Terminologen

Språkrådets skriftserie for terminologi og fagspråk

Utgave 2:

Terminologi – ansvar og bevissthet

Det sjette terminologitoppmøtet – Oslo, 11. og 12. oktober 2012

Terminology – responsibility and awareness

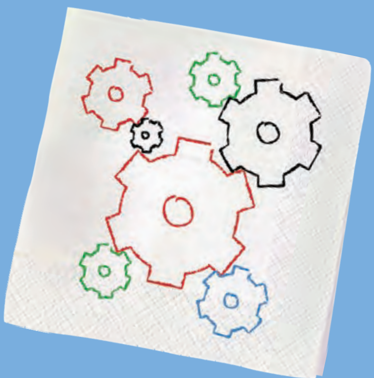
The sixth Terminology Summit – Oslo, 11th and 12th October 2012

Terminologie – responsabilité et sensibilisation

VIe Sommet de terminologie – Oslo, 11 et 12 octobre 2012

RAPPORT – PROCEEDINGS – ACTES

Jan Hoel (red.)



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2013

DGLFLF

EAFT/AET

Til minne om / In memory of / À la mémoire de
Rosa Colomer i Artigas, 1966–2013

Terminologi – ansvar og bevissthet

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TERMINTRA

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Det sjette europeiske og internasjonale terminologitoppmøtet ble arrangert i Oslo i midten av oktober 2012 av Språkrådet i samarbeid med Den europeiske terminologiforening (EAFT). Det var om lag 70 påmeldte deltakere fra ulike deler av Europa de to dagene toppmøtet varte. Engelsk og fransk var konferansespråk, og det ble tolket mellom de to språkene. Det var også et sosialt program som omfattet en mottakelse og omvisning i Oslo rådhus og en festmiddag om kvelden den første dagen.

Det overordnede temaet for toppmøtet var *Terminologi – ansvar og bevissthet*. Dette temaet var inndelt i fire undertemaer som ble behandlet i hver sin programseksjon.

Toppmøtet fant sted på Soria Moria hotell og konferansesenter øverst i Holmenkollen i utkanten av Oslo. Møtet ble åpnet av direktøren for Språkrådet, Arnfinn Muruvik Vonen. Jan Hoel, president for EAFT, hilste så deltakerne velkommen. Det akademiske programmet begynte med et hovedforedrag av Anna-Lena Bucher fra det svenske Terminologicentrum TNC. Deretter ble seksjonsforedragene gitt, i to seksjoner hver av dagene. Hver seksjon ble oppsummert i og avsluttet med en paneldebatt der seksjonens foredragsholdere medvirket.

Det er nærmere opplysninger om foredragsholderne og programmet i vedleggene. Det skal likevel nevnes to endringer som ikke framkommer av programmet: Ágota Fóris ble syk kort tid før arrangementet og måtte melde avbud. Hennes bidrag (i seksjon 3) er likevel tatt inn i rapporten. John Humbley (i seksjon 4) ble på kort varsel forhindret fra å delta. Han ble erstattet av Marita Kristiansen. Det er ikke noe bidrag fra Humbley i rapporten.

Dagen før selve toppmøtet ble det holdt et halvdags internasjonalt arbeidsseminar om nasjonale termbanker, *Termintra*. Det deltok ca. 40 personer i dette arrangementet. I løpet av toppmøtets to dager ble det også presentert i alt åtte plakater ("postere"). På toppmøtets siste dag ble tradisjonen tro de to internasjonale terminologiprisene delt ut, henholdsvis *Den internasjonale prisen for fremragende prestasjoner innenfor teoretisk eller grunnleggende forskning på terminologifeltet* og *Den internasjonale prisen for anvendt terminologiforskning og terminologiutvikling*. Den førstnevnte ble denne gang gitt til to kandidater (Bhreathnach og Seghezzi). De tre prisvinnerne holdt deretter sine vinnerforedrag.

I denne rapporten finner man også programmet for og en oppsummering av *Termintra*, de åtte plakatene som ble presentert, og de tre foredragene som prisvinnerne ga.

Jeg vil takke DGLFLF (La délégation générale à la langue française et aux langues de France) og TermNet for deres økonomiske støtte til henholdsvis tolkning og de internasjonale terminologiprisene. Også Henrik Nilsson fra det svenske Terminologicentrum TNC fortjener stor takk for å ha hatt det overordnede ansvaret for å planlegge og gjennomføre *Termintra*. Jeg vil dessuten takke EAFT-sekretariatet hos Termcat for deres hjelp i planleggingen og den praktiske gjennomføringen av arrangementet. Til slutt vil jeg takke alle foredragsholderne, øvrige bidragsytere og deltakere for at de bidro til at det sjette terminologitoppmøtet ble en givende og hyggelig opplevelse!

Jan Hoel
Oslo, 15. oktober 2013
President for EAFT

The sixth European and international terminology Summit was organized in Oslo mid October 2012 by The language Council of Norway (Språkrådet) in cooperation with The European Association for Terminology (EAFT). There were approximately 70 registered participants from various parts of Europe during the two days the Summit lasted. English and French were conference languages and there was interpretation between those two languages. There was also a social programme which included a reception and guided tour in Oslo Town Hall and a banquet dinner in the evening of the first day.

