, the system finds out the corresponding preferred term via the Thesaurus, so that the mechanic will find what he or she is looking for even without knowing the index term.
3.3 The screen masks

For Thesaurus access, several screen masks will be provided. Fig. 4 shows a draft of a screen mask which comprises the entire range of data fields. Since the Thesaurus will not only be used in the DAI Sy project for workshop information, but also in the project ARKI for customer information, and since the terms preferred in workshop information may differ from the ones preferred in customer information due to their different audiences (e.g., German Blinker vs. Fahrtrichtungsanzeiger; English turn signal), the screen masks contains two separate areas (dark grey for workshop information, light grey for customer information).

The user groups which have access to the Thesaurus (such as technical writers for workshop information, authors writing customer information, terminologists) will be provided with screen masks that, out of the entire range of information, contain only those data fields that are relevant for their specific tasks. Thus the screen masks provided for the technical writers, for example, can be kept relatively small so that they do not use too much screen space.

For both workshop information and customer information, fields are provided for the preferred term (Term) together with its gender (G; if applicable to the language concerned), part of speech (POS), and abbreviation (Abbr). For workshop information, an additional field is provided for the 15-character shortened term needed to be printed on spare part packages (Short Term), again together with its gender (G). In customer information, this field is used for a shortened term which may be used instead of the preferred term in texts where the author refers to the same concept for the second, third, etc. time. In workshop information, this type of elegant variation is avoided since, in this genre in contrast to customer information, the stylistic weaknesses resulting from a repetition of the same terms can be tolerated. In addition to these fields, there are fields for the version and the status of the data record (such as “request submitted”, “accepted”, “not to be used”).

At the bottom of the mask, synonyms can be entered. These are synonyms both for the preferred terms to be used in workshop information and the preferred terms to be used in customer information. Furthermore, a field is provided for examples of how the term is integrated into a context (primarily for translation purposes). Definitions and explanations can be entered into the field “Concept Clarification”, if needed. The fields designated “Notes” are used for supplementary information on the specific terms they refer to or all the data for a specific language respectively.

Each concept is assigned a product classification code (multiple selections possible), a concept category (such as “Part”, “Tool”, “Action”, “Symptom”), and the target languages in which a designation for the concept is needed. The concept categories may be used in style guides (e.g., for record titles). In this way, the rule can be defined, for example, that a record title must always begin with a term of the category “Action” and end with a term of the category “Part” (e.g., “Removing cylinder head”).

The areas “Text Modules”, “Parts”, and “Graphics” are links leading to the corresponding functional units (cf. Fig. 1 and 6 as well as section 4). Each data record comprises the scope of information shown in Fig. 4 for each language in which the corresponding concept is needed. If, for example, a user has accessed a data record for the language German and wishes to access the same information for the language English, he or she just has to click the corresponding language field in the top left corner of the mask to jump there.

The fields for administrative data in the top area of the record are filled in automatically by the system using the registration information and system data.

3.4 Feeding the Thesaurus

During the initial feeding of the Thesaurus, as many workshop and customer information concepts as possible have to be entered. For this purpose, the termbases that already exist at DaimlerChrysler will be tapped. Since these existing termbases are all designation-oriented, whereas the Thesaurus needs a concept-oriented structure, data cannot be exported and imported fully automatically. This means that initially feeding the Thesaurus will be a rather time-consuming task, especially since the number

![Fig. 4: Draft of a screen mask with the full range of information categories](image-url)
of concepts needed for workshop information is estimated to amount to about 80,000, the number of concepts needed for customer information, to about 15,000.

On principle, when writing workshop or customer information, authors may only use the preferred terms (in some cases also the shortened terms or abbreviations) in the Thesaurus which, prior to their use, must have been assigned the status “accepted”. This is done by one (or more) terminologist(s). Since it is impossible to make sure that the Thesaurus contains all the concepts needed when it is first used, and since new parts, whose designations have to be added to the Thesaurus, are being developed all the time, the Thesaurus must provide the option for requests for new concepts and their designations. Such requests can be submitted via an online procedure. For this purpose, a screen mask is provided whose range of data categories is identical to the one in the mask shown in Fig. 4. Once such a request for a new concept has been submitted, the terminologist receives a message in a task window. This also applies to requests for the modification of existing data records. Once a request has been submitted to the terminologist, the corresponding data record will be created in the Thesaurus and assigned the status “request submitted”. The preferred designations suggested in such data records can be used temporarily by the authors, i.e., as long as their texts are not passed on for the final terminology check.

Every author who is authorized to submit requests for new concepts or modifications of existing data records, has his or her own task window, too. In this window, he or she is displayed all requests for additions or changes together with their status. The terminologist can display the requested data records by clicking on the corresponding line in his task window, and refuse them (e.g., because the concept exists already, but bears another designation) or accept them – if necessary after correcting it – by assigning it the status “accepted”. If a data record is refused, for example, because the concept exists already, the designation requested is entered as synonym in the existing data record. As soon as the terminologist has checked a requested data record and changed its status, the author who has submitted the request, is informed of the new status and can then have a look at the released version of the data record by clicking the corresponding line in his or her task window. The author can then correct the term he or she has used temporarily in the document, if necessary.

The target language terms have to be added to the Thesaurus data records as early as possible in the documentation production chain in order to have the terminology ready for use in the translation memory system TRANSIT when the documents are passed on for translation.

![Diagram](image_url)

**Fig. 5: Integration of the Thesaurus in the documentation production chain**

Fig. 5 illustrates that the documents produced at the various stages of the documentation process have to conform to the Thesaurus as early as possible. As soon as an author realizes that a concept and its preferred designation are not contained in the Thesaurus, a request for a new term is submitted to the terminologist. This process makes sure that new concepts are entered into the Thesaurus and released at an early stage, so that terminology-related delays in the final stage of documentation production are avoided.

### 4 The documentation production process

Fig. 6 shows schematically how Thesaurus data are used in the documentation process. As can be seen from the diagram, parts texts, graphics, and text modules are not stored in the Thesaurus itself, but in external databases. Each Thesaurus data record, however, is linked to the storage locations of the corresponding parts texts, graphics, and text modules. These links come about as follows: When defining new parts, naming graphics, or writing text modules, the authors have to choose terms from the Thesaurus. These terms together with their concept numbers are then taken over from the Thesaurus into the new parts descriptions, graphics captions, or text modules, so that the concept numbers can be used to establish the links.
By means of a term checker (T-Checker) every document is checked for Thesaurus conformance. Discrepancies must be corrected wherever they occur. When an author is sure that the term he or she wants to use is a preferred term in the Thesaurus, he or she can use it right away. Links can be established later using a link-up checker. This is a program that, for each term contained in the Thesaurus, assigned a certain concept category (cf. section 3), and not yet defined as a link, requests whether it shall be transformed into a link (by providing it with its concept number) or not.

From the Thesaurus, the terminological data are imported into the terminology management system TermStar, which is integrated into the translation memory system TRANSIT used by the DaimlerChrysler translation services. In TermStar, the translators may add information to the data records which may be useful for translation, but are not needed during the documentation process in the source language and are thus not needed in the Thesaurus itself.

As becomes obvious from the description above, not every part with its specific number has been assigned its own data record. Instead, all parts bearing the same designation have been dealt with collectively in one data record. There a two reasons for this, one is related to the documentation process and the other one to the retrieval process. Let me illustrate this with an example: There a currently more than 1,000 parts bearing the designation bracket. Although this number could be reduced by specifying the brackets (e.g., battery bracket, fire extinguisher bracket, etc.), there would still remain numerous brackets which cannot be specified because they keep numerous parts in position whose individual designations cannot all be included in the designation of the specific bracket. Each of these numerous remaining brackets would then still have to be dealt with in its own data record with its own concept number. If, for example, an author then wanted to mention one of these brackets in a repair procedure and define it as a link, he would have to search the Thesaurus for the data records with the preferred designation bracket. This search would result in as many hits as there are brackets and the author would have to look through all these data records to choose the one applicable in his specific case. Alternatively, he could simply use the term bracket in his text without searching in the Thesaurus; in this case, however, he would have to look through all the data records for brackets during the link-up check in order to find out the concept number defining the specific bracket, which is needed as link-up information. This time-consuming and nerve-wracking search cannot be expected from the authors.

Besides, creating a data record for every part that has its own part number would have the disadvantage that dynamic linking of information types would not be possible: for instance, a repair method whose wording were also applicable to another vehicle, could not be re-used for this other vehicle, if this other vehicle needed parts with identical designations but different part numbers, since, without dynamic linking, each designation would be linked to a fixed part number.

A prerequisite for the application of dynamic linking, when one takes into account the validity and product classification, is that the number of hits in which a search results, does not exceed a certain relatively small number. To minimize this number, designation principles have been formulated, which have to be followed when defining preferred terms. For these designation principles refer to Göpferich (2003: 72 ff.).

5 Summary and conclusions

DAiSY is a project in which cutting-edge methods of producing documentation are used. These include XML-based single-source publishing combined with breaking down whole documents into functional units, which, during information retrieval, can be assembled into customized larger information modules (content management instead of document management). This type of information development has an enormous impact on the documentation process itself and the organization within documentation
departments in companies. To supply the authors for the various information types with the concepts and functional units they need, service centers have to be established at the core of the documentation departments. In these service centers, terminologists will be responsible for the release of new data records and the decision-making related to extensions of the Thesaurus. Furthermore, the service centers will employ authors who create new functional units for the intermediate layer (cf. Fig. 1). For these functional units, an online procedure for requests for new units or modifications of existing ones has to be established similar to the one for new terms.

The dynamic linking of information types via a concept-oriented termbase is a completely new approach in the technical documentation business. Up to now, the function of termbases in companies has been to standardize documents terminologically to make them more comprehensible and easier to translate. In many cases, however, these two goals have not been considered sufficient to justify the enormous effort in time and money involved in the establishment of a strictly concept-oriented termbase. Now, however, this effort is justified by the advantage that the DAiSY Thesaurus gives to workshops through its dynamic linking, especially of repair methods and parts documentation.

Acknowledgements

I would like to thank DaimlerChrysler for ‘adopting’ me in their DAiSY project during my sabbatical in the summer of 2002 and for offering me ideal working conditions, including the funding of my participation in national and international conferences related to technical documentation, translation, and internationalization. I feel especially indebted to Udo Fischer. He has not only allowed me to profit from his more than 30 years' experience in the documentation department of DaimlerChrysler, but he has also created an extremely inspiring working atmosphere, which I will never forget. And last, but not least, I would like to thank Bruce Maylath for proof-reading this article. Any remaining errors, however, are entirely my own.

References

1. Introduction

A terminology database is a systematically organised collection of terms for a specific enterprise. Typically, a terminology database is used by a human being to access definitions of terms, or foreign language equivalents of a term if such data existed in the database. These are essentially manual operations. A number of automated operations on a database have been mooted, including machine translation where a computer program upon encountering term in a source language tries to find a foreign language equivalent automatically from its term base. This notion of terminology database is much akin to a lexicical database because the database is used in text retrieval. In text retrieval, a terminology database can be used to find synonym of the term or the term which is narrowly or broadly related to a term in the database which is used in a query by an end user. Recently, particularly in order to deal with the increase in the number of documents which are being made available on the web, there has been a move to think about automatically indexing a document. Automatic indexing means that there is a system which can identify the specialist terms used in a particular document, and use the identified terms as key words to the document from which they were extracted. There are two levels of this extraction: first it is important to identify the subject area of a specialist document. The second area is what kind of content the document have. The use of a terminology database, in describing the domain to which a document belongs, is an involved process and indeed an intelligent task typically performed by human indexers. Second, content characterisation, is also an expert task in the sense that the expert would be able to read a specialist document, something which ordinary people can not read easily, understand it, and be able to pass judgement about the content of the document.

A text categorisation method has been involved in the development of financial prediction system (GIDA1) based on an industry-standard terminology dictionary investorwords.com. The GIDA system analyses financial news wires and correlates the results of the analysis to financial time series. It is important for the system to be able to analyse texts within sub-specialisms. This, in turn, involves identifying the domain to which the text belongs. Our investigated terminology dictionary contains more than 6,000 financial terms across 25 sub-domains; accounting, banking, bonds, brokerage, currency, dividend, earnings, economy, futures, global, insurance, IPOs, law, lending, merger, mutual, option, real estate, retirement, stocks, strategies, tax, technical, trading and venture. This empirically defined ontology of the finance domain is used in the categorisation of texts. The case study is in the financial domain but the principles and strategies used and developed could usefully be applied in other domains.

2. How ‘good’ is a Terminology Database

There are number of different ways of identifying a term in a specialist document. The first way of finding out whether something is a term or not it is simply to match it against a term database if it is available. This appears to be a fairly straightforward task. However, such a match assumes that the terms in a terminology database has extensive coverage of the domain and that term base is updated such that it incorporates newly created terms. A direct match indeed is a computationally fairly efficient affair which we will describe later. Second, given that a specialist discipline, ranging from sports to financial trading and from gene therapy to government administration, is in some state of change because of the development in the discipline, a direct match assumes a great deal about the change. Indeed, a direct match assumes the changes in the domain if any are slow. One characteristic of a specialist text is the way in which terms are used in the text. Specialist texts are generally written to inform the readers about specialised objects and events. Also, perhaps equally important, specialist texts are written to present a point of view, which perhaps is at variance with the point of view held within the specialist community. Linguists should look at how arguments are presented in text and specialist texts in particular. Halliday (1993) and Hoey (1993) have argued that a specialist author attempts to focus the attention of the reader on specific objects and events, and to that end the author uses a restricted set of vocabulary to keep the focus. The restricted vocabulary is repeated and this small vocabulary set tends to dominate the text. This dominance can be used in both domain description and characterisation as we will argue later on. The fact that a specialist term, either single word or compound term, is used frequently has been referred to in the specialist literature as burstiness (see Justeson and Katz 1995) or weirdness (see Ahmad 1995; Ahmad and Roger 2001). Both weirdness and burstiness employ a judgement on the frequency distribution of a term within a text. If the distribution exceeds a certain threshold, then this string of letters is regarded as term, otherwise it is rejected as a term.

The direct match between a query and its match requires the existence of a database. We have already commented that the coverage of the database for a term may not be exhaustive and indeed in some cases it may not be adequate. There are empirical measures as to how many terms are needed to know about a domain in order to understand the bulk of the texts. There are

1 Generic Information-based Decision Assistant (GIDA), http://www.computing.surrey.ac.uk/ai/gida/
various estimates that have been reported in this context (Ahmad and Rogers 2001 for more discussion). We want to understand whether there is a simple measure by which we can validate the coverage and exhaustiveness of a term database. Before we discuss more about burstiness or weirdness which will help us identifying terms of a specialist domain, it would be as well to note another property of special texts. Specialist texts are also dominated and modified by compound terms. A compound term typically contains at least a headword and a modifier. A modifier is typically another noun and adjective. Specialist writers use a large number of compounds to talk about, for example, subtle differences between the properties of a domain object or subtle difference between kinds of events. Here a modifier headword relation comes in very useful; for example, - some people working in the nuclear power industry would not just talk about a nuclear reactor, they will talk about a breeder reactor or a power reactor, a fission reactor or a fusion reactor; reactor specialists are interested in different kinds of reactors. In the process of talking about different kinds of reactors, they are involved in a fine balancing act which requires them to keep the focus i.e. on the term ‘reactor’ and then to help the reader to understand the subtle differences between different kinds of reactors by using various modifiers for the key head noun that is the reactor. Indeed, the specialist texture of a specialist text appears to be due to pervasive use of compound terms.

Therefore, how would the terms be used either as single word terms because they are the focal point or as multi word terms where a small set of single words would be used as a head word and a number of modifiers be used to show such the differences between the object or the event which is denoted by the headword of the compound. Justeson and Katz have observed that noun phrases comprising two words tend to dominate the distribution of specialist texts. They looked at four specialist subject dictionaries: fibre optics, medicine, physics mathematics, and psychology. The authors discuss the “privilege of noun phrase contain only noun and adjective following from generalisation concerning typically structure of technical semantic domain” (1995:13). They discuss the fact that terms are typically used for taxonomic categories are quite regular in structure’ (ibid). Of the four dictionaries, the authors found that the average length of a noun phrase term is 1.91. They found that in the engineering subjects (fibre optics) the length is just are 2 whereas in medicine it could be as low as 1.78. They also observed in a typical distribution of term range a number of two word terms substantially larger than the one word term. This observation does not hold for medicine in which the way of distribution of single word and two-word compound is roughly the same. Medicine, like other scientific subjects which originated in the 19th century and early part 20th century, is by dominated by Greco-Latin terms and some words which were imported into English may be compounds, but they are essentially blended with Greek or Latin. In medicine, for instance, the term malaria refer to mal (bad) + aria (air); this would mean this is a two-word term but it is, as Justeson and Katz refer to it, disguised as a ‘single word term’.(see Table 1)

<table>
<thead>
<tr>
<th>Dictionary (Justeson and Katz)</th>
<th>Term length (in number of words)</th>
<th>Distribution ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Fiber optics</td>
<td>43</td>
<td>109</td>
</tr>
<tr>
<td>Physics &amp; mathematics</td>
<td>41</td>
<td>125</td>
</tr>
<tr>
<td>Psychology</td>
<td>64</td>
<td>120</td>
</tr>
<tr>
<td>Medicine</td>
<td>88</td>
<td>80</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dictionary (our experiment)</th>
<th>Term length (in number of words)</th>
<th>Distribution ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Accounting</td>
<td>28</td>
<td>112</td>
</tr>
<tr>
<td>Computing</td>
<td>29</td>
<td>146</td>
</tr>
<tr>
<td>Linguistic</td>
<td>67</td>
<td>123</td>
</tr>
<tr>
<td>Earth sciences</td>
<td>119</td>
<td>73</td>
</tr>
</tbody>
</table>

We have examined dictionaries of accounting, earth science, computing and linguistics to test observations put forward by Justeson and Katz. Earth sciences are closer to medicine in that both have a biological base and hence Greco-Latin terms dominate; accountancy is largely embedded subject, so an English dictionary for accountancy would refer mainly to terms in English and not focus on borrowings from Greek and Latin. We have chosen computing because it is a technological subject and we wanted to see whether what prevails in fibre optics, to a lesser extent in physics and mathematics as discussed by Justeson and Katz, also prevails in computing. Last but not least, we looked at linguistics as their borrowings from psychology and anthropology here. Accountancy and computing have the same distribution as fibre optics, physics and mathematics, with linguistic close to psychology and medicine. Earth science appear dominated by single words, perhaps this is due to blending used here (paleolithic = paleo + lithic) are the same as medicine. This distribution ratio appears to be a good guide with regards to establishing the validity of a terminology database.
Text categorisation (TC) is an Information Extraction technique. Most available TC researches use statistical approaches such as the work of Joachims (1997), Dumais, Heckerman and Sahami (1998), Shapire and Singer (1998) and Weiss, Apte and Damerau (1999). It is important to note that their approaches do not take advantage of terminology database. On the other hand, our experiments are based on carefully using terminology data for routing the news collection.

3 Using a Self-Organizing Feature Map (SOFM) to categorise text

We created a corpus of 350 English financial texts from 4 online news agencies; Financial Times, CNN, Reuters and Yahoo, all published in July 2003 comprising over 200,000 tokens. The corpus comprises business news in 5 sub-domains: Bond, Currency, IPOs, Merger/Acquisition and Stock. Then, we use these terms in the terminology database to create features for SOFM to classify texts (see section 3.2). A SOFM is a neural network and associated learning algorithm that is designed to produce a statistical approximation of the input space by mapping an input in to a two-dimensional output layer (see Kohonen 1997a). The basic SOFM consists of a single layer of neurons formed into a two-dimensional lattice. The most important use of the SOFM is as a method of semi-automatically identifying the terms belonging to specialist domains. The terms from the special text collection or corpus can be constructed as a dimension in a vector space and the presence or absence of a term within a text is then used to allocate the text to its position within the vector space. The text categorisation has been tested and evaluated by using a Self-Organizing Feature Map (SOFM) or Kohonen map (Kohonen 1997) which can be trained or is trainable to recognise the features of the texts. Text documents are represented as vectors in order to act as the input to a text categorisation system, pre-processing takes the form of filters to remove words, such closed-class words, punctuation and numerical expressions (see the WEBSOM method in Kaski et al 1996). The set of 250 news texts has been chosen for training and 100 news items have been chosen for testing in the vector space. The collection of text was selected from financial news available on the internet. We collected 50 news items for each sub-domain. The feature set was created by first selecting the top most frequent 100 key terms from the most frequently occurring words in each domain. Vectors representing news texts were created on the basis of a lexical profile and terminology properties of the training set of texts. The lexical profile was determined by two measures: the frequency of the term and a weirdness coefficient describing the subject specificity of term.
Figure 2a: A Kohonen self-organising map (SOFM) for categorising 100 texts from a set of 250 categorising 100 texts after 1000 cycles of training. The categories are drawn by hand on the SOFM and fig. 2b A Kohonen self-organising map (SOFM) showing the test data on the two cycles allocated in same the positions.

Here, if the domain in the dictionary and the category from the news collection or testing corpus occupy proximate positions on the 2-D map then we have a close correlation to the standard category, otherwise not. Figure 2a shows the categories of the news items clustered by SOFM. The colour and number of the positions occupied on the map represent different clusters of texts. The number ‘1’ represents a group of ‘bond’ news items, the number ‘2’ represents a group of ‘currency’ news items, the number ‘3’ represents a group of ‘Merger/Acquisition’ items, the number ‘4’ represents a group of ‘IPOs’ news items and, lastly, the number ‘5’ represents a group of ‘Stocks’ news. The collection was automatically generated for news items in a category. Moreover, the categories of news items, which were derived automatically, had been tested by the another set of news (100 testing news items); the results are shown in figure 2b. Figure (2b) has been generated in other forms as shown in figure 3 below.

![Figure 3](image)

Figure 3: The occupied positions of the Training and Testing vectors in the vector space

The occupied positions in the vector space are shown in figure 3. This is to test the accuracy of the SOFM. The accuracy of the SOFM for generating text categories is measured against the position of Training vector and Testing vector. If both vectors are in the same position or overlap, it means they represent the same category. Otherwise, the SOFM fails to categorise the testing document. In our case, the accuracy is measured by testing the centroid in each group of training vectors. 51% accuracy proves that the terms contained in the terminology database can help to create the input of neural networks.

4. Afterword

A method of text categorisation by using knowledge from terminology to construct feature vectors has been described. We have shown the method to select terms from a terminology database and how these terms can be used for predict categories for text items. Our experiment was tested with a sample Reuters news items by voting majority of represent terms in each text item. Moreover, the terms in the database were extracted and used for constructing features vectors for text representation and classify texts by using Neural Networks. We have used the SOFM to evaluate our feature construction method. The 2-D maps, generated by SOFM were proved encouraging results. However, the result we obtained from this state are relied on vector construction by using only terms from the database, we intend to take this point further and try to expand the term queries through the term definitions, which were normally used to explain concept of that terms in the database. Lastly, associated terms are linked in the terminology database would be allowed to search as term queries in a flexible way.

REFERENCES


4.2.13 Mall Laur

The comparison of English, German, French, Finnish and Estonian financial terminology on the basis of EU legal acts

Mall Laur
Estonian Legal Language Centre

1. Introduction

The development of the terminology of a specific subject area is twofold. It can be partly shaped by experts and linguists and at the same time it develops on its own as a part of natural, human language. The latter process prevails if a subject area undergoes a rapid growth. New terms are coined by people who work in this area and need to describe new objects and processes. Such words are often colourful and vivid. The code language of specialists is called jargon. For an outsider it is like “a secret language” of the selected few. Such language is a marker of social identity and therefore the knowledge of occupationally related vocabulary is relevant to the members of a group (Joseph 2003).

However, one day “the secret” has to be disclosed to a wider circle, to the public, and it has to be done in a transparent way: the operation of a tool has to be explained in a manual; an investment possibility should be described in an advertising brochure of a credit institution; a lecturer needs to talk about a discovery; a legislation act has to be amended so that it covers new circumstances arising as a result of an invention. Documents have to be translated from one language to another. What happens to the ‘coloured’ terms in the course of this process? Do they lose their figurative aspect?

It is obvious that the specific relationship between the source text and its translation depends on the subject matter. The goal of equivalent effect is particularly relevant for legal texts. As Munday has mentioned, a legal translated text “must stand for the same idea in each language and produce the same response” (Munday 2001:52). At the same time there is a tendency to translate literally source language metaphor in the target language, “provided the physical experience to which the metaphor relates is not too culture specific…” (Scarpa 2002). Does this also happen to financial terminology in legal acts? We will try to find an answer to that by examining financial terminology in EU legislation acts in English, German, French and Finnish with reference also to Estonian translations.

2. Hypotheses

The legislation creation process is complicated in the EU. Usually there is no source language for a document: the draft can be compiled in one of the three working languages, English, French or German and the discussion of it may take place in another language whereas the representatives of all Member States can add their proposals in their own language. Finally, the act will be translated into all official languages of the EU and only after it has been published in the Official Journal, will the document be legally binding and authentic. From that moment on there is no question of a source or a target language. The authenticity of the text of the EU base documents – treaties, protocols, conventions – is specifically confirmed at the end of an act, e.g., “This Treaty, drawn up in a single original in the Danish, Dutch, English, Finnish, French, German, Greek, Irish, Italian, Portuguese, Spanish and Swedish languages, the texts in each of these languages being equally authentic …” (The Treaty of Nice 2001).

On the other hand, it has to be admitted that some subject areas develop in some countries faster than in others. It also leaves a mark on the terminology in the corresponding language: it is colourful, full of metaphors and other figures of speech as its development has been rather natural. A casual look at the history of banking reveals that the English speaking world has been quite influential in this field. Thus we can assume that at least as far as financial terminology is concerned, English can be considered the source language for German, French, Finnish and Estonian when the EU legal acts are being prepared for publishing. It is also known that trading with bonds and securities, particularly international trade, is a relatively recent phenomenon as compared to traditional banking (bank as a monetary institution of a depositor and loan supplier) and since the 1960s, London has occupied the central position in bond issues (Wood 1995:13). Therefore English stock exchange terms, facing a rapid development of the field, are presumably more coloured than banking terms and it would be rather interesting to detect what happens to the coloured terms in other languages.

To conclude, the hypotheses for the research are as follows:

1) English is the source language for the financial terminology in the EU acts in German, French, Finnish and Estonian;
2) English stock exchange terms are more coloured than banking terms;
3) the coloured aspect of English financial terms disappears in the translation process.

3. Source material and procedure

The source material for the study was taken from the database ESTERM. This database has been created in the Estonian Legal Language Centre as an aid for the translation of the EU legislation into Estonian and Estonian legal acts into English. It was started in 1995 and since then it has been permanently supplemented with new entries. At present it contains 46,652 confirmed English-Estonian entries. (Access to the database can be found on the homepage of the Estonian Legal Language Centre www.legaltext.ee; click on the icon ESTERM.)
A filter was set on the field of subject and all terms with the code denoting stock exchange and capital market were extracted. As a result, 835 terms were identified. Then all the terms that had been created for Estonian legal acts (each entry has a reference on the source, either English or Estonian) were deleted, as the aim was to study the vocabulary of the EU legal acts. Next, all entries that were primarily accounting or general economics terms and were only indirectly connected with the stock exchange were also deleted. As banking and the stock exchange are tightly connected subject areas, it appeared that at least half of the selected terms had been given two codes – one denoting banking and the other denoting stock exchange. The terms belonging to the field of banking were extracted from the purely stock exchange terms. The remaining samples included a number of terms with the same main word: currency future, gold future, interest rate future; commodity derivative, commodity option, diversified commodity portfolio, etc. Only one term was retained from such nests.

Now the two samples of terms, the banking sample and the stock exchange sample, consisted of 84 and 82 items respectively. All selected terms were supplied with German, French and Finnish equivalents from the same documents in respective languages. These two samples form the basis for testing our hypotheses.

4. Results

4.1. Comparison of ‘coloured’ terms by languages

The terms were examined for the presence or absence of a ‘coloured aspect’. A term was considered coloured if it included any figure of speech (metaphor, metonymy, personification), e.g. volatile instrument, arm’s length buyer, long position, short position, floating price, maturity; back-office; back-to-back loan, invisible transaction, legal tender (the last term has nothing to do with tendering), risk spreading; exposure etc. Figures of speech were searched in single-word terms and in the components of multiword terms.

![Figure 1. Percentage of coloured terms by language in the sample of banking terms](image)

<table>
<thead>
<tr>
<th></th>
<th>English</th>
<th>German</th>
<th>French</th>
<th>Finnish</th>
<th>Estonian</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coloured</td>
<td>28</td>
<td>13</td>
<td>17</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Neutral</td>
<td>56</td>
<td>71</td>
<td>67</td>
<td>75</td>
<td>80</td>
</tr>
<tr>
<td>Total</td>
<td>84</td>
<td>84</td>
<td>84</td>
<td>84</td>
<td>84</td>
</tr>
</tbody>
</table>

Table 1. Number of ‘coloured’ banking terms in English, German, French, Finnish and Estonian
As we can see from Figures 1 and 2 and from Tables 1 and 2, there are more so-called coloured terms in English than in any other language under examination – 28 (33%) banking terms and 40 (49%) stock exchange terms. Thus the assumption that the English terms of these fields are different seems to be true. Besides, according to these data, there are more coloured terms in the stock exchange sample than in banking.

It is notable that in other languages the percentage of coloured stock exchange terms is even smaller than that of coloured banking terms. The difference is significant in the German sample – there are 13 (15%) coloured banking terms compared to 8 (10%) stock exchange terms. It is rather unexpected that the French language ranks second after English by the number of coloured terms in either sample – there are 17 (20%) banking terms and 14 (17%) stock exchange terms. Estonian and Finnish have the lowest percentages in both samples: there are 9 (11%) banking terms and 6 (7%) stock exchange terms in the Finnish sample and there are 4 (6%) banking and 5 (7%) stock exchange terms in the Estonian sample.

4.2. ‘Quotations’ and borrowings

Some German, French, Finnish and Estonian terms had been fully or partly transferred from English. This is the first stage of borrowing – the word from a source language has not been assimilated into the target language yet. It is sometimes called a quotation. The term is referred to as a full quotation if it occurred fully in English in the middle of the text in another language:

 да́й die Kommission zusammen mit den Mitgliedstaaten die aufsichtsrechtliche Behandlung von ABS (asset backed securities) prüft … (Richtlinie 98/32/EG). The term is referred to as part quotation if a part of it occurred in English: interest-rate swap – Zinsswap.

The general number of full and part quotations was rather low; it did not reach higher than 10 cases per language in either sample. There were slightly more quotations among stock exchange terms. The comparison by languages placed the German language on top with the largest number of English quotations in both samples (7 banking terms, 10 stock exchange terms). The number of quotations was smallest in Estonian (1 banking and 1 stock exchange term).

Table 3. Distribution of ‘quotations’ by languages

<table>
<thead>
<tr>
<th></th>
<th>German</th>
<th>French</th>
<th>Finnish</th>
<th>Estonian</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Banking terms</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fully borrowed</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Partly borrowed</td>
<td>5</td>
<td>6%</td>
<td>1%</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>7</td>
<td>8%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Stock exchange terms</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fully borrowed</td>
<td>5</td>
<td>6%</td>
<td>1%</td>
<td>0</td>
</tr>
<tr>
<td>Partly borrowed</td>
<td>5</td>
<td>6%</td>
<td>4%</td>
<td>5%</td>
</tr>
</tbody>
</table>
A further analysis of banking terms showed that if an English term was quoted in one language, it was either fully or partly quoted also in other languages: unit trust retained the English form in German, French and Finnish, in Estonian the English term was added in brackets. Part of the term back-to-back loan was added either in brackets, e.g. in Finnish: luotonvälityksen (“back-to-back”)-laina; and in French: prêt face à face (back-to-back); in German it was directly linked to the German word: Back-to-Back-Darlehen. Part of the term carry rate was added to a German word: ‘carry’-Satz; the same term was a full quotation in French.

The quotations of English stock exchange terms revealed a similar tendency, e.g. the terms with the component swap formed a full or a part quotation in at least two languages under examination: basis swaps – in Finnish: viitekoron vaihtosopimukset (“basis swaps”); in German: “Basis Swaps”; foreign exchange swap - in Finnish: termiineihin rinnastettavissa oleva valuuttaswap; in German: Devisenswap; in French: swap de change.

The term option had the same root in all four languages: in Finnish optio, in German Option, in French option, in Estonian optsioon. These terms have entered the next stage of borrowing, being assimilated into the target language. The term future has also been adapted into Finnish and Estonian, the basis of it being the written form of the English term: future – in Finnish futuri; in Estonian futuur; gold future – in Finnish kullafutuur; in Estonian kallafutuur.

Meanwhile it is remarkable that not a single term was found in the English sample that would have had any features of a quotation or a loan word. Thus English must have been the source language of banking and stock-exchange terminology for German, French, Finnish and Estonian, in so far as EU legislation is concerned.

4.3. ‘Coloured’ terms

Next we will examine what happened to the coloured English terms in other languages. Three main approaches were found.

First, the coloured component was directly conveyed into the target language, preferably with the same root: volatility became volatilitieetti in Finnish, Volatilitäts in German, volatilité in French and volatiilus in Estonian; volatile interest rate turned into volatilinen intressimäärä in Estonian.

Secondly, the coloured component was given a word-for-word translation: closed-end fund was in German geschlossene Investitionsgesellschaft, in Finnish suljettu sijoitusrahasto, in French société d’investissement fermée, in Estonian aksiaseltsina asutatud fond or kimine fond. Some more similar examples: invisible transaction, in Finnish nälkymätön toimi, in German unsichtbare Transaktionen, in French transaction invisible, in Estonian nähmatatu tehing; bonus unit in Finnish palkkio-osaus, in German Gratis-Anteilen (NB Here we find a quotation from French not English), in French parts gratuities.

Thirdly, the meaning of the term was translated thereby creating a new term based on the concept. Equivalents of the terms short position and long position are good examples of this: long position, in Finnish saamisasema, in German Kaufposition; short position, in Finnish velka-asema, in German Verkaufposition (compare the corresponding French and Estonian terms which were direct translations: position longue, pikk positsioon; position courte, lühike positsioon). The drawback of such an approach was the fact that the equivalent was often not a one or two word phrase or a compound word but a long explanation; this was characteristic of the Finnish sample.

The fact that there is a rapid development going on can be seen from the instability of the stock exchange terminology, also in languages other than English. For example, the English component (maturity, swap) was on one occasion adapted in Finnish by forming a word with the same root, on another occasion the concept was translated: maturity bond – maturiteetiluokkat, fixed-maturity claim – määräaikaisten saatavat; foreign exchange swap – termiineihin rinnastettavissa oleva valuuttaswap, principal on currency swaps - valuuttamuutostappien pääoma.

If we compare the results of these three approaches, then it is obvious that if the goal is to create a term that would be best understood, the third approach, a conceptual translation, would be ideal. The coloured aspect is best retained in the second approach yet a direct translation does not make the term more comprehensible. However, a translator is mostly in the position of a mediator between an expert and a wider public: s/he cannot ignore the term recommended by an expert.

5. Conclusion

The assumption that English is the source language for the financial terminology in the EU acts in German, French, Finnish and Estonian was demonstrated by borrowings, either direct quotations or adapted loans. The large number of coloured terms in the English sample demonstrated the fact that the terms are created naturally involving jargon elements of the speech of experts. The number of coloured terms was higher in the English sample of stock exchange terms than expected.

There were fewer coloured terms in other languages; the French language occupied the second place in this respect. The coloured component of a term was handled in three ways: the root of the word was taken over; the component was directly translated; the concept of the whole term was conveyed either by means of a phrase or a compound word or a longer explanation. The coloured aspect was retained only when word-for-word translation was used. As this was not the most frequent approach, we can say that usually the figurative element disappears in the translation process. Yet it has to be mentioned that the choice of the method to be used is in the hands of an expert.

Finally it should be mentioned that within a longer period of time, the coloured aspect disappears also in the original language. The more frequently a single word or a word combination is used as a term, the less metaphoric and colourful it becomes for a general user.

References


4.2.14 Niina Nissilä

A Sociolinguistic view of terminological differences in Finland-Swedish and Sweden-Swedish balance sheets

Niina Nissilä
University of Vaasa, Dept. of Scandinavian Languages

1. Introduction

The aim of my study (doctoral thesis) is to examine the dependence relations between language use and societal reality in balance sheets in Sweden-Swedish and Finland-Swedish material. I am also interested in studying the reasons behind the variation in language in balance sheets.

The methodological starting point of my comparison is terminological concept analysis. I have earlier studied how the two balance sheet systems, the Sweden-Swedish one and the Finnish one are described in the respective country’s legislation, special textbooks and other sources, and then compared the two systems to each other (see, for example, Nissilä 2001 and 2003). I will also study the balance sheets in my material as text with relations to the surroundings they have been produced in. Therefore I aim in this paper to give a sociolinguistic point of view to my results by presenting the results of a questionnaire. In my questionnaire I asked Finnish and Swedish companies about the factors that influence how the Swedish terms are chosen for the balance sheets. My aim is to find out what role the context has in choosing Swedish terms for balance sheets.

The material of my study consists of two parts. Firstly, there are 16 balance sheets in Swedish, of which eight are from Sweden and eight from Finland. Eight of the balance sheets were published in 1997 and eight in 1999. Secondly, the data used for this paper are answers to a questionnaire completed in 2003 about choosing Swedish terms for annual reports. The questionnaire included both multiple choice questions and open questions. I sent the questionnaire to eight large companies, four in Sweden and four in Finland, and received answers from five companies (see Figure 1).

According to GICS (Global Industry Classification Standard) there are three industry sectors represented in my material: energy, material industry and information technology.

<table>
<thead>
<tr>
<th>ENERGY</th>
<th>MATERIAL INDUSTRY</th>
<th>IT</th>
</tr>
</thead>
<tbody>
<tr>
<td>FORTUM (Fin)</td>
<td>SCA (Swe) STORAENSO (Fin) UPM-KYMMENE (Fin)</td>
<td>ERICSSON (Swe)</td>
</tr>
</tbody>
</table>

Figure 1. Companies answering the questionnaire.

Balance sheets are an interesting study object as they can be studied from so many different points of view. A starting point in my study has been to analyze the balance sheet as a terminological concept system. Therefore, a balance sheet is a kind of text whose characteristics can at least on the macrolevel, be defined with the same terms that are used for defining a text and its properties (see for example Hellspøng & Ledin 1997). Also, balance sheets are a part of the sublanguage of annual accounts, with a very schematized structure, syntax and vocabulary (see Nordman 1994).

2. Background

According to Britt-Louise Gunnarsson (1987) an LSP text stands in relation to its social context within three frames. This can therefore also be used as a model in discussing the reasons for conceptual and terminological differences between balance sheets.

Firstly, there is the superior social frame, society at large (samhälle) (in my material Sweden or Finland). This frame contains the societal factors that affect language use in the balance sheets. In my material the social frame consists of the acts and laws concerning financial accounting and the language conditions in both countries. Furthermore, the social frame concerns cultural factors, both regarding accounting and regarding the internal cultures in companies and partly also the international influences (International Accounting Standard) (see Figure 2).

Secondly, the frame affecting the situation in which the text is produced, is the one that is common to the specialist area (fackområde). My material includes two types of specialist areas: accounting and the branches of industry that the companies represent (see Figure 2).

Thirdly, there is the context the text is written in. In my study, the context covers the way in which the text is produced in the company (see Figure 2).

410
3. The social and specialist area frames

3.1. Swedish in Sweden and in Finland
Swedish is used as an official language in administration both in Sweden and in Finland, in Sweden as the only official language, and in Finland as one of two official languages. The societies in Sweden and Finland are quite similar and standard written Swedish is common to both countries, but still both varieties of the Swedish language are characterized by some features that are dependent on the country.

The term pluricentric describes according to Clyne (1992a: 1) “languages with several interacting centres, each providing a national variety with at least some of its own (codified) norms”. The language norms are an important factor that affects the development and use of a language. Norms are often the factor that causes pluricentrism. It is often the big countries who develop their own norms (Clyne 1992b). Swedish language planners have worked for a long time in order to keep standard Swedish as homogeneous as possible in Sweden and in Finland. An important argument for this is—according to experts (see, for example, Reuter 1992)—that cooperation means Swedish has been able to retain its position in Finland and Finland-Swedish in Scandinavia. Regarding symmetry between the two centres of the Swedish language (Sweden and Finland), Sweden is, however, dominant mainly because of the large number of speakers and the majority position in Sweden.

3.2. Accounting in Sweden and in Finland
There are both differences and similarities between the accounting systems in Sweden and Finland. The differences between the systems lead to differences in annual reports of the different companies. The balance sheet is according to law a part of the annual report. It is a part of the annual account and its main purpose is both in Sweden and in Finland to show the company’s financial position at the end of the financial period. The financial position is defined primarily through information about where the company’s funds are (capital use) and where the company has got the funding (capital obtaining). (Wallentin & Estevall 1997, Taloustiedon taloussanasto 1995).

The accounting acts give both in Sweden and in Finland detailed formats on how a balance sheet should be drawn up. (Thomasson et al. 1997b, Bokföringslag och -förordning 1995, Bokföringslag och –förordning 1998) Additionally, both laws point out that another (more detailed) presenting format can be used if necessary for understanding and reflecting the actual situation of the company (ibid.).

4. The specialist area and contextual frames: results of a questionnaire
In the following, I will concentrate on frames of the specialist and the context of balance sheet producing (the internal circumstances), by presenting the results of my questionnaire. I asked the companies the following questions:

a) who chooses the terms for the annual accounts and formulates the language in your company?
b) what is the source language of the annual accounts and which languages is it translated into?
c) what are the factors affecting your choice of terms?
d) what are the primary and secondary target groups for the Swedish version of the annual report?
e) are there any problems in choosing the terms and should the process be developed in some way in your opinion?

Details regarding the questionnaire have been outlined in Section 1.

The titles and position of the informants in my questionnaire vary: assistant, translator, corporate financial controller, team leader of the balance sheet team, and manager of consolidated accounts. Three of the informants have a university degree in economics, one in languages and one is a trained secretary. Apart from one, all the informants have several years of experience both from their present positions and from related tasks.

The division where the Swedish terms are chosen for the balance sheets is, according to my informants, finance or corporate control/analysis/accounting. The persons making the decision have in all companies a position as corporate controllers or managers. According to the translator who answered my questionnaire, she can, however, give advice and recommendations concerning term choices.

The source language of the companies’ annual reports is, surprisingly, English in three cases of five (see Figure 3). This means that in my material one of the two Sweden-Swedish reports is translated into Swedish from English and two of the three Finnish reports are translated into both Finnish and Swedish from English.

<table>
<thead>
<tr>
<th>Company</th>
<th>Source language</th>
<th>Translation(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERICSSON (Swe)</td>
<td>English</td>
<td>Swedish</td>
</tr>
<tr>
<td>SCA (Swe)</td>
<td>Swedish</td>
<td>English</td>
</tr>
<tr>
<td>FORTUM (Fin)</td>
<td>English</td>
<td>Finnish, Swedish</td>
</tr>
<tr>
<td>STORA ENSO (Fin)</td>
<td>English</td>
<td>Finnish, Swedish, German</td>
</tr>
<tr>
<td>UPM-KYMMENE (Fin)</td>
<td>Finnish</td>
<td>Swedish, English</td>
</tr>
</tbody>
</table>

Figure 3. The source language and the target languages in my materials.

The Swedish version of the annual report is in the two Sweden-Swedish companies primarily intended for readers in their own country and in second hand for the readers in Scandinavia. It is interesting that the Finnish companies’ target group is also in the first place readers in Sweden, and Finland-Swedish readers come second or even third after the Scandinavian readers in their lists.

The factors affecting term choices are in all companies according to the informants the accounting act in Sweden respectively in Finland, IAS (International Accounting Standard) and the matters concerning the companies’ branch of industry. Furthermore, the Swedish companies refer to recommendations that Redovisningsrådet, the national standardizing organization of financial accounting in Sweden, gives on different questions. The EU directives are not seen as an important affecting factor. This may depend on the fact that both the accounting acts in Sweden and in Finland are originally established in harmony with EU directives (Leppiniemi et al. 1998, Nilsson 2002). One of the informants admits that they also follow the term choices in other companies’ financial statements.

Most of the people working with financial reporting found choosing Swedish terms unproblematic, which in my opinion is surprising. One of the Finnish informants explains this by mentioning that the financial director has Swedish as his mother tongue, and therefore knows the terminology. The only person who comments on the process is the translator. She is concerned about the readability and understandability of the text, and she hopes that the product is easily accessible. She sees it as a problem that the financial reports are both written and translated in a hurry. None of the informants suggested how to develop the term-selection process in any way.

5. Discussion

A balance sheet is a text whose forms and contents are regulated by laws within the frame of society. The norms of the specialist area are defined by financial accounting as a discipline. These two frames are partly similar to each other, partly different from each other in Sweden and in Finland. At the same time, a company’s annual report is written under the language circumstances in Sweden or in Finland, but also under the language circumstances that belong to the company as an organization. The differences between the Swedish and Finnish systems can, thanks to both historical factors and lively business contacts, be resolved, unlike in many other language pairs. It is still a fact, however, that the different laws and different norm giving organizations in Sweden and in Finland cause differences in terminologies in balance sheets.