The main topic of the Summit was *Terminology – responsibility and awareness*. This topic was divided into four subtopics that were treated in respective programme sections.

The Summit took place at Soria Moria hotel and conference centre located in the Holmenkollen hill on the outskirts of Oslo. The event was opened by the director general of the Språkrådet, Mr. Arnfinn Muruvik Vonen. Mr. Jan Hoel, president of EAFT, then wished the participants welcome. The academic programme began by a keynote speech delivered by Anna-Lena Bucher of the Swedish Terminologicentrum TNC. Subsequently the section talks were given, in two sections each of the two days. Each section was summed up in and closed by a panel discussion in which the speakers of that section contributed.

There are further details on the speakers and the programme in the appendices. Mention must, however, be made of two changes which are not reflected in the programme: Ágota Fóris was taken ill shortly before the event and had to report her absence. Her contribution (in section 4) is, nevertheless, included in this report. John Humbley (in section 4) was prevented from participating at short notice. He was replaced by Marita Kristiansen. There is no contribution from Mr. Humbley in this report.

The day before the Summit itself a half-day international workshop was organized on national termbanks, *Termintra*. Approximately 40 persons took part in this event. During the two Summit days there were also presented eight posters altogether. On the last day of the Summit, according to tradition, the two international terminology awards were given, respectively *The International Award for Outstanding Achievement in Theoretical or Fundamental Research in the Field of Terminology* and *The International Award for Applied Terminology Research and Development*. The former was this time given to two candidates (Bhreathnach and Seghezzi). The three award winners then gave their winner's talk.

In this report are also to be found the programme and the summary of *Termintra*, the eight posters which were presented, and the three talks given by the award winners.

I would like to thank the DGLFLF (La délégation générale à la langue française et aux langues de France) and TermNet for their financial support to interpretation and the international terminology awards respectively. Also Henrik Nilsson of the Swedish Terminologicentrum TNC deserves to be thanked for having had the overall responsibility for planning and carrying out *Termintra*. Furthermore, I would like to thank the EAFT Secretariat at Termcat's for their help in the planning and practical execution of the event. Finally, I would like to express my gratitude to all the speakers, other contributors and participants for making the sixth terminology Summit such a worthwhile and pleasant experience!

Jan Hoel
Oslo, October 15th 2013
President of EAFT

Le VIe Sommet européen et international de Terminologie a été organisé à Oslo, à la mi-octobre 2012, par le Conseil norvégien de la langue (Språkrådet) en collaboration avec l'Association européenne de terminologie (AET). Ces deux journées ont rassemblé environ soixante-dix participants issus des quatre coins de l'Europe. Ceux-ci ont pu bénéficier d'une interprétation entre les deux langues officielles du Sommet, l'anglais et le français. Un programme social incluant une réception et une visite guidée de l'hôtel de ville d'Oslo ainsi qu'un dîner de gala leur ont également été proposés.

Le thème principal du Sommet « Terminologie – responsabilité et sensibilisation » était divisé en quatre sous-thèmes traités en différentes sections.

Le Sommet s'est déroulé à l'hôtel et centre de conférences Soria Mora situé à Holmenkollen dans les environs d'Oslo. Après l'ouverture assurée par le directeur général du Språkrådet, M. Arnfinn Muruvik Vonen et les mots de bienvenue de M. Jan Hoel, président de l'AET, le programme académique a débuté par une conférence plénière d'Anna-Lena Bucher du centre suédois de terminologie TNC. Les interventions se sont ensuite déroulées en quatre sections consécutives, à raison de deux sous-thèmes par jour. Chaque section s'est clôturée par une table ronde rassemblant les différents intervenants.

De plus amples détails sur les orateurs et le programme figurent dans les annexes. Mention doit cependant être faite de deux modifications qui ne sont pas reprises dans le programme : Ágota Fóris n'a pu se rendre à Oslo suite à un problème de santé inopiné. Sa contribution (en section 3) est néanmoins reprise dans cet ouvrage. John Humbley (en section 4), ayant dû pour sa part renoncer à sa participation quelques jours avant le Sommet, a été remplacé par Marita Kristiansen. Il n'y a donc pas de contribution de John Humbley.

La veille du Sommet, un atelier international d'une demi-journée *Termintra*, auquel ont pris part une quarantaine de personnes, a été consacré aux banques nationales de terminologie. Huit posters ont également été présentés dans le cadre du Sommet. Le dernier jour, suivant la tradition, s'est déroulée la proclamation des deux prix internationaux de terminologie, *le Prix international récompensant une contribution remarquable dans le domaine de la recherche théorique ou fondamentale en terminologie* et *le Prix international de recherche appliquée et de développement en terminologie*. Le premier d'entre eux a cette fois été décerné à deux candidates (Mmes Bhreathnach et Seghezzi). Les trois candidates primées ont ensuite effectué une brève présentation de leur travail.

Outre les interventions des orateurs, cet ouvrage présente également le programme et le résumé de *Termintra*, les huit posters ainsi que les exposés des trois lauréates.

Que soient ici remerciés la DGLFLF (La délégation générale à la langue française et aux langues de France) et TermNet pour leur soutien financier, respectivement, à l'interprétation et aux Prix de terminologie. Mes remerciements s'adressent également à Henrik Nilsson, du centre suédois de terminologie TNC, pour avoir pris en charge l'ensemble de la réalisation de *Termintra*. Toute ma reconnaissance va aussi au Secrétariat de l'AET, au sein de Termcat, pour son aide dans l'organisation et la mise sur pied de cet événement. Je voudrais, enfin, exprimer ma gratitude à tous les intervenants, autres contributeurs et participants pour avoir fait de ce VIe Sommet de terminologie une expérience aussi agréable qu'intéressante.

Jan Hoel
Oslo, le 15 octobre 2013
Président de l'AET

Åpning / Opening / Ouverture

ARNFINN MURUVIK VONEN
DIRECTOR GENERAL OF THE LANGUAGE COUNCIL OF NORWAY

Kjære kolleger, dear colleagues, chers collègues!

It is an honour for me to welcome you, on behalf of the Language Council of Norway, to Oslo and the Sixth European and International Terminology Summit. The summit is being organized jointly by the Language Council of Norway and the European Association for Terminology (EAFT).

I would like to take this opportunity to say a few words about the Language Council of Norway. We are an agency within the Norwegian government administration, and we report to the Ministry of Culture. Our responsibility is to be the consultative body of the Norwegian government on language issues and to contribute to the fulfilment of our official national language policy. This policy was formulated in a government report to the Storting (the Norwegian parliament) in 2008 and endorsed by the parliament in 2009. In accordance with this policy, it is our overall goal that the Norwegian language is to be used everywhere in society, even in the future, and not be superseded by English. The Language Council of Norway was established in 2005 to replace an earlier institution, the Norwegian Language Council, which was a representative body made up by a set number of appointed members of institutions and organisations.

As I am sure many of you know, there are two equally official written norms of Norwegian, Bokmål and Nynorsk, of which Nynorsk is considerably less used. Part of our job is to oversee that government agencies follow the regulations about the use of each of these norms in their textual production, and to help them develop better skills in Nynorsk when necessary. We also administer the norms themselves. The last spelling reforms in 2005 (for Bokmål) and 2012 (for Nynorsk) were prepared by the Language Council and then decided on by the Ministry of Culture.

Our work as a consultative body takes various forms. For example, we have a toponym service that gives advice to those offices that decide on the writing of place-names in Norwegian and in Kven, one of our national minority languages. We also facilitate work for developing Norwegian language versions of digital products and more generally for promoting the use of the Norwegian language. An important part of our responsibility is to give more general advice to government agencies as well as the general public on issues of language – correctness, style, etymology and much more. This is done by answering phone calls, e-mail messages and tweets, by organising courses, and by offering rich information on our website. We also aim to heighten the language awareness in the population by organizing conferences and seminars, by awarding prizes to good writers and diplomas to well-named enterprises, by running a Facebook page, by participating in public debate on language, and in other ways.

Even though the Norwegian language is the focus of most of our attention, we have also recently included Norwegian Sign Language in our portfolio, and we also pay attention to our national minority languages Kven, Romani (or Scando-Romani) and Romanes (the language of the Roma), as well as the numerous recent immigrant languages. We have contacts with the Sámi Parliament (Sametinget) concerning the indigenous Sámi languages.

Given the broad field of work I have described to you, it is only natural that the portfolio of the Language Council of Norway also includes terminology work. Our terminology service coordinates the development and publication of Norwegian terminology and promotes the use of Norwegian (rather than English) for specific purposes.

It is with pride and humility that we take the role of host and co-organiser of the present event, and we all look forward to learning about, and to discussing, the work that is being done internationally in this field. I wish you all a successful terminology summit!

Velkomsthilsen / Welcome greeting / Message de bienvenue

JAN HOEL
PRESIDENT OF THE EUROPEAN ASSOCIATION FOR TERMINOLOGY (EAFT)

Dear colleagues! As president of the board of EAFT, I am pleased and honoured to welcome you to this summit on behalf of the association. We terminologists make up a small, but important family, therefore it is gratifying to see that so many of you have chosen to be here for the next two days.

EAFT was founded on 3rd October 1996, in Kolding, Denmark, 16 years ago. The first Summit was held in Brussels in 2002. Since then a summit has been organized every two years. It was about time a summit was organized in a Nordic country – so here we are!

The EAFT is a non-profit member organization which aims to bring together any person or organisation with an interest in terminology. One of its main goals is to further plurilingualism through terminology. Another is to provide a European platform for promoting and professionalizing terminological activities and improving awareness of them. Furthermore, EAFT has as a goal to liaise and cooperate actively with other relevant organisations, associations and institutions at all levels.

The overall topic of this summit is "Responsibility and awareness", which should be well in line with EAFT's mission.

I think it is fair to claim that the plurilingual aspect is present both in the audience and in the talks on the programme, although for practical reasons only English and French are conference languages these two days. There will be interpretation between them. There are two interpreters. They both interprete both ways between those two languages.

Let me also present to you my two close colleagues at Språkrådet: Marianne and Ole. If you have any queries or need help in anything, please do not hesitate to ask one of us three.

In your conference folder you find everything you need for the academic programme. There is also a leaflet giving you some facts about Språkrådet and its terminology work.