Still, it is individuals who have the expertise and make the decisions within a frame of context. In this paper, it has been my goal to find out something both about the companies’ policy in choosing Swedish terms for balance sheets and about the persons who define the policy.
The results of my study show that the Swedish terms are chosen for the balance sheets by experts with long working experience, high education and a leading position in the organization. They do not see finding proper terms as a problem, although there are several normative sources and other factors they take into consideration in drawing up the annual accounts.

An interesting fact is that the Swedish version of the large companies’ annual reports can be translations from English. In the Swedish and Finnish companies that have chosen English as the company language the use of English is often limited to certain written documents and to situations where there is present a person who do not speak Swedish or Finnish (Haglund 2002). This means that a translation into Swedish in a Swedish company can more or less be a translation from a “Swenglish” text.

From a pluricentric point of view it is typical of a writer from a dominant centre that the Swedish version is intended for readers in Sweden in the first place. The Sweden-Swedish writers do not mention the Finland-Swedish readers at all as a target group. Also the Finnish companies see the Sweden-Swedish readers often as more important than the Finland-Swedish ones.

The results of my questionnaire show that there are no remarkable differences in the large companies’ term-choosing processes in my Swedish and in my Finnish material. The persons making the decision have the same kind of education, working experience and position in their organizations. They are mostly following the same normative sources in decision making and have even the same target groups when choosing the terms. As a result of these facts I suggest that, in my material, it is the companies’ tradition in the first place (“we have always used these terms”) that mostly affect the term choices, not individual preferences in the producing context. The official sources in Sweden and in Finland together with branch-related factors and new terms are considered when changes occur in them. Therefore I suggest that the frame of the society and the frame of the specialist area are more important than the frame of context in choosing Swedish terms for balance sheets in my material.

An interesting continuation to this questionnaire study would be to send the same questions to a larger group of companies. Then, it would be possible to draw some more reliable conclusions concerning tendencies in the term selection process.

References
5 Challenges in LSP Translation

The layperson’s view of translation is often that of a word substitution exercise in which specialist dictionaries can fill the gaps in the translator’s inadequate vocabulary. The translation of bellettristic texts may, however, be judged more generously as a cultural intellectual challenge in contrast to ‘commercial’ [sic] translation. Reasons for such judgements may include the more ephemeral nature of the subject matter in what the Translation Studies literature has called ‘pragmatic’ texts (Gebrauchstexte) and the assumption of easier equivalences lacking in cultural nuance. The papers in this chapter all deal with an aspect of specialist translation, and leave the reader in no doubt of some of the complex issues surrounding the translation of specialist texts, changing professional profiles and translation curricula in our information age. Today’s specialist translators are continuing in a tradition stretching back millennia in which translators have played a key role in the transfer of knowledge between languages and cultures.

In her challenging lead article, Kirsten Malmkjær tackles head on the issue of equivalence in ‘specialised’ and literary texts, posing the question whether there are two types of concept-term (or meaning-form) relation according to established but potentially contradictory views. On the one hand, invariant meanings are said to facilitate the equivalence of different forms across languages as in technical translation. On the other hand, in literary translation form and meaning are intimately linked, implying the impossibility of translation. By closely analysing the use of two adjectives in a short tale by Hans Christian Andersen, Malmkjær demonstrates that it can be important to preserve observed lexical patterns of distribution in a literary text so that consistency becomes as important as in technical translation. Ultimately, however, it becomes clear that concepts evolve, whether in a discipline over time or within a particular literary text, and it is this very ‘impermanence’ which makes translation possible, according to Malmkjær.

The issue of metaphor in translation, or more specifically ‘grammatical metaphor’, is addressed by Mall Ståhllmar in her paper on four different language versions of the Treaty on European Union: English; French, German and Swedish. Grammatical metaphor is understood as a personification of inanimate nouns as in: ‘This paper reports…’. English and French are found to exhibit the closest parallels, with Swedish tending to follow similar patterns but German mostly choosing [sic] alternative structures such as passives. Interestingly, as Ståhllmar points out, personifications are not universally considered acceptable—even in English—by some experienced scientific and technical writers; ESP teachers may also welcome guidance on the semantic restrictions on grammatical metaphors such as acceptable noun-verb collocations. More data are needed, Ståhllmar notes, for such restrictions to be adequately described.

The chapter continues with two articles on ‘training’ (although it is acknowledged that the term underestimates and underestimates the task). Marco Fiola argues that ‘specialized translators are first and foremost translators’ rather than subject experts. His study of Canadian BA translation curricula reveals that more time is devoted to so-called ‘professional subjects’ such as law, economics, medicine and pharmacology than to technical subjects such as engineering and computer science, based on the assumption that the former subjects require a longer period of familiarisation. He argues strongly that the particular specialisations offered should not be market led, but should rather aim to prepare the translator to adapt to future changes in demand. An indication of the development of ‘areas of work’ beyond the traditional activities of translation is given in Felix Mayer and Susanne Mühlaus’ contribution, with the expanding profession viewed from a European—more specifically German—perspective. These include localisation, multilingual technical writing and cultural management, terminology and lexicography, and language consulting. The authors point out links with the traditional professional profile and propose, in contrast to Fiola, a response to changing market needs but linked more closely to the changing professional profile than to specific translation subjects.

The theme of the expanding professional sphere of translators is taken up again by Anastasia Parianou and Panayotis Kelandrias, who analyse the translation of instructions for use for a range of domestic appliances. They point to the difficulties of dealing with inconsistencies in the use of terms in the source text and of the problems posed by finding translation solutions in target languages where there is no tradition—or no recent tradition—in the relevant domain. The issue of lexical ‘gaps’ in the target language is also explored by Anne Kari Bjørge in connection with Norwegian technical terms which have either no English dictionary equivalent or multiple possibilities without adequate contextualisation. Her main question is: how do student translators deal with such terms? Her proposed answer, based on a corpus of examination papers, suggests that the strategies employed in the translation of sociocultural texts are also appropriate here, thereby indicating that translational competence applies equally to technical subject fields where expectations of direct equivalence may be higher. Bjørge demonstrates the false optimism of this assumption. Whereas Bjørge looks at the strategies used by student translators under examination conditions without access to the World Wide Web, Marella Magris and Lorenza Rega compare the use of specialist dictionaries with the WWW as a lexical resource. They conclude that of the 51 translators who completed their questionnaire, only one never uses specialised dictionaries, most use them very often and a minority only rarely. Some respondents use specialised dictionaries more frequently than on-line resources, but more use them as or less frequently. In her contribution on the translation of industrial property documents in three contexts—Spanish, British and European—María del Carmen Acuyo-Verdejo acknowledges the importance of specialist terminology, but chooses to focus on the textual rather than the lexical level. In analysing the macrostructure of three legal documents belonging to a particular genre, she emphasises the importance of awareness of such information to successful specialist translation.
The specialist translator as translator or subject specialist is an issue which is addressed in relation to scientific-technical translation in contributions by Vassilis Korkas and Pantelis Pavlides from the perspective of teaching, learning and assessment methods in the specialist translation curriculum, and by Catherine Histon concerning the relationship between the science author and the translator. Korkas and Pavlides make some interesting points about what they call the ‘cognitive self-image’ of humanities-based student translators in relation to science and technology, as well as about more concrete matters such as possible syllabuses. Histon’s perspective offers insights from the ‘inside’ i.e. as a trained and active scientist who practises specialist translation, as well as teaching ESP. She makes a case for the ‘scientist-translator’, in contrast to other articles in this chapter which claim that the entire spectrum of expertise is not necessary in order to produce quality translations. Larissa Alexeeva also goes straight to the heart of the problem by asking: ‘Is it possible for a translator, who is non-specialist, to create an adequate scientific text?’ Her answer, drawing on a number of semiotic and discourse theories, is a qualified yes, based on her observation of three methods employed by specialist translators, namely: an associative linking with previous knowledge; the use of so-called ‘basic words’; and ‘explicatives’, or the interpretation of these links. The development of translation competence in student translators is examined by Giuseppe Palumbo and Khurshid Ahmad, who base their study on translations of two science articles from English into Italian by students at different stages of their training. While claiming to show that a distinction between domain and non-domain errors is feasible to draw, they also propose that the quality of the writing in the chosen source text, particularly with respect to lexical cohesion, also affects the error rate.

Against the background of two specialised degree programmes with differing emphases (specialist translation and international marketing) at the Aarhus School of Business, Martin Nielsen describes how the appellative genre ‘restaurant menu’ can be used to teach both analytical and productive skills for LSP texts in general. He concludes by arguing that this particular genre permits a wide range of translation approaches from documentary to instrumental according to the purpose (skopos) of the translation commission, thereby opening up pedagogical opportunities for specialist translation and translation theory in the LSP classroom. Maintaining the didactic theme, Ioannis Saridakis and Georgia Kostopoulou outline the introduction of a corpus-based approach to the teaching of specialist translation in Greece. Their objective is to help students establish a pragmatic and semantic framework for later translation decisions by comparing at a discourse level in the first instance parallel corpora in the source and target languages which they themselves have compiled according to specified design criteria. They illustrate how such as analysis can aid decision-making at the lexical level.

The final paper in this chapter questions whether, under certain conditions, translations are even necessary in certain technical subject fields such as Information Technology and in ‘small languages’ where translation costs may be disproportionate to the accrued benefits. Christina Vertan suggests that cognate relations between languages may facilitate the understanding of foreign-language texts for readers with some domain expertise, particularly if dictionary support is available.

This chapter therefore presents a range of views about the possibility, practicability, methodology, teachability and necessity of specialist translation, raising issues related to the role of the dictionary, specialist knowledge and translation strategies.
5.1 Lead Article:

5.1.1 Kirsten Malmkjær

Language and special translational purposes

Kirsten Malmkjær, Middlesex University Translation Institute and Centre for Research in Translation

1. Introduction

This article addresses three issues: (1) The relationship between literary translation and special purpose translation; (2) the nature of specialised terms; and (3) the nature of meaning. I use, in section 5, a case study presented elsewhere (Malmkjær 2003), though in a different context to a different end, and I draw in section 7 on a discussion of equivalence which forms part of Malmkjær (2002).

2. Special purpose translation

Special purpose translation is usually thought to include, centrally, the translation of text types such as legal, medical, technical, scientific, public service, and possibly political texts just as LSP usually deals with texts written for use within reasonably clearly defined interest spheres or discourse communities (Swales 1990). Literary translation might logically be thought of as a special type of translation, but, perhaps because it is difficult to say what the purpose of literature is, it is rare to see literary translation classified as special purpose translation.

I would like, nevertheless, to draw out some similarities between literary and special purpose translation, without, I hope, losing sight of the differences between them, and in the hope that the comparison will highlight features that might help conceptualisation within both sub-disciplines.

3. Literary translation, special purpose translation and specialisation

Both literary translation and special purpose translation may be informed by genre studies. In the case of literary translation studies, the genres studied tend, naturally enough, to be literary and the approach taken to them tends to be informed by literary theory. Special purpose translation studies, on the other hand, tend to look to the type of genre analysis exemplified by Swales (1990).

Both types of genre study offer the possibility of infinite genre refinement, as we might call it, through increasingly detailed definitions of the genres under attention. For example, we could identify within the genre, business communication, the subgenre, business letters; and within that, the subgenre, letters written from within company A; and within that, the subgenre, letters written within company A by employer B; and within that, the subgenre, letters written within company A by employer B to employer C; and so on. In literary stylistics, this kind of finely defined genre is very often the subject of individuals’ studies. For example, there are a number of editions and studies of the letters of Dorothy Osborne to Sir William Temple (e.g. Hart 1968; Parker 1987; Parry 1914). Obviously, this feature of genre studies mirrors individuals’ tendency to specialise, and this tendency is also to be found in translation studies. Translators’ specialised areas can become very specialised indeed as they grow in their profession. For example, someone who set out translating or interpreting political discourse in general can end up as a personal translator, interpreter and speech writer for one politician; or someone who set out translating horticulture in general can end up specialising in one particular plant; or someone who set out translating for the auto-motor industry can end up translating only for, for example, Ford.

There are two main reasons for this. One arises from a clear overlap between LSP and special purpose translation: an area of specialisation has its own highly detailed and often vast discourse consisting of sets of terms and phrases and text structures which only someone very familiar with the area will have a sure and steady grasp of. Since a translator need this grasp for both languages, it often makes sense to specialise.

The other reason is linked to globalisation and increased competition in the market place, which combine to make speed of the essence in the translation profession (Eckersley 2003). For example, each time Ford or some other car manufacturer releases a new model, they will want the accompanying manual to be available simultaneously for the languages of all of the countries where the vehicle will go on sale. And they often think of this rather late in the day, once everything else is in place. Furthermore, they will want the manual to conform to the conventions governing all of Ford’s manuals. Therefore, they tend to use a small number of large, specialised and highly technologised translation companies who use translation memories as aids in the production of the manuals and other literature. This means that only minimal change is required in a new manual or other text type: The memory will recognise and automatically reproduce all those parts that are unchanged from previous manuals, so that the new work the translator has to do is minimal. But it also means that only those with the requisite software, trimmed and
trained to Ford’s house style, are able to produce Ford manuals fast and consistently enough. This tends to be large companies specialising mainly in translating for a few large clients whose translators, in turn, tend to end up specialising in the same.

The need to respond to market trends has also led to a conceptualisation of translation quality that closely mirrors the understanding of quality that predominates in the production industries. Quality, as a property of the kinds of translations that translation companies sell most of (not translations of literature), is defined in the fit-for-purpose sense: A quality translation is a translation that will fulfil the purpose the client wants and needs the translation to fulfil in the community it is to function in. And with the recognition that this is how translation quality needs to be defined in commercial terms have come new, so-called functional approaches to translation (Reiss, 1971) such as Skopos theory (Vermeer, 1978; Reiss and Vermeer 1984).

According to Skopos theory, the primary determinant of the characteristics of a translation should be the purpose the translation has to serve, rather than a quest for equivalence with the source text.

In the case of some texts, it is obvious that equivalence with the source text is not going to guarantee fitness for purpose of the translation. A famous example is the Coca-Cola advert slogan “Drink Coca-Cola” which, because of its imperative mood, would be insulting in some countries/cultures. Obviously, it is much more important not to insult one’s potential customers, in such a case, than it is to reproduce as many features of the source text as possible in the translation, including its mood. But in clear cases like the Coca-Cola advert which may end up having nothing in common with the source text except possibly the trade mark term, perhaps we are not talking about translation at all, but about a quite different text, originally created, albeit falling within the same genre, advertisement, as the other text, and having the same purpose: To advertise Coca-Cola.

Other similar if less clear cases include for example company reports, business letters or newspaper articles, in the case of which structural and move conventions often differ in different languages. And in those cases it is less easy to declare the new text an original.

I won’t delve further into that very difficult question, only into the underlying question of translational equivalence.

### 4. On translational equivalence

Until not so long ago, the quest for equivalence with the source text seemed the overriding criterion for translation success in all translation, and, of course, it is still the case that in many translations, the desired purpose is that they communicate as completely and clearly as possible whatever the source text communicates. This is particularly so in the case of e.g. legal texts, where it tends to be believed that the form of expression is very important in conveying the precise meaning of a piece of text. But it is also often still the case in literary translation that what translators claim to aim for and what some critics criticise them for not having achieved is faithfulness to the original in as many aspect a possible – which is to say, optimal equivalence.

But wherein can equivalence reside? It may seem that what you get from having a really good grasp of specialised terminology in two languages is some level of guarantee of equivalence, the guarantor being the extension (the set of things) that the specialised term stands for: You can have equivalence of signified and of sense in spite of formal variation in the signifier, as pointed out by e.g. Saussure (1916) and before him by Locke (1690 Book 3, Chapter 2).

*Except*, it has been said, where literary translation is concerned. In the translation of literary texts, equivalence across languages is often held to be quite impossible: The meaning of the source text is intimately tied in with its form, and as translating imposes a different form on the translation than that enjoyed by the source text, literary translation must, strictly speaking, give way to what Jakobson (1959; 238) called creative transposition (see e.g. Ingarden 1931/1973; 1937/1973).

Funnnily enough, it is quite common for one and the same person (see e.g. Jakobson 1959) to hold to both of these views: (i) that specialised texts *can* be translated faithfully because of the invariant extensions for terms and expressions that differ in different languages; and (ii) that literary texts *cannot* be translated faithfully because of the impossibility of disassociating exactly these two phenomena: extension and expression or, as we might say, meaning and form.

So one and the same person can have in their heads two quite different ideas about how languages relate to concepts. One idea (for non-literary texts) might be pictured like this:

```
CONCEPT
L1 term L2 term ... L^n term
```

The other (for literary texts) might be pictured like this:

```
L1 CONCEPT  L2 CONCEPT  L3 CONCEPT
```
How can that be? Does language work differently in literature and in other text types normally known as special purpose text? Is there only one way (though it may be a very complicated way, see Evans 1983) in which language relates to what it is about, or are there two ways (or more)? And is meaning actually just a question of this relationship between concepts and terms?

In the remainder of this article, I intend to work towards providing a set (among several possible sets, no doubt) of answers to these questions.

5. Specialised terms in literary translation

Let me begin by demonstrating how terms can be specialised in literary texts, and how they can be identified so that they can be properly represented in translations of literary texts.

Consider the following small story, in which I have left a few terms (underlined) untranslated:

**The princess on the pea (1835 Hans Christian Andersen; my translation)**

There was once a prince; he wanted to have a princess, but she would have to be a rigtig princess. So he travelled all around the world to find one, but everywhere something was wrong, there were plenty of princesses, but whether they were rigtige princesses he could not quite figure out, there was always something which was not so rigtig. So then he came home again and was very sad, for he wanted so much to have a virkelig princess.

Then one evening there was a dreadful storm; there was thunder and lightning, the rain poured down, it was quite frightful! Then someone knocked on the town gate, and the old king went to open it.

It was a princess who was standing outside. But God what a sight she was from the rain and the evil weather! Water was running down her hair and her clothes, and it was running in at the toes of her shoes and out at the heels, and yet she said that she was a virkelig princess.

“Well, we’ll soon see about that!” thought the old queen, but she didn’t say anything, went into the bedroom, took all the bedclothes off and laid a pea on the bottom of the bed, then she took twenty mattresses, laid them on top of the pea, and then another twenty eiderdown quilts on top of the mattresses.

That was where the princess was to lie that night.

In the morning they asked her how she had slept.

“Oh, frightfully badly!” said the princess, “I have hardly closed my eyes the whole night! God knows what there was in the bed? I have been lying on something hard, so that I am quite black and blue all over my body! It is quite frightful!”

Then they could see that she was a rigtig princess as she had been able to feel the pea through the twenty mattresses and the twenty eiderdown quilts. No one but a virkelig princess could be that tender skinned.

So the prince took her as his wife, for now he knew that he had a rigtige princess, and the pea was put in the Royal Collection, where it is still to be seen, if no one has taken it.

You see that was a rigtig story!

This a text of 383 word tokens of which 62 are nouns and 21 are adjectives:

**Nouns**

prince x 2; princess x 10; princesses x 2; world; something x 3; evening; storm; thunder; lightening; rain x 2; town; gate; king; God x 2; sight; weather; water; hair; clothes; toes; shoes; heels; queen; bedroom; bedclothes; pea x 4; bottom; bed x 2; mattresses x 3; eiderdown x 2; quilts x 2; night x 2; morning; eyes; body; wife; Collection; story

**Adjectives**

rigtig x 4; rigtige; rigtigt; sad; virkelig x 3; dreadful; frightful x 2; old x 2; evil; whole x 2; hard; tender skinned; royal

If we now look for combinations of the relatively few adjectival tokens with the relatively more noun tokens, we find, unsurprisingly, that most noun tokens (44), are not modified by an adjective and that 5 adjective tokens are not attached to a noun, only to a dummy pronoun. We won’t worry any further about those, because we are looking for patterns. This leaves the following combinations of adjective + noun:

**Adjective - Noun combinations**

rigtig princes x 3; virkelig princess x 3; rigtige princesses; something [something which was not so rigtigt]; dreadful storm; old king; evil weather; old queen; whole night; Royal Collection; rigtig story.

What we know so far, partly on the basis of this analysis and partly on the basis of background knowledge, is:

- The most frequent noun tokens are forms of the lexical item PRINCESS;
- The most frequent adjectival tokens are forms of the lexical item RIGTIG
- The most frequent combination is of those lexical items
- PRINCESS is modified by one other adjectival in this story, namely VIRKELIG
• This is the next most frequent adjective form in the story
• The two adjectives rigtig and virkelig fall within the same “semantic field”: both indicate a quality of being a good example of a kind.
• The combination, PRINCESS + RIGTIG/VIRKELIG is also focal semantically because the story is about finding a princess who has the characteristic(s?) the adjectives stand for: The prince wants a princess who is rigtig/virkelig.
• One other noun, story, is premodified by one of these adjectives, rigtig.

This raises two questions which a translator might be interested in:

i. Do the two adjectives which are formally different but semantically similar differ subtly in meaning in this story?
ii. What quality does the princess share with the story which allows both to be described as rigtig?

Looking in a dictionary will not help resolve these issues, because for both rigtig and virkelig, a dictionary will provide a selection of definitions (if it is monolingual) or translations (if it is bi-lingual) falling within the “good example if its kind”-field, most of which will work very well in each of the contexts in question. This is a reflection of the closeness in meaning of the two adjectives, of course, and it shifts the focus of inquiry sharply onto the prepositional phrase at end of our first question: Do the two adjectives differ in meaning in this story?

At this point, a translator might seek guidance in previous translations. Translations of Hans Christian Andersen's stories into English have appeared regularly since the mid-1800s, so there is quite a corpus available, relatively speaking, and I present here the solutions to the adjective-problem provided by translators within a sub-corpus consisting of copies that I have access to (see list in Appendix 1):

Anon: real princess x 6; real princesses; true story
Blevgav: real princess; real princesses; real princess x 5; a story
Corrin: truly real princess; real princesses; real princess x 2; real princess x 2; true princess; true story
Corrin and Corrin: truly real princess; real princesses; real princess x 2; real princess x 2; real princess x 3; true story
De Chatelain: real princess; real ones; real princess x 5; real story
Dulcken: real princess; real one; real princesses; real princess x 4; true princess; true story
Hersgolt: real one; real Princesses; real Princess x 3; a Princess; real Princess; true story
Kingsland: real princess x 6; real princesses; true story
Lewis: real princess x 5; the genuine article; fine story
Peachev: real Princess; real Princesses; real Princess x 5; “Was not this a lady of real delicacy”
Peulév: genuine Princess; real Princesses; real Princess x 5; good story
Spin: real princess; real princesses; real princess 5; real story
Wehnt: real Princess; real Princesses; real Princess x 5; true story

It is not immediately obvious that this evidence is going to help us answer the questions we are concerned with (do rigtig and virkelig differ in meaning in this story and what property do the princess and the story share which makes both rigtige?): Two translators, Corrin and Dulcken, use two adjectives and use one of them for the story as well as for the princess; Lewis and Peulév also use two adjectives for the princess, but have a third for the story; Anon, Blevgav, Hersgolt, Kingsland and Wehnt distinguish in their adjective use between the princess and the story; Corrin and Corrin, De Chatelain, Peachev and Spin draw no distinction whatsoever.

It is difficult to determine whether this has the potential to matter, from just looking at this story alone. But one way to find out is to look at how Andersen uses the two adjectives in other stories.

The opus yields the following data (I report representative but select data, i.e. only data which do not raise additional questions to those currently in focus; I report the data in an English gloss type translation which, again, leaves the adjectives, underlined, in Danish):

From The swineherd (1842)
“Fie Papal!” she said, “it isn’t artificial, it is virkelig!”

From The nightingale (1844)
1. it was a little piece of artistry lying in a box, an artificial nightingale that was supposed to look like the live one but which was covered all over with diamonds, rubies and sapphires; as soon as it was wound up, the artificial bird could sing one of the pieces the virkelige one sang.
2. the **virkelige** nightingale sang in its own way, and the artificial bird was clockwork;

3. Then the artificial bird must sing alone. - It was as popular as the **virkelige** one, and besides it was much prettier to look at: it glittered like bracelets and brooches.

4. that it [the artificial bird] was better than the **virkelige** nightingale,

5. in the case of the **virkelige** nightingale you can never predict what is going to happen, whereas in the case of the artificial bird, everything is arranged in advance!

6. But the poor fishermen who had heard the **virkelige** nightingale said: “it [the artificial bird] sounds beautiful all right, and it does resemble it, but something is missing, I don’t know what!”

From Holger Danske (1845)

> ... and here is a likeness of him!"

And it cast its shadow right up the wall, even a little way along the ceiling, it looked as if it was the **virkelige** Holger Danske himself

From The shepherdess and the chimney-sweep (1845)

> Have you ever seen a **rigtig** old wooden cupboard, quite black with age and carved with intricate patterns of leaves?

From The puck at the grocer’s (1853)

> There was a **rigtig** student, he lived in the attic and owned nothing; there was a **rigtig** grocer, he lived on the ground floor and owned the whole house

In these data, **virkelig** is regularly opposed to terms indicating artificiality or artistry, and **rigtig** tends to indicate stereotypicality. This suggests to me that Andersen uses the adjectives **rigtig** and **virkelig** to distinguish between that which is genuinely and inherently what it purports to be, and that which either is a **stilleben** or (merely) conforms to socially held values, norms and expectations. Since this distinction is important thematically in much of Andersen’s work, it is likely that the use of the adjectives is a deliberate way of supporting a theme lexically. In other words, the adjectives function for Andersen as specialised terms, which might be a reason for some translators to want to reproduce the kinds of patterns they enter into in the text.

I have suggested elsewhere (Malmkjær 2003) that one way of doing this might be to use ‘real’ for **rigtig** and ‘genuine’ for **virkelig**: According to the COBUILD dictionary, something ‘real’ (sense 2.1.) ‘has all the characteristics or qualities that such a thing typically has’ whereas ‘something which is genuine is real and exactly what it appears to be, and is not fake or an imitation’. Obviously, in our focal story, this distinction is important: The prince is looking for the genuine article, as Naomi Lewis’s translation has it, but is rather unsure about how to recognise it when he sees it. The princess who presents herself claims to be it, but fails to conform to expectations on the surface and has to be tested. The test reveals that she possesses the sensitivity inherent in princesses. It is not clear that the prince, whose point of view predominates in the story, is any clearer towards the end about the difference, since both adjectives are used for the princess in views attributed to him, and **rigtig** is the one he uses at the end (‘he knew that he had a rigtig princess’); I take this to be a fine touch of irony. But it is significant that the princess herself claims to be **virkelig**, that it is this claim that the queen (who is the seat of wisdom in the story, who knows a test for princess-hood) sets out to test, and that it is this quality which is said to be possessed by the tender-skinned. And this is certainly a “real”, stereotypical story with the expected, Proprian fairytale characters in it.

So it seems to me that the two terms, **rigtig** and **virkelig** function as specialised terms in this text just as much as **brake** and **accelerator** might in texts about cars, and that it may be just as important to retain them in translation, although the consequences of not retaining them are fuzzier than they might be in the case of the brake and accelerator – and this, in turn, may be why there is not such a concentration on specialist terminology in literary translation. In fact, one could even speak of a blindness to it among literary translators, which leads them to adopt the cavalier attitudes to literary terminology that we see exemplified in the translations above.

At the same time, though, it would plainly be absurd to suggest that all of the existing translations of this text are not translations of it. This point was made by Toury (1981), who suggests that a primarily Source Text oriented theory of translation leads to the absurd position where none of the many translations that we find around us can be true translations. According to Source Text oriented theories of translation, (a) only equivalence at all levels can qualify a text as a true literary translation, but (b) this equivalence can never be obtained. Ergo, nothing is a proper literary translation, so the theory has no empirical basis against which to test its claims or from which they may be derived. Instead, Toury advocates Target Text oriented studies, which take existing literary translations to be what they are, namely actual empirical phenomena which function as literary translations and which can show us which terms actually constitute translational equivalents in certain text. Nowadays, of course, this is exactly what very many studies of corpora of original texts and their translations look for.

6. Some implication of the Andersen study
I argued in the previous section that many of the translational equivalents for rigilig and virkelig in the Andersen corpus are not the most helpful ones; but that this ought not lead one to suggest that all the existing translations of the story are bad, let alone that they are not translations.

What this suggests is the rather obvious idea that there is more to translation than specialised terminology, and I think this is certainly true in the case of special purpose text translation too. Getting the special terminology right is not going to produce a good text if other features are inaccurate: A misplacement of a simple and very general word like not, for example, can be disastrous.

What I have called specialist terminology in the Andersen text is probably local to this one author: Not of course that he is the only one to use this terminology; but he may be alone is using it to reinforce exactly the story theme I have mentioned. This is less likely to happen in the case of texts that are usually thought of as special purpose texts, the important notions of specialisation and special company house styles (see section 3) notwithstanding.

One the other hand, the fact that a writer can take a pair of existing terms and turn them to special use in the manner of Andersen points to the extraordinary variance there can be in the connection between concept and term; and this is good reason to prefer picture one from section 4 to picture two, even for literary texts.

In the final section of this paper, I would like to raw out some further implications of this for our understanding of meaning.

7 Meaning

When English A-level students got their results in August 2003, there was, as usual, much discussion about whether the increased percentage of passes at A-grade, now standing at 1 in 5, or 20%, indicates that the standard of the exam has fallen. The education minister, David Miliband, sought to dismiss this suggestion through an analogy with a possible argument that it must be becoming easier to run the London Marathon because Paula Radcliffe broke the record last time she ran, and because many people now run the Marathon faster than the winner ran it during its early years. Surely, Mr Miliband suggested, students are succeeding in greater numbers because they are taught better and work more efficiently year by year (the record has risen steadily over recent decades).

Whatever one’s views of the question of A-level standards, it I difficult to accept Mr Miliband’s analogy, because it assumes that the distance covered by the route of the London Marathon is something similar to the knowledge and skills possessed by an A-level student, and that running the distance is similar to expressing part of the skills and knowledge base appropriately in an exam; but distance is a very different phenomenon than a knowledge and skills base is: Distance is invariant whereas knowledge and skills can develop and alter.

The traditional notion of translation equivalence, however, is based on a distance-type notion deriving from the first of Euclid’s (ca 300 B. C.) ‘common notion’: “Things that are equal to the same thing are equal to one another”. This implies that there has to exist a measure of equivalence: the same thing — thing — which pre-exists the other things — things — and which functions as a measure or guarantor of their equivalence.

This Euclidean picture of equivalence is an excellent account of how equivalence is established between things: If you go to buy ten meters of ribbon, the seller will measure a meter against a measuring stick ten times. Normally, they won’t measure one meter of ribbon and then another against the first piece and so on. If I want to tune three guitars, I will tune each to a tuning fork rather than to another guitar — at least ideally, to prevent gradual distortion; if a constant is used to measure all new instances, minor inaccuracies in individual instances will not be replicated or increased for other individual instances.

But this picture cannot be transferred to language. Languages are subject to continuous, observable, gradual change; and language cannot be used to create identicals, be they meanings or states of mind. Instead, language promotes cognitive development: it gets you from one mental state to another, different mental state. It cannot get you from one mental state to another, identical mental state, whether your own or somebody else’s. Finally, language items are inherently flexible and multifunctional in their semantics, as we saw in section 5.

In the discipline of terminology, which is fairly closely related to LSP, it is accepted that individual terms relate to concepts belonging to a particular domain such as law or medicine and that these domains are systems whose concepts, for which the terms stand, are defined within the theories to which they relate and that their meaning, therefore, are theory internal and theory specific. Within many specialised domains, concepts are perceived as dynamic, rather than static. Sager (1998/1999: 48), for example, points out that legal concepts develop on the basis of a combination of statute and case law.

In this, specialised terms begin to look rather like terms that Gallie (1955-1956) refers to as “essentially contested concepts” -- concepts that develop along with the societies in which they are used, such as liberty and democracy. Though when we come to think about it, almost all so-called natural kinds terms develop along with their theories, and almost all manufactured kind terms develop as manufacturing develops, just a Gallie’s social kind terms, as we might call them, develop along with their societies.

Every theory is in constant development: we will never know it all. So every term defined within a theory stands for a concept that is evolving. In LSP, the terms tend to remain stable while what they stand for evolves. In the case of literary texts, a concept
is developed in a text and terms are adapted or refined to reinforce it. Yet both kinds of term are translated, which suggests that not only is there not, as Saussure and Locke pointed out so long ago (see section 4), any one-to-one correspondence between signifier and signified: there are no fixed correspondences whatsoever, because the signified is in flux and terms are multiply adaptable to new, more or less specialised uses. There are more or less impermanent relationships of meaning which are functions of the relationships between utterers, times, utterances, and background knowledge (Lewis 1974). But far from interfering with translation, this is what makes translation possible – we might even say that this is what translation is, essentially: the creation of one such relationship on the basis, partly, of some informed guesses about a previous relationship and who and what it was a relationship between. Sometimes, especially in the case of special purpose texts the guessing process is helped along by an agreement among special interest groups to hold certain relationships between terms and concepts more stable than they are in most cases. But there is always far more involved in translation, whether specialised or not, than a simple reproduction of a set of relationships between linguistic forms and pre-determined denotations.

References


Appendix 1: Hans Christian Andersen translations referred to, in chronological order of publication date


Andersen's Tales for Children. Wehnert, Alfred, London: Bell & Daldy, 1861


What the Moon Saw, and other tales. Henry William Dulcken, London: Routledge, 1865


5.2 Case Studies:

5.2.1 Mall Stålhammar

Translation of grammatical metaphor

Mall Stålhammar
Göteborg University

1. Introduction

Translating metaphors is an intricate part of any translation, even between closely related languages and cultures. Unfortunately it is also one of the least researched aspects of translation, or contrastive linguistics. What little there is, tends to suffer from the misconception that metaphor belongs primarily in literary language. But, as we all know, metaphor is an integral part of language and thus of all genres of text. LSP genres abound in metaphor, as shown in previous analyses of various areas (Stålhammar 1995, 1996, 1997, 2001). One genre that is often believed to be free from metaphor is legal language, or the language of administration, where neither the need to illuminate nor the wish to affect—often the main reasons for the use of metaphor—are supposed to motivate the writers of such texts. However, there may be other reasons for using metaphorical language, as well as there are different kinds of metaphor.

The particular variety of metaphor under discussion here is what Michael Halliday has termed "grammatical metaphor" (Halliday 1986/1994, Halliday & Martin 1993, Halliday 1998), roughly equivalent to what others before him have called 'animisme', i.e. personification (Vinay & Darbelnet 1960, Malblanc 1968). If an "ordinary" metaphor, being a lexical transformation, can be defined as the substitution of one word by another, a grammatical metaphor, being a grammatical transformation, is "a substitution of one grammatical class, or one grammatical structure, by another" (Halliday & Martin 1993:79). For the present purpose it may be defined as the packaging of processes into nouns or nominalisations which in turn are provided with verbs that would "properly" be associated with the subject of the process packaged in the nominalisation. The result is experienced by the reader as if the inanimate noun itself, the package, were personified. (It could be argued that the "metaphor" properly speaking is a metonymy, since contiguity rather than similarity is the basis of the substitution.) Of these two terms, the concept of grammatical metaphor serves the purposes of analysis better (revealing what is underlying the choice of verb), whereas the notion of personification may explain the reactions to the use of certain verbs (showing why certain verbs are more or less acceptable with certain subjects). There may also be overlap between lexical and grammatical metaphor, cf Lassen 1997.

English and French, among other languages, readily use grammatical metaphor, especially when space is at a premium, and/or the subject "proper" (i.e. the congruent subject of the process) is anonymous, in reality or by convention. Both these qualities characterize certain genres in LSP, and often result in the alternative use of passive constructions (with or without adverbials). A typical opening could thus be phrased either "This paper reports..." or "In this paper (it) is reported...".

As Halliday points out, there are wider consequences following from the choice of grammatical metaphor: "Ideationally, the nominalising grammar creates a universe of things, bounded, stable and determinate; and (in place of processes) of relations between things. Interpersonally, it sets itself apart as a discourse of the expert, readily becoming a language of power and technocratic control. In both aspects, it creates maximum distance between technical scientific knowledge and the experience of daily life" (Halliday 1998: 228). Investigating the occurrence of grammatical metaphor is thus highly relevant to the study of LSP.

Comparing the use of similar examples in different languages shows, however, that the construction does not have a similar distribution. Germanic languages seem to prefer the passive, with/without adverbials, whereas the grammatical metaphor seems more acceptable in English and French. (Differences between French and German usage are touched upon in Malblanc 1968; the use in Danish is discussed in Hansen 1996, Korzen 1997). Some of the underlying reasons may be found in the history sketched by Halliday, where the usage is traced back to "the explosion of process nouns in scientific Greek from B.C. 550 [sic] onwards" (Halliday 1993:116), later brought into English through Latin translations from Greek.

It should be pointed out that even highly experienced, native writers of scientific English still react to this widespread usage, perhaps experiencing it as personification without recognising the grammatical substitution. Reactions like the following occur, from a handbook in scientific writing, co-written by two scientists and an experienced writer/editor of scientific texts: "... these lazy verbs should not be coupled with nonhuman subjects. For example, a scientist will write 'the results demonstrate,' which results, being inanimate, cannot do. ... This misuse is so widespread that most readers have come to accept it" (Matthews et al. 2000:155). The (mis)use of a common case of animation in linguistics is also criticised by a linguist who cautiously analyses his own use: "Languages are not entities and it can be seriously misleading to make them the subjects of active verbs.... I have, for brevity's sake allowed myself to say that languages 'spread', meaning that the use of what may be called 'the same language' extends over a wider area than it did before. For brevity, again, I have allowed myself to say that a language 'has' roles or functions, meaning that its users use it for these purposes. If I say that a language 'changes', I mean that users of the same language are using it differently in some particular detail..." (Dalby 2003:x).

Judging from other reactions (e.g. Low 1999, a study involving acceptance of similar constructions among ESP teachers), there seem to be (semantically defined) restrictions as to which verbs may be used together with such grammatical metaphors. One of the aims of the present analysis is to attempt a definition of such restrictions, but more material is needed.
In order to compare the use of the construction in at least two languages, I chose to analyse texts translated by highly experienced professional translators, supported by legal advisors from the same nation/language: the Treaty on European Union, popularly known as the Maastricht Treaty. It may be argued that the texts of the European Union represent a particular language that is increasingly moving away from its respective native usage towards a medium for accommodation and compromises. At the same time, the language of these texts will have a pervasive influence on the languages of the Union by force of its status and distribution.

Although all EU texts are defined as “authentic” and no text or language should be identified as official Source Text (ST) or Source Language (SL), or Target Text (TT) or Target Language (TL), Swedish is clearly a TL in this case, Sweden having joined the Union at a later date than the creation of the Treaty.

2. Material and method

The texts used were the official versions, published in parallel columns by the Institute for European Law at Stockholm University in Fördrag om Europeiska unionen - Treaty on European Union - Traité sur l’Union européenne - Vertrag über die Europäische Union.

Examples of grammatical metaphor in English were collected and compared with Swedish, but also with French and German. For comparison, electronic searches were performed on certain subjects, using other EU texts and Swedish newspaper corpora.

3. Results

A total of 17 examples (some including more than one instance of grammatical metaphor, but registered and numbered as one occurrence) were found in the English version. The French version was parallel to the English version in all respects relevant to the present purpose. In the German version, the most frequent solution was adverbial and passive, sometimes verb (be) and predicate, or a static verb. Only one German example followed the English/French pattern. In the Swedish version, nearly half of the examples were translated into Swedish following the English version, and the remaining examples were translated using other constructions. Most other alternatives involved the use of passive verb forms, or a verb (make/be) and a predicate, like the German version. The low figures are a result of the nature of the text, where almost all subjects are animate, consisting of the different groups of human beings in the Union: the Commission, the Council, the Parliament, Member States, etc., i.e. subjects which are excluded for present purposes.

4. Discussion

All examples are numbered in their order of appearance in the Treaty; each example has a reference to the Treaty. The notations provided for each example (static verb, predicate, etc. are meant as brief indications of the differences between constructions, and no further attempt will be made to discuss such definitions.

The examples were divided according to type of translation into Swedish and comparisons with the other languages involved. First, cases of complete agreement or lack of agreement are described. Next, examples where the Swedish version is comparable to the German one, and finally an interesting group of examples where German and Swedish deviate for what seems to be semantic reasons.

5. Comparisons: English and French versus German and Swedish

Complete agreement (between all four languages) was found in only two cases:

(5) ... measures which take account of ...
    ... des mesures qui tiennent compte de ...
    ... Massnahmen... die ... Rechnung tragen.
    åtgärder som tar hänsyn till ...
Article 136 Title XI (Social policy, education, vocational training and youth)

(6) Equal pay ... means...
    L'égalité de rémunération ... implique...
    Gleichheit des Arbeitsentgelts bedeutet...
    Lika lön ... innebär...
Article 141:2 Title XI (Social policy, education, vocational training and youth)

The reverse, i.e. lack of agreement between English and the other three languages occurred only once, in a stipulative definition:

(3) 'Companies or firms' means ...
    Par sociétés, on entend ...
    Als Gesellschaften gelten ...
    Med "bolag" förstår ...
Article 48 Title III (Free movement of persons, services and capital)
Here, English could have chosen an adverbial construction similar to that in the other languages [by 'companies or firms' is meant...]. This more economical construction of 'mean' (in the sense 'signify') overlaps with the use of 'mean' in the sense 'result in', as used in example (6), where the different senses are brought out in the other languages. Whereas the verb in (6) is static and collocates with both animate and inanimate subjects, the verb in (5), however, is more commonly used with animate subjects.

One category where Swedish translators seem prepared to use active verbs normally associated with human agents involves some kind of metonymic relationship (politics for politicians:)

(4) The common commercial policy shall take into account...
La politique commerciale commune tient compte de...
Bei der gemeinsamen Handelspolitik werden ... berücksichtigt ... (adv+pass)
Den gemensamma handelspolitiken skall ta hänsyn till...
*Article 131 Title IX (Common commercial policy)*

Alternatively, the subject is an explicitly named collective (the Community), i.e. another case of near-metonymy:

(7) Community action ... shall fully respect...
L'action de la Communauté ... respecte pleinement ...
Bei der Tätigkeit der Gemeinschaft... wird ... im vollem Umfang gewahrt... (adv+pass)
När gemenskapen handlar ... skall den fullt ut respekte(nom=>clause)
*Article 152:5 Title XIII (Public health)*

In the example above, Swedish differs from the other languages in treating the Community itself as the subject of the sentence [when the C acts, it shall respect], i.e. unpacking the grammatical metaphor, where the other languages have Community action as the subject. It should, however, be mentioned that neither construction is frequent in Swedish newspaper corpora, where neither politics nor policies normally take active verbs. The translator has thus preferred to follow the source text(s) rather than contemporary Swedish usage.

6. Germanic similarities

In both German and Swedish there is the option of using an adverbial with a passive verb, as in examples (8) and (11) [in ... shall be indicated/defined], a solution preferred by German in the majority of all cases.

(8) ... these guidelines shall identify projects of common interest...
... ces orientations identifient des projets d'interêt commun...
... in diesen Leitlinien werden Vorhaben von gemeinsamen Interesse ausgewiesen (adv+pass)
...i dessa riktlinjer skall projekt av gemensamt intresse preciseras ...(adv+pass)
*Article 155:1 Title XIII (Public health)*

(11) Common strategies shall set out their objectives...
Les stratégies communes précisent leurs objectifs ...
In den gemeinsamen Strategien sind ... anzugeben. (adv+pass)
I de gemensamma strategierna skall anges ... (adv+pass)
*Article 13:2 Title V (Provisions on a common foreign and security policy)*

There is also the option, in both German and Swedish, to use a verb with a predicate, as in examples (13) [be binding] and (15) [be guiding/guidelines], where the German version uses the same construction:

(13) Joint actions shall commit the Member States...
Les actions communes engagent les États membres ...
Die gemeinsame Aktionen sind für die Mitgliedsstaaten bindend ...(be+pred)
Gemensamma åtgärder skall vara förpliktande för medlemsstaterna... (be+pred)
*Article 14:17 Title V (Provisions on a common foreign and security policy)*

(15) ... the conclusions ... and the overall approach ... will continue to guide the action ...
... les conclusions ... et l'approche globale ... continueront de guider l'action ...
... die Schlussfolgerungen ... und ... das ... Gesamtkonzept ... weiterhin die Richtschnur ... bilden werden (be+pred)
... slutsatserna ... och den övergripande strategi ... kommer att vara vägledande ...(be+pred)

Protocol on the application of the principles of subsidiarity and proportionality C. Protocols annexed to the Treaty establishing the European Community Title VIII - Final provisions II. Protocols

Finally, agentless passive verbs (without adverbials) were used where the grammatical subject of the source text(s) was both (relatively) concrete and inanimate, as in example (1), rephrased as [if duties have not been restituted] and example (2) [this organisation shall be formed]. It should be pointed out that in (2) Swedish could equally well have used a static verb like the
German bestehen [consist]. However, the Swedish translator seems to have followed the English, more process-oriented concept of creating different 'forms':

(1) Products ... if they have not benefited from a total or partial drawback ...
... les produits ... qui n'ont pas bénéficié d'une ristourne totale ou partielle ...
... Waren ... für die... Zölle ... rückvergütet worden sind (pass)
Varor ... om ... hel eller partiell restitution av ... tullar ... inte har lämnats (pass)
*Article 24 Title I (Free movement of goods)*

(2) This organisation shall take one of the following forms...
...cette organisation prend l'une des formes ...
Diese [Organisation] besteht ... aus einer der folgenden Organisationsformen (static)
... skall denna organisation utformas på något av följande sätt (pass)
*Article 34:1 Title II (Agriculture)*

7. Differences between German and Swedish: legal concepts and verb choice

Among examples where Swedish parallels English (and French), there is one category of subjects that by tradition collocates with certain animate verbs, viz. concepts that may be associated with law/lag. This in turn has a long history of use with active verbs such as say, decide, allow, protect, etc. in both English and the Scandinavian languages and may be traced back to early oral presentations of legal regulations, or influences from biblical language. There are few examples in this particular treaty (cf. above), although the pattern is frequently used in other EU documents. Among examples of similar concepts are rule/regel, regulation/förordning, guideline/riktlinje, in EU texts also programme/program and common strategies/gemensamma strategier. In the present material, framework programme/ramprogram, common positions/gemensamma ståndpunkt, and joint actions/gemensamma åtgärder are also used with verbs that collocate in Swedish with lag/law, etc., which may indicate the legal status of these new concepts.