This afternoon and evening, there is, as you know, also a social programme. We are invited to a reception in Oslo City Hall at 16:30 o'clock. You are all welcome, even those of you who are not returning afterwards to take part in the banquet dinner here at Soria Moria.

I now leave the floor to my namesake Jan Roukens, who will be moderating the keynote speech and the subsequent first section of the programme.

Down to earth, but up to whom?
Terminology, awareness and responsibility

ANNA-LENA BUCHER, MANAGING DIRECTOR
SWEDISH CENTRE FOR TERMINOLOGY TNC

Awareness

Awareness is a concept that can be defined in many ways, depending on perspective and subject field. Important characteristics that are common to many definitions are: the ability to perceive, and to be conscious of events or objects, or having knowledge, understanding, appreciation or recognition of something.

Terminological awareness can manifest itself at different levels:
- recognition of the importance of effective communication within a profession (i.e. between experts) can, with a bit of good will, be seen as the most general level.
- appreciation that terminology work contributes to the effective communication within a profession constitutes the next, second, level.
- The third level of awareness could perhaps be described as knowledge of the principles and methods of terminology work, e.g. the distinction between general language and LSP, between a term and a concept etc.

Terminological awareness is just the first, even though very important, step towards what is essential for achieving effective communication – that of taking terminological responsibility within a domain.

Taking terminological responsibility can of course also be seen as the result of abiding the laws or following the regulations. However, without awareness of why things have to be done, there will most probably not be any good results.

For me, terminological responsibility is needs-driven. Demands for terminology work and terminology management must come from those who note the problems that not using a clear-cut and agreed upon terminology cause. Statistics, for example, is of no interest if different groups measure and compare different units.

Terminology work should only be performed in situations where it is needed, where it solves an actual, real problem that is being noted or has occurred in spoken or written discourse.

When discussing a terminological responsibility, the following questions are important to consider:

- Who can or should take the terminological responsibility?
- Who is the beneficiary of subsequent terminology work?

For obvious reasons, many of the examples that I now show are Swedish, but I will start with one that is of relevance for all EU member states.

The long history of defining the concept ‘waste’

The UN Conference on Human Environment in Stockholm in 1972 marked the beginning of detailed discussions of several issues connected with the environment, and thus also with the question of waste. The proposals for technical solutions to waste problems made it necessary to define the concept of ‘waste’ and other related concepts.

A couple of years later, an initiative was taken in Sweden to make a glossary of waste management, and TNC was engaged in this work. This is the glossary’s definition of ‘waste’:

waste

discarded residue to be disposed of and for which reason it is considered of no value
Note: Waste can be divided on the basis of its origin into ‘natural waste’, ‘industrial waste’, ‘consumer waste’ and ‘waste from a cleaning process’.

To understand this definition you have to know the concept of ‘residue’:

residue

material left over in a process or consumption
Note: In any material flow system residues occur, perhaps as spillage from production or as faulty products. With regard to utility, residues can be subdivided into ‘salvage’ and ‘waste’. Residues which cannot be assigned any value at all are classified as ‘pollutants’.

In February 1997, twenty years later, the European Council confirmed that waste prevention should be the first priority of waste management, and that re-use and material recycling should be preferred to energy recovery from waste. The approach, with re-use and recycling in focus, pointed at a new aspect of ‘waste’, a slight contradiction to the definition above which says that waste has no value.

In directive 2006/12/EC (of the European Parliament and of the Council of 5 April 2006 on waste, the legislative framework for the handling of waste in the Community was established. It defines key concepts such as ‘waste’,

'recovery' and 'disposal', and puts in place the essential requirements for waste management. The directive's definition of 'waste' reads:
'waste' shall mean any substance or object in the categories set out in Annex I which the holder discards or intends, or is required to, discard

Annex I Categories of Waste

Q1 Production or consumption residues not otherwise specified below
Q2 Off-specification products
Q3 Products whose date for appropriate use has expired
Q4 Materials spilled, lost or having undergone other mishap, including any materials, equipment, etc., contaminated as a result of the mishap
Q5 Materials contaminated or soiled as a result of planned actions (e.g. residues from cleaning operations, packing materials, containers, etc.)
Q6 Unusable parts (e.g. reject batteries, exhausted catalysts, etc.)
Q7 Substances which no longer perform satisfactorily (e.g. contaminated acids, contaminated solvents, exhausted tempering salts, etc.)
Q8 Residues of industrial processes (e.g. slags, still bottoms, etc.)
Q9 Residues from pollution abatement processes (e.g. scrubber sludges, baghouse dusts, spent filters, etc.)
Q10 Machining/finishing residues (e.g. lathe turnings, mill scales, etc.)
Q11 Residues from raw materials extraction and processing (e.g. mining residues, oil field slops, etc.)
Q12 Adulterated materials (e.g. oils contaminated with PCBs, etc.)
Q13 Any materials, substances or products where the use of which has been banned by law
Q14 Products for which the holder has no further use (e.g. agricultural, household, office, commercial and shop discards, etc.)
Q15 Contaminated materials, substances or products resulting from remedial action with respect to land
Q16 Any materials, substances or products which are not contained in the abovementioned categories)

A couple of years later, the directive from 2006 was revised, to clarify the difference between 'waste' and 'non-waste'. The new directive (2008/98/EC) defines 'waste' as:

"any substance or object which the holder discards or intends or is required to discard"

The definition is almost the same as in the old version, only the reference to the annex is removed which makes it a much better definition formally – but that is not my point. What is the problem?