A search on similar subjects in other EU documents of comparable status confirmed the tendency for the Swedish versions to use active verbs with concepts such law, rules, regulations, etc. This is the only category where the German versions differ consistently from the Swedish ones, which may be due to different traditions in German regarding verbs collocating with law, rules, regulations, etc. Since this is a common construction in other Germanic languages such as Norwegian and Danish, this difference seems worth investigating.

In example (9), the Swedish version follows the English and French very closely, resulting in a less idiomatic translation where an adverbial with passives (cf the German version) would have come closer to common usage. Assuming legal status for the framework programme, however, renders the Swedish translation logical.

(9) The framework programme shall: establish the .... objectives;... indicate the broad lines ...; fix the .... amount ... and the ...
... rules...
Le programme-cadre: fixe les objectifs...; indique les grandes lignes ...; fixe le montant ... et les modalités...
In dem Rahmprogramm werden die ... Ziele ...festgelegt; die Grundzüge ... angegeben; der ... Betrag und die
Einzelposten ... festgelegt. (adv+pass)
Ramprogrammet skall fastställa de ... mål..., ange huvudlinjerna ..., fastställa .... belopp och de närmare
villkor...[establish...indicate...set]
*Article 166:1Title XVIII (Research and technological development)*

As seen from examples (12) and (14), a static verb (avse/concern) for address may act as a compromise in Swedish, although both examples also include other verbs indicating more animate activity (ange/define) for lay down and define, respectively.

(12) Joint actions shall address specific situations... They shall lay down their objectives...
[des actions communes.] Celles-ci concernent certaines situations ... (static) Elles fixent leurs objectifs ...
Gemeinsame Aktionen betreffen spezifische Situationen... (static) In den gemeinsamen Aktionen sind Ihre Ziele ...
festgelegt. (adv+pass)
De gemensamma åtgärderna skall avse specifika situationer ... (static) De skall ange mål... [concern ... define]
*Article 14:1 Title V (Provisions on a common foreign and security policy)*

(14) The Council shall adopt common positions. Common positions shall define ...
Le Conseil arrête des positions communes. Celles-ci définissent ...
Der Rat nimmt gemeinsame Standpunkten an. In den gemeinsamen Standpunkten wird ... bestimmt. (adv+pass)
Rådet skall anta gemensamma ståndpunkt. Dessa skall ange ...[define]
*Article 15 Title V (Provisions on a common foreign and security policy)*

Static verbs [make it possible to] acting as compromise solutions also occur in examples (10) [contain], (16), (17)

(10) The regulations shall lay down detailed rules for ...
Le règlement prévoit les modalités particulières ...
Die Beteiligung ... wird in der Haushaltssordnung im einzelnen geregelt. (adv+pass)
Budgetförordningen skall innehålla närmare bestämmelser ... (static) [contain]
Subsidiarity is a dynamic concept ... It allows Community action ... to be expanded

(16) Subsidiarity is a dynamic concept ... It allows Community action ... to be expanded

... (static + pred + inf) (pass)

La subsidiarité est un concept dynamique ... Il [sic] permet d'étendre l'action ... (obj + inf)

Die Subsidiarität ist ein dynamisches Konzept ... Nach dem Subsidiaritätsprinzip kann die Tätigkeit ... erweitert werden ...

Subsidiarieten är ett dynaniskt begrepp ... Den gör det möjligt att ... utvidga räckvidden ... (static + pred + inf) [makes it possible to...]

Protocol on the application of the principles of subsidiarity and proportionality: 3. C.Protocols annexed to the Treaty establishing the European Community Title VIII - Final provisionsII.Protocols

(17) ... the Community's existing competition rules allow ...to be taken into account in full.

... les règles de concurrence en vigueur dans la Communauté permettent ...de prendre pleinemment en compte...

... die bestehende Wettbewerbsregeln der Gemeinschaft es zulassen ...zu berücksichtigen.

... gemenskapsens befintliga konkurrensregler gör det möjligt att ta full hänsyn till .. (static + pred + inf) [make it possible to...]

Declarations on public credit institutions in Germany

The use of a static verb, as a compromise between a verb associated with animate subjects and a totally different syntactic construction, is thus a solution frequently used. It enables the translator to follow the syntax of the source text (thus facilitating later amendments) while avoiding what might be seen as explicit personification, a less idiomatic, or less frequently used alternative.

8. Conclusion

Of the four languages involved, the English and French versions present the closest parallels. The Swedish version is noticeably close to the English and French versions, including a certain overuse of Swedish skall, corresponding to English shall, in such cases where Swedish legal language has the option to use the present indicative, like French and German. In spite of the Swedish option of using constructions corresponding to the German ones in almost every single case, the Swedish translators occasionally prefer less idiomatic solutions that are closer to the English and French versions. One possible reason may be found in the official Swedish recommendations to avoid the use of passive in legal and administrative language (see e.g. Statsrådsberedningen 1992:99), another reason may simply be the economy of the construction (and the greater ease to insert later amendments).

Certain restrictions may be deduced from the choices made between different options, but more material is needed. Further studies will also have to take account of the process types involved.

It remains to be seen if these tentative results are part of a more widespread tendency to use the construction as a syntactic loan in the Swedish language in general, or perhaps in LSP texts, or if it remains associated with the particular text type of EU legislation.

References:

halliday, m.a.k. & j.r. martin (1993) writing science. Literacy and discursive power. london: falmer.

stålhammar, m. (1996) "the use of metaphorical expressions in different types of medical texts" 16th VAKKI symposium Vaasa: University of Vaasa, pp. 235-246.


Electronic sources:
http://spraakdata.gu.se/lb/konk
5.2.2 Marco Fiola

The ultimate goal of university translation curricula: training specialized translators or translation specialists?

Marco A. Fiola
Université du Québec en Outaouais, Gatineau, Canada

1. LSP and professional translation

It has often been said that a good translator must be versed in at least one area of specialization, or that there are no such things as general texts. With the increase of international trade and other aspects of globalization, good translation becomes more and more important. Simultaneously, specialized translation (ST) plays an increasingly important role. Indeed, while literary translation helps make cultures mutually understandable, the translation of pragmatic texts (Delisle et al. 1999: 81) acts as a bridge that facilitates exchanges, including trade, between cultures separated by a language barrier. Translators are therefore placed in this sometimes enviable position, straddling cultures and acting as messengers between cultures. Although translators usually link cultures and languages with which they are familiar, they sometimes have to act as surrogate experts in specialized fields that are unknown to them. This brings to the forefront the delicate issue of specialized competence and knowledge.

Ideally, specialized translators are people who, in addition to being specialists in their particular field, are also competent translators. There are professionals, be they physicians, engineers or lawyers, for example, who become translators, specializing in their own field of competence. However, they are usually the exception rather than the rule, and their number will not be sufficient to meet an ever-increasing demand for specialized translators. Therefore, university translator programs will continue to play a crucial role in ensuring that there are enough new translators to meet the demand. This is why universities are interested in looking at how to best prepare upcoming translators meet the challenge of specialization.

It should be noted, however, that the role of universities is not to train translators whose level of competence in a specialized field could rival that of a specialist in a particular field. Indeed, if the ideal translator in the field of engineering is both a competent translator and engineer, it appears that this double competency is not absolutely necessary. In fact, specialized translators are first and foremost translators. While it may be a good thing, equally developed competencies in both translation and engineering are not a sine qua non condition for specialized translation competence, as specialized translators must be able to translate texts on engineering, and for that they do not require the same level of competence as engineers. But, how knowledgeable of the specialty field must specialized translators be for them to be considered competent specialized translators?

Research in cognitive psychology indicates that there are three levels of knowledge (Tardif 1997: 47), each being essential to mastering a particular competence. Each of these three levels of knowledge – declarative, procedural and conditional – has its own applications. For example, declarative knowledge will enable engineers to talk about abstract or technical aspects of their work. With procedural knowledge, they will be able to apply theoretical principles into concrete actions; finally, conditional knowledge will guide their reasoning and reflection, and help them to mobilize other knowledge and the necessary know-how to accomplish a given task or solve a given engineering problem. In other words, declarative and conditional knowledge are of the theoretical realm. However, they are quite different. One could say that declarative knowledge is to conditional knowledge what memory is to intelligence: the latter is based on the former, but its importance far exceeds it. Procedural knowledge, on the other hand, is purely practical and technical.

It cannot be expected from translators to be as knowledgeable on specialized topics as experts in those topics. In other words, the specialized translator’s knowledge cannot reasonably cover the same scope – including declarative, procedural and conditional knowledge1 - as that of the expert in that field. In fact, it needs not to. Translators may be asked to translate documents on bridge construction, but cannot be expected to carry out the construction themselves. Therefore, their knowledge can be limited to declarative knowledge. However, in order to translate efficiently, they must possess the declarative knowledge associated with procedural and conditional knowledge. This does not mean that the translators’ knowledge is limited; in fact, translators must be knowledgeable on many specialized topics simultaneously. Sufficient specialized knowledge is acquired when it enables translators to fully understand the meaning of specialized texts in Source Language (SL) and to act as surrogate authors in order to produce texts that will convey in the Target Language (TL) the effect that the SL text might have had, had it been written in the TL.

The following graphics aim to illustrate our position regarding the difference between the specialized knowledge of an engineer, for example, and the specialized knowledge that a translator should have in order to translate successfully texts dealing with one or more specialized topics.

---

1 Also identified as translator competence by Kiraly (2001: 13-14).
Figure 1 shows schematically that the specialized knowledge of the engineer, represented here as cone-shaped, rests on a relatively broad base of declarative knowledge, upon which specialized procedural and conditional knowledge rests. The professional competence of an engineer is measured against the ability to mobilize the required declarative and procedural knowledge to achieve a task or solve a problem, based on an accurate assessment of the situation using conditional knowledge. This unique ability is characteristic of the engineer, but it could be applied to any specialized field of expertise. It is totally different from the translator’s competence, illustrated below.

The professional translator is as different from the fluently bilingual person, as the engineer may be from the carpenter, calling upon declarative, procedural and conditional knowledge which make up translation competence (represented here as a cone). The particularity of specialized translation competence resides in the fact that specialized translators’ task is to communicate information about concepts they are usually unable to realize themselves, using a language mastered by specialists in a given field. Their knowledge of specialized topics can, therefore, be strictly declarative, albeit as broad as possible, in order to ensure the effective achievement of the communication task. Figure 2 illustrates that translators’ specialized knowledge of specific fields of expertise (represented here as discs) may be hierarchically limited – some may say superficial – but they enable translators to understand a message with specialized content conveyed in the SL and to re-express it in the TL. Such specialized knowledge may be limited to declarative knowledge, but it must be sufficiently comprehensive to ensure the integral passage of an equivalent effect from SL to TL, from an A to a B readership.

Having described our position on specialized translation competence, we may now attempt to look at specialized translation from the perspective of translator education and training. To do so, we try to answer the following questions:

1. Do universities train specialized translators or translation specialists?
2. Can universities do either?
3. What is the role of universities in the training of translators able to work on texts dealing with specialized topics?

2. University-level training of specialized translators: wishful thinking?

Following the adoption of the Official Languages Act, at the end of the 1960s, Canada’s both official languages, French and English, have equal status in many areas of the Canadian society in general as well as in a number of specific areas, such as law, education and public administration. In addition, under the OLA and the Charte de la langue française du Québec, bilingualism plays an important role also in the private sector. This compounded demand puts significant pressure on the Canadian translation industry, on translators themselves and on those who train them.

Indeed, meeting the alarming shortage of translators is a constant concern for Canadian universities, which began training professional translators in both official languages almost fifty years ago. Today, nine Canadian universities\(^2\) offer a variety of undergraduate, graduate and post-graduate programs in translation, and undergraduate programs are by far the most popular.

\(^2\) Collège universitaire de Saint-Boniface, Concordia University, McGill University, Université de Moncton, Université de Montréal, Université du Québec en Outaouais, Université Laval, University of Ottawa, and York University.
Among those, three or four-year bachelor’s degrees\(^1\) attract the most students and are the best recognized by the industry and by professional associations, as these degrees are often the minimum requirement for employers (Canadian Translation Industry Sectoral Committee, 1999: 30). Finally, these degrees are often the basic requirement for anyone interested in seeking certification from a professional association.

Although both languages are considered legally equal, fewer Canadians have French as their mother tongue than English, which means that most texts to be translated are first written in English, then translated into French. This explains why almost all university translation programs are dedicated to training English into French translators. While a few university programs provide students with the possibility to extend their training to a third language – especially Spanish –, one would still expect programs to be relatively similar, given the similarity of their expected ultimate goals.

Because the relative homogeneity of needs – those of the student population and of the industry –, one might expect that programs would be relatively similar, more or less standardized. In fact, in analyzing the content of university calendars and Web-posted program descriptions, it becomes obvious that the ultimate goals of translation programs are almost as numerous as programs themselves, as indicated in Table 1.

<table>
<thead>
<tr>
<th>Table 1 – Ultimate goals for bachelor’s degrees in translation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No ultimate goal overtly stated</strong></td>
</tr>
<tr>
<td><strong>Knowledge of and experience in translation</strong></td>
</tr>
<tr>
<td><strong>General basic training in general translation</strong></td>
</tr>
<tr>
<td><strong>Basic training in specialized translation</strong></td>
</tr>
<tr>
<td><strong>Development of language skills and cultural awareness</strong></td>
</tr>
</tbody>
</table>

Table 1 indicates that three universities have no ultimate goal overtly stated for their program, one states that its program is aimed at imparting students with some knowledge and experience to prepare them for the practice of translation, three others aim at training general translators who will be able to become specialized, another one offers a basis of specialization, while the last one offers opportunities to develop language skills and cultural awareness. Despite this heterogeneity of goals all universities included in our study grant undergraduate degrees in translation\(^4\) following the successful completion of their program of studies.

If all universities offer programs with widely diverse content, including content focussing on specialized translation, it is probably that they do not share a common conception of what an effective translator-training program entails. In fact, our research indicates that, much like their goals (Table 1), universities have programs with widely diverse content (Fiola: forthcoming), including, but not limited to, specialized translation training. Our goal is not as much to try to understand the factors that affect the content of translation programs, but rather to determine whether translation programs, under their current form, can, or should, lead in and of themselves to the ability to translate specialized texts. If not, it will be interesting to try to understand the usefulness of specialized translator training as part of any translation program. This question is interesting not only from a philosophical perspective, but also from a purely pragmatic perspective. The Canadian translation industry is at a turning point in its relative young history. Because of increasing pressure from the market, it is crucial that universities maximize their success rate. To achieve this goal, universities will have to take a closer look at the fundamentals of translator training, including the role of specialized translation as part of university programs. This paper is to be viewed as a foray along that path.

3. Translator training and specialized translation

Since the late 1960s, the translation market in Canada has been on the increase, so much so that over the past few years the number of young translators trained by Canadian universities does not meet the current demand. According to a 1999 study by the Canadian Translation Industry Sectoral Committee (CTISC) for the federal Department of Industry, forecasts indicated that the translation industry would need to fill 1000 translator positions annually between 2000 and 2003; universities granted only from 300 and 320 undergraduate and graduate degrees in translation per year during the same period (CTISC 1999: 31).

In addition to this huge quantitative gap, the Report indicates that the quality of university translation programs is the object of much criticism from employers. According to them, newly graduated translators show weaknesses in various areas, including computer skills and world knowledge. Another aspect of translator training which is also criticized is translators’ lack of specialized translation competence (CTISC 1999: 81). Therefore, it appeared essential to assess the content of university programs in terms of specialized translation training.

In order to do this, we gathered a corpus of courses\(^5\) included in nine B.A. programs in translation offered by Canadian universities. Thus, we were able to analyze 466 courses.

Canadian universities grant bachelor’s degrees to those students who successfully complete between 30 and 40 courses (spread over 3 or 4 years, depending on the province). The majority of programs we studied include two types of courses: compulsory

\(^1\) Undergraduate university program, which may last from three to four years of full-time studies, depending on the province.

\(^2\) The Ordre des traducteurs, terminologues et interprètes agréés du Québec (OTTIAQ), for example, validates the content of translation programs based on the number of courses focussing on language transfer, i.e. on those operations involving the passage of a message from one language to another. Such courses include translation courses, as well as bilingual terminology and revision.

\(^3\) As a rule, a course involves 45 hours of teacher/student contact. In addition, students are expected to dedicate between 90 and 135 hours of out-of-class study to each course.
courses and electives. Students are therefore afforded the possibility to personalize their programs, to varying degrees, depending on the number of elective courses allowed. On the other hand, one may think that compulsory courses are those that are considered essential to translator training by universities; if an elective course were essential, one would think that it would be made compulsory.

In order to accurately assess the content of programs, we looked at the percentage of translator training programs dedicated to specialized translation. Figure 3 below illustrates the results of this first analysis.

![Figure 3 - Percentage of programs dedicated to compulsory courses in specialized translation](image)

Figure 3 illustrates unequivocally how heterogeneous programs are in terms of the percentage that each program dedicates to specialized translation. Depending on the university, the percentage varies between 0% (Université de Montréal) and 15% (Université de Moncton). On average, the percentage of programs dedicated to specialized translation does not exceed 7%. Although this percentage may be deemed considerable, one can wonder if it is sufficient to train specialized translators. Given the relatively low percentage of the content dedicated to specialized translation courses, the effectiveness of such programs in training specialized translators can only be warranted if these courses are concentrated on one, maybe two areas of specialization. Indeed, for a specialization to be effective, courses must enable students to become familiar with concepts associated with the area of specialization, its terminology and phraseology. In addition, it seems obvious that some areas of specialization may be easier to penetrate than others. In fact, one can posit without much reserve that some areas of specialization are particularly difficult to comprehend at the conceptual and terminological levels. Therefore, each area of specialization would require training endeavours that may vary considerably in length and intensity, depending on the complexity of specialized concepts involved.

Our corpus enabled us to identify a wide variety of areas of specialization introduced in B.A. programs in translation. An attempt to classify those areas of specialization led us to dividing them into two main categories, i.e. professional and technical areas of specialization. For example, in the professional category, we included liberal professions such as law, economy, management, finance, medicine and pharmacology. The technical category includes electrical engineering, computer science, agriculture and the automobile industry. This taxonomy was to help us reveal what areas of specialization are taught in translation programs. In determining the areas of specialization taught in specialized translation classes, we hoped to demonstrate that, in the case of programs including professional areas of specialization, a greater emphasis would be given to those areas of specialization instead of technical areas of specialization, based on the principle that the former require a more extensive period of familiarization than the latter. This is what our study revealed.
Figure 4 illustrates that, if it is true that professional areas of specialization require more extensive training endeavours than technical areas of specialization, not all of the university programs studied put this principle into application. Indeed, among the eight universities whose programs include compulsory courses in specialized translation, one offers specialized translation courses strictly in technical areas of expertise, four offer specialized translation courses strictly in professional areas of expertise, and three offer courses in both areas of expertise. We note a clear preference for professional areas of expertise. This seems to suggest three things: First, that there is greater capacity — both in terms of material and human resources — in those universities to train translators in professional than technical areas of specialization. Second, that in an attempt to be responsive to market needs, universities choose to train translators in professional areas of specialization over technical ones. Third, that universities consider that specialized translation courses in professional areas of specialization prepare students to become translation specialists capable of working in both professional and technical areas of expertise.

Although our data does not enable us to elucidate this issue, it clearly illustrates the heterogeneity of programs in terms of their specialized translation content. Differences are noted both from a quantitative and a qualitative perspective. Indeed, if most universities (88%) tend to agree on the necessity of training translators in one or more areas of specialization, there is no consensus on what needs to be learned to become a translator, or rather, what one must know to be a translator, be it a generalist or a specialized translator.

In fact, the same can be said of the content of Canadian translation programs as a whole. There is no such thing as standard content for programs, and this seems to be difficult to explain and justify from a strictly pedagogical point of view. Others, who look at university programs in medicine, accounting, law, etc., may find differences between programs, but ultimate goals would likely be similar. One can only come to the conclusion that, in translation, content is influenced by factors outside of the epistemological realm. Some of those factors, be they administration-related, faculty-related, market-related, or even student-related, immediately come to mind.

It appears that university translation program creators have been taking into consideration factors that are foreign to the teaching of translation proper. However, although most universities consider that their translation programs are aimed at preparing students for employment, the content of university programs cannot be determined based on market needs, no more than the content of life-long learning initiatives taken by employers should be designed by universities. The goal for universities should not be to disconnect translator training from the reality of the translation industry, but rather to prepare students by laying a sound foundation enabling them to find their place on the translation market now and to remain effective in it for decades to come. On this issue, it seems that universities still need to look at how they can best meet the educational needs of students, not to shape them into a “turn-key solution” for current employers, but to look at what universities can do to fill the educational gap students have upon enrolling in translation programs to begin practicing their craft and continue to improve their skills over the duration of their professional life. Translators are not born, nor made once and for all. In fact, one never ceases becoming a translator.

4. Specialized translator training, universities and the industry

According to representatives of the Canadian translation industry, specialized translation, as it is taught in university programs, falls short of the needs of this industry (CTISC 1999: 54), which grapples with increasing pressures from a highly competitive and constantly changing market. If they decided to amend their programs accordingly, universities might be tempted to increase the number of specialized translation courses. However, it must be clear that the role of universities is not to train specialized translators based on the current requirements of the market, but rather to train translation specialists who will be able, once they join the workforce, to adapt their skills to a wide variety of requirements, which sometimes change rapidly, depending on the vagaries of a fragile and constantly evolving economy.

On the other hand, if students must be exposed to a certain area of specialization, it may be appropriate to train translators in areas of specialization that are in high current demand by the industry. Surely this alternative is worth considering, but it cannot overshadow the fact that the mandate of universities is not to train translators solely for today, but to train professionals who will be translating still in 20, 30 or 40 years from now, and be able to adapt to many changes to come. Therefore, future translators must be equipped with skills and knowledge that are general enough to be relevant for many areas of specialization while having access to working methods enabling them to become specialized in any area of specialization. In other words, translator training programs must instil in future translators the skills and the knowledge they will require to gain the necessary competence to
practice their craft in areas of specialization where translators are in high demand today and in areas where they are not yet in demand but may be in the future. Translators must even be prepared to work in areas of specialization unknown as of yet. And the only way to achieve this is to aim at training not specialized translators, but translation specialists.

Translation teachers must decide among a number of areas of specialization which would provide translators with the most comprehensive model of familiarization with a specific field of specialization. In taking legal translation courses, do student also gain the methodology required to become specialists of more pragmatic and technical fields of specialization? The whole issue of transferability of competences thus remains to be clarified in specialized translator training, and this goal can only be achieved once the debate over translator competence is finally laid to rest. The need for a clear understanding of translation didactics is more acute than ever, as universities are faced with tough choices regarding program content and admission requirements. Much is said about what should be taught, or about what can be taught to future translators: now is the time to define what must be known to be a translator. The reason university may decide to offer specialized translation courses is to demonstrate to students what would be necessary to learn in order to take on a specialty. Such a course would model for students and the industry what process to follow for life-long learning and professional development.

5. Conclusion

Specialized translator training is an issue that is becoming more and more relevant to universities and the industry alike, and our opinion is that the fast-changing nature of the translation industry is not foreign to this renewed interest. With the globalization of markets, competitiveness is the buzzword of the day among entrepreneurs. Translation has long been considered by some – at least in Canada – a necessary evil, and many businesses have streamlined their operations over the past decade, with in-house translation services often being sacrificed at the altar of short-term profitability, which created a windfall for free-lance translators. By doing so, the industry has released itself from its responsibility of ensuring continuing training in the workplace. Traditionally, translators would enter the workforce with, at best, basic university training in translation and were not expected to work on specialized documents without the supervision of a mentor. But that was then. Now, translation as a profession is increasingly fragmented, and the downside of this economic revolution is making it difficult for young translators to meet the challenge that lies ahead of them.

Every so often, it becomes apparent that the utopian dream of creating a translating machine is still chased by some. However, few entrepreneurs still fantasize about the day that all translations will be done in a matter of seconds by super-machines capable of thinking like humans. Instead, many believe the dream would become reality if humans could translate like machines. It is in fact the very same dream, only with an Orwellian twist to the old fable.

It should not be surprising that the translation industry stakeholders – employers, professional corporations, and even universities – are becoming more and more disengaged with respect to translation as a profession. In fact, translation is often not considered as a bone fide profession, but rather as a merely expendable liability, something no one should worry about until something goes horribly wrong. It is easy to judge the quality of translator training in specialized areas, but one should never forget that each and every one must take an appropriate share of the responsibility when it comes to ensuring the durability of a fledgling profession.

Universities have an important part to play in the training of translators, but they must not work in a vacuum: they must indeed adapt their training to the many changes that are shaking the industry, but they must also refrain from transforming their programs into à la carte curricula, or into ways to guarantee employment security to some tenured academics feeling threatened by evolving faculty requirements. The role of universities is to provide future translators not with specialized training, as this can only be effective in the short term, but with an education that enables translators to become specialized, even to change specialization in a few years time. In an era where no economic sectors are safe from the vagaries of the markets, universities have to look ahead and try to foresee what the future may hold for the profession, and ensure that they fulfills their mission in training translators that are competent today and will be still tomorrow and for decades to come.

References


5.2.3 Felix Mayer and Susanne Mühlhaus

Thoughts on the training of technical translators

Felix Mayer, Susanne Mühlhaus
Sprachen & Dolmetscher Institut München

1 Introduction*

Over the last few decades the linguistic needs of companies have increased significantly and, in line with this, the turnover of the translation market has, on average, increased by 11 per cent per year. Technical documentation and software localization have expanded further providing the translation market with even higher growth rates. At the same time, we have seen that translators have been specializing in particular areas depending on the languages involved. All-round translators working in several languages are still sought after in languages other than English. In English however, where we encounter the highest proportion of translation work, and other widely spoken languages, we observe specialization of translators and interpreters in particular fields. The term “technical translator”, as used in this article, refers to translators who have undergone training for the translation of texts pertaining to a special field such as business, technology and engineering, medicine, law, etc.

Parameters of work have also changed. Huber (2001) outlined that the training of translators and interpreters at German universities and universities of applied sciences does not fully cater for the new needs of the market. Huber (2001, 8) concluded that future needs such as software localization have to be met by degree courses preparing translators for the world of work. In doing so, Huber overlooked that software localization, technical writing and other fields already form a substantial part of the graduate training programmes offered by the Sprachen & Dolmetscher Institut München (SDI) (see also Schmitt (1990) for an earlier description of market needs).

According to a survey carried out by ASSIM (1999) there are 100,000 translators and interpreters working in Europe. The large majority, approximately 82,000, work freelance or for agencies. The ASSIM study does not paint a rosy picture for freelance translating and interpreting. Since translation projects are much larger these days, for example in the fields of computing, medical technology, automotive engineering and audio or video production, translation projects can no longer be undertaken by one translator on his/her own. With the added pressure of deadlines and the diversity of target languages there has, in recent years, been a trend for translators forming teams and partnerships to meet these challenges. Furthermore, a high percentage of translation graduates choose not to work as translators or interpreters but find interesting jobs in neighbouring fields instead, where they require further skills in addition to translation skills.

In this article, we shall, first of all, provide a summary description of the skills profile required in translating and interpreting jobs. Then we shall present some thoughts on how today’s up-to-date training of translators and interpreters in its present framework, in tertiary and higher education institutions, can meet these requirements. Although we are using the word “training” we include degree course translation studies in its meaning.

2 Translating and interpreting: spectrum of work and requirements

Translating and interpreting encompass a wide spectrum of work with a multitude of requirements. Firstly, we shall describe the requirements in the field of translating followed by those in interpreting. Subsequently, we shall outline further job opportunities, which, according to our experience, often present themselves for graduates of translating and interpreting degrees.

2.1 Technical translators: Requirements specification

Translators and interpreters do not solely perform translation and interpreting tasks but also carry out a diversity of tasks in the fields of information, documentation and communication. Therefore translators have to dispose of a multitude of skills of various types.

2.1.1 Linguistic competence

It almost goes without saying that translators need to have linguistic competence in all of their working languages, with special emphasis on their respective mother tongues. The European Language Portfolio can be used as a basis for comparison.

2.1.2 Translator competence

* This article has originated from observations made by a working group at the Sprachen & Dolmetscher Institut München. We are grateful to Herbert Blank, Stefan Broschwitz, Michel Décombre, Dr. Regina Freudenberg, Cornelia Groethuysen, Dr. Wolfgang Heuss, Gabi Krause, Wolfgang Kück, Dr. Wilhelm von Timroth, Barbara Vaccaro und Prof. Renli Zhang. We would also like to thank Prof. Dr. Klaus-Dirk Schmitz, the members of Transforum as well as the participants of the colloquium „Konzeptionelle Ausgestaltung der Übersetzer- und Dolmetscher-Ausbildung in Europa vor dem Hintergrund der Bologna-Erklärung“ at the LSP 2003 conference in Surrey.
Translator competence encompasses pragmatic translatory competence as well as competence in translation theory and methodology and the ability to apply this theoretical knowledge in practical translation of general and technical texts.

2.1.2 Subject-specific competence
Subject-specific competence is built on knowledge gained in lectures and terminology built up in technical translation classes. Therefore special importance is attached to the special subject (such as engineering, economics, law or science, etc.) as well as accompanying translation classes and terminology tutorials. It is important to closely integrate lectures, on the one hand, where knowledge is passed on to students and tutorials, on the other hand, where students practice applying their newly acquired knowledge. The entire spectrum of subject-specific communication needs to be dealt with (subject-specific texts, subject-specific terminology and pragmatic aspects pertaining to a particular subject). Mühlhaus & Lawlor (1999) described undergraduate courses, which integrated language and translation classes with classes teaching subject-specific knowledge. A significant proportion of students at the Sprachen & Dolmetscher Institut München (SDI) choose to study one foreign language with 2 special subjects. In the SDI’s English Department, 40% of students in the current second year study English with 2 special subjects, which are, in the majority of cases, either economics and law, or science and engineering, or law and engineering. The advantages of this approach were outlined by Arntz (2001).

Actual specialization only takes place once graduates have entered the world of work. That is why teaching should focus on providing students both with a foundation in their special subjects as well as transferable skills, especially methodological skills for researching new areas independently in an efficient way. Graduates will often work in interdisciplinary areas such as mechanical engineering, information technology, medicine, business law or patent law. These are areas, which are covered in the technology & engineering, economics, law and science/medicine syllabi.

2.1.3 Cultural competence
Cultural competence encompasses thorough knowledge of politics and society of both source and target culture, ranging from social structures and political institutions to customs, conventions and do’s and don’ts in social and business transactions.

2.1.4 Social competence
Teaching institutions should build on students’ existing social and interpersonal skills, develop these skills and give advice on how to expand them further. Social competence also encompasses flexibility, mobility, the ability to communicate effectively, the ability to work in a team and the readiness to explore new fields of professional activity.

2.1.5 General and specialized competence in ICT
Prospective translators cannot get by without being able to use a variety of software applications and tools. Proficiency in the following programmes and areas is regarded a standard requirement:
- Office-programmes
- Communication software (E-mail, compressing files, etc.)
- Internet research
In addition, it is important to have theoretical, methodological and practical knowledge regarding the application of the following programmes:
- Translation memory systems
- Terminology processing and management
- DTP programmes
Prospective translators should be able to work with the most common tools in the above-mentioned areas. They should also be able to quickly adapt to using new tools and have an overview of the products offered on the market.

2.1.6 Additional competence
Additional competence, not mentioned previously, encompasses knowledge of business-relevant issues, project management, quality assurance and technical writing.

2.2 (Conference) interpreters: Requirements specification
Interpreters need to have most of the skills which translators require. In addition, the following is also required from interpreters, particularly conference interpreters: Up-to-date knowledge of current affairs and the latest developments (e.g. European constitution, environmental technologies), the ability to adapt to a client’s jargon, flexibility as far as working hours and location are concerned, loyalty towards the client.

Freelance interpreters are, in general, not restricted to a particular subject area, on the contrary, they often work in several subject areas. For this reason, it is of vital importance to prepare prospective interpreters for the interdisciplinary nature of their future work and teach them the skills necessary for researching a new area. Once equipped with this knowledge they can research a new area at fairly short notice and prepare. Of increasing importance in interpreting are the use of video and the Internet.

Apart from these “classic” areas of work a variety of further work opportunities have developed in recent years, which we are outlining below.
2.3 Further areas of work and their requirements

2.3.1 Software Localization
Software localizers adapt a software product to a local or regional market and carry out any technical changes that may be necessary. In addition to translatory competence localizers need to have significant knowledge of software programmes.

2.3.2 Multilingual technical writing
Multilingual technical writers find work opportunities with international companies. Their work consists primarily in describing complex facts in user-friendly language (operating instructions, manuals). In addition to linguistic competence, technical writers need to have thorough subject knowledge and good writing skills. Knowledge of specific software packages is also important.

2.3.3 Terminology
A terminologist’s work consists in mapping and processing languages for special purposes as far as terminology, subject-specific expressions and phrases are concerned. A terminologist has to research parallel texts, advise subject experts in questions of terminology, process terminology using appropriate software, keep terminology files up-to-date and make terminology available in a desired format (e.g. online or in form of a dictionary) for a particular user. This work can involve one or more languages. Requirements for the job are knowledge of the theoretical background of terminology, aims and methods of terminology standardization, classification systems of the subject areas and thorough knowledge of the subject in which the terminology work is carried out. Terminologists work in language departments of large companies, in terminology departments of government departments or organisations and freelance.

2.3.4 Lexicography
A lexicographer’s work consists of dictionary making and editing. Once entries are compiled grammatical and semantic information as well as definitions, translations, examples of usage and phonetic transcription can be added. A lexicographer will make use of text corpora in one or more languages. A lexicographer will have thorough knowledge in lexicography and lexicology as well as semantics, phonetics, etymology and word formation. Lexicographers work in editorial teams of dictionary publishing houses, for government departments and international institutions or freelance.

2.3.5 Language consulting
Language consultants coordinate the entire in-house language requirements of a company. They plan staff language training programmes and organize the entire translation requirements of a company. The work of a language consultant typically encompasses determining target groups, establishing guidelines and standards, commissioning and checking translations. Project management and quality assurance play an important role in the work of language consultants. They will need to have knowledge in language training, in computer-aided translation and business knowledge in areas such as costing and marketing.

2.3.6 Multilingual cultural management
Multilingual cultural managers will work in areas involving translation, business and culture. For appointments in supranational institutions intercultural agents have to be proficient in foreign languages and have thorough knowledge of business and economic structures of various cultures. Project management and presentation skills complete their training. International cultural managers work in the following areas: public relations departments of various cultural organizations and bodies, in publishing houses and TV or radio as well as in marketing departments of international companies.

4 Bachelor’s/Master’s level and the European dimension

Firstly, we are going to outline the present situation in Germany. This is followed by some thoughts on the structure of up-to-date translation and interpreting studies against the background of a possible overhaul of education systems in Europe.

3.1 The current situation in Germany
In Germany, degree courses in translation and interpreting, with different emphases, are offered at eight universities (in Berlin, Bonn, Düsseldorf, Heidelberg, Hildesheim, Leipzig, Mainz-Germersheim and Saarbrücken), five universities of applied sciences (in Flensburg, Cologne, Köthen, Magdeburg and Munich – the latter only offers higher semester studies), and in Bavaria at five vocational institutions specializing in language professions called “Fachakademie” (in Munich, Erlangen, Kempten, Würzburg). Studies at the “Fachakademien” conclude with the Bavarian State Exam for Translators and the Bavarian State Exam for Interpreters, which are recognized as being equivalent to a Bachelor’s degree in English-speaking and French-speaking countries. In other German-speaking countries (Austria and Switzerland) translation and interpreting degree courses are offered at four universities (in Geneva, Graz, Innsbruck and Vienna) and at a university of applied sciences (Zurich). In most cases, translators and interpreters acquire a diploma after a minimum of 8 semesters of study. Most universities and universities of applied sciences in Germany are currently considering the introduction of BA/MA degree courses, since greater international comparability and even compatibility of degree courses in translation and interpreting are seen as a desirable goal.

3.2 New BA/MA courses in Germany
Against a background of over 50 years of experience in training translators and interpreters at the Sprachen & Dolmetscher Institut München on the one hand and the above described requirements of the market and the developments at European
universities and higher education institutions on the other, we are presenting some thoughts on the structure of up-to-date translation and interpreting degree courses.

In a three-year undergraduate degree course only the main skills can be taught, more advanced and more specific skills have to be taught at Master’s level.

The training of technical translators has to combine theory and practice in an appropriate way. Lectures and tutorials on translation theory and practice should focus on theoretical, descriptive and applied approaches to translation and be followed by a variety of practical translation classes. A number of institutions have taken a modular approach as the basis for restructuring degree courses.

If one takes a closer look at the skills profiles of bachelor’s and master’s level courses, it is obvious that translation studies at undergraduate level should not only focus on teaching general translation but also include some technical translation classes. At postgraduate level a variety of modules covering more specialized areas to an advanced level should be taught. Examples of these, to mention but a few, include conference interpreting, software localization and technical documentation, terminology, translation for different media, dubbing and screen translation, translation of patent applications, and so forth.

3.2.1 BA Technical Translation

The BA Technical Translation degree course is suitable for those German native speakers and native speakers of other languages whose goal it is either to work as translators or to work with several languages in any other field. Students learn the skills which are necessary for professional technical translators. They also acquire some basic interpreting skills, which can be advanced further at MA-level.

Students study two foreign languages. Since English is indispensable for today’s professional translators, English clearly needs to be one of the two foreign languages. Owing to the time constraints of a three-year degree course, it should be pointed out that a high level of proficiency and translation skill will only be attained in the first foreign language, whereas the second foreign language can be developed further at MA-level.

Students study two foreign languages and a special subject such as economics, law, engineering or science, which is taught in German at first and later on contrastively in the first foreign language. Learning how to penetrate a subject through its terminology is an essential part of the syllabus since this will be a core requirement in the budding translator’s professional lives. Language skills and subject-specific knowledge on their own do not equip translators sufficiently for the world of work. In addition, it is widely expected that translators have excellent communicative cultural competence. A degree course needs to impart knowledge of cultural specifics pertaining to each language area, which can be complemented with optional subjects from the “BA Language and Culture” (see also 2.3.5 and 2.3.6).

A major focus of the course has to be acquiring skills in language technology since these are indispensable for professional translators. Language technology encompasses linguistic data processing, machine translation and computer-aided terminology work.

The studies are further enhanced by practical work placements and periods abroad within the framework of Erasmus exchange programmes.

3.3 Harmonization and diversity

Harmonization at European level should give rise to increasing international cooperation over and above the current Erasmus exchange programmes and also lead to more joint degrees in the near future. Translation, interpreting and language studies degrees are in a way predestined for joint degree courses with students studying 2 foreign languages at 3 different institutions in 3 different countries. If the spirit of Bologna is to prevail the obstacles of financing, and diversity of levels, content and teaching & learning methodologies and culture must be tackled. These difficulties, which, at face value, look like obstacles, can be turned into strengths if each of the participating institutions in a joint degree course focuses on their particular areas of excellence. In this way students will draw maximum benefit from a diversity of approaches.

4 Summary and Outlook

In summary we can postulate that there are three important areas to be considered in the training of translators and interpreters:

5. The training of future technical translators and interpreters needs to encompass the following core skills: linguistic and translatorial competence (mother tongue and foreign language), competence in one or more special subjects, cultural knowledge and competence in (language) technology and transferable skills. Competence in language technology includes the tools a translator is likely to encounter at his/her work place especially common applications such as word processing, as well as terminology management and machine translation.

6. The training of technical translators needs to encompass skills relevant for the real life world of work of translators based on sound scientific foundations in translation theory.

7. Training should be modular and follow the BA/MA structure: during the 3-year undergraduate course students learn essential technical translation skills which are further expanded during 1-2 year long Masters programmes.

It is important to discuss the syllabi for technical translation studies and adjacent areas bearing in mind the necessity to update syllabi according to the changing skills profiles of professional translators and against the background of efforts at European level to harmonize the training of translators and interpreters (see also Wilss 1999, Forstner 2001 and Schmitz, in press). This discussion can facilitate changes in those training institutions, which strive to continuously update their syllabi according to the needs of the market. At the same time, it will facilitate harmonization of training goals at European level which in turn will
facilitate the introduction of joint degree courses and make it easier for students to switch from one university or training institution to another in a different European country. It goes without saying that diversity of foci in different countries and training institutions and their complementary strengths make cooperation at European level even more worthwhile.

5 References


5.2.4 Anastasia Parianou and Panayotis I Kelandrias

Instructions for use and their translation in a global age

Anastasia Parianou / Panayotis I. Kelandrias, Ionian University

1. Introduction

Localization plays an important role in software and product documentation. The actual translation process is only one step out of several others prior to it. These other steps include “the use of multilingual terminology databases, controlled writing, disambiguity tagging, and the integration of MT” (Pym 2000). Technical texts, such as instructions for use, must combine the appropriate technical terminology with the necessary amount of information for the prospective non-expert readers. Finding the appropriate technical terms, their usage and translation are facilitated with the aid of the above-mentioned tools. The question is whether non-expert readers will be able to understand the various functions of an appliance. When this goal is achieved, the communicative function of the text will have been accomplished.

2. Communicative function of LSP texts in instructions for use:

Instructions for use are part of our everyday life. Yet, their producers and receivers remain unknown to each other and rarely communicate with one another. The only thing they have in common is the content of the instructions and their mutual will for the proper use of the appliance described therein. Thus, the important thing for the producer is to write something that the recipient wants to read and will understand (Sager 1994). This is best accomplished when the technical writer and later the translator produce readable texts. In this case they must follow ‘les principes de la lisibilité’ (‘the principles of readability’) (Gémard 1995:60). These comprise the following three criteria:

- Clarity
- Simplicity
- Concision

Technical texts such as instructions for use serve functional communication. As such they must be understood immediately and without effort by a variety of people. This implies the understanding of both the referential meaning of the technical terms and the general meaning of the text. In this way the criterion of clarity is served.

Simplicity in technical texts is assured when there are no vague or ambiguous terms and, at the same time providing all the necessary information. In practice this implies the exclusion of polysemy, synonyms or “double terminology” (Thurmaier 1995) and the inclusion of ‘controlled language’ techniques. Concision implies a restricted amount of lexical features and avoiding superfluous stylistic features.

These three criteria contribute to the explanation of an appliance’s function. Unfortunately, they are not always followed by the technical writer and the translator resulting in problems for the user. The user will be unable to use the appliance as described in the instructions. The major problems for the user of an instruction for use will be discussed below.

2.1. Technical details

A new product is always accompanied by a large number of technical details and terminology. The object of new technological developments in household appliances should be to spare the reader from all these details. Thus, the technical writer’s effort is to furnish the recipient with fewer technical details to avoid the confusion (Krämer 2003). Lehrndorfer (2003) has found that professionals dealing with technological details use more simple linguistic, optical and didactic means when technology becomes too complicated. Consequently, the technical writer must find exactly where to draw the line between technical information and functional communication.

2.2. Terminological vagueness in the TL

Things are more complicated when the TL does not ‘produce’ its own terminology and is dependent on the translation from other SL to enrich its LSP. This is mostly the case in countries with a peripheral language and/or culture where terminological vagueness is unavoidable because:

- No important progress has taken place in the TL
- Product/term is not widely used in the TL
- Product/term is just recently being used in the TL
- No terminological data bank exists or is just beginning to exist

We noticed that precise terminology is used where strictly technical terms are concerned such as in an instruction for use description. Whenever terminological vagueness appears it is the translator who did not pay the appropriate attention. We shall

---

1 There are two different ‘producers’ of an instruction for use, the text initiator (company) and the text author (person(s) or company) specialized in technical documentation and authorized by the text initiator to write the instruction for use (Zirngibl 2003).
2 Hessel (1987) and Hoffmann (1984) use the expression ‘generalisierte Mehrfachadressierung’.
3 In practice controlled language is not so much used as two companies, Bosch and Braun, assured us. (E-mail communication with the International Key Accounts Manager of Bosch, Fotios Katsarids and communication expert of Braun, Jochen Krämer.)
4 We do not intend here to underline the translators’ mistakes but rather to outline more general and comprehensive features connected with terminological vagueness.
examine examples employing terms that are not purely technical, i.e. terms with cultural, legal and administrative features. In the following examples (1, 2 and 3) two central languages (English and German) and a peripheral language (Greek) are involved:

Example 1: CaféPresso Crematic Krups (Cappuccino and Filter Coffee Machine)
- Disposal
- Entsorgung
- Απόθεμα

Example 2: Bosch BMS 21... (Vacuum Cleaner)
- Dispose of the packaging material correctly.
- Verpackungsmaterial ordnungsgemäß entsorgen.
- Επιβάλλεται κανονική οικολογική απαλλαγή των υλικών συσκευασίας.