The problem is that the definition is too broad and therefore does not allow distinguishing between 'waste' and 'non-waste': it is difficult to figure out what 'non-waste' could be – because almost everything can be considered 'waste' according to this definition. If I discard a jacket or a dress from my wardrobe and give it to a second-hand store, it becomes waste.

On the Swedish Environmental Protection Agency's web site it is said that preventing an increase in the amount of 'waste' is one of our time's greatest challenges. The Swedish Environmental Protection Agency will ensure that the waste disposal is environmentally acceptable. The Agency is also obliged to compile and report waste statistics to the EU every two years. Can one be sure that statistic data really concern the same thing?

On the Swedish Environmental Protection Agency's web site, it is also said that it is difficult to decide whether a 'residue' is to be considered as 'waste', a 'product' or a 'by-product'. To distinguish these three concepts from one another, the EU commission has developed guidelines for what should be regarded as 'waste' or a 'by-product'. The guidelines are based on the judgments by the European Court of Justice concerning the concept of 'waste' These guidelines, however, do not bring up the question of when 'waste' stops being 'waste' (end of waste).

This long example shows that a working definition of 'waste' has been sought for many years. Terminological responsibility was taken, but the subsequent process of terminology work has not yet led to a clear-cut solution. The problem is still not solved.

Nevertheless, and in spite of my misgivings above, I believe that concepts with incomplete or unclear definitions are still better than undefined concepts because, at least then, any deficiencies in the definitions are visualized. Undefined concepts could give the impression of being "unproblematic", i.e., that they do not need being defined or that there is tacit consensus about the concept. In reality, undefined concepts open up for various interpretations.

Key concepts within an organization

The sphere of action in an organization or a company usually centers around a small number of key concepts, and these are often especially difficult to define in an appropriate way. We at TNC, the Swedish Centre for terminology, have come across such cases many times. Here are some examples:

Integration

Some years ago (1998–2007), Sweden had a government agency for integration. TNC was informed that they did not have a properly formulated definition of the concept 'integration', and that there was no full consensus among the employees on what 'integration' actually involved. A few years later, the authority was reorganized. Today the corresponding authority is called the Swedish Migration Board. We do not know whether the new name was chosen because integration was a "difficult" concept, but the fact is that migration seems easier to agree upon – and it is also less controversial.

However, I recently found a description of 'integration' in a booklet from 2011 published by the Ministry of Employment, and that is probably the official view on 'integration' for the time being:

> "Integration is a mutual process in the sense that everyone, despite background, is involved and responsible. In a society with ethnic and cultural diversity people should be complementary to one another and mutually contribute with competence, experience in order to release and make use of the diversity".

Plain language

Recently, TNC was asked to help defining the concept 'plain language'. The initiative came from Ess, a non-profit professional association of Swedish language consultants. Its members are experts in Swedish with particular focus on clarity and the use of plain language. Many of them work in government agencies. Plain language activities in the Swedish public sector started in the 1970's and the work has been very successful. Now, after nearly 40 years of work, the language consultants feel a need to agree on a definition of the concept 'plain language'. TNC took part in a number of seminars on this issue. It proved difficult to reach an agreement on what the nearest superordinate concept should be: 'genre', 'linguistic variety', 'language form', 'style'? On the seminars, it was also debated whether 'plain language' always refers to written texts or also to spoken language? And is 'plain language' only to be considered in connection with official texts? A definition will be sent out as a draft in January 2013 and the goal is to have a definition that the professionals all agree upon during 2013[1].

The idea of defining the concept of 'plain language' is an example of honesty, awareness and terminological responsibility on the part of Swedish language consultants. Maybe the plain language work in Sweden would not have been any different if they had defined it earlier. But now the language consultants need a definition for developing and describing their professional role, for marketing their services and for exporting Swedish plain language experiences to other countries. In doing all this a definition helps.

Book

Another example of defining key concepts comes from the Swedish National Library where terminological problems started three years ago when:

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1 A definition was decided upon in spring 2013. It was published in Rikstermbanken, www.rikstermbanken.se. Use "klarspråk" as search term.

1. The libraries (an old and well established type of activity), were facing a revolutionary technology shift.
2. The National Library was merged with the National Archive of Recorded Sound and Moving Images.
3. The National Library got a larger and more comprehensive assignment due to the adoption of new laws.

TNC was asked to help a newly established working group within the library to define a number of very central concepts, which had to be revised due to the above developments. The most problematic concept to define proved to be ... 'book'! After a year's work on about 30 concepts (of which *book* was one) the working group came to the conclusion that 'book' should not be defined – with the following motivation:

> "The concept 'book' is ambiguous. Therefore, within The National Library it is recommended not to use the term *book* when precision is necessary"

It was further decided to use the term *work* when referring to some intellectual and/or artistic creation regardless of its medium; the term *volume* when referring to a physical medium and the term *printed monographic text document* for e.g. a printed novel.

It was also stated clearly that now, with monographic documents published in electronic form, a need to distinguish between the "normal" printed document and the electronic one emerges.