Example 3: Neff Joker 150 D clou (Electric Cooker)
- Dispose of packing material properly
- Verpackungsmaterial ordnungsgemäß entsorgen
- Η απόθεμα της συσκευασίας να εκτελεστεί σύμφωνα με τους κανόνες.

These three examples show us that while the two central languages use the same terms (‘Disposal’/‘Dispose’ in English and ‘Entsorgung’/‘entsorgen’ in German) the Greek language uses a different expression each time. This is part of the terminological vagueness and expresses on the one hand the almost complete absence of waste disposal policies in Greece contrary to those applied in other countries and on the other hand the recent appearance of these terms in the Greek language.

The next five examples show the legal terminology involved in instructions for use and its translation in a peripheral language:

Example 4: Braun MP 80 Multitrip automatic (Automatic Juice Extractor)
- Dieses Gerät entspricht dem EMV-Gesetz (EG-Richtlinie 89/336/EWG) sowie der Niederspannungsrichtlinie (73/23 EWG).
- Αυτό το προϊόν πληροί τις προδιαγραφές ΕΜC, όπως αυτές έχουν οριστεί από την οδηγία του Συμβουλίου 89/336/ΕΕΚ και τους Κανονισμούς Συσκευασών Χημικής Τάσης (73/23 EEC).

Example 5: Braun K 3000 MultiSystem (Kitchen Machine System)
- Dieses Gerät entspricht dem EMV-Gesetz (EG-Richtlinie 89/336/EWG) sowie der Niederspannungsrichtlinie (73/23 EWG).
- Αυτό το προϊόν ανταποκρίνεται στις απαιτήσεις της Ευρωπαϊκής κοινότητας, όπως αυτές αναφέρονται στην οδηγία του Συμβουλίου 89/336/ΕΟΚ και με τις διατάξεις πέρι Χημικών Ηλεκτρικών Τάσεων (73/23 ΕΟΚ).

Example 6: Braun MX 2050 PowerBlend (Blender)
- Dieses Gerät entspricht dem EMV-Gesetz (EG-Richtlinie 89/336/EWG) sowie der Niederspannungsrichtlinie (73/23 EWG).
- Το προϊόν αυτό είναι σύμφωνο με τις προδιαγραφές της ΕΜC όπως αυτές έχουν οριστεί από την υπ’ αριθμό 89/336/ΕΟΚ Οδηγία του Συμβουλίου και από τον 73/23/ΕΟΚ Κανονισμό.

Example 7: Braun G 1300 K PowerPlus 1300 (Meat Grinder)
- Dieses Gerät entspricht dem EMV-Gesetz (EG-Richtlinie 89/336/EWG) sowie der Niederspannungsrichtlinie (73/23 EWG).
- Το προϊόν είναι σύμφωνο με τις απαιτήσεις της ΕΜΟ όπως καθορίζονται από την Οδηγία 89/336/ΕΟΚ και τις διατάξεις πέρι Χημικών Ηλεκτρικών Τάσεων (73/23/ΕΟΚ).

Example 8: Braun MR 5500 BC, BC-HC, M BC-HC Multiquick/Minipimer professional (Hand Blender)
- Dieses Gerät entspricht dem EMV-Gesetz (EG-Richtlinie 89/336/EWG) sowie der Niederspannungsrichtlinie (73/23 EWG).
- Το προϊόν αυτό είναι σύμφωνο με τις προδιαγραφές της ΕΜC όπως αυτές έχουν οριστεί από την υπ’ αριθμό 89/336/ΕΟΚ Οδηγία του Συμβουλίου και από τον 73/23/ΕΟΚ Κανονισμό.

We can remark here that the central languages (English and German) use the same terminology in all five examples,
while in the peripheral language we see four different translation proposals, i.e. only two examples out of five, 6 and 8, are identical.

It seems that in the near future terminological vagueness in the peripheral languages will be eliminated since more and more companies will use terminology data banks to reach a consistency in technical and other terms in these languages\(^5\). At the moment, it is either the translators of peripheral languages who have to refrain from using too many different terms and use existing terminology data banks\(^6\) or the product manager in the peripheral country that is responsible for the ‘fine tuning’\(^7\).

2.3. Corporate terminology

It is well known that each company has its own corporate culture, corporate image and corporate identity (Pogarell 1993)\(^8\). Corporate terminology is part of every company’s identity and equally important to its products. Corporate terminology applied in instructions for use comprises product names, designations and terminology of technical details. A corporate terminology may result either unintentionally or intentionally.

Bosch admitted that it is intentionally promoting its own corporate culture using its own terminology and rhetoric\(^9\). Braun, on the other hand, does not intentionally use a corporate terminology, with the exception of expressions such as ‘Food Processor’ instead of ‘Kitchen Machine’\(^10\). In ‘Braun CombiMax K 650 Food Processor’ we find ‘Food Processor’ incorporated in the product name\(^1\). Other companies such as Bosch, Philips and Kenwood use both ‘Food Processor’ and ‘Kitchen Machine’ in their product names\(^12\).

As far as technical details in descriptions are concerned, each company uses its own corporate terminology to describe the same technical parts. For example, in the description of a steam iron of different types Braun uses a corporate terminology of its own:

**Example 9:** Braun SI 4000, SI 8580, SI 6575, SI 6230, SI 6530, SI 6220, SI 6510, SI 6210 (Steam Iron)
- Water tank opening (English)
- Wassertanköffnung (German)
- Système d’ouverture et de fermeture du réservoir (French)
- Boca del depósito de agua (Spanish)
- Bocal do depósito de água (Portuguese)
- Ο οίκη (του) δοχείου νερού (Greek)

Other companies have their own corporate terminology for the same technical detail:

**Example 10:** Rowenta: ActiLine DM 110, 115, 120; PowerLine DM 130, 140 (Steam Iron)
- Water filling inlet (English)
- Wassereinfüllöffnung (German)
- Ouverture de remplissage d’eau (French)
- Orificio para llenado de agua (Spanish)
- Orificio de enchimento do reservatório (Portuguese)
- Στόμιο εκλήψης νερού (Greek)\(^13\)

**Example 11:** Philips HI 515/25/35/45 Azur Excel Plus (Steam Iron)\(^14\)
- Turbo Steam Druckschalter (German)
- Bouton vapeur Turbo (French)
- Pulsante Turbo vapore (Italian)
- Turbo buhar dūğmesi (Turkish)

It becomes clear that the variety of different corporate terminologies for the same function or technical part is likely to confuse the recipient. Only a careful reader of the text and the illustration will not be distressed by the different corporate terminologies of the technical details. On the other hand, the companies - even if they were willing to cooperate - are not obliged to use the same terms since this would lead to terminological, technical and legal problems (e.g. patent rights, trademark law).

\(^{5}\) This assumption was confirmed by Braun’s communication expert Jochen Krämer in an e-mail communication (31 July 2003).

\(^{6}\) Information given by Jochen Krämer from Braun (e-mail dated from 31 July 2003).

\(^{7}\) Information given by Fotios Katarsidis, the International Key Accounts Manager of Bosch (e-mail dated 4 August 2003).

\(^{8}\) Apart from the product name the corporate image comprises the logo, packaging, innovative product shapes, cartoon characters, website address names (domain names) and unique product characteristics. Even the look and feel of a business site on the Internet (web page) are increasing becoming important means for a business to identify itself and its products in the marketplace (Elias 2003).

\(^{9}\) See footnote 7.

\(^{10}\) See footnote 6.

\(^{11}\) Yet, in the description of ‘Braun K1000 5 in 1 Kitchen Machine Type 3210’ we find the terms ‘food processor bowl’, ‘food processor cover’ and etc.


\(^{13}\) A very characteristic example of corporate terminology comes from the automobile industry. The German term for tinted glasses differs from company to company. The style sheets of Volkswagen/Audi and Toyota prescribe the terms ‘athemische Scheiben’ and ‘Wärmeschutzverglasung’, Mercedes-Benz the term ‘wärmedämmdendes Glas’, BMW the term ‘grünes Wärmeschutzglas’, Opel ‘wärmedämmend, getönte Rundumverglasung’, Nissan and Saab ‘getönte Scheiben’ and ‘Lancia Colorglas’ (Stolze 1999).

\(^{14}\) No English version available. The expression Turbo seems to be used by different companies. Braun uses it in connection with ‘on/off switch for turbo speed’ in English (example MR 5500 BC, MR 5500 BC-HC, MR 5550 M BC-HC), ‘Ein-/Ausschalter für Turbo-Geschwindigkeit’ in German, ‘Interrupteur marche/arrêt pour utilisation avec la vitesse turbo’ in French, ‘Interruptor de máxima potencia (turbo)’ in Spanish, διαχωπήτης (on/off) για ταχύτητα turbo’ in Greek.
2.4. Illustration and localization

A good illustration is very helpful and is almost always accompanied by a text. The illustration and its localized text are responsible for a successful understanding of the instructions for use (Homberger 1972, in: Nord 1988). However, a good illustration must avoid the following pitfalls:

a. Pictures or illustrations that are too small.
b. Unreadable text accompanying the illustration.
c. Incorrect contrast between background and illustration.
d. Disproportion between text and illustration.
e. Illustration explanatory text in the SL instead of the TL which leads to non-localized illustration-texts where the text is in a central language only, mostly in English.

The following instructions for use have been translated into 18 languages. The illustrations depicting each step necessary for the proper use of the steam iron include the steps stated below:

A. Description
B. Before starting
C. Ironing
D. After ironing
E. Maintenance and cleaning
F. Cleaning the anti-calc valve
G. Anti-calc system

Example 12: Braun SI 4000 Type 4670 (Steam Iron)

- C.1. Steam on/off
- C.2. Power shot
- C.3. Spray
- C.4. Dry
- F. Vinegar or lemon juice
Readers who are not fluent in English are not particularly helped by the above illustration. In Example C.1, ‘steam on/off’ is not very confusing since the words ‘on/off’ are easily understood even by non-English speakers. An attentive non-English speaking observer of the illustration may even understand the word ‘steam’.

In Example C.2, however, ‘power shot’ is quite confusing to someone with inadequate knowledge of the English language. The reader who does not know the meaning of ‘power shot’ will be puzzled when he meets it for the first time and without explanation. What is needed here is either a localized term or the English term with an explanation in the TL.

The illustration in the instructions for use shows us that technical details and communicative function are equally important for a better understanding of the instructions. For example, an illustration containing all the parts of an electrical appliance with their corresponding technical terms is as important as the translation where the text produced is written according to the ‘product or expectancy norms of the reader’ (Chesterman 1997:64). If the translator is aware of his responsibility to ensure maximum communication between the parties (Munday 2002:119), she should also be aware of the product or expectancy norms of the readers of a translation. To this end, a good illustration accompanied by relevant, and preferably localized, text is necessary.

3. Conclusions

From the above examples and remarks we can extract the following three parameters that should be given particular attention by those (but not only those) involved in the localization process in a peripheral language.

3.1. Degree of unlocalized texts

The degree of unlocalized texts in instructions for use manifests itself in two ways. First, in illustrations which are accompanied by a mostly English text, which remains in English in all the other languages of the instruction and may hinder understanding (see Example 12). Secondly, as far as the rest of the text is concerned, in a total lack of either localized or unlocalized texts and the appearance of internationalization. If we follow the evolution of instructions for use over the years, we find that in the beginning instructions were unlocalized and reminded us of the language and the cultural patterns of the country where they were first written. In recent instructions, culturally and country-specific expressions are deleted because internationalization has replaced localization. Almost all texts nowadays are internationalized so the product can be sold in different countries without the need for redesign (Pym 2001). This total lack of cultural patterns deprives the reader of a certain degree of acquaintance and intimacy with the text.

3.2. Inappropriate use of special language

Undoubtedly, the use of special language is necessary for both the technical writer and the translator. Yet, there are two different situations where the use of special language has entirely different consequences. The first situation has to do with the use of technical details, such as the different parts of the appliance mentioned in the description that are always depicted in the illustration sheet. Here, understanding is facilitated by the illustration even if the terminology is very unfamiliar to the reader. The producer of an appliance needs technical terminology to name the product and its parts and functioning. The second situation is entirely different and has to do with understanding the text itself regardless of the quantity of the terminology used. Where certain actions are described and certain objects (non-technical parts) are used that are neither mentioned nor depicted should be expressed in a communicative and functional way that is easily understood by everyone. Two of the most common observations are:

- The excessive use of special language hinders understanding and readability.
- Not placing the explanations of the technical details and their descriptions in the layout of the manual diminishes readability (see Example 12).

A last remark where inappropriate use of special language is concerned, relates to the non-technical terms (legally or culturally bound terms) which when translated are not given the same attention as those purely technical terms.

3.3. End-user's expectation and knowledge

On the one hand, language of instructions for use following the principles of readability should contain the particular features of clarity, simplicity and concision. On the other hand, LSP uses “specialized vocabulary, collocations, [and] stylistic features” (Bowker/Pearson 2002:27). Yet, the recipients of the instructions for use are mostly non-experts, these are “people who, for one reason or another, find themselves in a situation where they must use an LSP with which they are not familiar” (Bowker/Pearson 2002:27). How can a communication situation succeed when non-experts come in touch with features such as specialized vocabulary, collocations and stylistic features which must be presented in a clear, simple and concise way? Here again, we must think about the end-user, a non-expert and his communication with the expert who is writing the technical text. If the expert wants to be understood he must unavoidably limit the specialized language, sometimes use LGP words instead of LSP terms and produce good illustrations. The non-expert recipient does not want to become an expert on the linguistic or conceptual knowledge of the text. What s/he wants is to learn quickly, how to use an appliance and have it function efficiently. Function is

---

15 In the translation of the instructions, the English words ‘steam on/off’ appear in three languages only. It is Greek, Russian and Portuguese, curiously enough not in C.1. but at different places (for example in D. and in F.).

16 For Chesterman the ‘communication norm’ belongs to the ‘professional norms’ and is ‘subordinate to and determined by expectancy norms’ (1997:67).

17 For an American product this involves taking the product and deleting all elements that were in some way specific to the American market (Pym 2000).
the basic reason why instructions for use are produced. Special knowledge and time are what the majority of the recipients do not possess.

BIBLIOGRAPHY

5.2.5 Anne Kari Bjørge

“The person in the middle”: Strategies in translating LSP texts

Anne Kari Bjørge
Associate professor, Department of professional and intercultural communication
Norwegian School of Economics and Business Administration (NHH)

1 Introduction

In my paper I am going to discuss some observations with respect to translating LSP texts. The language pair is Norwegian and English, and the text material is translations written by candidates sitting for the Norwegian translator accreditation exam. Candidates passing the exam receive the prestigious qualification of accredited translator. They translate four texts, one dealing with a general topic, and three which would be described as LSP texts, dealing with technical, economics and legal subject matter respectively.

Three issues are basic in this context: First, there is the selection of LSP texts, which should have an appropriate level of complexity, and be representative of the three topics selected for testing. LSP is not interpreted in the sense of referring to communication among specialists only (as in Sager et al. 1980: 69), but rather to communicate information of a specialist nature at any level (as in Pich & Draskau 1985: 3). The second issue concerns the fact that the translations have been carried out under exam conditions, which raises the issue of strategies to cope with limitations of time and access to information. The third is the issue of evaluation, or which criteria to use when deciding whether a candidate is to pass the exam and receive accreditation.

Whether a text is perceived as difficult to translate or not may depend on a number of factors, e.g. syntactic complexity and lack of corresponding concepts in the target language. One approach is to look at the number of variant translations of the same text as an indication of translational difficulty. This is the approach I shall adopt in the following, using the choice network analysis (CNA) as set out in Campbell 2000, and Hale & Campbell 2002. This analysis compares a number of translations of the same translation item. A large number of alternatives will be taken as an indication of translational difficulty. The kind of alternative chosen by the candidates – Campbell’s “person in the middle” (2000: 30) – will be linked to translation strategies set up by Chesterman (1998, 2000: 15–16), viz. syntactic, semantic or pragmatic strategies.

On this basis, I shall address the following research questions:

1. Can the number of variant translations of the same translation item be an indication of how difficult it is to translate?
2. What strategies have been used by candidates when bilingual dictionaries do not have an equivalent term?
3. What criteria are relevant when comparing the quality of the different variants?

2 Data

The material used for this paper is an LSP text in Norwegian, set as part of the translator accreditation exam in 2002. Candidates were asked whether they would permit the use of their translations for research purposes, and 19 candidates gave their assent; which resulted in a corpus of 19 different translations of the same text into English. The length of the Norwegian text is 266 words. The texts were translated under exam conditions, and candidates had approximately 2.5 hours to translate the text. Dictionaries were allowed, but not access to the internet, which means that candidates’ ability to do an internet search for relevant terminology and colloctions was not tested.

Candidates sitting for the exam have a minimum of three years’ university education, but there are no requirements for English to be included as part of their university course. Many of them work as translators, but lack the accreditation given by the exam. I therefore feel justified in referring to this corpus as a parallel or bilingual corpus, consisting of “original, source language-texts in language A and their translated versions in language B” (Baker 1995: 230, quoted in Shuttleworth and Cowie 1997: 120), or, in the words of Johansson & Oksefjell (1998: 4), as a translation corpus, defined as a corpus consisting of an original text and its translations.

The text to be discussed deals with a technical topic, more specifically with the insulation of external walls in wooden houses. Unlike texts dealing with economics and legal topics, technical texts are generally regarded as being non-cultural. However, technical descriptions may also refer to objects and processes that are specific to one culture. A case in point is the construction of houses, which will vary according to climate and local conditions. Thus, in Norway, private houses are generally wood constructions and, being built for a cold climate, are very well insulated.

The text was accompanied by an illustration showing the construction in question.
3 Methodology

To address the question translational difficulty I shall discuss whether a large number of variant translations of the same item is an indication of difficulty, using the choice network analysis as set out in Campbell 2000 and Hale & Campbell 2002. Choice network analysis regards the target text to be "a tangible source of evidence of mental processing in translation" (Campbell 2000: 32). The variant translations of one source text thus reflect the behaviours of the subjects translating the text, and represent choosing an alternative from a set of potential options.1

The alternatives chosen by the candidates will be linked to the translation strategies set up by Chesterman (1998, 2000: 15–16), viz. whether the strategy chosen is primarily of a syntactic, semantic or pragmatic nature.

Translation accuracy is notoriously difficult to pin down. However, I shall try to assess what criteria are relevant when assessing the accuracy of the alternatives chosen by the candidates. Decisions on relative accuracy will be made on the basis of how the terminology in question appears – if at all – in relevant textual material appearing on the internet, using GOOGLE as a search engine.

Invariably, some of these alternatives will be regarded as being “preferable to” or “more accurate than” other less successful variants. In evaluating a candidate’s performance, one will necessarily also have an opinion on degree of accuracy or acceptability (Hale & Campbell 2002). When it comes to translating terminology with respect to the language pair English/ Norwegian, the alternatives presented by the candidates may be evaluated by a comparison with documentation available on the Internet.

Assessing the text as a whole would be beyond the scope of the present paper. I shall thus focus on three examples: the variant translations of one brief sentence, one technical term which is specific to Norwegian culture, and one technical term realised by a complex noun phrase.

4 Results

4.1 Analysis of one brief sentence including general vocabulary

English and Norwegian share many features of syntax. In some cases, translating from Norwegian into English can be a question of translating word by word. Thus, a CNA analysis of the sentence Eldre hus er ikke så godt utstyrt yielded the following results:2

<table>
<thead>
<tr>
<th>Eldre</th>
<th>hus</th>
<th>er</th>
<th>ikke</th>
<th>så</th>
<th>godt</th>
<th>utstyrt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Older</td>
<td>houses</td>
<td>are</td>
<td>not</td>
<td>so</td>
<td>well</td>
<td>equipped</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>that</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*as</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>*equivalently</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fig. 1 Alternative translations of Eldre hus er ikke så godt utstyrt

It will be clear that the similarity between the two languages here allows the candidates to translate word by word, and that the majority of them have chosen the acceptable alternatives so and that.

A word-by-word strategy is thus successful in this case.

4.2 CNA analysis of murtvang

In this case, we have a term which has no corresponding concept in the target language. The Norwegian word murtvang, (word-by-word translation *brickwork compulsion), refers to outdated building regulations prohibiting the building of wooden houses in Norwegian towns to prevent fires from spreading. As a minimum requirement, a brick front could be added to the wall facing the street. Since the concept is unknown in the target culture, Norwegian-English dictionaries do not give a translation of the term.

A word-by-word “translation” could look like this:

<table>
<thead>
<tr>
<th>mur</th>
<th>tvang</th>
</tr>
</thead>
<tbody>
<tr>
<td>*brickwork</td>
<td>*compulsion</td>
</tr>
</tbody>
</table>

Fig. 2 Word-by-word translation of murtvang

---

1 In Hale & Campbell (2002: 18) a distinction is drawn between options, i.e. ‘the set of possibilities available to a subject when faced with the translation of a specific item’. This is an empirical notion, based on the number of translations of an item in a sample. The term alternative is used about the actual choice made by the translator. Choice is used ‘as the overarching term, covering the whole process of selecting alternatives from options’ (l.c.).

2 An asterisk indicates unacceptable/unidiomatic translation.
So how did our candidates cope with this situation? The 19 candidates came up with 17 different variants for the concept.

Three of them opted for a syntactic strategy involving a word-by-word translation, choosing one lemma for mur (brick wall, masonry, wall) and one to express the mandatory aspect (compulsion, obligatory).

The other sixteen candidates, however, opted for the pragmatic strategy of explicitation, either by means of a noun phrase, e.g. an obligation to build in brick or stone, or by means of a finite clause, e.g. brick walls were made compulsory.

In this case, it is my opinion that a pragmatic strategy of explicitation is preferable, since the concept is culture-specific.

4.3 Analysis of technical term realised as a complex noun phrase

When it comes to terminology, one would expect the situation to be fairly straightforward, and most terms to be available in technical dictionaries. However, finding lexical equivalents of technical terms may present major problems. The term in question may not be found in the dictionary, or the dictionary may provide a number of alternative translations without guidelines for which alternative is the most appropriate one.

A number of the terms in the text yielded eight or more alternative translations. They included terms requiring explicitation due to cultural factors, e.g. murtvang, which we have just looked at, and terms realised by noun phrases with an underlying argument structure, e.g. a subject-verb or object-verb relationship. Head-modifier relationships also gave rise to a number of alternatives.

For closer analysis, I have chosen the term diffusjonsåpen vindsperre. This refers to a membrane or layer of material inserted in the insulation to allow damp air from inside the house to escape, while keeping out draughts.

The term – or its component parts – looks deceptively easy to translate, but is not found in the relevant dictionaries.

One might, however, easily come up with the following word-by-word translation:

<table>
<thead>
<tr>
<th>Norwegian term</th>
<th>PREMODIFIER</th>
<th>HEAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>diffusjonsåpen vindsperre</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Word-by-word translation</th>
<th>diffusion</th>
<th>open</th>
<th>wind</th>
<th>barrier</th>
</tr>
</thead>
</table>

Fig. 3 Norwegian term diffusjonsåpen vindsperre and word-by-word translation

Norwegian-English dictionaries give neither the premodifier nor the head, but do include diffusion for diffusjon. The term diffusjonsåpen, however, is a common one in Norwegian, giving 225 GOOGLE hits, the first 10 of which all refer to relevant contexts, viz. to membranes/barriers/coatings of various types that allow diffusion, i.e. that allow the migration of damp air.

In the following CNA chart, I have tried to relate the 19 candidates’ alternatives to the translation strategies set out in Chesterman (2000: 15–16), concentrating on the translation of the modifier diffusjonsåpen:
Fig. 4 CNA chart illustrating alternative strategies used to translate *diffusjonsåpen*
The initial choice made by the candidates is whether the modifier is to be translated as a premodifier or a postmodifier. For the ones who chose the premodification solution, the strategies varied from a word-by-word translation, via the use of near-synonym to explicitation. The postmodification solutions, however, are probably best described in terms of explicitation, reflecting a choice where the candidates did not trust the closest version – *diffusion open* – but preferred to explain the process involved.

The British National Corpus had no citations for *diffusion open*, while a GOOGLE search yielded 246 results. A check of the first 50 yielded 13 relevant contexts (the others mainly referred to computer contexts, including its use as a loan-word in French). However, none of these 13 contexts originated in an English-speaking nation. The relevant websites – in English – were German (4) ‘insulate and feel well’, Danish (3), Austrian (2), Norwegian (1), Swedish (1), Slovenian (1) and Czech (1). These results should make the translator suspect that *diffusion open* may not be the preferred term, and instead follow Newmark’s advice (1988: 154) in preferring a descriptive term.

Another strategy is to hypothesise on the basis the concept of *diffusjonsåpen* and approach it through near-synonymous concepts like *permeable* and *porous* in combination with *vapour*. Thus, a GOOGLE search for *vapour permeable* gave 2,320 results. A check of the first 10 revealed relevant contexts.

In the Norwegian text, *diffusjonsåpen* modifies *vind sperre* (literally *wind barrier*). The similarity of *vind* and *wind* is probably the reason why all 19 candidates included *wind* as one of the components. (However, *wind* entered into 12 different combinations, e.g. *wind barrier* and *wind-proof sheeting*).

A GOOGLE check of the first 20 occurrences of *vapour permeable air barrier* vs *vapour permeable wind barrier* (*air barrier* vs *wind barrier*) gave the impression that *air barrier* was probably to be preferred, since there were in fact websites entitled ”vapour permeable air barriers”, defined as ”a material which resists the passage of air and bulk water but allows the passage of moisture vapour through diffusion under a difference in pressure” (www.bakor.com/ USA/TechTalks).

The candidates, however, did not have access to the internet. How, then, to assess the merit of the alternatives chosen by the candidates in the exam situation? In my opinion, in this case the candidate coming up with the best alternative would be the one who did not opt for a word-by-word solution. I would thus agree with Newmark (1988: 154) that it is safer to opt for a descriptive term. Thus, the best candidates in my opinion would be the ones who were discriminating enough to go for explicitation, preferably by postmodification:

<table>
<thead>
<tr>
<th>Premodifier</th>
<th>Head</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norwegian term</td>
<td>diffusjonsåpen</td>
</tr>
</tbody>
</table>

Fig. 5 Norwegian term *diffusjonsåpen vind sperre*

<table>
<thead>
<tr>
<th>Syntactic strategy</th>
<th>PREMODIFIER</th>
<th>HEAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Word-by-word translation</td>
<td>diffusion</td>
<td>open</td>
</tr>
</tbody>
</table>

Fig. 6 Alternative using a word-by-word translation

<table>
<thead>
<tr>
<th>Semantic strategy</th>
<th>PREMODIFIER</th>
<th>HEAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using a near-synonym</td>
<td>vapour</td>
<td>permeable</td>
</tr>
</tbody>
</table>

Fig. 7 Alternative using a near-synonym

<table>
<thead>
<tr>
<th>Pragmatic strategy: explicitation</th>
<th>HEAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind</td>
<td>barrier</td>
</tr>
</tbody>
</table>

Fig. 8 Alternative using explicitation

Had the candidates had access to the internet, however, I would have expected them to come up with *vapour permeable air/wind barrier*, through a process similar to the one I have one outlined above.
For the other terms referred to, various solutions were adopted. Thus, explicitation was the preferred alternative for terms having an underlying argument structure (subject–verb/object–verb). Some candidates, however, gambled on a word-by-word solution being acceptable. In all these cases, the choice of strategy would have to be evaluated on the basis of the acceptability of the alternative chosen by the candidate.

This preference for explicitation may be one of the factors behind the 19 translations of the 266-word long Norwegian text being, on average, more than 20 per cent longer than the source text.

5 Conclusion

Technical translation is generally regarded as being non-cultural, and to present different problems of terminology from translations where cultural factors are basic when choosing appropriate terminology. However, when the dictionaries fail to give the term, when dictionaries give a number of alternatives without guidelines for choice, or when the process involved is not clear to the translator, he or she will have to fall back on the same translation strategies as those used for other types of text.

In this paper I have used a Choice network analysis (CNA) to analyse the variant translations of a number of technical terms, illustrated in more detail by two examples. I found this a useful way to approach the problem of evaluating the level of difficulty of the text in question. When the exam situation makes it impossible for the candidates to carry out a quality check on their chosen alternative, evaluation may be based on how successful he or she is in choosing an appropriate translation strategy.

References:

5.2.6 Marella Magris and Lorena Rega

Riflessioni sull’uso dei dizionari specialistici italiano-tedesco-italiano nell’era di Internet

Marella Magris; Lorena Rega
SSLMIT – Università di Trieste

Internet è diventato uno degli strumenti di informazione più importanti ad ogni livello di ricerca, tanto più nell’ambito della traduzione specializzata, che è particolarmente dipendente da una informazione rapida che tenga conto degli ultimi sviluppi in qualsiasi settore della società. A fronte di questa considerazione ci si è chiesti se il dizionario specialistico cartaceo abbia ancora una sua validità per i traduttori oppure se ormai il reperimento degli equivalenti avvenga soltanto mediante il ricorso all’informazione in Internet, sia che essa sia rappresentata da banche terminografiche mono- o plurilingue oppure da testi veri e propri accessibili grazie ai motori di ricerca.

In una precedente ricerca (Magris e Musacchio 2001) si era accertato che i traduttori semi-professionisti (in questo caso neo-laureati con qualche esperienza lavorativa) non disdegnavano affatto di abbinare alle ricerche in rete il ricorso ai dizionari cartacei e che anzi, in alcuni casi, risultano dare la priorità a questi ultimi. Si è quindi rivolta l’attenzione ai traduttori professionisti, inviando loro un questionario che tenesse cono dei seguenti fattori: tipo di attività, fascia di età, titolo di studio, uso/uso del dizionario specialistico, valutazione del grado di utilità del dizionario in generale e rispetto alle risorse di Internet, carenze riscontrate, interesse per la pubblicazione di altri dizionari.

Ovviamente si è consapevoli dei limiti del questionario quale metodo di indagine e della sua minore informatività rispetto ad un altro possibile strumento, ovvero il protocollo (per un confronto tra i due metodi si veda ad esempio Nielsen 1994: 13-33)1. Il metodo del protocollo consente di ottenere dati non solo molto più dettagliati, ma anche non influenzati dalla formulazione delle domande da parte del ricercatore. Pur tuttavia, in questa sede si è scelto di ricorrere al questionario come prima indagine conoscitiva, anche considerando che la realizzazione dei protocolli è un procedimento che richiede molto tempo e che difficilmente avrebbe incontrato ampio adesione da parte del gruppo studiato, composto, come si diceva, non da studenti ma da professionisti. Significativo sembra essere il fatto che alla richiesta di specificare autonomamente “altre carenze” presenti nei dizionari, pochi abbiano risposto a questo punto del questionario.

Al questionario hanno risposto 51 persone. Più della metà sono traduttori ad alto livello che operano all’interno di grandi organizzazioni internazionali. I traduttori liberi professionisti, pari a un 1/5, sono in larga misura anche docenti di traduzione. Si rileva dunque un certo squilibrio del nostro campione verso la figura del traduttore dipendente altamente specializzato: come si vedrà in seguito, si può ragionevolmente ipotizzare che ciò abbia rilevanza per quanto riguarda nello specifico il rapporto tra dizionari cartacei e Internet.

Per quanto riguarda l’età, il gruppo più numeroso in assoluto è costituito dalle persone che rientrano nella fascia dai 40 ai 50 anni (17); seguono poi quelli delle fasce comprese tra 30 e 40 anni (15) e tra 50 e 60 anni (10), mentre sono meno rappresentate le fasce comprese tra 20 e 30 anni (8) e tra 60 e 70 (1). Si tratta dunque di traduttori, oltre che di alto livello, anche di grande esperienza.

Quanto ai titoli di studio, più della metà ha una laurea in traduzione o interpretazione, più di 1/3 una laurea in lingue e letterature straniere (laddove va evidenziato che 4 persone hanno sia la laurea in lingue, sia in traduzione o interpretazione). I dizionari specialistici continuano ad essere usati da tutti (ad eccezione di una sola persona che ha dichiarato di non utilizzarli affatto). 33 li usano spesso, 17 raramente. Rispetto alle risorse on-line, tuttavia, 12 li usano più frequentemente e 14 li usano con la stessa frequenza: ben 24 persone hanno dichiarato di usarli meno frequentemente, un intervistato (funzionario del quadro linguistico UE) non li adopera mai e un altro (traduttore free-lance giovane e qualificato) adopera soltanto materiale cartaceo.

Qui va ricordato che più della metà dei traduttori operano in grandi organizzazioni internazionali dotate di una struttura informatica che consente loro di tenere i terminali sempre accesi senza gravagio di spesa per se stessi, di grandi risorse terminologiche in casa (ad esempio un servizio di terminologia), di banche testuali multilingue e di bibliotiche cartacee ampiamente fornite. Si tratta inoltre di traduttori specializzati in settori ben determinati, per cui il ricorso ai dizionari, anche specialistici, può essere considerato quasi superfluo. Dei 12 che hanno dichiarato di usare più frequentemente i dizionari cartacei, la maggior parte sono traduttori liberi professionisti che, solitamente, non dispongono di risorse terminografiche e testuali altrettanto complete. Inoltre essi debbono essere più “generalisti” dei traduttori dipendenti, devono muoversi in una gamma di tipologie testuali e di argomenti più diversificata, e ciò riduce la possibilità di disporre di pre conoscenze specialistiche sempre adeguate al compito da svolgere. In questo caso si ipotizza che il dizionario cartaceo costituisca il punto di partenza classico, se non per individuare l’equivalente definitivo di un termine, almeno per reperire delle prime ipotesi di traduzione da verificare in rete o su testi paralleli2. E questo è anche il percorso che viene indicato da tutti gli intervistati che, oltre al questionario, hanno voluto fornire anche delle precisiobilità supplementari.

Per quanto riguarda l’utilità attribuita ai dizionari cartacei, va rilevato che soltanto tre persone li ritengono poco utili, mentre la grande maggioranza li ritiene mediamente utili (31), ben 16 intervistati li ritengono molto utili.

---
1 Questo secondo metodo applicato allo studio dell’uso dei dizionari prevede di assegnare ad un gruppo di soggetti un compito (ad esempio una traduzione) chiedendo loro di annotare su appositi moduli tutti i problemi incontrati e le strategie usate per risolverli, relativamente alla consultazione del materiale lessicografico (un’indagine simile applicata proprio all’uso dei dizionari specializzati è stata condotta ad esempio da Duvâ e Laursen [1994]).

Un dato piuttosto positivo è che, paragonati alle risorse on-line, quasi la metà degli intervistati li ritiene ugualmente utili (23). 8 li ritengono meno utili per ragioni di tempo, 4 per l’attendibilità e ben 14 per la minore probabilità di trovare il termine cercato. Mentre quest’ultimo aspetto trova un ampio consenso da parte di tutti, per quanto riguarda il fattore tempo e l’attendibilità vi sono anche pareri contrapposti, con rispettivamente 5 e 6 persone che considerano i dizionari più utili proprio per questi due motivi.

Le critiche più rilevanti rivolte ai dizionari riguardano le carenze nella specificazione dei settori e settosettori (23) e le indicazioni relative ai tecnicismi collaterali (26) e, in assoluto, le indicazioni relative agli equivalenti nella lingua di arrivo (32). Come detto, pochi, soltanto un terzo, hanno risposto alla richiesta di precisare “altri” carenze: la critica principale riguarda comunque il mancato aggiornamento oltre la carezza di contesti e di spiegazioni. Pochi auspiciano categorie diverse da quelle tutto sommato già esistenti, che però, per l’appunto, sono sottoposte a critiche.

Anche in letteratura si nota in generale che la pubblicazione di un nuovo dizionario specialistico bi- o plurilingue è accompagnata da recensioni che ne mettono in luce le carenze pur riconoscendone nel contempo i merití. Del resto, i dizionari di questo tipo non sembrano trovare difficoltà di mercato, come è dimostrato anche dal numero di dizionari specialistici pubblicati negli ultimi tempi presso grandi case editrici.


Si deve tuttavia sottolineare che alla base di tale problema v’è già il fatto che i dizionari specialistici sono tali in realtà fino a un certo punto. Conte-Boss, che è peraltro un assai buon dizionario, si intitola Dizionario giuridico ed-economico, Troike Strambaci-Marieni sceglie Vocabolario del diritto e dell’economia, il recente dizionario del Gabler Verlag curato da Hartung-Thönes/Pierallini restringe il campo e sceglie il titolo Wirtschaftswörterbuch Deutsch-Italienisch e allo stesso modo si comporta anche Köbler Rechtstalienissen – Deutsch-italienisches und italienisch-deutsches Rechtswörterbuch für jedermann. Per coprire tutti i settosettori degli ambiti menzionati (con relative collocazioni e collocamenti di tutti) il numero dei termini dovrebbe essere assai rilevante. E’ evidente che il criterio di scelta dei termini da inserire deve necessariamente essere all’insegna del risparmio: per es. del numero di termini e delle indicazioni di varia natura che sarebbe opportuno accompagnarsi il termine. E’ ovvio che sarà inutile andare a cercare in questo tipo di dizionari un termine quale Mutterschaftsurlaub – Astensione facoltativa dal lavoro o Schutzfrist fur der Entbindung – Astensione obbligatoria prima del parto: si tratta infatti di termini si giuridici, ma talmente specifici del settore della tutela della donna nel diritto del lavoro, che il compilatore di un dizionario giuridico non può permettersi di rilevarli, anche se si tratta effettivamente di entrate che potrebbero essere interessanti e utili5. Il traduttore esperto sa già in realtà che in questi casi deve ricorrere direttamente ai testi paralleli oppure a Internet nella speranza di trovare quanto cerca in qualche banca dati terminografica plurilingue oppure in documenti a disposizione in rete. Ed è anche ovvio non tentare di trovare in un dizionario cartaceo delle glisse così ampie come quelle per esempio proposte da Schneider (2000/a/b). Del resto la possibilità di avere questo tipo di glisse, oppure dei contesti definitori, che aiutano l’utente a vedere come il termine è effettivamente impiegato, o, ancora, come detto, di avere dei termini assai specifici era stata ed è alla base del progetto TERMIt, come pure – riteniamo – di altre banche dati terminografiche. Il problema di fondo è invece che talvolta si ha l’impressione che il compilatore del dizionario specialistico plurilingue – che generalmente non è un lessicografo, ma un esperto del settore – non abbia sempre chiarezza sui criteri sottostanti alla redazione di un tale dizionario, per es. riguardo alla scelta del corpus e delle entrate nonché all’inserimento delle informazioni di minima necessarie. In realtà sono proprio queste ultime a essere le più richieste in particolare dai traduttori, ma anche dagli esperti, anche se questi ultimi in generale si possono anche accostare a capire “più o meno” a quale referente una denominazione rimanda.

Non vi infatti dimenticato che destinatari dei dizionari specialistici non sono soltanto traduttori di testi specialistici7, ma possono essere anche altri utenti. Anzi, si è rilevato che in realtà il destinatario principale non è probabilmente il traduttore8. Quindi anche i dizionari specialistici, come quelli generali, si trovano a servire due padroni (cfr. Marello1996: 130), col rischio di servirli entrambi male.

---

V. nota precedente.
3 Secondo Duvâ e Laursen (1994: 248), “The basis of bilingual LSP lexicographic research must be a knowledge of the problems and (the needs of the LSP translator”.

455
Le indicazioni semantiche, indubbiamente di minima, sono comunque l’aspetto più rilevante nella voce di un dizionario specialistico, in quanto soltanto esse possono contribuire a dare chiarezza al traduttore sul referente e, quindi, ad aiutarlo nelle sue scelte. Per indicazioni di minima si intende anche semplicemente ricordare se un termine appartiene per es. in un dizionario giuridico al diritto civile o penale, oppure se esso trovi un equivalente relativamente analogo nella LA, o ancora se si tratti di una proposta di traduzione per un termine senza referente nella LA. Assai meno rilevanti sono invece indicazioni di tipo grammaticale oppure etimologico, in quanto – per avere questo tipo di informazioni – si può generalmente ricorrere a un dizionario generale e, comunque, in un’ottica di scelta dei criteri, la priorità non dovrebbe essere data a questo tipo di informazioni.

Nei dizionari specialistici più antichi, per esempio ottocenteschi, la tendenza era quella di fornire un unico traducente per ogni termine; tale fatto era tipico di uno studio ancora iniziale della specializzazione del sapere e, quindi, di lingue speciali ancora in formazione: tuttavia esso rendeva in realtà più semplice il compito all’utente del dizionario che non doveva decidere sulla folla di traducenti che oggi gli vengono offerti da un dizionario specialistico. Soltanto in alcuni sporadici casi si trovano tutt’altro più due prospetti: nella Strenna linguistica-commerciale pel 1875, Prossuntuario di 1000 voci mercantili ordinate alfabeticamente ad uso del corrispondente in italiano-tedesco-francese-inglese (Trieste 1874, a cura di Giacomo Pincherle), per “importo” si trova Betrag e Befall; per “incassare” Eincassiren e Einziehen, ma in generale la corrispondenza è sempre biunivoca. Interessante notare come in questo dizionario-prontuario vengano inseriti anche numerose collocazioni fisse (“Estituire una cambiale”– Einen Wechsel ausloesen), tecnicismi collaterali (“Essere a giorno” – À jour sein, orientirt sein, genau unterrichtert) e parole ad alta frequenza nel diritto e nella prassi commerciale (“Favore à” – Zu Gunsten). All’epoca, inoltre, il dizionario specialistico che avesse fini eminentemente pratici (ma la situazione non è mutata neppure oggi) era forse non tanto rivolto ai traduttori, quanto piuttosto a degli esperti veri e propri ai quali bastava una corrispondenza per capire, come già si diceva, “più o meno” di cosa si trattava. Analizzando la bibliografia dei dizionari specializzati italiani del XIX secolo (Zolli 1973), in cui rientrano anche alcuni dizionari bi- e plurilingui, si nota che, per quanto riguarda la coppia tedesco-italiano, esistevano un discreto numero di dizionari tecnici (dall’infermieristica alla nautica), e alcuni nel settore giuridico-commerciale destinati agli addetti ai lavori che nella maggior parte dei casi vivono in una realtà plurietnicà, plurilingui, ma monogiuridica. Ancora oggi, nonostante i mutamenti socio-economici verificatisi, che hanno modificato la tipologia degli utenti e le loro esigenze, alcuni dizionari continuano a fornire semplici equivalenze biunivoci (p. es. Köbler 1996), e Rossenbeck (1994: 155) nota che un dizionario di questo tipo può costituire tutt’altro che un aiuto a chi già conosca la lingua tedesca.

Oggi il dizionario specialistico deve tenere conto di una realtà specialistica sempre più complessa e ormai da tempo presenta per un termine più traducenti. Tale fatto non si è però accompagnato a una maggiore consapevolezza terminografica, per cui il dizionario specialistico plurilingue ha cominciato in qualche caso a creare difficoltà al suo utente presentandogli sì tutta una serie di proposte, magari valide, ma in realtà tali da ingenerare confusione quando sono prive di alcune specificazioni che, sole, possono aiutare l’utente a muoversi in una realtà che non conosce come la realtà di ogni giorno mediata dai dizionari generali.

In tale contesto si è provato a trovare anche per l’italiano i termini oggetto del dibattito Brethauer-Fleck, e più precisamente Angeklagter, Angeschuldigter e Beschuldigter nei due dizionari di diritto più accreditati, ovvero Troike Strambaci-Mariani e Conte-Boss, prendendo in esame peraltro anche Köbler, che però già a priori rinuncia a qualsiasi tipo di informazione supplementare, limitandosi a fornire soltanto dei traducenti di cui specifica tutt’altro il genere.

Troike Strambaci-Mariani:

Angelklagter accusato; imputato; Haupt- principale imputato; Mit- coaccusato; coinquittato; ~ in Abwesenheit imputato contumace; ~ auf freiem Fuß imputato a piede libero
Angeschuldigter accusato, incolpato
Beschuldigter accusato, imputato, incolpato
Conte-Boss:

Angelklagter m imputato, accusato (S); abwesender imputato contumace; flüchtiger ~ imputato latitante; ~ in Abwesenheit imputato contumace; den ~ freisprechen prosciogliere l’imputato; den ~ verurteilen condannare l’imputato; den ~ vernehmen interrogare l’imputato
Angeschuldigter m imputato
Beschuldigter m indiziato (di reato), imputato
Köbler
Angelklagter (M.) imputato (M.), accusato (M.)
Angeschuldigter (M.) imputato (M.)
Beschuldigter (M.) imputato (M.), indiziato (M.) di reato

Quando un traduttore si trova davanti a una situazione di questo genere, ovvero a una mancanza di chiarezza nella decisione che deve necessariamente prendere, la prima cosa che tende a fare, dopo avere ovviamente analizzato il contesto, è quella di cercare un riscontro nella direzione opposta (nel caso specifico, dall’italiano al tedesco), la seconda di frugare nella sua memoria e, quindi, di ricorrere a testi paralleli se non li ha già sottomano.