But, of course, most everyone at the National Library still uses the word *book* in everyday talk (as does everyone else).

Terminology work: part of an organization's core business

TNC's experiences show that in every, yes every, organization or company there are many different views on what the concepts behind the central, very frequently used, terms are. This causes all kinds of communication problems. Coming to a consensus on the key concepts and their definitions, can very well be claimed to belong to an organization's core business. It is also appropriate to ask what impact a clear and established terminology has on the working environment – or rather, what impact an unclear and undefined terminology has.

Some of the current key concepts for the Swedish society at large are: 'innovation', 'open data', 'cybercrime', and 'information security'. Currently, many activities seem to center around these concepts and many parties are involved. They have to communicate with each other as effectively as possible. It is highly relevant to provide everyone that has to work within these spheres of activity, with a clear-cut definition of the key concept or concepts.

National terminological responsibility in higher education

Many science and technology subjects are nowadays taught in English in institutions of higher education in a considerable number of European countries. Many textbooks are also in English. This means that the student gets acquainted with domain terminology in English. It is often proclaimed that students shall, at the time of graduation, master the respective domain's terminology. But – should Swedish students only get domain specific terminology in English? Is it not reasonable to demand that they also get acquainted with the Swedish terminology?

Sometimes we hear, as an excuse, that there is a lack of Swedish terms in some science and engineering domains, and that therefore there are no Swedish terms to "offer". Should we live with this or should we try to go on trying to create appropriate Swedish terms for all the domain concepts? Do students have a responsibility of learning Swedish terms after graduation? Or who is to take this responsibility?

Actually, as early as in high school, students need to be prepared for further studies by being made aware of differences between special languages and the general language.This would prepare them well for higher education, and they would then be able to better handle terminology in a proper way, both during lectures and in their own written production.

What can contribute to a greater terminological responsibility in society?

I have tried to exemplify what terminological responsibility may involve and when and where it is appropriate to talk of taking this responsibility. I would like to conclude by pointing out some things that can be done to promote a greater terminological responsibility in the society at large. Again, for obvious reasons the focus will be on examples from Sweden.

A Language Act?

In 2009, a Language Act [Språklag] was passed in the Swedish Parliament establishing the official status of the Swedish language and of the Swedish minority languages in Sweden. There is also a special section in the Language Act which addresses the issue of terminology and which reads:

> "Government agencies have a special responsibility for ensuring that Swedish terminology in their various areas of expertise is accessible, and that it is used and developed." [Språklag, SFS 2009:600, the official translation into English].

This is "terminological responsibility" clearly formulated in a legal document. For us at TNC, the passing of the Language Act was a sign of a new promising phase in the development of a national terminology infra-structure in Sweden. To support government agencies in managing their terminology according to the Language Act, TNC has developed guidelines and working models for them.

Now the Act has been in existence for three years and no substantial increase in terminology work in Sweden's numerous government agencies has been observed, although some initiatives have been taken. Quite a few individuals show an interest and understanding of why this is important – mostly employees in the communication and information departments but also from more domain specific departments. However, often these individuals have not been able to persuade the management or not even their nearest manager about its importance. We have also received indications that many agencies do not understand the meaning of the terminology section cited above, they do not fully understand what "their terminology" is and what it means to make it "accessible", to see to that it is "used" and "developed" – which may be interpreted as lack of terminological awareness. However, we believe that the impact of the Act will show in the long run. It is, after all, a call for the public sector to take a terminological responsibility. As a national centre for terminology and special languages and supported by a governmental grant TNC has raising government agencies' terminological awareness as one of its tasks, and the existence of the Act certainly supports us in our tasks.

A management system for terminology?

As a follow-up of the Language Act and as a way to get the industry more interested in terminology work, we at TNC have recently put forward the idea that a standard for management systems for terminology work should be developed (not to confuse with a terminology management system (TMS), which is a software for storing and handling terms and definitions).

Management systems standards already exist for e.g. working environment (OHAS 18001), information security (ISO/IEC 17799, ISO/IEC 27001), food safety (ISO 22000), and environmental management (ISO 14000 series). Especially well known are the management systems for quality (ISO 9000 series).

Generally, it is said about all these management systems that they:

> "make it possible for an organization to introduce a policy and to set goals for its xx-work. Management systems also make it possible for an organization to introduce processes [...] and to make adjustments [...] to be able to show that the organization lives up to the standard's demands." (Based on SIS-OHSAS 18001.)

A management standard for terminology work could alert organizations of the importance of terminology work, and it serves as a best practice guide.

TNC has presented the idea of a standard for management systems for terminology to SIS – the Swedish Standards Institute. It was received there with some interest. However, the question of including the terminology section into existing management system standards, e.g. for quality (ISO 9000), was raised as an alternative solution to a separate standard. We do not object to this, it would be most relevant since quality in documentation can hardly be achieved without a consistent use of terminology.

A national terminological repository – a term bank?

The basic functions of a term bank are collection, storage and distribution of terms. But one can also stress the importance of a term bank for the marketing of terminology work as a whole, as the nucleus of a system of distribution, publication and knowledge transfer, and as a way of marketing small and very specific terminologies to various target groups.