9 Si parla di “relativamente” in quanto per es. già in un termine che si supporrebbe equivalente nelle due lingue, come Frühgeburt e “parto prematuro”, si deve constatare una differenza a livello giuridico: nel determinare il parto prematuro vengono presi in considerazione in Germania sia il fattore peso (feto al di sotto dei 2500 grammi) sia quello temporale (fine prematura della gravidanza). In Italia, invece si tiene conto unicamente di quest’ultimo fattore (espulsione del feto dopo il 180° giorno e fino al 266° giorno di gestazione). Cfr. la tesi di laurea di Silvia Reggio, La tutela della donna nel diritto del lavoro, Università di Trieste, a.a. 1999-2000.

10 A meno che, ovviamente, il genere e il numero non svolgano un ruolo di discriminazione del significato che ne imponga l’indicazione.

11 Non è forse casuale che quali luoghi di edizione di tre dei quattro dizionari pubblicati prima del 1918 compaiano Trieste, Vienna e Zara.
E’ evidente che a questo punto l’utente specialista ha più o meno capito di cosa si tratta, il traduttore invece, che deve decidere per un termine, comincia nuovamente a interrogare la sua memoria, oppure a cercare in dizionari enciclopedici monolingui le definizioni dei termini cercati. Se sa che Angeklagter (il termine in realtà meno complesso in quanto si tratta di un referente che esiste praticamente senza distinzione in entrambe le realtà italiana e tedesca) è senza ombra di dubbio l’imputato, comincerà a ricercare in questo campo semantico e penserà per es. a “indagato” per operare dei distinguo tra i vari termini offerti.

A questo punto il problema rimane Angeklagter che non si vuole qui discutere: ci si limita a accennare al fatto che Angeklagter dovrebbe essere in realtà colui che è iscritto al registro delle notizie di reato e Beschuldigter colui che ancora non lo è, laddove entrambi sono persona sottoposta alle indagini preliminari.

Insomma, ciò che sembra mancare, non è tanto l’informazione, ma la coerenza nel fornirla. E questo dovrebbe essere un parametro imprescindibile per un dizionario specialistico.

Nel momento in cui gli intervistati dicono che vi sono carenze nelle indicazioni relative agli equivalenti nella lingua di arrivo, si pensa però anche ad altri tipi di termini. Si pensi ad es. a Verfolger, parola che non è forse termine a tutti gli effetti, ma che è altamente occorrente in qualsiasi testo riguardante una procedura d’estradizione, e che quindi il traduttore tende a riconoscerne come termine vero e proprio. Ma comunque, anche se di termine vero e proprio non si tratta, esso è certamente un tecnicismo collaterale ad altissima frequenza che un dizionario specialistico dovrebbe contenere.

Il problema è dato dal fatto che la parola Verfolger nel senso di “perseguitato politico” rientra piuttosto nel lessico comune, tanto che lo si trova anche nei dizionari generali. Il traduttore sa benissimo che non può adoperare “il perseguito” in un testo in cui con tale parola ci si riferisce a un criminale già riconosciuto in quanto tale. Cerca allora nella sua memoria e giunge a “il perseguito” oppure “il ricercato” che, però, probabilmente non lo convincono. Deve allora cominciare a consultare dizionari enciclopedici: va detto che il dizionario Creifelds (Weber 1999) riporta la parola soltanto nell’accezione di perseguito politico, più correttamente Köbler – pur non riportando Verfolger – rimanda il verbo verfolgen a Ermittlungsverfahren. A questo punto il traduttore avrà quanto meno la certezza che non si tratta di un termine autentico, ma di uno pseudotermine. Se consulterà Internet, troverà die Auslieferung des Verfolgten con occorrenza assai alta, ma comunque gli sarà difficile avere la corrispondenza italiana. Ricorrerà ai testi paralleli e comincerà a capire che l’italiano non ha neppure tale tecnicismo collaterale, ma che parla di “estradando”, oppure ripete il nome e cognome o, ancora, usa forme di tipo anaforico, del tipo “il summenzionato”, “la persona in questione”. Nella Convenzione europea di estradizione12 scoprirà che Verfolger è in italiano “la persona richiesta, reclamata” oppure “l’estradato”. Anche se l’esempio proposto non è particolarmente complesso, esso evidenzia che, come ricorda tra gli altri Brethauer (2001: 168), la soluzione ad un problema terminologico va spesso ricercata a livello frastico o testuale. In questi casi il dizionario può fornire solo un primo aiuto verso la soluzione: è infatti impensabile inserire stringhe di testo che costituiscano una sorta di grammatica della traduzione, anche se sarebbe auspicabile che venissero riportati esempi sulla scorta di quanto fa la lessicografia generale.

---

12 Consultabile al sito www.giustizia.it/pol_internaz/atti/penal/non_ufficiali/conv_eu_estr.htm
Nel caso specifico sarebbe già utile se il tecnicismo venisse specificato anche nell’accezione assunta nell’espressione die Auslieferung des Verfolgten (estradizione della persona richiesta) che è in realtà quella più comune nella lingua del diritto penale, ma meno nota al traduttore che invece certamente conosce la parola nel significato di perseguitato politico. Al traduttore resterebbe poi la scelta tra la traduzione proposta ed altre soluzioni per es. di tipo anaforico.

Altro problema ancora è quello di distinguere se l’equivalente fornito è un traducente a tutti gli effetti o meno. In alcuni casi si può trattare di una nonce word creata dal lessicografo (Nielsen 1994: 174), come può essere il caso del termine tedesco Delibation fornito come traducente di “delibazione” e in realtà non usato nel diritto tedesco.

Troike Strambaci-Mariani

delibazione Delibation (Beschluß über die Vollstreckung eines ausländischen Urteils); giudizio di ~ Gültigkeitserklärung; procedimento di ~ Delibationsverfahren; sentenza di ~ (di una decisione straniera) Vollstreckungsurteil; ~ di decisioni straniere Anerkennung ausländischer Entscheidungen; ~ di sentenze straniere Anerkennung ausländischer Entscheidungen
Delibation delibazione
Gültigkeitserklärung convalida; convalidamento; convalidazione; delibazione; giudizio di delibazione; legalizzazione; legittimazione; sanatoria;
Anerkennung ausländischer Entscheidungen delibazione di decisioni straniere; delibazione di sentenze straniere;
Anerkennung eines ausländischen Urteils delibazione di (una) sentenza

Un ulteriore, rilevante problema è che la mancanza di informazioni semantiche rende difficile al profano verificare la validità dei traducenti forniti. Si consideri Aufsichtsrat:

Troike Strambaci-Mariani

Aufsichtsrat (ARat): consigliere di sorveglianza; consigliere di vigilanza; consiglio di sorveglianza; consiglio di vigilanza;
Abberufung des ~s revoca del consiglio di sorveglianza; Arbeitnehmervertreter im ~ rappresentante delle maestranze nel consiglio di sorveglianza; Besetzung des ~s composizione del consiglio di sorveglianza; Betriebsvertreter des ~s rappresentante del personale nel consiglio di vigilanza; Entlastung des ~s approvazione dell’operato del consiglio di controllo (di sorveglianza/di vigilanza)

Consiglio di sorveglianza Aufsichtsrat

Conte-Boss

Aufsichtsrat m. (1) (als Gremium) collegio sindacale; (2) (als Einzelperson) sindaco
Collegio sindacale, dei sindaci (società) Aufsichtsrat m., Kontrollstelle f. (S), Revisionskommission f. (S), Revisorenkommission f. (S)

Organo di controllo Kontrollorgan, Aufsichtsorgan

Köbler

Aufsichtsrat (M.) (einer Gesellschaft) collegio (M.) sindacale
Collegio sindacale (M.) Aufsichtsrat (M.)
Hartung-Thönes/Pierallini

Aufsichtsrat m. consiglio m. di vigilanza, consiglio di amministrazione

Ciola, Coluccia, Maganzi, Mayer

Collegio sindacale n.m. Aufsichtsrat n.m. IT, AT, DE
DEFINIZIONE (Südtirol genormt)
CONTESTO KONTEXT IT
DEFINITION AT KONTEXT AT
DEFINITION DE
Prüferkollegium n.n. IT
AR n.m. DE
KONTEXT DE
Revisionstelle n.f. CH
(bei Aktiengesellschaften) KONTEXT CH
Aufsichtsstelle n.f. CH
(bei Kommanditaktiengesellschaften) KONTEXT CH
Kontrollstelle n.f. CH
(bei Genossenschaften) KONTEXT CH

458
Tale termine è particolarmente complesso in quanto la sua composizione e le sue funzioni coincidono solo parzialmente con il collegio dei sindaci nella realtà italiana: appare evidentemente forte la tentazione di indicare quest’ultimo come corrispondente funzionale, ed è quanto fanno in toto Conte-Boss e Köbler. Altra è la posizione di Ciola et al. che partono da una realtà italiana e che forniscono però traduzioni per la realtà tedesca, austriaca e svizzera: in effetti Aufsichtsrat si trova per coerenza editoriale nell’elenco dei termini tedeschi, ma l’intero dizionario deve fare i conti con la terminologia in lingua tedesca attestata in Alto Adige già dai molti decenni. Troike Strambaci-Mariani forniscono dei traduzioni assolutamente accettabili, anche se ci chiede la necessità di variare tra sorveglianza e vigilanza. Hartung-Thönes/Pierallini forniscono come secondo termine “consiglio di amministrazione”, che può ingenerare notevole confusione. In entrambi i casi (“collegio dei sindaci” e “consiglio di amministrazione”) sarebbe stato per lo meno opportuno inserire un’avvertenza sul grado (non assoluto) di equivalenza, come è stato rilevato per esempio nel caso del termine Grundbuch in Troike Strambaci-Mariani14.

Nei dizionari pubblicati fino a oggi, queste indicazioni vengono fornite tuttavia, come si è visto, soltanto in rari casi, in particolare nei dizionari di Ciola et al. e di Taino. Utili al traduttore e a qualsiasi altro utente sono per l’appunto la struttura e i contenuti delle entrate presentate da questi autori: in particolare, sebbene sia stato rilevato più volte che i dizionari cartacei non possono riportare spiegazioni approfondite, negli esempi forniti si evidenzia come anche una glossa breve possa fornire indicazioni preziose e concretamente utili. Non a caso tutti questi autori sono linguisti e, o si sono occupati del settore, oppure operano a stretto contatto con specialisti.

Conclusioni

La “metalessicografia” si è occupata tutto sommato poco dei dizionari specialistici; in molti casi ci si limita a constatarne la qualità carente, senza passare a critiche più costruttive, come nota per esempio Bergenholtz (1994: 43).

Secondo Pilegaard (1994: 211) questa considerazione riguarda soprattutto la lessicografia specializzata bilingue, mentre per l’ambito monolingue una maggior attenzione da parte dei lessicografi avrebbe portato anche ad un miglioramento nella redazione dei dizionari. Duvå e Laursen (1994: 266) hanno sottolineato come i problemi connessi all’equivalenza siano entità complesse che possono essere suddivise in: incertezze relative all’argomento, al contenuto semantico delle parole, alla collocazione delle parole nell’”universo”, all’uso delle parole, alle loro possibilità combinatorie. Il dizionario ideale dovrebbe contribuire ad eliminare tali incertezze fornendo ad esempio il settore o sottosettore, una definizione, discriminazioni di significato ecc.

In realtà, negli anni ’90 vi è stato un cambiamento di tendenza, segnato ad esempio dal manuale di lessicografia specializzata di Bergenholtz & Tarp (1995) o dal testo di Nielsen (1994), in cui si tracciano i principi su cui basarsi per creare dizionari specializzati più utili ed affidabili. Anche la pratica segna notevoli passi in avanti, come dimostrato dal dizionario terminologico di Ciola et al. e da Taino.

Purtroppo però rimangono ancora frequenti i casi in cui non sembra che le scelte lessicografiche siano guidate da alcun insieme coerente di principi: spesso non vi è coerenza nella scelta dei lemmi (ad esempio vengono inclusi termini estranei alla disciplina trattata, o vengono incluse come voci a sé stanti forme flesse di uno stesso lemma), non viene prestata sufficiente attenzione ai problemi legati alla polisemia e alla sinonimia e non si trova traccia del percorso seguito dal lessicografo per arrivare a stabilire l’equivalenza interlinguistica. In particolare, un’importanza fondamentale riveste la scelta del corpus da cui estrarre i termini.

Riassumendo, i dizionari cartacei sembrano avere comunque ancora un futuro, e questo per quanto riguarda sia quelli più generici (dizionario del diritto, dell’economia e via dicendo) sia quelli altamente specialistici (sull’esempio del Dizionario terminologico del diritto societario italiano/tedesco). E’ necessario che i primi si ispirino ai secondi nella concezione di fondo e, in particolare, tengano presenti i seguenti punti:

1. scelta del corpus;
2. coerenza nella scelta dei termini;
3. coerenza nell’attribuzione ai singoli settori e sottosettori;
4. indicazione se si tratta di equivalenti autentiche, oppure di proposte del lessicografo.

Soltanto se si terranno presenti questi fattori il dizionario specialistico plurilingue potrà continuare ad avere e ad aumentare la propria importanza nei confronti della ricerca in Internet. Cloaca massima e Biblioteca di Alessandria al tempo stesso, secondo la definizione che ne dà Jean Starobinski (Corriere della Sera, 23 luglio 2003, p. 29), Internet rimane, almeno per il momento, come dimostrato dalle risposte degli intervistati, uno degli ausili per il reperimento della terminologia accanto al dizionario specialistico cartaceo al quale ben pochi traduttori sono in realtà disposti a rinunciare.

---

13 Il dizionario è attualmente in fase di revisione prima della stampa, per cui sono possibili ancora delle modifiche.

5.2.7 María del Carmen Acuyo-Verdejo

The translation of industrial property documents in the Spanish, British and European contexts: textual aspects

María del Carmen Acuyo-Verdejo. AVANTI Research Group (HUM-763)
Faculty of Translation and Interpreting, University of Granada, Spain

1.- Introduction

Nowadays the study of translation is increasingly being considered as a multidisciplinary discipline (Snell-Hornby, 1988; Hatim and Mason, 1990; Urry, 1999; Hurtado, 2001 among others). The notion of multidisciplinarity and interdisciplinarity not only applies to translation studies in general, but also to specialised translation. Indeed, most of the documents belonging to specialised translation cover a wide range of different disciplines, such as, medicine, law, sociology, economics or international trade. In this paper we describe the textual conventions of industrial property documents.

Both economically and legally the function of industrial property rights, namely patents and trade marks, is paramount in modern business. Patents, for instance, contribute to the developing of science and technology, and hence the economy of a given country. The essential function of trade marks is to give the consumer a guarantee of the product purchased, enabling them to distinguish one product from others of different origin.

In addition, one of the main effects of EU membership has been the continuing harmonisation of national legislation, including intellectual property law. Nevertheless, the wide variety of documents involved, for instance, in the registration process of an international trade mark or, even in the registration of an European patent, force the translator to take important decisions when dealing with this type of mixed documents. The main problem translators encounter derives not only from the subject field of a document, where we deal with a very specialised terminology, but also from the text type itself.

Recent research in Translation Studies has underlined the importance of this aspect, and specifically in the field of legal translation. Seminal work has been done by Borja (1999) within the legal domain and by Gamero (2001) in the field of technical texts. However, within the field of industrial property law, little research has been conducted. In the case of patents, Göpferich (1995) analysed the macrostructure of this type of mixed documents and in the case of trade marks Sergio (2000) analyses the translation of the trade marks names and its importance from the point of view of the target culture and target consumer of a given product. In an attempt to fill this gap in translation research, we would like to propose an analysis of the textual conventions of a trade mark document, the registration certificate, taking into account the superstructure of this document, as the core parameter of this study: A superstructure is the schematic form that organizes the global meaning of a text (Van Dijk, 1980: 108).

One of the most important skills a translator must have is that of a full understanding of the text and, in our opinion, this could be achieved by analysing the superstructure of a given text, since by doing so, we can get the textual conventions of that text. Therefore, our paper deals with the pre-textual analysis within the translation process: ‘Text understanding is a kind of problem-solving, and it is one of the tasks of pre-translational text analysis to find where the solutions of textual comprehension problems come from’ (Wilss, 1996: 172-3).

To date, models related to textual conventions have been proposed both for a specific language combination and/or for a specific text type (Clyne, 1987, 1994; Bhatia, 1993; Kussmaul, 1995, 1997; Trosborg, 1997; Engberg, 1992, 1997, 2000; Göpferich, 1993, 1995; Borja, 1998, 2000; Gamero, 2001; Lvosvskaya, 2002 and Alcaraz, 2002). For our purposes, we would like to apply a similar model to that of Gamero (2001) for the analysis of the registration certificate, in which the key concepts are those of genre and superstructure. Moreover, within the concept of superstructure we will analyse certain variables such as the number of blocks and sections within a given text, the hierarchical order of these blocks and sections, and the level of standardisation presented in these documents both in the Spanish and the British legal cultures:

La superestructura de un género está compuesta por una serie de fragmentos textuales, que se encuentran ordenados jerárquicamente, y que reciben el nombre de bloques y secciones. Los bloques son aquellas partes del texto que tienen una determinada función específica en relación con la función general del mismo. [...] Los bloques se dividen en secciones, cada una de las cuales posee asimismo una finalidad concreta respecto de la función del bloque en la que se halla incluida (Gamero, 2001: 109).

2.- Material

The material we have used for our research is based on a corpus composed of 39 parallel texts, originally written in Spanish and English, and which has been gathered by visiting the main institutions and organisations involved in industrial property law, that is, the Spanish Industrial Property Office, (Oficina Española de Patentes y Marcas), the British Patent Office, the Office for the Harmonization of the Internal Market, (OHIM) and the World Intellectual Property Organization, (WIPO). For space reasons, we will deal only with one of the documents compiled in this bilingual corpus, which is the registration certificate of a trade mark in Spanish and English.
3.- Methodology

We propose a mixed model which takes into account elements similar to that of Gamero (2001) for the analysis of our corpus, in which the key concepts are those of genre and superstructure. Moreover, within the concept of superstructure we analyze certain variables such as the number of blocks and sections within a given text, the hierarchical order of these blocks and sections, the level of standardisation presented in these documents and the kind of conventional linguistic forms associated with each of these blocks and sections. On the other hand, we take into account the legal background provided by the comparative legal analysis of the different legal instruments that rule the trade marks law in Spain, in the United Kingdom, as well as in Europe and at international level. Therefore, the model we propose is presented in the following table:

![Diagram](image)

**Superstructure** (Gamero, 2001):
1. Identification of blocks and sections
2. Order of blocks and sections
3. Identification of conventional linguistic forms associated with blocks and sections.

4.- Analysis

With this model in mind, the analysis of the superstructure of these two documents, the English one and the Spanish one, is presented in the following tables below:

Identification of blocks and sections of registration certificate of a trade mark
### Document 1: Registration Certificate of trade mark in Spain

<table>
<thead>
<tr>
<th>1. Coat of arms of the Spanish Ministry of Science and Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Name of the institution issuing the document: <strong>Oficina Española de Patentes y Marcas</strong> (OEPM)</td>
</tr>
<tr>
<td>3. Type of document: <strong>Título de concesión de marca</strong></td>
</tr>
<tr>
<td>4. Trade mark Number</td>
</tr>
<tr>
<td>5. There appears a separate text, the so called <strong>declaración de registro</strong> structured in three paragraphs. This text has three items of information:</td>
</tr>
<tr>
<td>1. The fact that the trade mark has been registered in accordance with the legislation in force and with the features specified in the annexed document</td>
</tr>
<tr>
<td>2. The rights conferred to the trade mark holder and for how long</td>
</tr>
<tr>
<td>3. It warns the trade mark holder about the consequences if the trade mark is not renewed</td>
</tr>
<tr>
<td>6. Date</td>
</tr>
<tr>
<td>7. Signature of Head of Trade Marks Department</td>
</tr>
<tr>
<td>8. Stamp</td>
</tr>
</tbody>
</table>

The annexed document appearing with the registration certificate is the so-called **Hoja de reproducción y datos de la marca** and its blocks and sections of information are the following:

<table>
<thead>
<tr>
<th>1. Trade Mark Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Trade Mark holder</td>
</tr>
<tr>
<td>3. Representation of the trade mark</td>
</tr>
<tr>
<td>4. Details of national trade mark</td>
</tr>
<tr>
<td>4.1. Date of filing</td>
</tr>
<tr>
<td>4.2. Date of registration</td>
</tr>
<tr>
<td>5. National trade mark granted by transformation</td>
</tr>
<tr>
<td>5.1. Trade mark of origin and number</td>
</tr>
<tr>
<td>5.2. Date of filing in the country of origin</td>
</tr>
<tr>
<td>5.3. Date of filing in Spain</td>
</tr>
<tr>
<td>5.4. Date of registration in Spain</td>
</tr>
<tr>
<td>5.5. Seniority: Number of Spanish trade mark</td>
</tr>
<tr>
<td>5.6. Date of seniority</td>
</tr>
<tr>
<td>6. Priority:</td>
</tr>
<tr>
<td>6.1. Country</td>
</tr>
<tr>
<td>6.3. Date of priority</td>
</tr>
<tr>
<td>6.2. Trade mark number</td>
</tr>
<tr>
<td>7. Description (optional)</td>
</tr>
<tr>
<td>8. List of goods or services</td>
</tr>
<tr>
<td>8.1. Class(es)</td>
</tr>
<tr>
<td>9. Signature of civil servant</td>
</tr>
<tr>
<td>10. Stamp</td>
</tr>
</tbody>
</table>

### Document 2: Registration certificate in the United Kingdom

<table>
<thead>
<tr>
<th>1. Body issuing the certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Type of document: <strong>Registration certificate</strong></td>
</tr>
<tr>
<td>4. Reference to the legislation in force and by which the certificate is issued: <strong>Trade Marks Act 1994 of Great Britain and Northern Ireland</strong></td>
</tr>
<tr>
<td>5. Trade Mark number</td>
</tr>
<tr>
<td>6. Date of registration</td>
</tr>
<tr>
<td>7. Representation of the Trade Mark</td>
</tr>
<tr>
<td>8. List of goods and services</td>
</tr>
<tr>
<td>8.1. Class(es)</td>
</tr>
<tr>
<td>9. Name of trade mark holder</td>
</tr>
<tr>
<td>10. Date and signature of Director of The Patent Office</td>
</tr>
</tbody>
</table>
Document 3: Registration certificate of community trade mark

| 1.- Name of the entity issuing the document OHIM |
| 2.- Name of that entity in two languages: the language of application and the language of procedures |
| 3.- Type of document (in two languages): Certificado de Registro/ Certificate of Registration |
| 4.- After this, there appears a bilingual text with the following items of information: |
| 1. that the mark has been registered |
| 2. that the details regarding that trade mark (appearing in an annexed document) has been entered into the Community Trade Mark Registry. |
| 3. Registration Number |
| 4. Representation of trade mark |
| 5. Date of granting |
| 6. Signature of the OHIM’s President |

The details appearing in the annexed document are exposed according to an internal identification code for each mention entered into the Registry:

1. Date of granting
2. Trade mark number
3. Date of filing
4. Name of trade mark holder
5. Representative’s details
6. Languages (of application and procedure)
7. List of products and services in the eleven official languages of the European Union

By simply looking at the superstructure of these two parallel documents, it is clear that the Spanish document is composed of two different texts. The first one is a declaration made by the Spanish Industrial Property Office (Oficina Española de Patentes y Marcas) in which the applicant is informed about the registration of the trade mark, the rights conferred to the holder by such a registration and the need to renew the trade mark after a ten-year period.

The second document, the English one, on the contrary, consists in one text much simpler and easy-to-read. It is observed a clear and remarked linearity in this text as opposed to the Spanish text, where we have found clear digressions and a text that is more content-oriented. These two concepts were already studied by Clyne (1981, 1994) when analysing English and German academic texts and he observed that English academic texts are linear in their organisation, whereas German texts are more digressive. After the analysis of all the documents compiled in our corpus, we came to the same conclusion, that is, that English texts, even in the legal domain, tend to be simple and linear in their structure, whereas the Spanish texts are more content-oriented, digressive and with a more complex structure. The documents we analyse in this paper are clear examples.

Once we have established the main blocks and sections of information we would like to see the frequency with which these blocks and sections appear in the documents. The results of this analysis of frequency is illustrated in the following table:

Table 2

<table>
<thead>
<tr>
<th>BLOCKS AND SECTIONS</th>
<th>Spanish Industrial Property Office (OEPM)</th>
<th>The Patent Office</th>
<th>The Office for the Harmonization of the Internal Market (OHIM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Details of entity</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Type of document</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Trade Mark number</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>Document stating the registration of the trade mark</td>
<td>×</td>
<td></td>
<td>×</td>
</tr>
<tr>
<td>Name of trade mark</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
</tbody>
</table>
In accordance with the data appearing in the previous table, it is clear that there are more sections and blocks of information in the Spanish text than in the English or the European ones. We refer especially to the date of priority, the details of the transformed trade mark, the description of such a trade mark and the declaration made by the Spanish Industrial Property Office. This kind of knowledge is extremely useful for the translator, in the sense that the expectations of the target culture can be met more easily and, at the same time, the quality of the translation can be highly improved. This finding becomes even more important if we take into account the fact that all the texts compiled in our corpus present a high level of standardisation. This enables the translator to find parallel solutions for the translation problems encountered when dealing with this type of texts.

Moreover, this analysis allows us to realise that, national legislation together with institutional textual constraints play an important role in the superstructure of the documents as well as in their content. That is one of the reasons why the texts do not share a common structure. Another reason for this is the fact that the blocks and sections of information within the texts do not appear in the same order and the kind of blocks of information is not the same, either in quality or in quantity. This finding makes it more difficult to reduce each document to a prototypical superstructure.

After this analyses we see that, there is no single prototypical superstructure, except for the application to register a trade mark and the registration certificate, for the Spanish, British or European documents; what we find instead is that, despite the harmonisation of the different national legislations in the field of trade marks law, the documents still present culture-bound elements that characterise the Spanish and the British legal culture in general and trade marks legal systems in particular.

In the table below, we illustrate in a systematic way the main features that characterise and differentiate these two documents within the Spanish and the British legal cultures. These features can be extrapolated to the rest of the documents conforming the corpus of the 39 most frequently translated texts from the industrial property law field.

Table 3

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>SPAIN</th>
<th>UNITED KINGDOM</th>
<th>EUROPEAN UNION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural elements</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
<tr>
<td>Digressions</td>
<td>√</td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>Linearity</td>
<td>√</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>Content</td>
<td>√</td>
<td></td>
<td>√</td>
</tr>
<tr>
<td>Standardisation</td>
<td>√</td>
<td>√</td>
<td>√</td>
</tr>
</tbody>
</table>

5.- Conclusions

We would like to finish this paper by providing the reader with some reflections about the results found with this textual analysis based on the formal parameter of superstructure.

First of all, we believe that intrinsic and automatic knowledge can be created in the mind of the translator by analysing the superstructure of original and parallel texts in different cultures. This automatic and intrinsic knowledge, which is essentially textual knowledge, can help the translator to recognise a specific text type by only looking at it in the same way we can recognise a commercial invoice or a cheque.
The analysis of texts by using the parameter of superstructure gives us the main textual conventions of a specific text type and within a specific language combination. In our case we have been able to distinguish the main differences for textual conventions between English and Spanish texts and for a specific legal domain, that is, industrial property law.

Thirdly, our research has demonstrated the usefulness of creating textual corpora of original written texts in different language combinations as one of the most important documentary and analytical sources for the translator. Thus, the translator can use it as translation resource, since s/he can easily find solutions for the problems encountered in one particular text. Besides, with this kind of corpora the translator can considerably improve the quality of the translation.

Even if the European Union tries to harmonise the different national legislations, including industrial property law, we have observed that, as far as documents are concerned, there are still culture-bound elements that directly affect the understanding of the texts, their formats and, therefore, probably the decisions that the translator takes to solve these problems.

Finally, we would like to highlight the importance for the translator of having appropriate knowledge of the textual conventions characterising a given text, of the legal context and the constraints imposed by certain national, European or international organisations, such as The Patent Office, the Office for the Harmonisation of the Internal Market (OHIM) or the Spanish Industrial Property Office. With this analysis we have observed that, in the case of industrial property documents, both legislation and institutional textual guidelines directly affect the content and the involvement be involved in the translation process.

6.- References


5.2.8 Vassilis Korkas and Pantelis Pavlides

Teaching aspects of LSP to non-specialists:
A case for background courses in translation studies programmes

Vassilis Korkas (University of Surrey, UK)
and Pantelis Pavlides (University of Westminster/University of Surrey, UK)

1. Introduction

Current trends and developments in the field of science and technology have led to an exponential increase of the amount of technical information that needs to be imparted in a variety of languages. Consequently the role of the translator, and particularly that of the technical translator, has become all-important in the accurate transfer of scientific and technological linguistic elements. LSPs may be only one part of this picture, however their function in technical communication is indeed of great importance and this function is something that needs to be clearly identified as one of the factors involved in the translation process.

With respect to this, it is also important to establish clear objectives in translation training programmes. Although the amount of and the access to available information has increased dramatically in recent years, a translation student, who can in the majority of cases be considered to be a non-specialist in a scientific or technological subject, needs to be equipped with a basic grounding in science and technology which could eventually be used, if nothing else, as a set of selection criteria when the student needs to evaluate the resources used in translation-related research.

The purpose of this paper is to examine how this fundamental knowledge base can be established in a translation programme. A background course, interlinked with practical translation classes, can form the basis for systematically providing and explaining fundamentals in various fields of science and technology. Points to consider are the profile of the students attending the course (most importantly their background and expectations), the requirements of a syllabus specifically designed for the purposes of a translation programme, teaching and assessment methods and the use of the Internet as an effective medium of research.

2. The rationale for a background course

The aim is to acquaint translation students (mainly with a background in languages or linguistics and therefore non-specialists in a scientific or technological field) with basic scientific concepts and principles and how these apply to technology, so that they may understand what they read in scientific, medical and technical texts which they will have to deal with as professional translators.

Ultimately, it is anticipated that as translators (language professionals rather than subject specialists), they will be able to make better choices concerning terminological and phraseological problems in the translation of LSP texts, conveying the information contained therein more accurately, clearly and succinctly. Apart from linguistic, cultural and textual aspects, one of the criteria for measuring translation competence is domain/subject-field specific knowledge, which for specialist translators amounts to a working knowledge of the domain/subject. Although we are aware that many still believe that subject competence is of lesser importance than language and transfer competence (Neubert, 1992), we are arguing that for LSP texts students need to be adequately equipped in order to successfully tackle the inherent complexities of a specialised text in any language pair.

The above can be connected with the notion that conceives of science and technology literacy as an aspect (or subset) of a broader notion of literacy. In recognising a broader concept of literacy, these courses attempt to give students access to a wider range of discourses or fields of knowledge, thus enabling them to become multi-discursive. The question however remains what is important in this context – what is important for translation students to know within the discourses of science and technology – and to what level of detail (Helme & Javed, 1994).

3. Student profile

In order to establish a proper framework for designing a background course in science and technology, capable of accommodating the needs of the students, it is necessary to take certain considerations into account.

In general, students bring a “cognitive self-image” that bears on their approach to education, their willingness to study, and their capacity to succeed. For many students, a course in a discipline not their own is “hard” not because its content is too difficult, but because it is “packaged” in unfamiliar ways. It is the habit of learning the new relationships that have to be constructed between learner and subject, and the packaging of courses that are highly problematic for the students, rather than the actual content of those “packages”.

“Students who may be fearful, avoidant, and even hostile to courses that we think are ‘good’ for them to take are not dumb; they are different. Theirs is not a failure of intellect, but a failure of fit” (Tobias, 1997). Therefore, we as trainers need to understand what students already know and find the appropriate level of communication, and at the same time determine which key concepts to emphasise.

Below are some relevant observations that apply to our case as instructors in British universities:

• The assumption is that the course is taught in English.
2) Students are non-specialists in the field of science in general. They come from all backgrounds, not just linguistics, translation or related disciplines. They have not dealt with science since the age of 16 or 18, although they may have some knowledge in the field. Hence, they cannot be taught science the way science students are.

Students with a science degree studying translation would not normally attend these classes unless they were non-native speakers and wished to improve their understanding of linguistic aspects (phraseology and terminology) of the subject in English.

Most students are in their early 20s, although a fair number are older and some are classed as mature students.

All students hold some degree/diploma, either from a British or a foreign university/institution.

Some students have work experience in various fields and a small number have worked as translators.

Most students are female which may explain their preference for subjects such as biology/genetics, medicine/pharmacology, organic chemistry, etc., at the expense of physics and engineering applications, although in all fairness it seems that even the male students are more interested in the former. This preference may also be due to that most of the texts they deal with in translation classes have to do with the aforementioned subjects. However, the course should cover as many domains as possible, not just the “preferred” subjects, in order to give a better overall view of science and its concerns in general.

Students come from different cultural backgrounds, which is an additional complication because linguistic and cultural factors also have to be taken into account. For example, how well do they speak English? Are the concepts familiar (or have they at least been lexicalised) in their culture? Are they resistant to certain teaching methods? Can an even more simplified vocabulary be employed without lowering the overall level? To a certain extent (and without compromising the aims of the course) teaching methods and content should be adapted to the level of the class, which again suggests that it is important to have some idea of what students already know.

As the students are non-scientists, the LSP is also a barrier. In general, science uses language sparsely and precisely, “ordinary” words acquire specific meanings, and these meanings may be quite different from what they are in other contexts (terminologisation). Although students may be aware of this, they still tend to wonder about phraseology (Tobias, 1997).

4. Syllabus – General considerations

To scientists, the knowledge imparted within the framework of such a course would seem superficial but as already stated it is not the aim of the course to produce trained scientists but to give non-specialists access to a wider range of scientific domains, which may be of some use in their work. Thus, the level of detail and specialisation should be considered carefully.

The level considered appropriate in this case is the A/AS level (i.e. the standardised British examinations for 16-18 olds), though in some cases university-level material can be used. Overall, British students who have sat A level examinations in at least one scientific subject (e.g. physics, chemistry), appear to be more comfortable in the early stages of the course, when the material discussed is more general and is understandably easier for those students to relate to it. In the case of such a background course different student profiles arise for different countries of origin (where different educational systems and requirements apply), so this is another factor that needs to be taken into account when designing a syllabus that applies to all students.

In view of all the above, the following objectives can be set out:

1) Students are not expected to:
   - Learn about scientific concepts by using scientific methods.
   - Reproduce mathematical derivations.
   - Learn how to solve problems.
   - Become involved in analytical/experimental/procedural investigations and activities.

2) Students are expected to:
   - Acquire at least a rudimentary understanding of major scientific constructs and their applications.
   - Acquire a “good” grounding in the language (phraseology and terminology) of science, i.e. the language used to explain scientific principles and concepts.
   - Understand basic concepts e.g. velocity, acceleration, force, etc. and their applications, e.g. balancing of forces in aerodynamics.
   - Understand some (if any) very basic equations, e.g. F=ma, keeping in mind that students need verbal explanations (For example, the issue of “proportionality” could be raised, explaining the expressions “direct” and “inverse proportionality”, so that students can at least understand the relationship between various parameters/variables.).
   - Be able to evaluate arguments in relation to various scientific issues, e.g. the implications of the hole in the ozone layer or genetic engineering.

The level of detail and the range of topics also depend on the length of the course, i.e. the number of contact hours. The time required for assessment should also be taken into account, as should the time required for discussion and answering queries. In one example at hand, the course spans the whole academic year, thus providing for more than 40 lecture hours and consequently a much greater variety of subjects is covered, both in science and technology. In another example, the course lasts only one academic semester, and that is inclusive of the time required for assessment; the range of topics is somewhat limited in comparison to the former example and the issues of student expectations and prioritisation of subjects become even more important.

Additionally, although terminology (the specialised vocabulary of the field) is dealt with and definitions are given in connection with the principles to which they refer, it is not intended to teach terminology/terminography as a discipline. If however terminology/terminography is not taught as a separate option (and in some institutions it is not) then perhaps some connection with the discipline of terminology/terminography can be made in an introductory lesson, i.e., simply explaining what an LSP is, what it consists of and mentioning the need for concept systems (and their graphical representation) developed
systematically, giving examples throughout the module and discussing issues such as polysemy, synonymy etc. as they arise. The need for standardisation can also be mentioned.

5. Indicative Syllabus

The following top-level outline is indicated:
- Motion, forces, energy, power
- Waves, wave properties, electromagnetic radiation
- Atoms, electrons, nuclei, radioactivity
- Electricity, electronics, semiconductor theory, digital computers
- Organic chemistry, chemical reactions, compounds, nomenclature
- Pharmacology, principles of drug action
- Cellular structure, genetics, biochemistry, biotechnology

The above outline covers key areas in physics, chemistry and biology, although it may be expanded or contracted accordingly, depending on the time available, the background knowledge of the students and the level of detail. It is also assumed that the natural progression of knowledge acquisition sets the rules on the level of detail and how quickly one can move to a more in-depth analysis of a field in technology: in order to discuss details about the function of a computer, one needs to have a basic background in electronics, electricity and, before that, in basic atomic theory (elementary chemistry).

Each unit can be expanded to include as much material as deemed necessary for a more complete understanding of the topic considered, in the context delineated at the outset. For example:

Forces and motion
- Scalar and vector quantities
- Orthogonal axis system
- Resolution of vectors
- Resultants
- Linear motion
  - Displacement
  - Speed and velocity
  - Acceleration/deceleration
- Momentum and force
- Newton’s laws of motion
- Types of forces
  - Weight
  - Tension
  - Friction
  - Normal forces
- Gravity
- Projectile motion
- Circular motion

As an example, an application of the above would be the balancing of forces in aerodynamics, i.e. the application of Newton’s 1st law of motion with regard to the motion of aircraft, while propulsion would be the application of Newton’s 3rd law of motion.

6. Teaching – General considerations

The aims and objectives of the course should be stated in the first lesson to give students a rationale for following the course. A brief overview of the course should also be given, so as to give students a framework for appreciating the information they are receiving. A particular point to consider at this stage is the level of collaboration between the background course tutor and the technical/scientific translation tutors; students to a certain extent expect some coincidence in the topics discussed in these two linked classes, as the purpose of the background information is to support their work in the proper translation classes. One cannot obviously expect an absolute coincidence of topics; however, even a partial one could very well boost the students’ confidence and realisation of the usefulness of the background course, as they will be able to apply the background knowledge they have acquired hands-on in their translation assignments.

For this background information to have maximum effect, the topics should develop logically (as indicated in the expanded outline above), starting with the definition of terms, and progressing to concepts, principles and their applications (so that the information flow is well organised). For example:

- semiconductors
- p-n junctions
- transistors
- logic gates
- digital computers.

Some points the teacher should consider are as follows:
- The information load should be kept at the level of the students.
• It may be necessary to repeat the same thing 2 or 3 times, preferably using a different approach on each occasion. In many cases, the educational background of a student is not the only obstacle a teacher has to overcome, there is also the particular learning type to which the teacher needs to adjust.

• It may be necessary to spell words for non-native speakers.

• The teacher should pace him/herself, keeping in mind that students will be taking notes. Traditional note-taking may not clarify the material. Scientists expect students to write down what they do not understand in order to grapple with it later. But students in other fields are not entirely comfortable with this method. “Active learners seek to translate new material into a language they can understand, to hang topical detail on some over-arching structure. But this is difficult when one is new to the field and not told where one is heading” (Tobias, 1997).

• Handouts should be given for some topics when there is simply too much to write down. This will also allow more time for discussion. However, not all notes should be given out, as this may lead the students to become mistakenly overconfident and rely completely on the given notes. One should not forget that no two students take notes in the same way.

• As far as possible, visual communication (i.e. visual/graphic representation) of concepts/principles/applications should complement verbalisation (where issues of multi-channel communication, span of awareness, etc., may need to be considered more carefully).

• Every now and then the teacher should stop and ask for questions, expanding on certain points and clarifying any grey areas.

A more general issue with regard to teaching that also needs to be considered is who should teach such a class. Our present experience shows that there is no unique profile that fits the case: it could either be a scientist with at least a basic knowledge of the intricacies of the translation process and by extension the translation trainees’ expectations, or a trained technical translator with professional experience which provides him/her with at least a rudimentary insight in the various fields of science and technology. In either case, as Daniel Gouadec (2003) points out, when it comes to training technical translators, the answer to who should teach is "whoever is willing to do it". It is not only the students who need to cross the boundaries of their existing knowledge base and move to a field of study which they may find unpleasant, boring or even useless; the teachers too need to be able to convey this kind of information in an unbiased manner, regardless of their own (professional or other) background and be prepared to adjust the material intended for delivery to the expectations and profile of their target student audience.

7. Web Resources

Given the current rate of development in science and technology in particular, it is generally expected that printed resources can become very quickly outdated (although they still provide accurate information when it comes to fundamentals). The Internet is one resource that can keep up with the pace of development and therefore its use is strongly recommended to the students. It is also worth mentioning that translator competence (O’Hagan et al., 2002) also involves skills such as web navigation and the effective use of on-line resources and electronic communication.

One possible way of directing the students to web-based background research is to provide at the end of each lesson a short list of web sites (of different levels of specialisation, with graphics, films, glossaries, etc.) for consolidation purposes. Alternatively, a more comprehensive list can be provided at the beginning of each semester which the students can subsequently use for reference while moving from one subject to another.

The use of web resources and corpora as reference/research material for a given translation (to assist decision making) is indeed emphasised in current research (Adab, 2003). The corpora should be reliable, representative and accurate. Types of corpora that can be used for background research are:

• Parallel corpora: bi- or multi-lingual, suggesting translation strategies/patterns and offering domain-specific terms.

• Comparable corpora: monolingual (in TL), same domain or text type, demonstrating the use of language in context and extending domain-specific knowledge.

Another potentially valuable resource is an on-line discussion forum where students may correspond with their teacher or with each other in an attempt to clarify various points arising in class or their assignments. This kind of on-line mailing list service provides a flexible environment of communication between students and tutors, is easy to manage, and also familiarises students with the potential advantages of web-based communication with real people while conducting research, in contrast to
merely searching for published glossaries, dictionaries, or similar references (see Fig.1).

Another useful function of such a resource is that it can be used as a web-based repository for various types of files that can be used as research material by the students. Every such discussion group is also allotted on-line storage space where a variety of material can be stored and accessed by the members of the group: web links (addresses linking to web sites of interest), files (lecture notes, diagrams, videos, audio files), etc. (see Fig. 2).

Fig. 1: Homepage of a web-based discussion group for a background course.

Fig. 2: A detail from the web link archive of the same group. Links are grouped in folders according to topic, making access a lot easier for the students.

8. **Assessment Methods**

Assessment of student learning can be conducted using a variety of available instruments and methods. When choosing assessment methods, many questions need to be answered. The following list is not exhaustive, but can act as a starting point for the evaluation of assessment methods (Science TEKS Toolkit, 2003).

- What is the purpose of the assessment?
- Will the results help students?
- What knowledge and skills are to be assessed and how much emphasis is to be placed on each?
- How will the assessment show that students have acquired the knowledge and skills they are learning?
- How will the assessment show the amount of progress students have made?
- Is the purpose of the assessment clear to students, teachers, and other stakeholders?
- Are multiple forms of assessment used in the assessment system?
- Are the assessment tasks engaging?
- Is the information collected worth the effort?
- Can the results be reported in understandable terms?

In general, it is difficult to fully assess student achievement with respect to the aims stated in §2, before they start using the acquired knowledge in their work as translators. In other words, it is difficult:

- To acquire a fully dynamic view of student learning. The picture acquired may be nothing more than a single snap shot that may or may not show the actual amount of student learning.
- For students to understand how to interpret the assessment in order to understand where they are, how far they have come, and how they are advancing. Students usually appreciate this (if at all) only in retrospect, when they start using the acquired knowledge in their work.

Choosing the testing method to be implemented is problematic, as any single testing method is biased, applying just one approach to getting at student knowledge and achievement. In other words, “any single testing method has its own particular set of blinders” (Supovitz, 1997). Nonetheless, given the student objectives outlined in §4 (and all other considerations relating to background, level of expertise, detail and specialisation), as a first approach, we have opted for the testing method of Selected Responses, in the form of class (locally developed) tests. More specifically, we have opted for multiple-choice and fill-in-the-blanks (to a certain extent also classed as selected responses) exercises.

Multiple-choice items are an inexpensive and efficient way of checking on factual (“declarative”) knowledge and routine procedures. In some cases, carefully written (non-trivial) multiple-choice items with good “distractors” can fairly accurately distinguish students who grasp a basic concept from those who do not. However, they are not useful for assessing critical or
higher order thinking in a subject, the ability to write, or the ability to apply knowledge or solve problems (even though some people claim they test students’ ability to analyse material). Furthermore, they have a number of inherent problems, such as not being truly objective, being too “narrow”, not providing information that will help teachers do a better job, not permitting useful projections of student behaviour and learning, etc.

In the classes taught, it has been observed that a very high proportion of students (over 90% in one instance) managed to obtain a distinction (+70%) in the test, which we believe is a consequence of its “narrowness”. These results however cannot be explained away, statistically, as “guesses”. At the same time, it is dangerous to derive any conclusions or make any assumptions about the students or the success of the module, based on these results, for all the aforementioned reasons. If the module does not contribute to the overall programme in terms of assessment, i.e., is not an M Level option and is taught as a background module, the multiple-choice format is acceptable for the purposes stated. However, problems arise if it is to be assessed as an M Level option (which is indeed the case in one institution) due to the high number of distinctions, which is considered unacceptable and problematic.