These general ideas about a term bank are also true for the purpose of a national term bank; it can be used in many different ways depending on various target groups. A national term bank is definitely a tool for many purposes, and also an awareness-raising tool. Through its existence, it can also help authorities realize the terminology section in the Language Act and thereby constitute a means of taking terminological responsibility.

Conclusion

I have shown examples concerning *public* responsibility, *institutional* responsibility, *professional* responsibility and last, but not least, I would like to say that the success of terminology work of course is dependent on the existence of well trained and experienced terminologists.

The role of a terminologist is to contribute to a better professional communication. To be able to do this, a terminologist must have respect for the established usage; a terminologist must never have the attitude "I know more about language than you" when participating in a working group together with experts within the subject field in question. A terminologist must make sure that linguistic expressions and terms are not used in a manipulative way. It would, for example, not be appropriate if a terminologist would accept to change the denomination *apple* for 'apples' to *pear* because *pears* are easier to sell. Co-operation with experts is a must which we all agree on. In this co-operation the task of a terminologist is to listen, to give guidance and to give suggestions. A terminologist has to be able to deal with psychological tensions and to solve all sorts of conceptual problems. The basis for facing all these challenges is to keep the three "worlds" apart:

1. The linguistic world with all its linguistic expressions.
2. The cognitive world, in which the concepts exist – and which provides the "building material" for definitions.
3. The real world where everything which we have knowledge of and want to communicate about, exists.

Terminological responsibility should be taken (and terminologists' competence used):

- When something is prescribed, decided or agreed upon (laws, regulations, standards, contracts, instructions).
- When something is measured, compared or followed up (statistics, estimates, economic analysis).
- When handling large amounts of data (data management).
- In managing a business.
- In coordination and co-operation between different parties (e.g. in e-government, disaster preparedness).
- In knowledge transfer (training, teaching, research).

The very visionary profits that society, the citizens, professionals et al. gain from accurate terminology work and, above all, from clear-cut definitions are:

- No more interpretation disputes.
- No more guessing. You should never have to <u>guess</u> what is meant by certain terms in contexts where unambiguity and preciseness are of great importance or necessary.

Sources

Avfall [Waste]. In: Naturvårdsverket [Swedish Environmental Protection Agency] [web site]. Taken from http://www.naturvardsverket.se/Start/Produkter-och-avfall/Avfall/ (7 december 2012).

Directive 2006/12/EC of the European parliament and of the Council of 5 April 2006 on waste. *Official Journal of the European Union*, 27.4.2006, L 114/9-114/21.

Directive 2008/98/EC of the European parliament and of the Council of 19 November 2008 on waste and repealing certain Directives. *Official Journal of the European Union*, 22.11.2008, L 312/3-312/28.

Fickfakta 2010: statistik om integration (2011). 2. ed. Stockholm: Arbetsmarknadsdepartementet. Taken from http://www.regeringen.se/content/1/c6/15/93/72/c453d413.pdf (7 december 2012).

Glossary of waste management (1977). Stockholm: Tekniska nomenklaturcentralen. (TNC 62). ISBN: 91-7196-062-7.

Klarspråk (term record) (2013). *Rikstermbanken*. Taken from http: //www.rikstermbanken.se (30 January 2014).

Language Act [Språklag] (2009). Stockholm: Ministry of culture. (SFS 2009:600).

Building a Croatian National Termbank: Can a single solution fulfil all our responsibilities?

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Introduction

When one discusses the responsibilities of terminologists and public awareness of their terminological and terminographic work, one must often bring in considerations outside the realm of valid terminology theory and good practice.

Dilemmas arising in work on the Croatian Termbank *Struna* are an illustrative case. The responsibility of *Struna* terminologists as well as the Croatian public's awareness of the importance of terminology work depend very much on wider political and ideological circumstances, specifically the country's rather long history of linguistic oppression and its lack of continuity in the process of terminology standardization.

What can the lay and professional public expect of us, in the present context where a well articulated language policy – and, consequently, terminology policy and planning – is still to a great extent missing? Instead of a clear policy, we find either ideologically biased criteria not based on professional authority and expertise, or a tendency towards exaggerated tolerance for terminological chaos, either as a result of a prolonged absence of terminological culture or sometimes simply as a reaction to overzealous attempts at codification.

The particular dilemmas we face mainly arise from the principle of giving preference to native-language elements in term creation and standardization. Although in keeping with long-established Croatian normativist practice, preference for native elements can cause disagreements between the domain experts, on the one hand, and the Croatian language experts in charge of authorizing the preferred usage, on the other. Such disagreements most often arise where the terminology of a particular domain has its own traditions, such as the use of "classicisms" (internationalisms derived from Greek and Latin forms). Classicisms are often perceived today – justifiably or not – as loan words taken over from modern languages, nowadays most commonly English.

Dealing with such a situation requires of us not only linguistic sensitiveness but a high degree of socio-cultural awareness. Terminographic expertise alone does not guarantee that the terminologist can successfully display the necessary degree of responsibility towards the disciplines and practitioners that will use the terms. It is not our intention here to analyze the general arguments for native vs. international lexeme preference in terminology, because these are well known to most terminologists and most terminological approaches, but to shed some light on the specific sociolinguistic and historical background of the standard Croatian language which makes such choices relevant and therefore also part of the wider responsibility of terminologists and terminographers.