Finally, if the assessment method is to be related more closely to the aims and objectives stated at the outset, in addition to testing for factual knowledge, it would be pertinent to also test for the application of the acquired knowledge and for synthetic (higher-order) thinking in the form of comprehension and précis exercises, with open-ended questions, based on texts of a scientific or technical nature which could be offered for translation. This would also, to a certain extent, remove the bias of using a single testing method and solve some of the related problems discussed above, e.g., the unacceptably high proportion of distinctions. Whichever testing method is used, the aims and nature of the assessment, the structure of the test, and the weighting of the items should be discussed in class.

9. Conclusions

Present experience in the delivery of background courses in translation programmes suggests that the need for their establishment and consolidation within the translation training curriculum is becoming even more pertinent as science and, in particular, technology continues to advance at a rapid pace. The more general notions of subject competence and science and technology literacy have become much more relevant in the training of technical translators and student-specific considerations need to be taken into account when designing a syllabus targeted at this particular aspect of translation teaching. The use of flexible and accessible resources, as well as the selection of appropriate teaching and assessment methods, should in the long run raise the students’ awareness of the importance of acquiring such a knowledge base in the course of their studies and help them relate to this knowledge even in their professional life.

References


5.2.9 Catherine Histon

Translating scientific texts for the Natural Sciences - an insider's view

Catherine Histon
Faculty of Science, University of Insubria, via J.H. Dunant 3, 21100 Varese (Italy), kathleen.histon@libero.it

1. Introduction

What is meant by an insider’s view in translating for the natural sciences? I am an active scientist and work as a translator and ESP teacher in the field of natural science. This paper is about my experience as an “insider” in this area of technical translating and the advantage and importance of background knowledge of the subject when dealing with scientific texts. As much is written about the importance of specificity in ESP (Hyland 2002) I hope it will be of interest to those working in natural science translation and in particular in the training of future technical translators. It is important to recognise that there is more than one pathway to becoming a translator.

I teach English to natural science students, (biology, biotechnology, natural resource management and environmental engineering), and professional natural scientists at an Italian University and would like to discuss some advantages in having a scientific background when translating in this field. I have a B.Sc. in geology and Ph.D. in palaeontology and am actively involved in scientific research. I also have a TEFL qualification and have been involved in teaching and translating for over ten years.

I realise that there is always the insider/outside viewpoint and many people may disagree that a scientific background is of importance but on encountering non native speaking scientists either for scientific research, through teaching or as part of my work as a translator I am inclined to think otherwise. In my experience the reaction to and trust placed in a translator who is also a native speaker scientist is always positive and implicit. The advantage from the author’s point of view is that his text will not only be translated literally with the correct scientific terminology but that his research will also be expressed in the correct scientific style in the L2. The original meaning is often liable to distortion during the transfer of research concepts and interpretations from the L1 to L2. Therefore, the involvement of a scientist at this stage in the role of translator may help to prevent errors which could have detrimental effects, not only on the presentation of the author’s research, but also on a long-term basis, on his career.

2. Scientist and translator

I am not a trained translator. I first became involved in translation by doing favours for my colleagues by correcting manuscripts when I first went to Italy on a palaeontology fellowship in 1992. A mountain of paper piled high on my desk and I spent most of my time reading abstracts and manuscripts and not on my research. As a young researcher on her first fellowship abroad it never entered my mind to refuse these favours to my hosts. I later found out that the department I was in had a professional translator that they normally sent these texts to for correction but, even if a native speaker, this person did not have a scientific background and often had difficulty with the terminology. As I gained a better knowledge of Italian I started to work as a translator in my spare time and soon found that my services were much in demand for scientific abstracts, presentations and articles.

In 1996 I moved to Vienna and once again found that my geological colleagues tended to ask for favours in correcting abstracts and manuscripts. I found correcting these manuscripts a little strange after having worked within an Italian context. The communication strategy was somewhat different not only in the written presentation of research but also in oral presentation. As I was often asked to correct texts of oral presentations and later “couch” the speaker I quickly became acquainted with the German speaking style. I myself realised that my own research presentations in English to a German audience needed to be adjusted for style in order to be acceptable at national conferences (Histon 1998b, 2000, 2002c).

This is not meant to be an account of my life history but is intended to give the reader a brief overview of how I became a technical translator. As I mentioned above I now work in Italy and teach ESP within a science faculty. I also do translations from both Italian and German within the field of natural science. I am active in palaeontological research and publish and present my work on a constant basis either as a single author (Histon: various selected papers) or with colleagues (various selected papers: Ferretti and Histon 1997, Gnoli and Histon 1998, Histon and Schönlaub 1999, Histon and Sevastopulo 1993, Holland et al. 1994, Schönlaub and Histon 1999, Vaccari and Histon 2004). I also referee scientific articles in my own field for several international journals and have edited two volumes (Histon 1999a, Summesberger, Histon & Dauer 2002) so I am not a failed or fossilised scientist who has turned to earning my living by teaching and translating. I simply have maintained a double career over the last twelve years.

In recent years in connection with my translation work I have become interested in the problems related to the translation of specific terminology, particularly in geology and palaeontology, and of transfer of style and discourse from German and Italian within different scientific contexts. This of course is also of use when teaching ESP in order to develop a curriculum aimed at improving performance within these contexts. It is also interesting to contrast the approach of a scientist and that of a linguist to
these problems. Most of you I am sure reading this article will find the language I use out of place and even strange as I am used to using a scientific discourse and style which is rarely in the first person.

3. **English – the language of the natural sciences**

The ever increasing dominance of English within the natural sciences when presenting research either orally or in written form puts pressure on non native speakers to produce a quality contribution in what is sometimes not even their L2 but their L3. Paleonet, a paleontology list server, had an on-going discussion (Anglo-Saxon science versus the rest of the world) about the dominance of English within this discipline (Paleonet 2003). It became evident that there is a certain indifference to this problem on the behalf of native speakers who themselves rarely have a good level L2 or L3 in contrast to non native speakers which does not alleviate the situation. New trends in natural science and regulations laid down by both the International Code of Botanical Nomenclature (ICBN, March 2000) and the International Code of Zoological Nomenclature (ICZN, January 2000), with regard to the languages acceptable for taxonomic description, will greatly effect the need for publication in one of these languages, namely English. The ICBN now accepts English and Latin diagnoses and descriptions as valid publication of new taxa where previously only Latin was acceptable. The ICZN still retains publication in a number of languages including English, French, German, Chinese and Russian as valid publication of new taxa, however, as was pointed out in the above mentioned on-line discussion even conscientious palaeontologists sometimes are not aware of or disregard new taxa described in languages other than English. This often leads to a somewhat inadequate interpretation of the biogeographical distribution of species and to problems of priority in nomenclature.

Another major problem which NNS scientists have to overcome is referee bias and here I would like to emphasise other contexts which are critical to the career advancement of a scientist apart from scientific articles where this arises. Generally non NNS editors or referees criticise English written by a NNS author, NS authors commonly do not receive the same detailed language corrections. When based in Vienna I once had a comment from a Spanish referee that the English of my paper should be reviewed by a native speaker (Histon 1999d). On requesting precise examples of where the language was not correct he quoted two sentences and said that overall the English of the paper should be revised. I replied clarifying the precise meaning of the sentences referred to without changing them and then stated that I was a native speaker even if working in Vienna. The editor immediately replied and apologised stating that this was his standard policy. I wondered if my surname had been, for example German, and my address based in Dublin would my paper also have been recommended for revision! Many NNS editors or referees openly admit that they always request that the English be revised by a native speaker when the author’s address is not from an English speaking country or they know that the author is a NNS. This is regardless of whether they have noted precise errors on the manuscript or not. They themselves may not have a high standard of English and therefore prefer to include a recommendation on the language rather than have approved a paper that was not of a high enough linguistic level and thus comprise their own reputation. This of course leads to frustration and demoralisation of many NNS authors and particularly young researchers who sometimes do not have the financial means to have their paper translated by a professional. The opposite case sometimes occurs when an editor or referee is a native speaker and the author non native. NS editors often try to help NNS authors by revising the text themselves where the scientific content is deemed of value. Editors are well aware that lack of funds for technical translation is the most common reason for the poor linguistic level of the manuscripts submitted for publication. Scientists who are interested in promoting their science often try to overcome linguistic problems and do not usually try to hinder publication of worthwhile contributions. However, there are cases when this is not always true for a variety of reasons.

Nowadays oral presentation at scientific conferences in the natural sciences is generally in English, sometimes even in national conferences where English is not the L1 but where the participants have come to expect an international standard. Rejection of abstracts submitted for oral or poster presentation acceptance by conference scientific committees due to a low standard of English is common (I myself have acted on such committees) and is used as a way of reducing the number of accepted presentations when conference time or rooms are limited. Therefore, unless the presenter has a good level of English they have to get the text translated if their research funds will allow this expense in order to have their scientific views and results circulated within the scientific community.

This highlights yet another obstacle for the career advancement of a NNS scientist. The ever increasing difficulty in obtaining funding for scientific research projects and the decrease in funding sources has lead to particularly high standards in project application criteria world-wide. This applies to both national and international funding organisations as project applications are now normally sent for peer review both within a national network and to at least one international referee. Project applications are therefore required in English or partly in English and the L1 with at least a detailed summary and project objectives being required in both languages. Consequently, not only is a high standard of science required but also a high level of written English. One of the numerous selection criteria that many projects fail is the quality of the English version of the application. Some do not even get to the peer review stage as the English is deemed to be of too low a standard by the funding committee. Many NNS scientists applying for funds in order to carry on with their research do not have the financial resources to pay for a technical translation and in this way the investment of not only money but also of scientific expertise in science is constantly being undermined.

Peer review is often by NNS scientists not familiar with the L1 of the project applicant consequently influences from the L1 of both the applicant and the reviewer give rise to lack of clarity and comprehension both of which have a negative effect on the applications success in being financed. Writing conventions and styles even within the same field of research differ from nation to nation and this aspect must be considered by reviewers and funding organisations. Projects submitted for review can rarely remain anonymous as within specific disciplinary sectors it will be obvious to a reviewer who the applicants are or to which
research group they belong just from reading the proposal. The address of the applicant, even if a NS, may also lead to the incorrect assumption that the English is inadequate by a NNS reviewer as was mentioned above. This context of application for financial support is more prone to bias than in reviewing scientific articles as competition for funding is involved, some agencies try to reduce this risk by requesting a list of potential reviewers from the applicant. As competition for the limited funds available increases annually it is no longer enough to have a scientifically sound and innovative project proposal which clearly merits financial support, one must also present the research in an almost NS standard of English in order to be considered for acceptance.

The last context I would like to mention is also that with the most serious implications as to how the dominance of the English language is effecting the careers of NNS scientists. Positions advertised in the natural sciences either in English speaking or non-English speaking countries usually require that the candidate can guarantee financial support for their own research projects and this must be demonstrated by listing research grants obtained. In particular with regard to high ranking positions scientists must contribute not only their scientific expertise to an institute but must also show their ability to contribute financially to the institute. Large research grants normally include funds for research equipment and personnel which thus add to the research facilities of the department and also the prestige of the institute. This fact increases the pressure on NNS scientists when applying for research funds, as was discussed above, which gives rise to a vicious circle when applying for research positions: bad English - no grant - no research - no job.

4. Author – translator relationship

The author / translator relationship is very delicate and much trust is involved on the part of the author whose many months or years of research now leave his hands to be translated into English. Therefore, the role of the scientific translator is critical in the career advancement of a scientist whose research work is excellent but who only has a basic knowledge of English. Literal translations where the translator is not familiar with the science in question sometimes lead to a distortion in meaning of the fundamental research being presented and thus the author loses credibility within the scientific community and has to deal with sometimes embarrassing situations. This can be particularly demoralising for young scientists who often do not understand that it is their language and not their research ability that is at fault.

Non native scientists are very vulnerable particularly when they make oral presentations. They may submit a perfectly written English abstract and often read from script while making their presentation, all thanks to the translator. However, these often literal translations are greatly influenced by the L1 of the author and often lead to a lack of comprehension on the part of a mixed native/non native listening audience as the language used is often not “spoken” English or commonly used English. The scientific language in the L2 may differ greatly from that used in the L1. Discussions which follow an often perfectly delivered oral presentation are normally a difficult test even for the most experienced researchers whose language abilities are less than adequate. However, if these translated presentations are correct the author will at least have achieved the fundamental aim of highlighting the research being done within the scientific community.

The views outlined above are based on my personal experience as a scientist working in ESP/EAP and most EAP/ESP translators will probably not agree that they are of greater importance than concentrating on the genre of the scientific article. But these aspects should be considered and those working in specific sectors should be aware of how important it is to professionals, to be able to discuss their language difficulties and needs regarding their specific discipline with a translator trained in this discipline. The common alternative is to ask favours to well-intentioned but sometimes overworked NS colleagues who, being English speaking and sometimes without an L2, may not understand the fundamental questions being put to them and in many cases they do more harm than good.

5. Scientist vs technical translator

It is also interesting to contrast the approach of a scientist and that of a linguist to translating texts within the field of natural science. Can one be considered better than the other and what are the actual advantages of having a scientific background when translating scientific texts. As I stated above I am not a trained translator and have developed my own approach to translating and correcting scientific texts which is obviously heavily influenced by my scientific training and viewpoint. As a scientist I try to first identify the aim of the paper or text and make sure that this comes across clearly. In fact, the authors provide me with a complete set of figures and plates as they realise I will read the final translated or corrected version as a referee would do. I prefer to translate from the L1 to the L2 as sometimes while reading a paper written in the L2 the meaning may seem clear but with a knowledge of the L1 and a re-translation into the L1 the meaning may change subtly or drastically. This practise is of course then double-checked with the author to check which meaning is actually correct. Speed and sometimes fatigue while correcting (we’re all human) may lead to overlooking these errors when the text is already in the L2.

Authors tend to use lexical chunks from articles that are well-written by a native speaker scientist (NS scientists do this too) and adapt it to present their own research. However, they sometimes try to disguise the source by changing word order and this often does not work. In many cases the translator re-orders the phrase unwittingly so that it returns to its original form much to the dismay of the author. I once discovered quite a large chunk of one of my own papers (unacknowledged) translated literally from the original English version within a Ph.D. thesis in my own specific field and presented to me by the author himself! He obviously thought I wouldn’t notice or that my knowledge of the L2 would not be sufficient to recognise the text. Unfortunately when he translated from the original English he did not compensate for the change in style and did not realise that the language I used did not transfer into the L2 so this piece of text stood out from the rest.

The influence of the L1 of the author may also lead to a lack of comprehension on the part of mixed native / non native readers. An author with a basic knowledge of English is often only content with an “English” translation that he himself readily understands i.e. vocabulary similar to the L1. Specific terminology in L1 must often be explained by the author to the translator
and the equivalent term found in L2. A translator with a good scientific background, in contrast to one only trained in dealing with scientific literature, is more readily able to understand the scientific style and concept of the manuscript being translated as well as the terminology being used.

The advantage of a translator with a scientific background is that they can also do a form of preliminary editing of the text as they can identify the national style as well as the L1 influence of the author which must be compensated for. In this situation there is a scientist dealing with a scientist so the sense of frustration and of being powerless to control the situation by author is reduced considerably. A fellow scientist can also understand the style required by the author’s chosen journal or the scientific context for which the text is destined. As there is a scientist dealing with another scientist there is also less arrogance towards the translator on the part of authors with a high level of English who sometimes assume that they know better than a NS translator and insist on having the text in a certain style or with a certain vocabulary despite the recommendations of the translator. However, the role of a translator is to remain neutral and not influence the author’s own personal style and form of expression, therefore the scientist/translator can also only make suggestions which they consider necessary for improving the text.

6. Translating within an Italian speaking context

As I have been translating for a variety of natural science disciplines within an Italian speaking context for over ten years I would like to discuss briefly some of the common problems I have come across with regard to scientific presentations and writing of scientific articles. My greatest experience is in the field of paleontology and geology as this is my own scientific discipline and the area in which I have done most of my work. I also translate texts on dendrochronology, biology, ecology and zoology as they are closely related to my own discipline of paleontology (i.e. paleobotany, paleobiology and paleoecology).

In general, scientific texts in Italian tend to be more descriptive than argumentative. There is much emphasis placed on publication of new scientific findings and results which are then outlined in detail. Consequently the introduction, discussion and conclusions of scientific articles are often quite short while methodology / method and results are given more space. The discourse is digressive and sometimes it is quite difficult to follow the thread of the author’s line of thought as they try to fit in as much detail as possible. The language used is sometimes difficult to transfer as it can appear somewhat old fashioned in English. The greatest difficulty is in identifying the main theme of a paragraph and then incorporating the minor themes which have been introduced within the text either in brackets, between commas or tagged on to the main phrase as a note.

On the other hand the scientific abstract, either as part of an article or for conference presentation, is often too short and almost telegraphic in style and fails to convey clearly the main points of the article or presentation. It is usually structured as a list of points without any descriptive language or background details in order to communicate clearly to the reader the aim of the article or presentation.

The use of Powerpoint has revolutionised oral presentation as the presenter reads from the screen or has prompts which tend to stop the tendency to ramble or digress from the main theme as many Italians often do. However, sometimes the language transfer in brief telegraphic form is not effective as there is still a need to learn a concise form of expression with appropriate key words which are often different from those used in the L1

7. Translating within a German speaking context

I have only done translation work in the disciplines of geology and paleontology while based in Vienna but it was most interesting to contrast the Italian style which I had previously become quite familiar with and the German or Austrian style. The emphasis in scientific communication, either written or oral, is in interpreting the findings or results of research and it is less descriptive and more argumentative. Systematic points are made and backed up with facts from previous research work or other publications. Therefore, in scientific articles the introduction, discussion and conclusions are of major importance and each scientific claim is supported either by a reference to previous work or by research results. The results themselves and the method / methodology are usually outlined briefly with a minimum of descriptive language. Scientific abstracts on the other hand tend to be quite long but with a precise structure reflecting the discussion and conclusions of a scientific article or presentation rather than the actual research method or findings. Oral presentation is also well structured but again more emphasis is given to the interpretation of new facts or findings and in particular the global implications of these results. This style reflects the critical attitude of the German speaking scientific community as a whole where the various aspects and implications of each new finding are argued over in order to test their validity.

8. Conclusion

The views and examples I have given above are based on my experience as a scientist and translator and I hope some of the points I have made may be of interest to those working as technical translators. I am particularly interested in content-based instruction for the natural sciences and the problems related to translation within specific disciplines such as geology and biology and I think that someone with a scientific background has a great advantage when teaching ESP and developing a suitable curriculum for science students. A study of discourse and style within the natural sciences within both the Italian and German speaking contexts could be a valuable contribution to this field and in particular if done by someone with both a scientific and linguistic background.

References


Histon, K. (1997b) "New nautiloid species described from the Carboniferous of Ireland" Irish Journal of Earth Sciences, 16.


Paleonet 2003, Paleonet archives, 12.03.03 paleonet discussion: Anglo-Saxon Science versus the rest of the world Available: http://www.nhm.ac.uk/hosted_sites/paleonet/


How does scientific translation relate to LSP problems?

Larissa Alexeeva, University of Perm

1. Introduction

In my presentation I will treat the problems of scientific translation (ScT) which are relevant to the domain of LSP. As far as the language of science is a part of LSP, translation of scientific texts is also coupled with LSP problems. Although the issues of ScT are much discussed (MacCormac 1976; Boyd 1980; Bibikhin 2001; Hatim, Mason 1997; Alexeeva 2002), still some of them remain unsolved. My aim is to improve knowledge of ScT. The term ‘scientific’ is employed here in its general sense – *in conformity with science, being constrained by the scientific paradigm*. I will attempt to clarify the main question of ScT: Is it possible for a translator (who is a non-specialist) to create an adequate scientific text?

The structure of my presentation is as follows:

1. Observation of certain issues of ScT.
2. Introduction of the concept of ScT.
3. Definition of mechanisms and methods of ScT.

2. The tendencies of the development of scientific translation.

Before I discuss the main issues of ScT, I would like to observe the tendencies of the development of translation theory. Traditional view of ScT has received much criticism (Jakobson 1966; Bell 1991; Bell 1996; Bibikhin 2001), because it dealt mainly with the substitution of terms within the frames of the two texts (the Source text and the Target text) and, thus, remained within the confines of language and semantics (Catford 1965). Traditional translation theory was static and free of such concept as translator’s activity, therefore no mechanism has been put forward to account for ScT. As I regard it, dependence of traditional theory on language and semantics has limited the view of translator’s activity to that of a dictionary, and dropped out the issues concerning the mechanism of translation. During the last two decades there has been an intensive inquiry into human cognitive faculties. Translation theory of the modern period has left the framework of linguistics and has become a complex and interdisciplinary branch of knowledge (Hatim, Mason 1993; 1997).

3. Parameters of scientific translation.

To introduce the concept of ScT, I would start with parameters of the translated scientific text. I would like to consider two classifications of scientific texts:

The first classification was done by John Dryden (in Steiner 1975), who distinguished three kinds of translation: 1) *metaphrase* (literal translation), 2) *paraphrase* (interpretation), 3) *mimesis* (imitation). It is clear that the criterion for this typology is the degree of freedom. The first kind of translation is a non-free, or a dependent translation. The second kind of translation, being associated with interpretation, assumes a certain degree of freedom. The last is the freest kind of translation. In my view, scientific translation is associated with paraphrase, because it assumes a lesser choice of freedom, compared to mimesis. Freedom in this case may be defined as the translator’s ability to overcome the frames of the text and to come out into the discourse.

The second classification actualises the modern view of scientific translation. It distinguishes between two different views of translation: according to the first viewpoint translation is regarded as a linguistic act, according to the second point of view translation is appeared to be a cognitive process. The first approach to translation is aimed at the study of the substitution of terms within the frames of the two languages. The latter approach to translation deals with the task of understanding and interpreting the Source text. These distinctions may be helpful to define the parameters of the scientific text. As we have now come to expect, they are the following: *degree of freedom and reflexivity*. Our observations suggest that ScT is not a completely creative (or free) process, it includes both production and reproduction of the source scientific ideas. In this sense we may call it an authorized type of translation, since the translator’s goal is to restore the author’s ideas. As for the reflexivity, it is a common knowledge that a translator of a scientific text has to overcome a concept barrier, because he has not got a special knowledge.

4. The concept of scientific translation.

My interest in ScT addresses it as a cognitive and communicative process. The translator of a scientific text receives a message from the Source text, performs a reflexive act, and in this way communicates with the author of the Source text. The translator focuses at an adequate transfer of scientific information, contained within the Source text, as well as at a communicative aim. I suggest that it is possible to define ScT as an individual-orientated and a multi-stage process.

My interpretation of ScT is based on the following tenets:
As far as we consider ScT as a process of the development of the sign, we point out three stages within this process, comparing it to the creation of the Source text:

Table 1.

<table>
<thead>
<tr>
<th>The Source Text</th>
<th>The Target Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Assignment</td>
<td>I. Assimilation</td>
</tr>
<tr>
<td>II. Support by the items of preceding knowledge</td>
<td>II. Support by the Source text (derived knowledge)</td>
</tr>
<tr>
<td>III. Creation of the Source text (sign)</td>
<td>III. Creation of the Target text (sign)</td>
</tr>
</tbody>
</table>

At the first stage the translator enters a new informational sphere of knowledge, at the second stage the translator comprehends special knowledge and, finally, creates the text which presents his version of the items of scientific knowledge.

5. Scientific translation as a communicative process.

Now, I would like to comment on the concept of ScT from the communicative viewpoint. To show that ScT may be defined as a communicative process, I point out 3 basic features of this phenomenon:

- multi-stage character,
- non-direct character,
- derivative character.

These features can serve as a framework for explaining the nature of ScT. Let us consider the first feature (multi-stage character). The point will be clear, if we consider the following table:

Table 2.

<table>
<thead>
<tr>
<th>The Source Text</th>
<th>The Target Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social domain (\rightarrow) Cognitive domain</td>
<td>Social domain (\rightarrow) Cognitive domain (^i)</td>
</tr>
<tr>
<td>Cognitive domain (\rightarrow) Communicative domain</td>
<td>Cognitive domain (^i) (\rightarrow) Communicative domain (^i)</td>
</tr>
<tr>
<td>Communicative domain (\rightarrow) Social domain</td>
<td>Communicative domain (^i) (\rightarrow) Social domain</td>
</tr>
<tr>
<td>(i = \text{individual})</td>
<td></td>
</tr>
</tbody>
</table>

From the above table we can also observe that the process of scientific translation is cyclic. From this follows that the Target text is dependent on its place in the system of relations with the other scientific texts. The Target scientific text must not get out of the paradigm and the system of already existing knowledge. The relation between the Source text and the Target text must be similar to that between already existing scientific texts. The scientific status of the Target text is similar to that of the Source text: scientists rely on the Target texts and often quote them to discuss scientific problems, as if they appeal to the Source text. Thus, both the Source and the Target texts are factors of knowledge.

Let me pass to the second feature of ScT. I define ScT as a non-direct process, because I assume the following. A scientist, the author of the Source text, constructs scientific models directly on the basis of the reality, whereas the translator creates his text not on the basis of the reality, but rather on the scientific models presented in the Source text, i.e. not directly. Following this, the translator is separated from the reality by the verbal text, that substitutes the reality.

My assumption is based on the following semiotic tenets. Ch.S.Peirce defines the sign as something which is senseful to someone. The sign is always addressed to someone, since it derives in the mind of the other person a similar, or even a bit more complex sign. Ch.S.Peirce called such a sign the *interpretant*. A scientific text is a complex sign, reflecting the system of special elements (terms) and comprising a certain concept. This sign is a fragment of knowledge about the reality. From this follows, that a translator of scientific texts always deals with the interpretation of the reality, but not with the reality itself. Thus, regarding the idea of endless interpretation of the sign, it is possible to answer the question under consideration (is it possible for the translator to create an adequate scientific text?) positively.

The third feature (the derivative character) of ScT may be realized on the basis of L.Vygotsky’s theory of a derived knowledge. He advances the idea of a inhomogeneous consciousness, which comprises various components, being precedingly intersubjective regulators. Further, these components undergo the procedure of schematization, symbolization and thus become interiorized, i.e.
become intrasubjective regulators. To relate these assumptions to ScT, it is of importance to present the translator’s action as a cognitive process. At the stage of interiorization the translator forms a concept of a new scientific phenomenon. He performs this cognitive act by means of establishing similarity, peculiarity, and associations. Doing this, the translator uses the preceding knowledge about the phenomenon, thus forming the structure of the concept he is concentrated at.

6. Methods and mechanisms of scientific translation.

The concluding part of my presentation concerns methods of ScT. It is reasonable to assume that methods of ScT correlate with mechanisms of ScT. We may observe this process in the following table:

Table 3.

<table>
<thead>
<tr>
<th>Mechanisms of Translation</th>
<th>Methods of Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adaptation of Sign</td>
<td>Associatives, basic words, explicatives</td>
</tr>
<tr>
<td>Derivation of Sign</td>
<td>Intertext</td>
</tr>
<tr>
<td>Creation of Sign</td>
<td>Interpretation</td>
</tr>
</tbody>
</table>

My practical observations show that the main method of ScT is searching for: 1) **associatives** (the results of mental work of a translator in the process of understanding a new idea with the help of preceding knowledge), 2) **basic words** (explicit traces of a scientific thought), 3) **explicatives** (elements of definitions of concepts) (Alexeeva 2002).

Associatives are restored by the translator during his reflexive activity, when his thoughts are associated with the preceding knowledge. If by chance, the translator has no knowledge in that or another sphere, he needs to create a special implicative space by means of individual knowledge competence. The meaning of the associative becomes clear, when we appeal to such concepts as, syntaxism (Karaulov 1999), non-linear reading, hypertext. It should be noted that each scientific work is created as a hypertext, because the concept it develops is associated with a multi-layered knowledge, in other words, the text itself gives certain possibilities for the translator to leave the frames of the original. Thus, the translator reads not out one, but several semantic versions from the source text. In this case the translator refers not only to the original text, but to the mass of other texts.

In general we may suggest that scientific translation is similar to the process of scientific cognition. A new investigation is “rediscovered” once more in the Target text by the translator at the expense of his own comprehension of the phenomenon.

Basic words are the traces of the author’s thought, actualized in the Source text. Following this, ScT may be defined as a reflexive act by means of basic words, i.e. basic words are the substrates of the foregoing target text. Explicatives are various kinds of interpretations of the phenomena described.

The foregoing example provides an illustration of the methods under consideration:

“Given an active **METAPHORICAL STATEMENT**, it would be useful to discriminate two aspects, which I shall call **EMPHASIS** and **RESONANCE**. A metaphorical utterance is **emphatic**, in my intended sense, to the degree that its producer will **ALLOW NO VARIATION UPON OR SUBSTITUTE FOR THE WORDS USED** – and especially not for what in *Metaphor I* called the "FOCUS", THE **SALIENT WORD OR EXPRESSION**, WHOSE OCCURRENCE IN THE LITERAL FRAME INVESTS THE UTTERANCE WITH METAPHORICAL FORCE. Plausible **OPPOSITES** TO "EMPHATIC" might include: “EXPENDABLE”, “OPTIONAL”, “DECORATIVE”, and “ORNAMENTAL”. Relatively **DISPENSABLE METAPHORS** are often no more than literary or rhetorical flourishes that deserve no more serious attention than musical grace notes. **EMPHATIC METAPHORS** are intended to be dwelt upon for the sake of their **UNSTATED IMPLICATIONS**: Their producers need the receiver’s cooperation in perceiving what lies **BEHIND** the words used. How far such **INTERPRETATIVE** can reach will depend upon the complexity and power of the metaphor-theme in question: Some metaphors, even famous ones, barely lend themselves to **IMPLICATIVE ELABORATION**, while others, perhaps less interesting, prove relatively rich in background implications. For want of a better label, I shall call **METAPHORICAL UTTERANCES THAT SUPPORT A HIGH DEGREE OF IMPLICATIVE ELABORATION resonant**. Resonance and emphasis are matters of degree. They are not independent: **HIGHLY EMPHATIC METAPHORS TEND TO BE HIGHLY RESONANT** (though there are exceptions), while the unemphatic occurrence of a markedly resonant metaphor is apt to produce a dissonance, sustained by irony or some similarly distancing operation”(Black 1980: 26-27),

- **ASSOCIATIVES**
- **BASIC WORDS**
- **EXPLICATIVES**

7. Conclusions.

The main issues within the modern theories of translation concern the ways of scientific knowledge transfer and the possibilities of a translator in the creation of an adequate scientific text. In my presentation special attention is paid to the specificity of ScT. I have attempted to describe ScT, regarding semiotic and discourse theories. I hope, this research will enrich scientific knowledge in the domain of ScT. It will help to answer the main questions of ScT. Mechanisms and methods described may be of practical value in ScT.
References.

Peirce, Ch.S. (1931) Selected papers. V. 2. Cambridge (Mass.)
5.2.11 Giuseppe Palumbo and Khurshid Ahmad

Errors in the translation of LSP texts: shifting the focus from translator to author?

Giuseppe Palumbo
University of Surrey / University of Trieste
Khurshid Ahmad
University of Surrey

1. Introduction

Research on the evaluation of translation has traditionally been centred on the translators’ performance and has paid little attention to the source texts. To put it differently, the causes of translation errors have always been explained in terms of some kind of lack on the part of the translator. Translators themselves, however, would be more than happy to acknowledge that not a negligible share of the texts they are faced with are of very poor quality as far as style and clarity (in one word, readability) are concerned. Transparent or obvious defects of the source text (ST) have been mentioned as sources of difficulty (e.g. in Kussmaul (1995: 145-148)), but no systematic study has been proposed of the ways in which defective or inadequate features of the ST can influence the translators’ performance. Nonetheless, before embarking on such a study, we should perhaps be clear as to what translation errors are and how they can be classified.

In the following we will give a brief overview of the existing studies on translation errors, describe a particular model of error analysis (the one proposed by A. Pym) that may be adapted to the translation of LSP texts, present the preliminary results of an ongoing experiment on the translation of scientific texts and finally hint to possible ways of correlating errors to inadequacies or difficulties of the source text.

2. Translation error analysis – a brief overview of past research

Extensive critical overviews of existing studies on translation errors are presented in Waddington (1999) and Hurtado Albir (2001), two works published in Spain (Spain, Canada and Germany are the countries where most of the research on translation errors has been carried out to date).

The concept of “translation error” lies in a much larger field of translation research, which is that of translation evaluation, and is directly linked to at least two other broad areas of research: translation competence (which can be seen as the object of evaluation) and translation training. Within translation evaluation, the discussion of errors is part of the reflection on assessment criteria and evaluation procedures and instruments. A clear definition of translation error (and of translation problem) seems to be crucial for the establishment of assessment criteria. At the same time, the particular context in which the assessment takes place has to be taken into account. Two broader contexts may be identified: translation teaching and professional translation. The definition of “error” will change according to the particular context where error analysis is carried out, although elements of the definition are bound to overlap to a greater or lesser degree.

2.1. Traditional error categories in translation assessment

Traditionally, typologies of translation errors were based on categories such as wrong sense, opposite sense and overtranslation (errors related to transfer), whilst grammar, spelling and other errors related to re-expression in the TL. As acknowledged by Waddington (1999: 37) these categories are today still used by many translation teachers, but they have been criticised by many researchers as far back as the 1970s. Their continuing success is perhaps due to three main factors: 1) the sheer force of habit, 2) the fact that they are more or less overtly based on the principles of the stylistique comparée (cf. Vinay and Darbelnet 1958), an approach which was very influential in translation research starting from the 1950s, and 3) their simplicity of use. Criticisms moved to these traditional categories of translation evaluation are mainly concerned with their rigidity and their insistence on translation as having an essentially linguistic, rather than communicative, dimension (cf. Gouade 1989: 36; Waddington 1999: 64-65). The rigidity derives from their tendency to establish universally valid parameters which do not take into account the uniqueness of each ST, if not of any act of transfer into the TL. On the other hand, their lack of a communicative perspective makes these categories unable to evaluate a given TT element in terms of its appropriateness to the textual function and to any other pragmatic consideration entering the transfer process or explicitly linked to the translation brief.

2.2. Functionalist approaches to error analysis

The first explicit attempt to account for a functionalist perspective in the evaluation of translation errors is to be found in House (1977), where a distinction is proposed between covert errors (i.e. those solutions which fail to establish a functional equivalence between the ST and TT) and overt errors (i.e. mismatches of the denotative meanings of ST and TT elements). This identification of two broad categories of errors, with one category usually accounting for the translation errors "proper" (i.e. errors due to a lack in translation competence) and the other concerned with errors resulting from a lack in linguistic competence, is to be found in
most of the subsequent studies dedicated to either translation errors or translation evaluation. Even when a functional perspective is not explicitly mentioned or adhered to, such as in Gouadec (1989), the distinction nevertheless remains.1

According to Kupsch-Losereit (1985: 170), the definition of translation error cannot be derived from a structural description of the linguistic system but should result from the consideration of the specific equivalent text function which the ST and the TT realise in a given communicative situation. Along the same lines, Nord (1996) operates a clear distinction between errors of re-expression and translation errors, the identification of which is based on pragmatic factors. Translation errors are thus discussed in relation to the specific functional aspects emerging from the translation brief. As a consequence, such a concept as the "quality" of a translation becomes a relative one: its measurement is not based on absolute standards but is carried out in terms of "appropriateness" with respect to the purpose of a translation (cf. also Pym 1992; Hatim & Mason 1997). By the same token, the impact of errors is seen as varying according to the relative importance of the erroneous element within the text as a whole (cf. Sager 1983: 127; Kussmaul 1995: 139-141).

As suggested by this necessarily brief overview, research on translation errors has covered much new ground since House's explicit introduction of a functional perspective in the 1970s. However, while there is no aspect of translation (be it teaching, research or professional practice) which does not refer, "implicitly or explicitly" (Gouadec 1989: 35), to the notion of error, the number of studies dedicated to translation errors remains small and in the past few years other authors (cf. for instance, Hurtado Albir 2001, Martínez Melis and Hurtado Albir 2001) have lamented the lack of empirical research on a typology of errors, on the seriousness and impact of errors and on the causes of errors. In particular, almost no study focuses on the features of the ST as an explanation for some translation errors. In other words, the problem of difficulty in translation is always discussed in terms of a poor performance on the part of the translator and issues regarding the features which make some texts more difficult to translate than others have rarely been tackled (a notable exception is the research presented in Campbell & Hale (1999; 2002)).

3. Translation competence and translation errors – an adaptation of Pym's model

As noted above, the study of errors is closely connected to the research on translation competence. Translators seem to be able to act as such thanks to a specific kind of competence. While there is little consensus on how such competence can be defined, almost all researchers agree that there is something that distinguishes translators from other language users who deal with more than one language, e.g. bilingual individuals.

Following Pym (2002), in the models of translation competence proposed so far, four tendencies can be identified:
1) competence as summation of linguistic competencies (SL competence + TL competence)
2) competence as "no competence" – translation deals with the actual use of languages, therefore it would be paradoxical, in Chomskyan terms, to describe as "competence" something which is really "performance" (the term is thus replaced with "proficiency", "strategies", "expertise", etc.)
3) competence as multicomponential, i.e. made up of several skills (but lists of skills can be expanded ad infinitum)
4) competence as "supercompetence", i.e. something which defines translating and nothing but translating.

Pym himself opts for a "minimalist" notion of competence, seen as "the ability to generate a series of more than one viable target text (TT₁, TT₂ ... TTₙ) for a pertinent source text (ST)" plus "the ability to select only one viable TT from this series, quickly and with justified confidence". The question, in other words, is the following: can the acquisition of competence essentially be defined as the ability to break free from a "word-for-word" approach and start thinking in selectional terms? Or to put it in Pym's terms, is the acquisition of competence a revelation that "translation is not simply a matter of literalist fidelity" (1992: 287)?

Closely linked to this definition of competence is Pym's scheme for the analysis of translation errors. If we accept that being a competent translator means being able to select from a series of alternatives, we are also assuming that a translation error must, by definition, be non-binary. Whereas a binary error opposes a wrong answer to the right answer (thus being identifiable as language error), non-binary "requires that the target text actually selected be opposed to at least one further target text which could also have been selected, and then to possible wrong answers" (Pym 1992: 282). In other words, non-binary errors are those that provoke in the translation teacher reactions such as "It's correct, but...".

If we accept this definition, then the question arises as to how trainee translators can best acquire the skills necessary to select the most appropriate alternative in the TL. And whereas in general-language texts specialist knowledge rarely enters the picture, in LSP texts specialisation is a datum and plays a primary role. In other words, specialist knowledge is one of the factors, sometimes the predominant one, which help the translator establish what the preferred TT alternative for a given ST element must be. Moreover, where specialist knowledge (and specialist terminology) enters the picture, it is possible that binarism comes to the fore again. There often is one and only one equivalent for a SL term, and the student who does not select exactly that equivalent in the TL obviously incurs in a binary error (such a statement, of course, is an oversimplification, as it assumes that the ST and the TT always share features such as text function and text addressee).

From the definition of binary and non-binary errors given above, it would seem that the former should come within the remit of language teaching, leaving non-binary errors only to translation teaching. However, Pym himself sees such a distinction as questionable. More specifically, in the translation of LSP texts, the (re)emergence of binary errors may be attributed to a lack of 1) subject-matter knowledge and 2) terminological/phraseological accuracy. If we go back to Chesterman's question ("So what do we mean by better and why are some options better?")), we can't help noting that in the case of LSP translation the answer also

---

1 Gouadec (1989) follows a previous paper on translation errors (Gouadec 1981), which identified as many as 675 types of errors (see Waddington 1999: 62-63) for an examination of this study). In the later paper, Gouadec makes a distinction between "absolute" and "relative" errors. "Absolute" errors result from a violation of the cultural or linguistic norms or from a violation of usage rules, while "relative" errors are solutions that do not conform to the requirements of a given translation project.

2 See below for a detailed discussion of Pym's scheme for translation error analysis.

3 This, of course, does not mean that the "word-for-word" approach will never give perfectly acceptable results.

4 Cf. Chesterman (2000: 85): "Different options are not just alternatives, but usually some seem better than others. So what do we mean by better and why are some options better?"
depends on the degree of subject-matter knowledge displayed by students (and teachers), so that the more familiar they are with the domain and its terminology, the better they understand the source text and the better equipped they are to provide a satisfactory TL equivalent. As we shall see later, this should not rule out the possibility that some (purely) textual features may influence the translator's performance. Think, for instance, of aspects such as cohesion or style and the different ways these are handled across languages. Again, however, students may be faced with textual features that are typical of a given specialist domain, i.e. these features may be part of the background knowledge that a domain expert puts into the text more or less consciously.

How can the distinction between binary and non-binary errors be used to say something about the performance of a group of trainee translators faced with an LSP text? Pym (1992) suggests that one way of identifying tendencies characteristic of the learning process is to examine the ratio of binary errors to non-binary errors in a particular translation or series of translations and to plot variation in terms of the nature of the texts, the purpose of the translation, etc. The rate of progress from binary to non-binary errors could also be examined, as the proportional increase in non-binary errors could be considered as an indicator of progress. However, in using Pym's distinction to examine the translation of LSP texts we may perhaps be forced to slightly revise it so as to take into account the role played by subject-matter knowledge and terminology.6

Here is a proposal for a scheme for the analysis of translation errors based on a revision of Pym's distinction:

| Table 1 |
|-------------------|-------------------|
| **Binary errors** | **Non-binary errors** |
| 1. Language errors – non domain-related | 1. Non domain-related |
| 2. Domain-related errors (content, terminology) | 2. Domain-related (e.g. phraseology, style, cohesion) |

Remember that Pym defines translation competence as "the ability to select only one viable TT from this series, quickly and with justified confidence" (italics mine): the translator's confidence in selecting the most appropriate TT alternative appears to be diminished when subject-matter knowledge is involved in the process of translating (and by knowledge we also mean knowledge of the terminology and the norms of text production relating to a given domain).

4. Description of experiment

4.1. Background of the experiment

The experiment has been conducted as part of a postgraduate research project carried out by one of the authors at the University of Surrey. The project is an attempt to describe the language of science with a view to identifying characteristics that are likely to likely to render texts difficult to translate. The model we refer to for the description of scientific discourse is that proposed by Halliday (1993: 54) who, having identified a "prototypical syndrome of features" of scientific discourse, seeks to explain why nominalization (the dominant feature of this syndrome) has come to play such a major role in the language of science.

The experiment has two objectives: 1) check whether translation errors can be correlated (qualitatively and quantitatively) to the length and nature of training received by students; 2) verify if the distinction between domain and non-domain errors is a viable one when evaluating the translation of LSP texts and monitoring the progress of trainee translators in terms of both general and special translation competence.

4.2. Experimental design

The experiment was conducted on a small cohort of translations students from the SSLMIT7 of the University of Trieste: more specifically, 5 fourth-year students (Group A) and 5 third-year students (Group B). Students in Group A were assigned two translation tasks: the first carried out in March 2003, the second in May 2003. In between the two tasks, Group A students were asked to attend the module "Elementi di scienze per i traduttori – fisica" which was offered by the SSLMIT in the second semester of the academic year (the classes were also video-recorded and students who were not able to attend were asked to watch the videos before completing the second translation task). This requirement was intended to make sure that students had some exposition to specific training on the translation of physics texts, as the two translation tasks regarded texts within this particular domain.8 The second translation task was also given to the students in Group B (again in May 2003), who were thus acting as a "control group".

The two texts used for the translation tasks were both taken from a scientific paper (Michalske and Bunker 1987; the translated article was published in the February 1988 issue of the magazine Le scienze with the title “La fratturazione del vetro”). The two extracts were chosen so that their degree of difficulty was approximately the same. In all, 6 translations of the first extract (5 by Group A plus 1 by myself) and 11 translations of the second extract (5 by Group A + 5 by Group B + 1 by myself) were considered. We assume that none of the students consulted the published translation. Each translator was allowed to consult subject-field experts and any type of reference material. A questionnaire was also submitted to the students in order to ascertain what reference materials they used and whether they actually consulted a subject-field expert. My own translations were

5 Add to this the difficulty deriving from the fact that "[s]pecialist terms are used slightly differently in different genres of specialist texts" (Ahmad 1999: 148).

6 One of Pym's objectives is to question authority in the form of binarism. Correction of binary errors is by definition authoritative (either something is right or it is wrong), but with non-binary errors there is no readily available authority for their correction and sometimes even equally authoritative informants give correct but different translations. The question is whether this approach is still valid when we are dealing with LSP texts (and it does seem valid at times, as experts will sometimes give different corrections, especially if they are coming from different backgrounds).

7 Scuola Superiore di Lingue Moderne per Interpreti e Traduttori (Advanced School of Modern Languages for Interpreters and Translators).

8 It has to be pointed out, however, that the topics covered within the module were only very loosely related to the topic of the translation assignment in the experiment (see below).
submitted – together with the source texts – to 6 reviewers (3 domain experts and 3 professional translators), who were invited to make comments on both the accuracy of content and the appropriateness of lexical/terminological choices. In evaluating the students’ translations, both the comments from the reviewers and the published translation were taken into account.

### 4.3. Discussion of preliminary results

The students’ translation can first of all be analysed with reference to the error analysis scheme presented above. The following tables give some figures for the number of errors found in each text, specifying which category the errors can be assigned to and the ratio of binary errors to non-binary errors.