In sum, the context in which the Croatian language finds itself, twenty years after Croatia's political independence and on the eve of becoming one of the official EU languages, imposes upon terminological work an enhanced concern for the linguistic tradition(s) of Croatian and its often traumatic history as well as for its future in the conglomerate of European languages. The sociolinguistic circumstances discussed here are in many ways typical of many other less widely used languages, though we will not try to draw explicit parallels.

Croatian special field terminology

During the two decades of Croatia's independence and its struggle for political, linguistic and cultural recognition in the world, language issues have been raised and discussed in various contexts and on various levels – not only by linguists but by politicians and laymen alike. However, terminology for a long time remained out of the focus even of the rather narrow community of linguists. Various more or less coherent endeavours towards articulating a Croatian language policy left questions of terminology planning very much aside. Terminological activities thus took place in a rather isolated and fragmented manner. Even the very important task of creating and harmonizing the terminology required for translating the EU legislation as a prerequisite for Croatia's accession has not always received adequate public and governmental recognition in terms of necessary coordination and support.

In 2007, as the first step in Croatian terminology planning, the Croatian Standard Language Council initiated the project *Development of Croatian Special Field Terminology* (referred to here by its Croatian acronym *Struna).* The program is financed by the Croatian Science Foundation, and is being carried out at the Institute of Croatian Language and Linguistics, which was chosen to serve as the national coordinating body. The aim of the program is to create the basis for standardizing Croatian terminology across various professional domains through a coordination between domain experts, on the one hand, and terminologists and language experts, on the other. The termbase currently contains eighteen domains and around 40 000 Croatian terms with their equivalents in English and several other languages.

Intended to serve as a tool for implementing national term planning in the process of terminology (re)standardization, *Struna* faces, on the one hand, a broad range of often conflicting expectations in regard to terminology corpus planning, and, on the other, a rather strong, albeit vastly exaggerated, perception in lay circles of a certain instability of the language's orthographic and to some extent even morphological norm.

Struna is therefore a typical case of a terminology database established at an institutional level with the ambition of becoming recognized and widely accepted at national level.

Historical context

Croatian since its beginnings has been in contact with other languages. Given the political fragmentation of Croatian territory, different parts of Croatia were influenced by different other languages. Latin, and through Latin also Greek, have always been important. Thus the oldest documents are written in Latin, though they contain Croatian names. Unusually for Europe, Latin was maintained as the language of administration, education, culture, and scholarship in regions under Hungarian rule until 1847. The use of Latin was supported by Croatian politicians in order to oppose the idea presented in the Hungarian Parliament in 1790 that official records be written in Hungarian. It was generally felt that the Croatian language was in lesser danger from a dead language than a living one. The Croatians and the Hungarians shared their rulers from 1102 to 1918[1], but, interestingly, borrowed fewer words from each other than one might have expected. The strong and long-lasting influence of Italian on the east coast of the Adriatic is reflected today in many regional dialects. From 1850 to 1860, the "absolutism" policy of Interior Minister Bach in Austria led to German being introduced in areas ruled from Vienna, but even then work on cultivating Croatian did not cease. Most loanwords from German referred to items of industrial civilization. After the fall of Bach's absolutism, Croatian was introduced as an official language at lower governmental levels, and after the Croatian-Hungarian Agreement of 1868 it was brought in as the official language throughout Croatian territory. In the Croatian and Slavonian Military Frontier bordering on Bosnia (i.e. on the Turkish Empire), the language of command continued to be German until 1881. The influence of Turkish (and of the Arabic and Persian languages via Turkish) spread mostly by way of the Turkish army and administration, and quite a number of general language lexemes found their way into the standard language. Many French loan words borrowed in more recent history are today considered Europeanisms. Russianisms in the Croatian language belong to the sphere of cultural borrowing and Sovietisms.

Since Croatian had not previously been used as an official language, Croatian

1 Croats and Hungarians were in a personal union from 1102 till 1527 when they became part of the Habsburg Monarchy, and from 1867 to 1918 Croatia was part of the Austro-Hungarian Monarchy.

terminology – particularly legal, political, and economic terminology – had not had the chance to develop, and so the need for Croatian terminology for a number of domains arose. The major figure in the creation of Croatian scientific terminology at the time was a Slovak-born linguist Bogoslav Šulek (1816-1895). His guiding principle was that "the dictionary should avoid extremes, especially excessive purism and unnecessary classicism" (Gostl 1995: 91-82). Šulek followed this advice with great expertise, relying on the terminological maxim of "preference for native language (except in domains or languages where other traditions exist)". He drew on the older layers of the Croatian language and on Croatian dialects (the Croatian standard has a three-dialectal basis, see section 4). If he still could not find a suitable term, Šulek would turn to internationalisms (particularly Latin and Greek), and then to calquing (from German, Italian, or French) or adapting a foreign term if the calque was unsatisfactory. In many cases, however, he created his own terms often following word-formation principles of related Slavic languages (Slovak, Slovene and Czech). Many of his neologisms still prevail in Croatian. The label of purism that has often been applied to Šulek since then is therefore not justified but has nevertheless been used to indiscriminately stigmatize Croatian language practice as a whole.

Antun