#### Table 2 – Group A: errors in Translation Task 1

<table>
<thead>
<tr>
<th>Category</th>
<th>Student 1</th>
<th>Student 2</th>
<th>Student 3</th>
<th>Student 4</th>
<th>Student 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE (non domain-related)</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>BE (domain-related)</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Non BE (non domain-related)</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Non BE (domain-related)</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total errors</strong></td>
<td>4</td>
<td>12</td>
<td>11</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td><strong>Ratio BE/Non BE</strong></td>
<td>0.3</td>
<td>2.2</td>
<td>0.8</td>
<td>1.3</td>
<td>3.3</td>
</tr>
<tr>
<td><strong>Ratio non domain-related/domain-related</strong></td>
<td>1.2</td>
<td>0.5</td>
<td>0.7</td>
<td>1</td>
<td>0.7</td>
</tr>
</tbody>
</table>

#### Table 3 – Group A: errors in Translation Task 2

<table>
<thead>
<tr>
<th>Category</th>
<th>Student 1</th>
<th>Student 2</th>
<th>Student 3</th>
<th>Student 4</th>
<th>Student 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE (non domain-related)</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>BE (domain-related)</td>
<td>2</td>
<td>8</td>
<td>4</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Non BE (non domain-related)</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Non BE (domain-related)</td>
<td></td>
<td>4</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Total errors</strong></td>
<td>5</td>
<td>16</td>
<td>10</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td><strong>Ratio BE/Non BE</strong></td>
<td>0.2</td>
<td>0.2</td>
<td>0.7</td>
<td>n.a.</td>
<td>2.3</td>
</tr>
<tr>
<td><strong>Ratio non domain-related/domain-related</strong></td>
<td>1.2</td>
<td>0.5</td>
<td>0.7</td>
<td>1</td>
<td>0.7</td>
</tr>
</tbody>
</table>

#### Table 4 – Group B: errors in Translation Task 2

<table>
<thead>
<tr>
<th>Category</th>
<th>Student 1</th>
<th>Student 2</th>
<th>Student 3</th>
<th>Student 4</th>
<th>Student 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>BE (non domain-related)</td>
<td>1</td>
<td>3</td>
<td>8</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>BE (domain-related)</td>
<td>1</td>
<td>6</td>
<td>6</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Non BE (non domain-related)</td>
<td>4</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Non BE (domain-related)</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total errors</strong></td>
<td>9</td>
<td>16</td>
<td>19</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td><strong>Ratio BE/Non BE</strong></td>
<td>0.3</td>
<td>1.2</td>
<td>2.8</td>
<td>0.7</td>
<td>3.5</td>
</tr>
<tr>
<td><strong>Ratio non domain-related/domain-related</strong></td>
<td>1.2</td>
<td>1</td>
<td>1.4</td>
<td>1.2</td>
<td>1.6</td>
</tr>
</tbody>
</table>

An interesting result from the three tables seems to be that, once the ratios of non domain-related errors to related errors are compared between the two groups (see rows highlighted in grey), the values exhibit a certain degree of consistency within each group of students (almost all values are lower than or equal to 1 in Group A, Student 1 being the notable exception; all values are higher than or equal to 1 in Group B). In other words, the students in Group A tend to make more domain-related errors than non domain-related errors, which would seem to imply that, having received more training, their general translation competence is actually higher than that of 3rd-year students (as could be expected). This seems to be confirmed by a comparison of the total number of errors committed by the two groups of students in each translation task (Figure 1).

**Figure 1**
Given that the sample of students is so small, the differences, however, could be due to mere chance. The data would therefore need to be reconsidered in the light of their statistical significance. Statistical tests can be applied to see whether the difference in performance both between the two groups of students and between the translation tasks of Group A pre- and post-training appear to be significant.

One particular non-parametric test (Wilcoxon test) can be applied to the data on errors made by 4th-year students pre- and post-training. The test shows that the results are not significant with such a small sample: the $p$ value is equal to .78, which is above the level of significance established at .05. In other words, the difference in errors committed before and after receiving the specific training could be due to chance rather than to the presumed effect of the training.

As regards the comparison between 4th-year and 3rd-year students (see Figure 2 for absolute numbers), another non-parametric test (the Mann-Whitney test) can be applied. Again, the level of significance is established at .05, which means that most differences between the two groups are not significant – with one exception. If the difference in non-binary non-domain related errors is considered, the $p$ value obtained by applying the Mann Whitney test is .011, i.e. well below the level of significance established at .05 (see Table 5). This means that there is a less than 2 percent probability that the difference is due to mere chance. In other words, assuming that there were to be no difference in the two groups’ performances (null hypothesis), the mere-chance probability of obtaining such a difference in the number of errors would be lower than 2 percent. The alternative hypothesis (i.e. there is a difference between the two groups in terms of competence) seems therefore to be confirmed: the 4th-year students tend to make more domain-related errors than non domain-related errors, which would seem to imply that, having received more training, their general translation competence is actually higher than that of 3rd-year students. This result is in line with the observation made above regarding the ratios of domain-related to non domain-related errors in the two groups, where the consistency of the ratio for each group suggested that Group A (4th-year students), although making more errors which were related to the specific domain, performed better than 3rd-year students as far as general translation competence was concerned.

Figure 2

<table>
<thead>
<tr>
<th>Errors committed by students in Translation Task 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>NON BE (non domain related)</td>
</tr>
<tr>
<td>NON BE (domain related)</td>
</tr>
<tr>
<td>BE (non domain related)</td>
</tr>
<tr>
<td>BE (domain related)</td>
</tr>
</tbody>
</table>

Third year
Fourth year

Number of errors
Table 5 – Results (p value) of Mann-Whitney test applied on difference between number of errors committed by Groups A and B in Translation Task 2 (level of significance = .05).

<table>
<thead>
<tr>
<th>p value (from Mann-Whitney test)</th>
<th>BE-ND</th>
<th>BE-D</th>
<th>NBE-ND</th>
<th>NBE-D</th>
<th>TOT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.264</td>
<td>.595</td>
<td>.011</td>
<td>.911</td>
<td>.206</td>
</tr>
</tbody>
</table>

These preliminary results suggest that: 1) if observed longitudinally, general translation competence (defined as the ability to think in selection terms) in trainee translators actually seems to increase as the training proceeds; and 2) where a text belongs to a special domain, a discussion of translation errors and difficulties cannot fail to take into account specific difficulties related to the domain in terms of both content and linguistic features (terminology, phraseology, register, etc). Even where difficulties arising from the ST's specialist content are not considered, a lack of familiarity with the general features of LSPs in the two languages involved could have negative effects on the translators' performance. It is this familiarity, together with a good knowledge of the domain s/he is faced with, which would give the translator enough "confidence" in choosing between different TT alternatives. Without such a confidence the translator is likely to produce TTs which are maybe not completely wrong but display a grater or lesser degree of inaccuracy in terms of phraseology, style or register.

5. Afterword

Translation errors have almost always been discussed in terms of poor competence on the part of the translator. The role played by the ST has seldom been taken into account. But as any experienced translator knows all too well, the STs are not always of the best quality. In the case of translation from English into other languages, the ST may not have been written by someone with good writing skills (say a software developer who is asked to jot down a few notes which will then be recycled as the software's "manual"). In extreme but by no means rare cases, English STs are written by authors who are not English mother-tongue speakers and whose output is often on the verge of incoherencibility.

As we have seen, in the translation of LSP texts binary errors may be attributed to a lack of 1) subject-matter knowledge and 2) terminological/phraseological accuracy. In other words, the more familiar students are with the text's domain and its terminology, the better they understand the source text and the better equipped they are to provide a satisfactory TL equivalent.

This, however, should not rule out the possibility that some textual features may influence the translator's performance. A feature such as ST cohesion, for instance, can be less conspicuous than the ST defects mentioned by Kussmaul (1995: 146-147)\(^6\), but it would perhaps be worth trying to establish whether some inaccuracies or outright mistakes made by translators tend to concentrate in sections of the ST that are particularly defective in cohesive terms, especially as far as lexical cohesion, i.e. the repetition and paraphrasing of terms, is concerned. Also, the ST's greater or lesser degree of readability (another factor which appears to have been neglected by most studies on the assessment of translators' performance) may perhaps be seen to play a significant role in the determining the quality of the TT. In short, the focus of analysis may be shifted from translators to ST authors, so that author errors are also taken into account.

Readability may be judged using different parameters and judgement can be provided either by humans or by machines. In particular, as the readability of a text is often correlated to the degree of cohesion displayed by the text, it would be interesting to see whether difficulties in translation occur where the ST displays a lack of cohesion (as emerges from the analysis of machine-produced lexical repetition matrices). At the same time, TAP protocols could be used to elicit the judgement of human translators and translation evaluators on the readability of the STs. Human and machine judgements could then be compared and translations could be studied so as to ascertain whether errors tend to occur where the ST is considered poorly readable.

References


---

\(^6\) Kussmaul talks about "obvious" (i.e. transparent) defects in the texts to be translated: "factual errors", "inappropriate use of vocabulary", "misleading sentence structure" and "illogical argument".
5.2.12 Martin Nielsen

Die Speisekarte als fachsprachliches Untersuchungs- und Lehrobjekt

Martin Nielsen, Aarhus School of Business

1. Einleitung


2. Fachbereichszuordnung

Das Bedürfnis der StudentInnen nach einer intuitiven Zuordnung von Texten zu Fachbereichen „ihrer“ Ausbildungsrichtung (vgl. oben Abschnitt 1) wird durch die Arbeit an Textsorten wie der Speisekarte somit einerseits befriedigt, da alle beide Ausbildungsrichtungen vertreten sind, andererseits in Frage gestellt, da eine eindeutige Zuordnung schwer fällt.

So trägt die Speisekarte Züge und fachsprachliche Merkmale der


- Fachsprache der Wirtschaft: elliptische Formeln als Ausdruck eines verbindlichen Angebots über einen Vertragsschluss („ab 2 Personen“, „Preis“, „Veranstaltungen/Gruppen: fragen Sie die Bedienung“), starke Ähnlichkeit bzw. Identität der Speisekarte mit einer Preisliste bzw. mit einem Angebot, klassische Produktbeschreibung

- juristischen Fachsprache: nicht eigentlich als juristische Fachsprache zu bezeichnen, aber wohl als die sprachliche Manifestation juristischer Vorgaben: Ausweis von Zusatzstoffen laut Zusatz-Zulassungsverordnung (Duch 1995: 461) („koffeinhaltig“, „mit Phosphat“, „mit Benzoesäure“, in der Regel als Fußnoten mit Verweis auf die entsprechende Fußnotennummer im Speisekarten-Text), das eher aus der Getränkegastronomie bekannte „kein Ausschank an Minder-

jährige“, sowie der Aushang am Eingang des gastronomischen Betriebs, wo diese Textsorte (als Wiedergabe oder Auszug aus der Speisekarte) ihre Existenz einer juristischen Vorschrift verdankt (Duch 1995: 457)

- (Fachsprache der Werbung: positive Konnotationen² („Jecker“, „frisch“, „pikant“), Präsuppositionen (Verwendung von französischem Wortgut als Ausdruck gehobener Kochkunst, „hausgemacht“ als Signal von Echtheit und Qualität), semantische Aufwertung („consonné““, „royal“, „Fürst-Pückler-Eis“)

Somit bewegt sich die Speisekarte insgesamt im Grenzland zwischen Fach- und Werbesprache, wobei dieser scheinbare Gegensatz nur bei einer wie in Abschnitt 1 angedeuteten Auffassung von Fachsprache gegeben ist, ansonsten jedoch nicht.

3. Didaktik

Es geht also in dem oben in Abschnitt 1 angesprochenen Kurs darum, eine eher holistische Auffassung von Fachsprache im Sinne von „Sprache in Gebrauchstexten“ zu vermitteln und zu veranschaulichen, dass in Texten eine Reihe von fachsprachlichen Phänomenen vorkommen, die für beide Ausbildungsrichtungen relevant sind: Einzelphänomene von Fachsprachen sind also im Zusammenspiel in ein- und derselben Textsorte vertreten. Die Speisekarte als komplexe Textsorte ist also zur Veranschaulichung der unterschiedlichsten sprachlichen Phänomene geeignet. Dazu gehört beispielsweise, dass sie folgende Merkmale von Fachtextsorten demonstrieren, exemplifizieren oder trainieren kann

- die Historizität und Dynamik (Entwicklung) von Textsorten (vgl. Abschnitt 4)
- die Vielfältigkeit der Funktionen und damit die Komplexität der Textsorte (vgl. Abschnitt 5)
- das Greifen von Textsortenkonventionen (vgl. Abschnitt 6)
- die Determination von textinternen Strukturen durch textexterne Faktoren (vgl. Abschnitt 7)
- das Informationsmanagement (vgl. Abschnitt 8)
- die Möglichkeit, Notwendigkeit und Technik der Terminologiearbeit (vgl. Abschnitt 8 und 9)
- die Relevanz von Kulturspezifika bei der Übersetzung (vgl. Abschnitt 9)
- die Vielfältigkeit der Gestaltung (vgl. Abschnitt 10 und 11)
- den Nachvollzug des Übersetzungsprozesses (vgl. Abschnitt 11)
- die Wahl von Übersetzungsstrategien (vgl. Abschnitt 11)

4. Textsorte Speisekarte: Entwicklung und Bedeutung


Die gewonnene Freizeit hat einerseits dazu beigetragen, dass das Reisen zunehmen konnte und dass sich dementsprechend der (Massen)tourismus zu einem der bedeutendsten Wirtschaftszweige überhaupt hat entwickeln können. Andererseits bedeutet die kontinuierliche Herabsetzung der Arbeitszeit, dass die so erreichte Ausweitung der Freizeit, die auch mit einer generellen Wohlstandsverhöhung einhergegangen ist, insgesamt nicht nur für Urlaubsreisen, sondern auch für kurzfristigere Erlebnisse genutzt wird, darunter eben Restaurantbesuche (Stichwort „Erlebnisgastronomie“).


Vor dem Hintergrund dieser hier nur rudimentär aufgezeigten Entwicklungen ist also eine in den letzten Jahren stark anwachsende Gastronomie zu sehen, deren prominenteste Textsorte die Speisekarte ist.

Dass die Speisekarte als Textsorte in Gastronomie und Tourismus von größerer Bedeutung ist, darüber herrscht zumindest in der gastronomischen Fachliteratur Einvernehmen.⁴ So ist die Speisekarte „ein nicht zu unterschätzender Werbtäter außerhalb des Hauses“ Herrmann (2001: 659).

„der Schlüssel für erfolgreiches Verkaufen. [...] Die Speisekarte ist das wichtigste Kommunikations-, Verkaufs- und Selbstdarstellungsmedium in der direkten Gästeansprache an Ort und Stelle, im Betrieb. Ihre Marketing-Funktion reicht damit weit über die blanke Auflistung von Angebot und Preisen hinaus.“ (Wachholz/Weiβ 1999: 7)

³ Vgl. hierzu auch die Ausführungen von Riley-Köhn (1999: 80ff.).
 Darüber hinaus, dass die Speisekarte für den gastronomischen Betrieb die Textsorte schlechthin ist, ist sie auch eine der Textsorten, die den Leser am meisten Aufmerksamkeit widmen. So ergab eine vor wenigen Jahren von der in der Systemgastronomie tätigen Unternehmensgruppe Wienerwald veranstalteten Untersuchung u.a. folgende Ergebnisse:

„Rund 90 Prozent der Gäste haben beim Betreten des Restaurants noch keine konkrete Vorstellung darüber, was sie essen wollen. Rund 85 Prozent lesen die Speisekarte relativ gründlich durch. […] Rund zwei Drittel wollen nicht bloß nüchtern über Angebot und Preise informiert werden, sondern wünschen eine Gestaltung, die Appetit macht. Fast 90 Prozent der Befragten macht es Spaß, in der Speisekarte zu lesen. Rund zwei Drittel blättern noch in der Speisekarte herum, nachdem sie ihre Wahl getroffen haben.“ (Wachholz/Weiβ 1999: 18)

Die Bedeutung der Speisekarte für Sender wie für Empfänger dürfte damit deutlich geworden sein und trägt dazu bei, die eingehende Beschäftigung mit dieser Textsorte zu rechtfertigen.

5. Komplexe Textsorte Speisekarte

Bevor konkrete und detaillierte Beschreibungen und Diskussionen ausgewählter Bereiche besprochen werden, soll kurz der Gegenstand dieses Beitrages vorgestellt werden, indem knapp und sehr allgemein Geschichte, Funktion, Struktur, Inhalt und Form des Speisekarten angeschnitten werden.

Der Begriff Speisekarte bezeichnet ein Verzeichnis von Speisen, aus denen der speisende Gast sich einige wenige aussuchen und bestellen kann, im Gegensatz zur Menükarte, die eine vorgegebene, vom Koch, Veranstalter oder Gastgeber bereits beschlossene Speisenfolge ankündigt.


a) die Visitenkarte des Gastronomiebetriebes ist
b) die corporate identity vermitteln soll
c) werben und verkaufen soll
d) über Produkt und Preis informieren soll (vgl. auch Abschnitt 4).


6 Vgl. auch Riley-Köhn (1999: 86ff.).

Der Inhalt der Speisekarte ist vornehmlich vom gastronomischen Fach diktiert, wobei allerdings auch wirtschaftliche Überlegungen eine wichtige Rolle spielen, so z.B. Sitzplatzumschlag, tatsächliche und angestrebte Kundschaft, Lage, Einrichtung und Ambiente und somit insgesamt die bereits angesprochene corporate identity.

Um die Form des sprachlichen Ausdrucks soll es dann im Folgenden gehen. Da die Speisekarte wie in den Abschnitten 2 und 3 dargestellt eine Vielzahl von fachsprachlichen Merkmalen aufweist, die eine nähere Beschreibung verdienen würden, sollen hier lediglich einige ausgewählt werden, die wegen ihrer Unterschiedlichkeit die Spannweite der sprachlich-textuellen Vielfalt der Speisekarte verdeutlichen sollen. Dabei werden diese sprachlichen Phänomene jeweils immer auch in Bezug auf ihre Übersetzungsrelevanz besprochen.

6. Textsortenkonvention: Partikelwörter


Damit ist das „an“ ein pragmatisch-stilistischer (und nicht semantischer) Wert zuzuschreiben, was für die Übersetzung die Konsequenz hätte, dass auch mit „med“ die semantische Äquivalenz gegeben wäre. Inwiefern auch die stilistisch-pragmatische Äquivalenz erreicht wird, wäre den übrigen Stilsignalen der betreffenden Speisekarte zu entnehmen und/oder aber mit dem Auftraggeber zu klären.

7. Textexterne Determinanten ⇒ textinterne Form (Syntax)


---

15 „Putengeschnetzetes – Putenfleisch gedünstet mit Zwiebeln und Champignons, Sahne-Sauce, dazu Salzkartoffeln oder Butterreis“ (Bøgø’s, Flensborg/D).
16 „Zigeunerschnitzel in pikanten Paprikasauce“ (Altes Forsthaus, Sonnenberg (Oberharz)/D).
17 „Scampis auf Bandnudeln“ (Piet Henningsen, Flensburg/D).
18 „Pocheret øg på soltørrede tomater og marineret spinat“ (Damende, Haderslev/DK).
19 „Tourneds vom Hirschkalb“ (Schindlerhof, Nürnberg/D).
20 „Variation af dansk okse med små gulenødder og rosmarinsemmes“ (Fakkelgården, Kollund/DK).
21 „Perlehane, stept i pestu“ (Damende, Haderslev/DK); „Lam roget laks med persille-couscous og kayry-mousseline“ (Damende, Haderslev/DK).
gleichen sind, oder ob die Syntax (in diesem spezifischen Fall in der Mikrostruktur) unabhängig von solchen Bindungen gestaltet werden kann.

8. Terminologie

Die gastronomische Terminologie ist eine von vielen Bereichen der Speisekarte, die zur Veranschaulichung von Phänomenen geeignet ist. Unter anderem lässt sich an ihr gut verdeutlichen, dass die vermeintlich kulturrelativ naturwissenschaftliche Fachsprache durchaus kulturbestimmt ist und dass die naturwissenschaftliche Nomenklatur ebenfalls nicht so eindeutig ist, wie sie zu sein scheint. So unterscheidet sich beispielsweise die Schlachtviehverlegung von Land zu Land (sogar von deutschsprachigem zu deutschsprachigem Land: Deutschland, Österreich, Schweiz), was bei der Identifikation und damit auch der Übersetzung beispielsweise der „Hochrippe“ Schwierigkeiten bereiten kann (Hermann 2001: 841f.).


9. Wortbildung


10. Semantische Aufwertung


11. Übersetzungs-theoretisch


Bei kaum einer anderen Textsorte erscheint mir die Platzierung der Übersetzungsstrategie auf der dichotomischen Skala der Übersetzungsstrategien zwischen den beiden Endpunkten ‚dokumentarisch‘ (oder senderbezogen oder ausgangstextbezogen) auf der einen Seite und ‚instrumentell‘ (oder empfängerbezogen oder zieltextbezogen) auf der anderen Seite so offen wie bei der Speisekarte. Der auf dieser Dominie beruhende Skopos-Ansatz (Nord 1993) zeigt, dass die Entscheidung gerade mit Blick auf den Übersetzungsauftrag gefällt werden muss.


Eine instrumentelle Übersetzungsstrategie sollte man verfolgen, wenn sich der Skopos vornehmlich auf die Übertragung von Information und/oder Appell der Speisekarte für Gäste ohne Fremdsprachenkenntnisse bezieht. Prinzipiell könnte dieser Modus für alle Gäste gelten, vor allem bei ‚entfernten‘ Sprachen (also strukturell nicht so eng verwandten Sprachen). Dabei sind selbstverständlich die Textsortenkonventionen in der ZielSprache zu beachten, die u.a. eine gewisse Kürze und Prägnanz beinhalten (Sprachökonomie, auch vor dem Hintergrund der Rezeptionssituation). Vor allem aber ist bei einer instrumentellen Übersetzung zu beachten, dass es sich sowohl um eine informative als auch um eine appellative Textsorte handelt und dass sich bei einer Übersetzung dieser beiden Texttypen gewisse Widersprüchlichkeiten ergeben.

Denn wo der Küchenchef, der Koch oder der Oberkellner – in Unkenntnis der Funktion von Übersetzungen – möglicherweise Präzision verlangt in der Bedeutung, dass zwischen den angegebenen Referenzobjekten z.B. in der Form eines Gerichtes wie „Stjerneskud“ (Langelinjebroen, Kopenhagen/DK) und einer deutschen Entsprechung („Sternchnapppe“) Äquivalenz besteht, muss die Übersetzerin bei einer instrumentellen Übersetzung mindestens die Bestandteile dieses klassischen dänischen Gerichtes angeben. Auch bei Übersetzungen auf fremdsprachlichen Speisekarten ist eine Rücksprache mit dem Auftraggeber unbedingt
notwendig, um das anvisierte Publikum richtig zu bedienen: Wenn nur Liebhaber der gehobenen Gastronomie angesprochen werden sollen, kann die französische Lexik beibehalten werden, ansonsten müsste auch der Ausgangstext im Sinne einer Textoptimierung im Hinblick auf die Verständlichkeit und den Informationsgehalt überprüft werden.

Und das bringt mich zu meiner letzten übersetzungstheoretischen Überlegung. Die Ersttextproduktion von Speisekarten wird in der einschlägigen Fachliteratur durch eben das Fach „Gastronomie“ beherrscht. Fachinterne Faktoren bestimmen die Ausgestaltung der Speisekarte in der Ausgangskultur. Doch allein schon in der Ersttextproduktion (dänisch wie deutsch) scheint mir die sprachliche Form von Speisekarten außerordentlich heterogen und inkongruent. Das ist m.E. teilweise darauf zurückzuführen, dass bei der Produktion von Speisekarten eben nicht sprachlich Bewusste und oft dazu noch Nichtmuttersprachler am Werke sind, aber auch darauf, dass die Balance zwischen dem Signalisieren von Fachlichkeit und Kompetenz, dem Beeindrucken und oft genug dem Eindruck Schänden auf der einen Seite und dem Bemühen um Verständlichkeit, Klarheit und Sicherung der optimalen Kommunikation äußerst schwierig ist. Ist also die Herzoginkartoffel der Kartoffel Duchesse vorzuziehen oder die consommé double doppelt doppelt? Vergrault man durch fachinterne Sprache Konsumenten ohne gastronomische Vorkenntnisse oder fühlt sich der Feinschmecker durch zu viele Erklärungen herablassend angesprochen? Wieder ist die Frage der Empfänger zentral, und darüber hinaus kann auch nicht von jedem deutschsprachigen Konsumenten angenommen werden, dass er oder sie weiß, was denn nun eine Herzoginkartoffel ist, was bardiertes von nippiertem Geflügel unterscheidet oder was man wird essen müssen, wenn man Aal blau oder Karpfen blau bestellt.17

12. Schlussbemerkungen

Die bisherigen Ausführungen dürften glaubhaft gemacht haben, dass die Beschäftigung mit der Textsorte Speisekarte lohnend ist und sowohl didaktische als auch übersetzungstheoretische Forschungsinteressen bedienen kann. Die Speisekarte ist in ihrer Vielschichtigkeit, die visuelle und verbale, terminologische und textuelle, übersetzungstheoretisch gesehen dokumentarische und instrumentelle, werbprägnante, juristisch-, wirtschafts- und naturwissenschaftlich-fachsprachliche sowie marketingtheoretische und linguistische Aspekte umfasst, einerseits zwar sehr komplex und stellt die ForscherIn, die LehrerIn, die StudentIn und die PraktikerIn vor Herausforderungen und auf jeden Fall vor Entscheidungen, andererseits aber ist sie trotz dieser Komplexität erstaunlich und angenehm überschaubar für sowohl Forschende, Lehrende als auch Lernende und bietet damit ein fruchtbares Feld für die Erforschung und Didaktisierung einer Vielzahl von linguistischen Teildisziplinen.

Literatur:


17 Vgl. auch Riley-Köhn (1999: 96), die genau dieses Problem ebenfalls thematisiert und exemplifiziert.


Modern trends in specialised translation didactics: LSP, text typology and the use of IT tools

Ioannis E Saridakis
Lecturer, Technical Translation EN-EL & IT Applications in Translation, saridakis@dflti.ionio.gr

Georgia Kostopoulou
Member of the Associate Teaching Staff, kostopoulou@dflti.ionio.gr
Department of Foreign Languages, Translation and Interpreting
Ionian University, Corfu, Greece

1. Introduction

This paper addresses different aspects of Specialised Translation Didactics, such as LSP and terminology, text typology and style, all with regard to the use of monolingual and bilingual corpora in translator training curricula and processes. Moreover, it presents the first didactic findings, stemming from the experimental inclusion of the corpus-based approach in a Greek translator-training curriculum.

2. LSP and Translation

It is widely accepted that in order to adequately train future translators at a university level—both in terms of scientific methodology and professional orientation and attitudes—Specialised Translation Didactics must take into account the essential matters of text typology, register and style. These can be readily addressed with the aid and exploitation of text corpora. This recent approach to the didactics of specialised translation adds to the traditional pedagogical methods dealing with the translation process itself and the various translation difficulties that are addressed in terms of LSP between languages in contact. Baker’s general definition of “translation universals” is consistent with the empirical finding that translation trainees tend to consider the difficulty in Specialised Translation mostly in terms of the ST terminology. Indeed, students usually focus their attention on the exploration of specialised dictionaries and text-specific documentation material, as well as on Internet resources which they deem relevant to their effort. The students’ prevalent approach is, in this sense, the resolution of terminological and textual ambiguities pertaining to the co-text, and very rarely to the context. In terms of lexico-semantic choices, the students’ consultation of traditional and online terminological databases and customised personal term collections is however a technique not only inadequate, but can also be truly misleading in many aspects.

3. LSP, Text Typology and Text Corpora

It is not our intention to go into definitions of the meaning of LSP; Sager, Schmidt, Rondeau, Rey, Hoffmann provide such definitions, to name only a few scholars. It is however worth mentioning that especially in the Anglo-Saxon literature there are three terms describing the concept of LSP, i.e. special language, specialised language, and language for specific purposes (LSP). For some, like Kocourek (1982) and Rondeau (1984), these terms are synonyms, while Sager et al. (1980) (cited in Cabré, 1998) stress that the term language for specific purposes (LSP) derives from language teaching, in contrast to Linguistics, and it must be limited within this area of study; so in lieu of LSP, they prefer using the term special languages, and in particular special subject languages.

Quoting R. de Beaugrande (1987): “LSPs tend to share much of their resources not merely with Languages for General Uses (LGP), but often have common cognate resources. LSP thus tends to be more ‘international’, or indeed ‘universal’, than does LGP” (in Cabré 1998). In practice, it is often observed that translation trainees usually neglect this universality of LSPs, and thus tend to consider terminology as the major source of problems when translating. A practical outcome of this tendency is that students depend mainly on “ready-made” choices available to them by bilingual dictionaries and databases. However, bilingual

---

1. As Sara Laviota (2002) mentions, the idea of complementing traditional translation studies with a corpus linguistics component was first put forward in 1993 by Mona Baker, who predicted that the availability of large corpora of original and translated texts would enable translation scholars to “uncover the nature of translated text as a mediated communicative event”.

2. "Explicitation, in the form of shifts in cohesion, insertion of additional information in the target language text and at syntactic level in the form of higher redundancy, disambiguation and simplification; textual conventionality in written translations; avoidance of repetitions that are present in the ST; tendency to over-represent features of the target language; and specific distribution of lexical items in translated texts vis-à-vis source texts and original texts in the target language". (Laviota 2002: 18-19).

3. Using B. Hatim’s definition, a context is the “extra-textual environment which exerts a determining influence on the language used. The subject-matter of a given text is part of the register and can thus determine, say the way the texts presents who is doing what to whom” (Hatim and Mason 1997:215). In the case of translation teaching, the context essentially refers to the set of communicative, pragmatic and semiotic determinants that are inherent in the textual utterance of a given thematic domain and are reflected in the authors’ “choices of discourse” at all language levels: morphosyntactic, pragmatic, lexico-semantic and stylistic. In a corpus-based methodology, the context is derived, both descriptively and quantitatively, from other co-texts, i.e. other textual utterances.
specialised term collections, especially in culturally non-balanced language pairs such as those with a Greek component (e.g. EN-EL), are usually compiled on an intuitive and ad hoc basis, lacking contextual relevance and reference.

It has also been observed that, on the other hand, trainees consider the general language of a specialised text to be almost unimportant and easy to translate, thus neglecting essential aspects of the translation process, like style and register appropriateness and TL naturalness (Kostopoulou 1999).

The “international” character of LSP, as pointed out by de Beaugrande, and the fact that English has become a lingua franca for specialised communication, seem to disorientate trainees and to have a two-fold function:

- positive, i.e. when students exploit LSP features by trying to decode the semantic field of a term within a particular text; and
- negative, when they only rely on the recognisability and even “popularity” of an English term. The negative aspect of the students’ perception of LSP terminology often ends up to mistranslations or raw translations, i.e. TTs with terminology that is often incomprehensible for the target audience and is sometimes accompanied by the SL term, or even pure term borrowing, a method only randomly appropriate in terms of language style and register.

This is exactly where the notion of text typology and style can be of great help to the teaching of specialised translation. Specialised translation, or simply technical translation, in the view of many scholars, not only requires an in-depth understanding of the subject field and sufficient transfer of the technical concepts and terms in the target language -as pertains to content and information-, but also, and sometimes even more importantly, the preservation and/or adjustment of the draft translation to the style and register that are appropriate for a particular text type and genre and a particular language community (Wright & Wright in inter alia, stressed by Hartmann (1994:292) (cited in Peters and Picchi 1998:92): “the semantic abstraction that is built into the lexical inventory of the dictionary has deprived each of these words of their natural context, and the translator must compensate for the lack of contextual information from his/her own bilingual discourse competence, particularly in that most intractable area of ‘culture-specific’ vocabulary”.

According to Paul Kussmaul (1997), the term text type is ambiguous, since it
(a) refers to the so-called Texttyp in German, i.e. a general notion based on Reiss’ distinction between informative, expressive and appellative text types; and
(b) it may serve as an equivalent for German Textsorte (whose English prevalent equivalent is genre), i.e. categories of texts such as manuals, instruction leaflets, weather reports, contracts, newspaper articles, academic discourse, etc.

Many translation scholars have discussed the need to develop text types or text categories with a view to assist translators in their decision-making process. For example, a well-known classification of texts is expressive (e.g. literary), informative (e.g. technical and legal documents) and vocative (e.g. advertisements). In this sense, text typology is based on the perceived function of texts. However, as Hatim and Mason (1990) point out, such a distinction of text types can sometimes be misleading, since most texts present features from various genres, and are therefore multifunctional. Once more, the solution for the translator is to be found in the context. Of course, we have to bear in mind there are always some dominances, some traditionally defined types according to the function of texts, namely their contribution to human communication (see: de Beaugrande & Dressler 1981).

In terms of typology, texts created within the framework of scientific and technical communication, are mainly informative and descriptive, with their main function being referential and, to a lesser extent, multilingual and expressive (cf. Cabré 1998). As pertains to LSP and text typology, the trainee translator must be aware of the content and possible boundaries of a particular LSP, and he/she must also be capable of correlating the special language -that is, the phraseology and terminology- of a particular domain with the type and genre of a given ST, in order to decide on the strategies and ways to approach the translation at its micro- and macro-structure level. Also, we should not forget that there are cases where a particular distinctive genre of one language may not exist in another, as is for example the case of academic novels.

4. LSP and EN-EL Translation Corpora

One of the main reasons why trainees must be aware of the abovementioned LSP issues, is the fact that bilingual dictionaries and databases, on which students mainly depend, are less than sufficient as documentation tools, and “totally inadequate as a source of real world data for the purposes of translation studies” (Peters & Picchi 1998:91). This is due to the fact that bilingual dictionaries, even the ones that are subject-area specific, are mainly mono-semantic and tend to present entries dogmatically and outside their naturally occurring co-text and pragmatic reference (context). Another limitation of context-free terminological entries of bilingual (e.g. EN-EL) specialised dictionaries is to be found in the “equivalent” presentation of several translation equivalents for a concept within a specific thematic field (case of synonymy), or the inverse, i.e. the equal presentation of signifiers for various concepts that pertain to overlapping or related scientific fields. Considering the fact that all such equivalents are context-free, the trainee translator is almost helpless in his/her attempt to select the appropriate term in the TL.4 This problem can be addressed with applied research aimed at implementing the methods and findings of Corpus Linguistics in modern Lexicography and in the use of large text corpora for translation teaching purposes. Bilingual text corpora, both parallel and comparable, can provide the trainee translator with documented, naturally-occurring linguistic data that pinpoint to “how utterances or samples of text in one language can be rendered in another” (Peters & Picchi 1998: 92). By exploiting bilingual parallel corpora, i.e. original texts with their translations in the target language (preferably multiple translations for comparison reasons; cf. Malmkjær 1998), trainees have the opportunity to examine LSPs and the terminology of STs always en situation, that is within the particular communicative environment of terms, phrases and general language constructs.

As Laviosa (2002: 104) points out:

translators often find that their intuition as native speakers of the target language and the information contained in descriptive and pedagogic grammars or dictionaries are not always adequate for suggesting the most appropriate

---

4. The inadequacy of bilingual dictionaries as tools for translators and as sources of real world data within the context of translation studies is, inter alia, stressed by Hartmann (1994:292) (cited in Peters and Picchi 1998:92): “the semantic abstraction that is built into the lexical inventory of the dictionary has deprived each of these words of their natural context, and the translator must compensate for the lack of contextual information from his/her own bilingual discourse competence, particularly in that most intractable area of ‘culture-specific’ vocabulary”.
However, our experience shows that mastering the pragmatic and semantic - in other words communicative - background of a ST requires significantly more effort than is common in Descriptive Translation Studies approaches and, of course, goes well beyond the instructions on how to utilise bilingual terminological documentation material. It is in this sense that the academic community of translation has reached consensus on the need to adopt the compilation of bilingual comparable corpora of naturally-occurring textual evidence.

At a first stage, the translation tutor provides students with the methodological tools that are indispensable for attempting such a corpus-based approach in technical translation. The text selection and corpus compilation criteria, which all aim to safeguard the appropriateness of the textual material gathered, have been detailed in previous publications by the authors. These are: text representativeness, specific intentionality of the author, terminological intensity of texts, text origin (only ST in English and Greek), time of publication and typical degree of textual specialisation (Saridakis 2001). The provision of such a methodological perspective is of course accompanied by the exemplification of corpus compilation and of corpora. The matrix-based representation/characterisation of the textual material (corpora) thus created accompanies the terms marked as candidate for semantic determination within the texts per se.

Using database engineering, an approach which in fact complements the tutor’s and the trainees’ effort, terminological lemmas are formulated hierarchically, e.g. [00317.EL.005(1,4,6).I.1993[4.5](0.7)]

At a subsequent stage, students are required to compile their personal- and team-work collections of documentation corpora and to utilise them for substantiating their translation choices, mainly in terms of pragmatic and semantic validity. At a more advanced level, students utilise corpus linguistics tools in order to further facilitate their corpus-based research work.

The first objective of this approach, always within the framework of the Technical Translation course, is to carefully study these comparable resources, not for identifying equivalents at a lexical level, but for examining issues pertinent to text type and genre. In other words, the students’ effort focuses primarily on the identification of general common dominances, on the observation of differences at the discourse level between English and Greek and on the systematic elicitation of variations in terms of register within a given thematic field.

Such variations and differences are for example observed in tenor between a technical manual addressed e.g. to the end user of a vehicle and a technical manual addressed to automotive workshop personnel. In this way, when trainees are faced with the dilemma of the choice of the proper lexical equivalent for a given ST, they are already aware that, among the synonyms given in a dictionary’s entry, they would have to pick the entry most suited to the tenor and general style of the target text and audience, thus avoiding to rely on the randomness of their linguistic instinct and personal preference.

A typical example is the case of the English term “interface”, a lexeme widely used in modern English texts in the field of Computer Science. Based on the pragmatics of the text, the target audience and to some extent the level of formality, there is a whole set of Greek equivalents to choose from: (a) διασύνδεση (= [i] term related to the interconnection of electronic components, [ii] term extending also elliptically to the notion of man-machine-interface in texts of a high technical register); (b) διαπαραφή (= [i] semantic overlap with (a)ii in lower-register -but not jargon or common-language- texts); (c) περιβάλλον επικοινωνίας (= two-word equivalent referring generally [i] to the notion of electronic device or computer (man-machine communication) interfaces and, more specifically, [ii] to computer operating systems); (d) περιβάλλον χρήσης (= [i] hyponym of (cii) overlapping with (cii) and signifying the operating software of any electronic device, e.g. mobile phones, but not of personal computers); (e) πρότυπο δικτύο (= [i] a network communication protocol, semantically unrelated with notions a through d). This example is characteristic of a linguistic sign originally transferred from a donor language (English) to a host language (Greek) and translated initially using a single-word term (διασύνδεση), with the aim to cover all its potential -and future- semantic fields. However, usage has in the course of time differentiated the signer to all the above lexemes (a-e), depending on the context, the pragmatics, and the “objective” register of a given text. The noding of signs (and notions) with time, that is exemplified in the usage of this term is less observed in the donor language, where variation is attributable to the authors’ personal choices of tenor. On the contrary, the interchangeability in the usage of the terms is significantly less frequent in Greek texts. In terms of the host language (Greek), this remark illustrates:

(a) the normalisation-standardisation of the signer according to the actual usage of the notion, i.e. the term’s pragmatic reference and communicative situation;
(b) in the same sense, the variation of the term usage even within a single text; and
(c) of course, the need to substantiate the lexical choice when translating this term or any other term with similar variation and adaptation characteristics of usage, on the actual frequency of use, as derived from the analysis of authentic pieces of language.
Consistent with scholarly remarks (cf. Baker 1993; Toury 1980; Vanderauwera 1985 cited in Laviosa 2002), translation trainees intuitively tend to over-represent features of the target language, to present shifts in cohesion and to insert unnecessary additional information in the TT. Based on our observations, such a systematic corpus-based documentation approach reduces unnecessary occurrences of over-simplification (i.e. redundancy) or, inversely, over-complication of the TL register and guides students towards a more sound and therefore acceptable technical discourse in the TL.

The abovementioned “generic” corpus-based didactic approach of LSP is complemented by a more systematic corpus analysis, within the context of the IT Applications in Translation course (at the postgraduate level). During this analytical approach, which in this case relies on extensive bilingual parallel corpora, students are required to systematically observe and document the choices made by their undergraduate fellows, at all language levels, for specific Source Texts. With the use of WordSmith Tools software, students build word lists and concordances and examine variations at a lexico-semantic level with regard to specific term tokens, and to the use of general language components (e.g. of common verbs and function words). Comparing the findings of such an analysis with the findings of a similar research based on professional bilingual translation corpora, the tutor is provided with an essential tool to intervene and to systematically address the students’ misinterpretations and misrepresentations of LSP concepts. Even more importantly, it is obvious that this evidence-based approach is open to criticism by the translation trainees and as such, it enables students to systematise their work in terms of translation revision, i.e. at a stage which is of major importance in the context of teamwork.

5. Conclusions

While still in an experimental stage, the systematic approach of the corpus-based documentation of the training of translators in the Greek-English language pair, has proven to be encouraging for the tutor, in that it provides substantial arguments about actual language usage and thus on how to focus the trainees’ attention on the methodology of translation choices. Furthermore, this method, while complementing the traditional didactic approach, provides the basis for the compilation of extensive parallel and comparable corpora, textually linguistically characterised in terms of function and susceptible of being easily annotated to facilitate further linguistic research. Last but not least, the method provides a coherent basis for the compilation of multilingual terminological databases, that is both practicable and linguistically sound, in an academic translator training environment.

References


5.2.14 Cristina Vertan

Understanding technical texts across languages without translation

Cristina Vertan
University of Hamburg, cri@nats.informatik.uni-hamburg.de

1. Introduction

During the last decades English became the major language in the scientific community, taking the place of what in the 70ties Esperanto was designed to be: a common communication language for all researchers. English is the most often used or even unique official language at international conferences; books, proceedings and international journals are published in English. To be able to publish in English became one of the pre-requisites for international acknowledgement. However, other major languages like German, French or Spanish have also a quite big community of speakers, and therefore scientific literature in these languages is quite well-developed, sustained and often translated into English.

More critical is the situation for small languages, which are not spoken by a large number of scientists and which are not taught in foreign schools. In spite of the international scientific community, every country benefits locally from their scientific research, and should remain like this. Therefore, research results, should be available first of all in the native language of the country and only afterwards internationally. This is extremely important areas of high public interest, as information technology, for example.

Information technology (IT) is no longer a closed research domain, understood only by an elite. IT articles are often read by non-specialists and are written to be accessible by them. IT publications in small languages define their local or international distribution market according to the language used. On the one hand the support of publishing in the local language is a national duty but on the other hand, scientists are often not very motivated to do so, because the audience might be too small. As a consequence, the locally available scientific or technical literature consists in many countries mostly of translations of English books, manuals or journals (often with poor quality). The situation is more critical in countries from middle and east Europe, where suddenly, after the political changes in the 90s there was an acute need of technical reconstruction. In this region of Europe there is a dense concentration of small languages.

By this article we want to demonstrate that IT literature in small languages has a chance to be at least accessible to a larger public, although this language will never become really international. We chose the IT as domain, firstly, because it is so topical. Secondly, a reader does not need deep cultural knowledge to understand IT texts (in contrast to, e.g., in law, where a reader must know the local system). The chosen languages were German, as the native language of the test readers, and Romanian as the language in which the test material was written. The choice of these languages was mainly motivated by the followings:

- Romanian is a small language, belonging to the Romance language family. There are a lot of similarities with Italian, French, Spanish and obviously Latin, but the Slavonic influence is strong enough to raise translation problems. The reader of this paper may find an overview of the Romanian language in Albuoi and Montapanye 2000;
- German students (who have been our test subjects) have at least medium knowledge of English, and quite often some knowledge of French or Spanish.

The idea of assessing knowledge in one language via similarities with other languages in the same language family has been already used in some studies. In Mann and Yarowski (2001) a method is presented “for inducing translation lexicons based on transduction models of cognate pairs via bridge languages. The idea is to develop intra family translation models based on which afterwards cross-family dictionaries are built”. However, the study is directed only towards the construction of lexicons and not the understanding of pieces of text.

The approach used in this paper is to expose native speakers of German, which have some knowledge of other romance languages (except Romanian), to Romanian IT texts. Subsequently, we measure the degree of their comprehension. The measurement is done with the help of an automatic method: Latent Semantic Analysis (LSA). The method will be described in detail in section 2. Section 3 explains the particular use of LSA in our scenario. The experiments and results are summarized in section 4, while Section 5 indicates possible further research.

2. Latent Semantic Analysis (LSA)

Latent Semantic Analysis is a fully automatic method for extracting and representing the contextual-usage meaning of words by statistical computations, and is applied to large corpora of text (Landauer and Foltz and Laham 1998). The result is mainly the probability of different lexical-semantical relations (similarities) in big data structures\(^1\).

\(^1\) Detailed information on LSA can be found under http://lsa.colorado.edu
LSA is not a traditional natural language processing method, because in its basic form it uses no lexicons, knowledge bases, semantic, syntactic or morphological information. The input raw text is represented as a matrix in which each row stands for an unique word and each column stands for a paragraph in the given corpus or any other analysis unit. By this, each cell in the matrix represents the frequency with which the word appears in the passage given by the column. In real applications the cell frequency is usually weighted by a function that expresses the word’s importance in the particular passage and the degree in general, to which the word type carries information of discourse (Landauer and Foltz and Laham 1998).

In a second step, a numerical method, singular value decomposition (SVD) (Vetterling & al. 1992), is applied to the above constructed matrix. This is a classical method in numerical analysis, the description of which is beyond the aim of this article. Briefly, the rectangular matrix is decomposed in three matrices which:

- one describes the original row entities
- one describes the column entities
- the third one contains scaling values.

The interesting feature of the decomposition is that by multiplying back these matrices the original one can be retrieved. Numerical analysis theory ensures that such decomposition is possible for any matrix, independent of the number of rows or columns. The perfect reconstruction of the original matrix is possible if the whole diagonal matrix component is used. The dimension of the diagonal matrix give the number of decomposition factors. When fewer factors are used, the reconstructed matrix is only an approximation of the original one. For our analysis exactly this approximation is relevant.

In the following, we show with a small example of what the analysis of such a matrix can reveal.

Example: Let us consider the following 9 titles, extracted from technical reports:

C1: Human machine interface for computer applications
C2: A survey of user opinion of computer system response time
C3: The EPS user interface management system
C4: System and human system engineering testing of EPS
C5: Relation of user perceived response time to error measuremen
M1: The generation of random binary ordered trees
M2: The intersection graph of path in trees
M3: Graph minors IV: Widths of trees and well-quasi-ordering
M4: Graph minors: A survey

(Landauer and Foltz and Laham 1998).

The titles C1-C5 are from the field Human-Computer interaction articles, the titles M1-M4 from graph theory. At a first glance the two sets (and the contained words) have no relation to each other. The words in italics are those, which are selected for the semantic space, namely words which occurred at least two times in the given titles. Tables 2.1 and 2.2 present the original matrix and the reconstruction with a factor k=2, respectively.

<table>
<thead>
<tr>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>C5</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
</tr>
</thead>
<tbody>
<tr>
<td>human</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>interface</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>computer</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>user</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>system</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>response</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>time</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>EPS</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>survey</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>tress</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>graph</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>minors</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 2.2 Matrix reconstruction with factor k=2

<table>
<thead>
<tr>
<th>C1</th>
<th>C2</th>
<th>C3</th>
<th>C4</th>
<th>C5</th>
<th>M1</th>
<th>M2</th>
<th>M3</th>
<th>M4</th>
</tr>
</thead>
<tbody>
<tr>
<td>human</td>
<td>0.16</td>
<td>0.40</td>
<td>0.38</td>
<td>0.47</td>
<td>0.18</td>
<td>-0.05</td>
<td>-0.12</td>
<td>-0.16</td>
</tr>
<tr>
<td>interface</td>
<td>0.14</td>
<td>0.37</td>
<td>0.33</td>
<td>0.40</td>
<td>0.16</td>
<td>-0.03</td>
<td>-0.07</td>
<td>-0.10</td>
</tr>
<tr>
<td>computer</td>
<td>0.15</td>
<td>0.51</td>
<td>0.36</td>
<td>0.41</td>
<td>0.24</td>
<td>0.02</td>
<td>0.06</td>
<td>0.09</td>
</tr>
<tr>
<td>user</td>
<td>0.26</td>
<td>0.84</td>
<td>0.61</td>
<td>0.70</td>
<td>0.39</td>
<td>0.03</td>
<td>0.08</td>
<td>0.12</td>
</tr>
<tr>
<td>system</td>
<td>0.45</td>
<td>1.23</td>
<td>1.05</td>
<td>1.27</td>
<td>0.56</td>
<td>-0.07</td>
<td>-0.15</td>
<td>-0.21</td>
</tr>
</tbody>
</table>
Studies were also conducted in order to see to what extent morphological and syntactical information can improve the performance of LSA (Wiemer Hastings 200).

In the following section we will explain why Latent Semantic analysis is well suited for our experiments, and how the method was adapted to the particular problem of text understanding in a foreign language.

3. Measuring the degree of text understanding with LSA

As we explained in the previous section, Latent Semantic Analysis (in its original form) does not make use of morphological or syntactic information, when extracting lexical-semantical relations. It is just this feature, which makes it a good candidate for evaluating text understanding in a foreign language, because the test subjects would not have other than lexical information. Very often (e.g., v.Hahn 1999) lexical information is considered as basic source for technical translations.

Two steps were necessary to conduct our experiments.

a) Building a semantic space

A semantic space is a mathematical representation of a large body of text, usually in a given domain. The mathematical representation is obtained by applying SVD method to the text matrix, as described in Section 2.

The processed corpus has to be large enough in order to ensure that the most frequent words in the given domain occur in the semantic space. The semantic space can be build either from inflected words (a word may occur in different inflection forms) or only from the lemmas. In the latter case the text must undergo morphological pre-processing. Very frequent words, like prepositions and conjunctions can be also omitted, depending on the semantic space’s purpose.

b) Representation and evaluation of the test samples in this semantic space

Texts belonging to the test sample are represented in a vector as follows:
- each text \( t_i \) is represented by its term frequency vector \( f_{ij} \), where \( f_{ij} \) is the frequency of the term \( j \) in \( t_i \)
- the „meaning” of the text \( t_i \), \( m_i \) is computed as being \( m_i = \sum_j f_{ij} \times m_k(j) \), where \( m_k \) is the corresponding vector in the semantic space. In other words, the meaning of \( t_i \) is given by the sum of the feature vectors in the semantic space.
- Similarity between two texts is estimated by the cosine of the two meaning vectors:

Analysing the two tables, even at a first glance, the following observations give a flavour of what LSA expresses:
- in the initial matrix the cell “tree/M4” has the value 0, because „tree” does not appear in M4.. In the recomposed matrix, the value of „tree/M4” is 0.66, which means in an article about minors and graphs it is very probably to find also “tree”.
- The correlation\(^\text{2} \) between “human” and “user” in the initial matrix is 0.38 while in the reconstructed it is 0.94. Interpretation: the two words are very probable to be found in the same text
- The correlation between “human” and “minors” in the original matrix is 0.29, while in the recomputed it is –0.83. The interpretation here is exactly inverse: “human” and “minors” appeared only by chance together, usually it is less probable to find them in the same text because their domain is disjoint.

This very simple example was aimed to show the power of the method., even though it is a trivial case. During the last years, LSA was already used as a model of human conceptual knowledge, e.g., as
- a simulation of the agreement of human readers upon word↔word relations and of human synonym judgements (Landauer & al. 1997)
- a simulation of human choices on subject-matter multiple choice tests (Landauer and Foltz and Laham 1998)
- a predictor of text coherence and resulting comprehension (Foltz and Kintsch and Landauer 1998)
- a simulation of words↔word and passage↔word relations found in lexical priming experiments (Wolfe and al. 1998)
- evaluation of subjective ratings of text properties (i.e. grades assigned to essays) (Wolfe &al.1998)
- a predictor of appropriate matches of instructional text to learners (Franceschetti & al. 1998)
- mimic of synonymy, antonymy, singular-plural and compound word relations (Schone and Jurafsky 2000).

Studies were conducted also in order to see to what extent morphological and syntactical information can improve the performances of LSA (Wiemer Hastings 200).

response 0.16 0.58 0.38 0.42 0.28 0.06 0.13 0.19 0.22
time 0.16 0.58 0.38 0.42 0.28 0.06 0.13 0.19 0.22
EPS 0.22 0.55 0.51 0.63 0.24 -0.07 -0.14 -0.20 -0.11
survey 0.10 0.53 0.23 0.21 0.27 0.14 0.31 0.44 0.42
tress -0.06 0.23 -0.14 -0.27 0.14 0.24 0.55 0.77 0.66
graph -0.06 0.34 -0.15 -0.30 0.20 0.31 0.69 0.98 0.85
minors -0.04 0.25 -0.10 -0.21 0.15 0.22 0.50 0.71 0.62

\(^2\) Correlation is defined as the mathematical computed correlation between the two vectors corresponding to the given words.
We should also into account that, unconsciously, one test was influenced by the other, and the test subjects got accustomed with the language during the experiments.

4. Experiments

The initial setting of our experiment was the following:

a.) Collect a parallel corpus of German-Romanian IT texts
b.) Compute the corresponding semantic space for the German corpus
c.) Present several Romanian texts (similar, but not identical with paragraphs in the corpus) to German native speakers, who:

- are IT specialists, of at least familiar with the domain, and
- have different degree of knowledge I nother romance languages (French, Spanish or Italian).

d.) Ask them to provide a translation of how much they understood from the text, even if the syntax or morphology is not clear.
e.) Represent the original German equivalent of the Romanian text and the provided translation in the constructed semantic space (see 2.)
f.) Compute the similarity based on the algorithm in section 3.

Unfortunately, there is no parallel German-Romanian IT-corpus on the ressource market; therefore we had German IT texts translated by bilingual (German, Romanian) IT specialists. The corpus contains for the moment about 12 370 tokens which corresponds to about 3 000 types. No morphological pre-processing was performed. The corpus contains texts from AI books, manuals of C and Java programming language, object-oriented programming and knowledge and data management articles. The size of the semantic space is 70, which means that the corpus was segmented in 70 paragraphs (the usual size in experiments is between 50 and 100 columns).

The test subjects were students in Computer Science and Computational Linguistics with the following background language knowledge:

- French, Italian, English (1 student)
- Spanish, French, English (1 student)
- French, English (3 students)

Three types of tests were carried out:

T1: a Romanian text was given to the test subject without additional linguistic information,
T2: “ “ “ “ “ “ with a small parallel sample corpus
T3: “ “ “ “ “ together with a small dictionary, containing mainly the words with Slavonic roots.

For each test we computed separately the similarity between the original text and the translated one.

The results confirmed partially our empirical assumption:

- In test T1, between 30 and 40 percent of the text was translated correctly (meaning was preserved). Unknown words or false-friends, were misinterpreted, sometimes even changed the meaning of the phrase.
For example the sentence:
RO: Aceasta dependenta partiala este clasificata ca relatie separata (this partial dependency is classified as separate relation) was 100% translated correctly by all subjects:
GE: Diese partielle Abhängigkeit wird als separate Beziehung klassifiziert.

As counter-example: In another phrase, the word „trasatura“ (feature), apparently sounded similar to transaction (die Transaktion) and consequently the whole sentence lost its original meaning.
- The introduction of a small parallel aligned text in T2 did not help very much: the amount of correct translation was only 45 %. The test proved, that knowledge extraction seems to be difficult.
- T3 achieved very good results (70-80% of correct translation). Really meaningful sentences were produced. One of the test subjects even translated correctly the whole given text.

We should take also into account that, unconsciously, one test was influenced by the other, and the test subjects got accustomed with the language during the experiments.

5. Conclusions and further work

In this paper we have argued that technical texts (in this case in the field of IT) can be understood even in small unknown languages (up to a certain level) by non-speakers of the respective language, under the condition, that they are familiar with
similar languages. We described an automatic method (LSA) to measure the degree of comprehension. The results confirmed our assumption and correspond to the (informal) human evaluation of the provided translations. Two important issues occurred:
- Only with a (even small) dictionary, technical literature in languages other than English can be understood by the test persons,
- knowledge retrieval remains difficult for most of the readers.
However, the experiments were conducted with a small number of subjects, and under several constraints, some of which we will evaluate during future work.

Further experiments will aim to
- study the influence of pronunciation: providing some hints of how words are pronounce, will definitely support the understanding process,
- study the influence of the number of known languages. Experiments will show to what extent speakers of, e.g., only German can understand a Romanian text to a similar extent,
- repeat the experiment with non-technical texts,
- perform experiments about the necessary size and content of the provided dictionary.

6. References


6 Workshop Synopses

6.1.1 Core Vocabulary Of Primary School Students: Iranian Experience

Presented to LSP 2003 by The Organization for Educational Research and Programming (OERP), Ministry of Education, Iran

Organizers: Dr. Shahin Nematzadeh (Az’ahra University); Akram Tayebei (OERP)

Vocabulary is one of the matters of concern in children’s language. Regarding the 4 language skills, basic vocabulary can be divided into four categories: speaking, listening, reading, and writing vocabulary. However some have added thinking vocabulary as well. Basic vocabulary studies have 80 years of background in the world, but in Iran it has less than 30 years. These 30 years of study have several weak points. To mention a few, it had not enjoyed a logical continuation, it lacked a critical eye on basic vocabulary estimating projects in other countries, and the last but not the least, it has not been taken seriously. As a result children book writers and curricula developers have applied intuition, humor and experience in using their own mental basic vocabulary. Three years ago in the face of multicultural/multilingual issues in Iran, Organization of Educational Research and Programming (OERP) as the official body in Iran for curricular programming and developing course materials (k-12) recognized the need for upgrading form and content of the teaching materials. In this regard, the national project titled “Identification of Iranian Primary School Students Core Vocabulary “ has been launched as one of the projects that were developed to achieve the upgrading goal. In the colloquium the organizers and research team will report their findings.

Some characteristics of the project are as follows:

Considering the fact that any programming should be based on valid data and core vocabulary is an essential data for curricula programmers and developers, OERP launched a national project for identification of “Iranian Primary School Students Core Vocabulary “. In this project appropriate methods for estimating basic vocabulary were identified. Then through a massive field study, real, first hand data has been collected from 175 schools. These schools were sampled from rural and urban regions using systematic stratified cluster PPS sampling method. This sample included 46 girl schools, 64 mixed schools and 65 boy schools i.e. 20,000 students and 1,885 teachers in 875 classrooms, in all 28 provinces of Iran. Several research tools were developed (check lists and questionnaires containing 1641 concrete nouns, 2700 verbs, 22 semantic domains, 100 adjectival categories) for the purpose of this research and tests were conducted throughout the country in a tight time schedule. Many people were involved in this project such as 20 full time researchers (12 in phase one, 8 in phase 2), 40 test managers, 29 province managers, 350 test conductors, 12 research staff, 4 teacher consultants, 10 part time staff, 1 accountant.

This project has some special characteristics like collecting information from experts and students, collecting unbiased data, collecting and preserving linguistic differences of the sample, collecting and preserving ethnic culture of the sample, applying systematic stratified cluster PPS sampling model for the first time in MoE, making a model for nationwide successful projects, providing a collection of classified pictures with educational orientation.

Achievements to date are quantitative assessment of the results of the undertaking, training 40 test manager, 350 test conductor; developing 3 questionnaires and 4 checklists; distributing 20,000 student perceptive and productive questionnaires and collecting 19,974 productive and 17,864 perceptive ones, also 1,885 teacher questionnaire; collecting more than 10 million records in teacher questionnaire, 16 million record in perceptive questionnaire, 12 million record in productive questionnaire, 266 million basic information records, 76 million record basic data for vocabularies, transferring four thousand hours voice of students (grade 1) recorded on tapes to CD_ROM.

Organizing the Colloquium CORE VOCABULARY OF PRIMARY SCHOOL STUDENTS: IRANIAN EXPERIENCE is one of the many activities within the framework of public mobilization and awareness-raising of this Project. In this colloquium the main focus was on learning together through discussions and sharing experiences rather than on listening together. Beside the organizers, Mr. Allaghemandan, Ms. Aalaei and Ms. Nabifar respectively shared their experiences on Basic Vocabulary, ways to estimate it and using computer software to handle it with the participants. Handout materials were provided as a supplement.
6.1.2 Konzeptionelle Ausgestaltung der Übersetzer- und Dolmetscher-Ausbildung in Europa vor dem Hintergrund der Bologna-Erklärung

Felix Mayer


Die europäische Bildungspolitik hat in den vergangenen fünf Jahren grundlegende Veränderungen erfahren. In verschiedenen Erklärungen, darunter insbesondere der Bologna-Erklärung, haben sich die europäischen Staaten ehrgeizige Ziele gesetzt. Im Mittelpunkt steht die Schaffung eines europäischen Hochschul- und Forschungsraums, um die Attraktivität und die Wettbewerbsfähigkeit Europas entscheidend zu stärken. Dazu sind eine Reihe von Maßnahmen erforderlich:


Durch diese Maßnahmen sollen Attraktivität und Wettbewerbsfähigkeit des Europäischen Hochschulraums entscheidend gestärkt werden.


Vor diesem Hintergrund wurden in dem Kolloquium die Entwicklungen in einzelnen Ländern zusammengefasst. Vorgestellt wurde die aktuelle Situation in Dänemark, Deutschland, England, Italien, Österreich, der Schweiz und den USA. Zur Vorbereitung wurde teilweise ein Raster (Klaus-Dirk Schmitz: „Vergleich existierender Bachelor-Studiengänge im Bereich Translation“) genutzt, das einige Vergleichskriterien aufführt. Dadurch konnte ein Überblick über neuere Ansätze und Entwicklungen einerseits und die damit verbundenen Schwierigkeiten andererseits entstehen. Die Erkenntnisse, die dabei gewonnen wurden, sollen auch dazu dienen, die Weiterentwicklung der Curricula in einen europäischen Rahmen stellen zu können, wodurch der Anspruch, der sich aus der Bologna-Erklärung ergibt, einfacher zu realisieren ist.

Trotz unterschiedlicher Auffassungen im Hinblick auf die Ausrichtung und das Ausbildungsprofil von BA- versus MA-Studiengängen zeichnet sich die Tendenz ab, dass BA-Studiengänge die pragmatischen und wissenschaftlichen Grundkompetenzen im Übersetzen und Fachübersetzen vermitteln. MA-Studiengänge bauen in der Regel darauf auf und vermitteln spezifische und weiter gehende pragmatische und wissenschaftliche Kompetenzen in diesen beiden Bereichen; darüber hinaus legen sie die Grundlage für die Ausbildung des akademischen Nachwuchses.

Nach derzeitigem Kenntnisstand werden die folgenden BA-/MA-Studiengänge angeboten; diese Auflistung kann kaum vollständig sein, da die Entwicklung neuer Studiengänge im großen und ganzen, von Ausnahmen abgesehen, noch am Anfang steht:

- BA-Studiengänge:
  - Mehrsprachige Kommunikation
  - Internationale Kommunikation

---

1 Das Kolloquium wurde durchgeführt von Felix Mayer in Zusammenarbeit mit Gerhard Budin, Hannelore Lee-Jahnke, Lorenza Rega, Heribert Picht, Margaret Rogers, Klaus-Dirk Schmitz, Sue Ellen Wright.

MA-Studiengänge:
- Internationale Kommunikation und Übersetzen
- Interculturelle Kommunikation
- Sprache und Kultur
- Übersetzen
- Community Interpreting

In den oben genannten Ländern stellt sich, in aller Kürze zusammengefasst, die Situation wie folgt dar:

Dänemark

Deutschland


England


Italien
Italien scheint im Hinblick auf die Umsetzung des neuen europäischen Rahmens am weitesten fortgeschritten zu sein. Eine Hochschulreform im Jahre 2000 hatte zur Einführung des BA- und MA-Ansatzes an allen italienischen Hochschulen geführt. Dies hatte im Bereich Übersetzen und Dolmetschen zur Folge, dass neben den beiden klassischen Universitäten Trieste und Forlì, die BA-Studiengänge (laurea triennale) und MA-Studiengänge (laurea specialistica) anbieten, auch weitere Hochschulen Ausbildungen im Bereich Übersetzen anbieten, die in der Regel jedoch auf den ersten Zyklus (laurea triennale) beschränkt sind. So bietet beispielsweise die Università degli Studi di Trieste eine laurea triennale (BA) in Übersetzen und Dolmetschen und zwei lauree specialistiche (MA), eine in Fachübersetzen, die andere in Konferenzdolmetschen, an.

Österreich

Schweiz
In der Schweiz werden Übersetzer und Dolmetscher an der Ecole de Traduction et d'Interprétation der Universität Genf und an der Zürcher Fachhochschule ausbildet. In der Schweiz sollen alle Studiengänge bis 2010 auf das BA-/MA-Modell umgestellt sein; die ETI wird voraussichtlich zum Wintersemester2004/2005 die Umstellung auf BA-/MA-Studiengänge vornehmen.

USA
6.1.3 Variation of a target language as a result of different source languages: an Italian case study

Marella Magris, Maria Teresa Musacchio, Lorenza Rega and Federica Scarpa
(SSLMIT, University of Trieste)

Research has shown interest in the topic of variation between, on the one hand, a language which is the result of translation and, on the other, the same language as an original means of communication (e.g. Bowker 1998, Baker 1998). To date, however, there are not many studies focussing on the variation of a target language (TL) as a result of different source languages (SLs). In the academic year 2002-2003 as translation teachers we organized a project on specialised translation called “Fundamentals of science for translators” consisting of four modules – geology, chemistry, physics and computer science – each held by a colleague from the relevant science department of the University of Trieste. The source languages that have been considered in the project were English and German, whilst the target language was Italian. For each module, the domain-expert spent approximately 10 hours to illustrate the fundamentals of a sub-domain of his discipline in Italian. We then organised 4-hour workshops to discuss the target texts (TTs) from each of the two SLs – German and English – in which domain-experts, translation teachers and students participated. The translations used for the discussion had been assigned a few weeks earlier and had been circulated among participants in advance. Source texts (STs) were taken from university or secondary school level textbooks and were very different in terms of function: for example the English ST for physics provided an outline of physics for university students consisting of summaries of the different topics and problems, whereas the English university textbook for geology was mainly descriptive. For each module, students were encouraged to use as a reference original Italian texts on the relevant sub-domain. One or more Italian original texts were also used in our subsequent analysis to identify any differences between the language of TTs and that of the original Italian textbooks.

Our project had two main objectives, a pedagogic and a research one. The pedagogic objective was to include formally the contribution of the subject-domain expert in specialised translation training, which is something that tends to stay always in the background in both academic research and translator training. In advanced specialised translation courses the expert is usually included only in the sense that generally students have to attend scientific and technical courses completely outside the translation classes themselves. Although in translation classes teachers always stress the importance of contact with subject-domain experts, the contact itself is completely left to the students’ initiative.

As for the research objective of our project, the hypothesis was that there is always an obvious influence of the SL on the TL not so much at the level of lexis and terminology, but rather at a structural level and, possibly, in the way different languages affect the writing process of the original text (Lemke 1991). The assumption was in fact that once experts had dealt with the more technical – i.e. terminological and phraseological – aspect of the TTs, the latter would still display some variation according to the specific SL they were a product of. By focussing on this influence of the SL on the TTs we also aimed at verifying whether Halliday’s “prototypical syndrome” of the language of science (Halliday 1993) applied to languages in translation (for example, the fact that technical vocabulary is not essential to recognize that a passage comes from a scientific text).

The two objectives – the pedagogic and the research ones – have in fact turned out to be linked to each other. Not only from a pedagogic point of view have students become more used to interact with the subject-domain expert – for example they have learnt what questions to ask the expert in order to obtain the information they need – but, on the basis of the discussions with the experts and of the analysis we carried out later on, at least three recurrent patterns have emerged in specialised/scientific writing that are relevant for translator training:

- the original (reference) Italian texts and the Italian TTs from English have a similar number of sentences;
- the Italian TTs from both German and English have a higher number of paratactical links compared to the original Italian texts;
- the original Italian texts have a much higher number of hypotactic links as compared to the English STs.

Whilst the first generalization implies that the Italian TTs from German have a higher degree of syntactical “difference” from the original Italian texts, the other two provide some evidence of the translation universal of “simplification” (Baker 1993) as a result of a literal approach to translation. From this point of view, a pedagogic by-product of the project was to raise students’ awareness of the ongoing debate on ‘literal’ versus ‘free’ translation with special reference to the translation of science and technology.

Conversely, the other two patterns that have emerged from our analysis point to the typical tendency of Italian (and Romance languages in general) towards a higher level of syntactical complexity:

- in the Italian TTs, there are fewer sentences than in the English and German STs and sentences have become longer;
- in the Italian TTs, the number of hypotactical links is higher than in the STs.

It must be stressed, however, that these results are still very preliminary and that a more complete analysis of the data will be published in due course.

References
6.1.4 The English language as “hypercollective good”. Competences gained, competences lost

Colloquium Report.
Renate Klaassen, Delft University of Technology, Netherlands
Zsuzsa Kurtán, Veszprém University, Hungary
Robert Wilkinson, Maastricht University, Netherlands

Three papers were presented at the colloquium investigating issues affecting English-medium instruction in higher education in mainland Europe. Indeed, we may ask why a European University would want to introduce such instruction. The main reasons given are to attract foreign students, to compensate for domestic language disadvantage, to become more competitive as an institution, to increase the research base, to spend development aid, and to keep specialized fields (the domestic market being too small). In addition, according to Wilkinson, demographic trends in Europe mean that the supply of young people (under 20) will decline sharply. To survive many universities have to focus on a bigger market and develop new products. Universities have mainly three options, to target working people, to target retirees or to target rest of world. If a university makes the last choice and introduces English-medium-only programmes, it will have to cope with both advantageous and disadvantageous impacts on courses, staff, students, teaching methodology and society.

The impact on courses may result in a shift in focus toward Europe and/or the world. Beneficially, students may acquire a comparable learning experience of participants throughout the EU, which may provide a common basis for the analysis of problems encountered in society. However, risks are that national contents may be dropped, studies may have less depth, and students’ knowledge may remain superficial.

In her survey of Hungarian higher educational institutions, Kurtán showed that FL-mediated instruction has become an integrated part of training. The instructional languages concerned are English, French, German and, recently, Russian, with English dominating. The principle disciplines tend to be economics, engineering, law and medicine faculties. The main reasons to introduce FL-mediated instructional programmes are to recruit international students, to promote intercultural understanding, and, interestingly, to help language learning. Most of the teaching staff are Hungarian, and almost none of the students are native speakers of the language of instruction.

Teaching staff were in general not prepared for their task; in few cases were they offered specialized training courses, general language development or intercultural training. However, Kurtán’s survey showed that very few lecturers had language-related problems; difficulties that were reported lay in general fluency, oral proficiency, speed, vocabulary and to a lesser extent communicating with students and lecturing. Yet, more than half of the teaching staff would like to have language support, especially for example in lecturing, teamwork, intercultural skills, guiding discussions, and guiding writing.

In the Netherlands, Klaassen reported on a specific programme at Delft University of Technology was designed to support lecturers involved in English-medium instruction. The programme focused on pedagogical issues, language issues and intercultural issues. More specifically, language issues were used to support the pedagogical repertoire of these lecturers. Language issues trained were, for example, how to develop new vocabulary, how to use signposts, how to discuss opinions in groups, and how to manage questions. Most of the participants felt the professional feedback in the support programme in Delft stimulated them to learn a lot in a short time and improved their English language and teaching skills.

Teaching methodology for English-medium instruction should preferably be student-centred to limit communication problems as much as possible. However, not every student is able to deal with this type of teaching methodology. Furthermore cultural awareness should become a basic social skill that is incorporated in universities classes, instead of a skill one only acquires when moving to a foreign country.

Both Kurtán and Klaassen stressed the need to test at entry students’ language proficiency if they wish to start English-medium programmes. Although more adventurous students will be challenged by a programme with world scope, student with weaker language skills may be advised to take other studies than they would wish for.

Half of the students who followed the FL-mediated programmes in Hungary were, in Kurtán’s survey, offered language support, focusing mainly on developing LSP language skills. Foreign students had the opportunity to learn Hungarian. Interestingly, few students reported having language problems.

In conclusion, we should not underestimate the risk of graduates from English-medium international programmes losing touch with their local communities. Social cohesiveness may no longer arise from within the local community, but result from the academic community in which students have studied or the multinational companies that employ them. According to Wilkinson, English-medium-only universities need a languages policy, focused both locally and globally, because their growth depends on the real, multilingual/multicultural world in which they are vested.

Papers presented:
Renate Klaassen: “Preparing lecturers for English-medium instruction”.
Zsuzsa Kurtán: “Foreign-language-mediated instruction in Hungarian higher education”.
Robert Wilkinson: “Towards English-medium-only universities in mainland Europe: competences gained, competences lost”.

514
6.1.5 Constructive acquisition of domain specific language competence

Cavagnoli, Stefania / Engberg, Jan / Hänchen, Regina / Kvam, Sigmund / Schweigkofler, Anny

The purpose of this workshop, convened by Jan Engberg (Aarhus), Sigmund Kvam (Halden), Regina Hänchen (Wien), Anny Schweigkofler (Trento), and Stefania Cavagnoli (Trento), was twofold. One aim was to discuss what effects it could or should have on the way we teach domain specific languages (either to translators or to coming domain specialists) that a number of different studies have shown that knowledge acquisition may best be described as a process of gradual construction on the basis of existing knowledge structures. The second was to bring together practitioners in the field in order to exchange ideas about how we may practically implement the necessary didactic consequences. More specifically, the discussion was to be centered around the following questions:

- What degree of similarity between the knowledge representation of an expert and of a student (domain or language student) do we aim at?
- Which communicative competences do students acquire through the process of gradually constructing knowledge on the basis of expert input?
- Is it necessary (or even possible?) to teach special competencies, in order for the acquisition process to run efficiently?
- What role does it play whether we are talking about domain students (for example law students learning German in order to understand their professor) or language students (for example translation students learning to translate texts from the field of law)?
- What knowledge management skills do different groups of students need?
- What skills do they already have?
- What skills must they be taught explicitly?
- What does the notion of constructing knowledge gradually mean for the way we teach and monitor knowledge management among students?

The basis for the discussion of these questions were four studies carried out by the conveners and presented in short form as an introduction to the discussion. First, results of micro-level investigations, performed by Anny Schweigkofler and Stefania Cavagnoli, were presented. The investigations focused upon the knowledge construction process that goes on when Italian-speaking business students from a multilingual learning environment in Bolzano, Italy, learning to understand German lectures within their field construct a domain specific language competence. The investigated learning situation was an example of a consciously performed construction process, the so called Language Puzzle. Secondly, results from an investigation of the learning process among Austrian business students learning Spanish as a foreign language for business purposes, performed by Regina Hänchen, were presented. This experiment was focused upon the gradual acquisition of language competence. After that, Sigmund Kvam had looked at the degree to which Norwegian translation students working with German where able to acquire the concept of translational relevance and operationalise it in connection with their translation oriented knowledge management. His results showed that the students do not automatically construct the concept in a way that makes it possible for them to operationalise it, although some students go some of the way. And finally, Jan Engberg presented a study performed on Danish translation students looking at the learning process they go through when reading a subject specific non-didactic text. The target of the study was the acquisition of two specific concepts frequently mentioned in the text, and the study showed that some of the students were able to construct the focused concepts correctly on the basis of the texts. This shows that construction goes on, but the quality of the construction is dependent on the mental knowledge system existing at the beginning of the acquisition process.

All of these studies underlined the process character of the acquisition of domain specific language skills, and they functioned as inspiration for the following discussion at the colloquium. The discussing groups had representatives from both the field of teachers of coming domain experts and from the field of teachers of specialised translation, and this turned out to be a very fruitful combination as experiences and methods applied were to a certain extent different and thus allowed knowledge acquisition within the groups as well. Naturally, within the given time limit no conclusive answers were found to the questions mentioned above, but it turned out that the distinction between domain students and subject students seemed less important than normally supposed. However, one difference may lay in the degree to which the constructed knowledge systems of the students have to be equal to those of domain experts. And secondly, the discussions concluded that it may be relevant to work more explicitly with the acquisition process, making the students aware of their own learning process, as the performed studies indicate.
6.1.6 Le droit en ligne: Présentation d’un projet de développement d’un e-cours du français juridique pour des apprenants norvégiens

Jan Roald and Sunniva Whittaker
Norwegian School of Economics and Business Administration (NHH)

1. Introduction

2. Toile de fond
Dans nos sociétés de savoir, l’enseignement des langues étrangères se voit poser un nouveau défi, celui de faire acquérir aux apprenants une compétence conceptuelle et textuelle en phase avec les thèmes sociétaux contemporains. En effet, posséder une langue étrangère, c’est aussi être en prise sur /directe avec/ la communauté utilisatrice de cette langue, laquelle transmet sa culture, ses institutions, son économie, sa technologie, son édifice juridique. Or, on constate qu’un nombre sans cesse croissant de domaines de connaissances spécialisées, jusqu’à une époque récente réservés aux cercles étriers des initiés, pénètrent désormais la sphère commune et partant ses discours, assurés par la langue générale.

L’autre face de ces tendances, c’est la montée en puissance des langues de spécialité elles-mêmes, par le truchement des sciences, des formations, des pratiques sociales et de leur régulation.

Dans quelle mesure les programmes de français langue étrangère proposés dans le cadre de l’enseignement supérieur de Norvège tiennent-ils compte de cette nouvelle donne ?

Par tradition, ceux-ci sont axés d’abord sur le code linguistique en tant que tel, ce qui est normal, ensuite sur des thématiques de portée assez générale et notamment sur l’étude d’œuvres littéraires. Les langues de spécialité y occupent, à quelques rares exceptions près, une place bien plus modeste. Le français juridique n’échappe bien évidemment pas à cette règle. On regrette par conséquent la pénurie d’outils pédagogiques et lexicaux, quasiment inexistantes, susceptibles d’épauler la mise en œuvre d’un enseignement efficace dans les domaines de spécialité. En même temps, on enregistre une demande croissante en la matière de la part des jeunes en quête de formation linguistique et des professions de droit et du chiffre.

Autre handicap matériel : La Norvège, n’étant pas membre de l’UE, ne participe pas aux nombreux travaux terminologiques et documentaires importants menés dans les domaines de spécialité au sein des institutions communautaires. Or, notre collaboration de plus en plus étroite avec l’Union européenne, notamment au sein de l’EEE, ainsi que la mondialisation de l’économie, ouvrant la voie aussi à un rapprochement avec le monde francophone, constituent le contexte incontournable dans lequel évolue notre société, fortement marqué par les rapports économiques, et partant juridiques, le droit étant convoqué pour régir ces rapports.

A partir de ces données, nous avons conclu à un besoin incontestable en compétences juridico-linguistiques au sein du français langue étrangère, convoquées notamment en matière économique.

3. Objectif
Par la mise sur pied d’un cours de droit en ligne, appelé Droit de commerce et du travail (DCT), nous voudrions répondre au besoin que nous venons d’esquisser et concourir à combler une des lacunes de l’enseignement du français en Norvège. Notre objectif est d’une part de proposer aux étudiants de français généralistes un savoir complémentaire et d’autre part, contribuer à la formation de ceux qui auront besoin d’un savoir juridico-linguistique sur le plan professionnel. Plus globalement, nous visons à développer chez les étudiants une méthodologie leur permettant de tirer un maximum de profit des données qu’ils ont à leur disposition lorsqu’ils ont à lire, produire ou traduire des textes juridiques.

Le droit étant évidemment un domaine très vaste, nous avons, dans un premier temps, limité notre cours aux notions fondamentales du droit, aux institutions et aux acteurs juridiques, ainsi qu’aux domaines qui nous semblent les plus pertinents compte tenu des évolutions signalées plus haut, à savoir ceux ressortissant au droit commercial et au droit du travail. Des éléments de ces domaines sont d’ailleurs enseignés dans le cadre de notre cours de français des affaires depuis quelques années.

4. La cible
Vu la place prépondérante du droit dans nos sociétés actuelles, ce cours peut répondre à plusieurs besoins et s’adresse donc à un public assez hétéroclite : étudiants en langue, en traduction, en interprétation ainsi qu’étudiants en droit et en économie ayant un bon niveau linguistique de départ. Le cours sera de même proposé dans le cadre de la formation continue et s’adressera donc aussi à des personnes (agents publics ou personnels du secteur privé) travaillant sur l’Union européenne ou le monde francophone. Il convient d’ailleurs ici de signaler une double tendance relative à la formation linguistique. D’une part, on constate une baisse du nombre d’étudiants choisissant des filières linguistiques pour leur formation de base. D’autre part, on observe qu’un nombre
croissant de professionnels, dans le cadre de leur profession, se voient dans l’obligation d’acquérir des connaissances linguistiques très spécifiques. Notre cours s’inscrit dans cette tendance.

5. Les défis
Quels sont les défis à relever pour mettre en route un cours de ce genre ?

Tout d’abord, on constate que les jeunes en général ont une notion assez vague du système juridique de leur propre pays et, partant, de la terminologie se rapportant au domaine juridique. Ensuite, on constate une confusion assez répandue entre notion et mot, et une tendance à surestimer les vertus du dictionnaire. Les gens sont en règle générale des locuteurs naïfs et sont peu sensibilisés aux particularités des terminologies et du registre du langage juridique. À cela s’ajoute le fait que les systèmes juridiques des différents pays ne se correspondent pas et que les termes relevant d’un système juridique ne sont en principe pas traduisibles par des termes relevant d’un autre système juridique. Il est donc nécessaire de sensibiliser les étudiants aux défis tout à fait particuliers que présentent la pensée et la traduction juridiques.

Les défis se rapportent non seulement au contenu du cours, mais encore à son support matériel. Si l’informatique et le multimédia ouvrent des possibilités inédites, l’emploi de ce support demande une refonte des méthodes d’enseignement. Aussi avons-nous dû créer ce cours de toutes pièces, le premier dans son genre en Norvège.

6. Considérations et démarches pédagogiques
Les paramètres signalés ci-dessus, à savoir les besoins en maîtrise langagière, les connaissances de départ ainsi que les qualités et possibilités du support informatique, guident les démarches pédagogiques retenues.

La conception du DCT repose sur l’assomption que l’acquisition d’une langue étrangère chez les adultes passe obligatoirement par la langue maternelle et la vision du monde que celle-ci reflète. De là découle notre approche comparée, fil rouge de l’ensemble du cours. Chaque thème est abordé en trois temps. Tout d’abord, les systèmes juridiques français et norvégien sont présentés séparément, dans les langues respectives, pour aboutir ensuite à la confrontation des deux systèmes. La dernière étape consiste à confronter l’usage des deux langues rapporté au domaine juridique. Plus précisément, il s’agit de soulever les problèmes que pose la traduction de textes relevant du système juridique français en norvégien et vice versa. Le cours repose sur une double confrontation : une confrontation aussi bien au niveau encyclopédique qu’au niveau conceptuel.

Notre approche est également systématique, c’est-à-dire que nous abordons chaque thème par le biais du système notionnel, que ce soit au macroniveau, par exemple pour la présentation de différents intervenants de la procédure législative, ou au microniveau, par exemple pour la classification des règles de droit. Nous mettons ainsi l’accent sur les relations ontologiques, par exemple relations de causalité et successivité, de telles relations étant à la base de la pensée juridique.

De cette approche systématique découle la concision de la présentation. En effet, chaque thème est présenté globalement sous forme de schémas. Chaque nœud de ce schéma est cliquable, permettant ainsi d’accéder à un hypertexte comportant une description plus détaillée de l’élément en question. Cette démarche permet d’afficher sur l’écran le schéma intégral et un texte se rapportant à un élément du schéma simultanément. A partir de certains nœuds du schéma, il est également possible d’avoir accès direct à un site internet fournissant une documentation sur le sujet abordé. Il peut, par exemple, s’agir d’un texte législatif, d’une présentation d’un tribunal, d’une procédure, etc. L’emploi d’hyperlinks assure une mise à jour permanente des données sous-jacentes.

Chaque thème est accompagné d’exercices visant à stimuler l’apprentissage des faits juridiques présentés, d’une part, et, d’autre part, faire maîtriser phraséologie et syntaxe caractéristiques du langage juridique.

7. Applications
Le DCT est en premier lieu destiné à s’intégrer dans différents programmes bachelor de français langue étrangère. D’autres applications sont cependant envisageables, comme dans le cadre d’études de droit comparé.

Grâce à sa configuration (support informatique et approche comparée), le DCT présente un haut degré de flexibilité. Les différents éléments du cours peuvent être intégrés dans d’autres contextes. A titre d’exemple, la composante norvégienne fera partie d’un cours d’initiation au droit dans le cadre d’une formation d’interprètes qui sera proposée en collaboration avec l’Université de Bergen.

D’ailleurs le norvégien servira de tronc commun à une éventuelle extension à d’autres langues étrangères. Par ce même biais, le cours conviendra également à ceux qui désirent s’initier à la langue juridique norvégienne.

Une retombée aussi intéressante du lancement de ce cours résidera dans le potentiel de référenciation et documentaire qu’il offre à certaines catégories d’usagers désirant faire des recherches ponctuelles, pour lesquels les données du DCT pourront tenir lieu d’œuvre de référence pour la langue juridique française et norvégienne. Ainsi, un dispositif de recherche de mots clés permettra d’accéder directement à l’explication du terme faisant l’objet de la requête.

8. Conclusion
L’avènement de la société de savoir et, corollairement la professionalisation de la société implique une mise à jour et élargissement constants des connaissances, non seulement dans le domaine de chacun, mais encore dans d’autres domaines. La mise sur pied de cours faits sur mesure est la voie à suivre pour faire face aux nouvelles réalités de la vie active, à savoir mobilité professionnelle et alternance entre des périodes d’emploi et de formation. L’enseignement à distance, facilité par l’outil informatique, permet à chacun de se former à son propre rythme, sans contraintes géographiques. Autre avantage du support informatique est sa grande souplesse et adaptabilité. En effet, il permet l’entretien et la mise à jour permanents du notionnel et du terminologique. Il n’est donc nul besoin d’attendre la parution d’une nouvelle édition, comme c’est le cas du support papier. Ajoutons à la fin que ce cours reflète notre volonté de renforcer la position des langues étrangères autres que l’anglais en Norvège, s’inscrivant ainsi plus globalement dans l’objectif de l’UE d’œuvrer pour la diversité linguistique et culturelle.
This colloquium was the continuation of a series of events realised by the International Institute for Terminology Research (IITF). The aim was to discuss and clarify theoretical foundations of terminology. It is a fact that the general knowledge in Western countries about recent developments in terminology research taking place in Eastern Europe is insufficient or non-existent. Especially the development after 1990 is hardly accessible for those who do not read Eastern European languages and can only be deduced fragmentarily from papers presented at conferences.

Therefore, the main aims of this colloquium were:

♦ To offer our Eastern European colleagues the opportunity to present the results of their basic research in terminology
♦ To contrast their research results with those from colleagues from the Western countries in order to elucidate differences as well as common basic foundations
♦ To establish, re-establish and deepen personal contacts as the real prime mover of any efficient collaboration.

Themes & speakers:

1. Interaction between terminology and philosophy
   Dr. L.M. Alexeeva; Perm

2. Some basic concepts of terminology: Tradition and innovations
   Prof. Dr. V.M. Lejchik; Prof. Dr. S.D. Shelov; Moscow

3. Nominative units in scientific English
   Prof. Dr. L.A. Manerko; Rjazanj

4. Terminologie in der Praxis der Ukraine
   Prof. Dr. T.R. Kyyak, Kyiv

5. Terminological dictionaries & data banks (present state and perspectives)
   Prof. Dr. S.D. Shelov, Moscow; Prof. Dr. L.B. Tkacheva, Omsk

Each presentation was followed by prepared comments from two colleagues from the Western countries.

6.1.8 Analysing vagueness and indeterminacy in normative legal texts

Jan Engberg, Davide Giannoni, Maurizio Gotti, Dorothee Heller, Kirsten Wølch Rasmussen

The conveners had been cooperating in the Hong Kong-based project “Generic Integrity in Legal Discourse” (http://gild.mmc.cityu.edu.hk/), comparing normative texts and contexts from up to 16 countries belonging to different legal cultures (for example, Continental European, Anglo-Saxon, Islamic, Chinese, Japanese). The results of their analysis have been published in Bhatia / Candlin / Engberg / Trosborg (2003) and Bhatia / Candlin / Gotti (2003). In the final stage of the project, the conveners have worked on a number of comparisons of linguistic elements indicating vagueness and indeterminacy in Italian, Danish, German, French and English texts. On the basis of this cooperation, an analytically oriented colloquium was set up at the conference in Surrey. The aim of the colloquium was to present some of the results of this work to a wider audience in order to promote a discussion of the aspects of vagueness and indeterminacy in legal texts and of the methods for describing and comparing the linguistic markers expressing such aspects.

The work in the colloquium was focused upon the general communicative necessities lying behind the occurrence of vagueness and indeterminacy in legal texts and on some of the linguistic signals different from lexis that make these features visible to text receivers. Central issues were such elements as conditionals, adverbs, modals and other markers traditionally connected to hedging. Thus, focus was on explicitly indicated vagueness and indeterminacy, rather than issues of statutory interpretation.

The colloquium consisted of two parts: an introductory part, in which the conveners shortly presented their partial analyses and materials, and a number of parallel analytical sessions, where the audience – divided into smaller groups – worked with one or two of the conveners on a specific kind of statutory vagueness. The conveners (and thus the discussions in the respective groups) focused on the following aspects:

- Maurizio Gotti: All-inclusiveness in the Model Law
- Dorothee Heller: Qualifications in arbitration acts written in German
- Davide Giannoni: Model arbitration clauses in bilingual arbitration rules
- Jan Engberg / Kirsten Wølch Rasmussen: Setting up standards in arbitration statutes

In the parallel sessions a number of different texts, all drawn from the field of international commercial arbitration, were analysed by the various groups of participants. Although no general results were expected from the workshop, the presentations and discussions promoted a fruitful exchange of ideas between the conveners and the audience, and showed that there are still great possibilities for more international research cooperation in this area.

References
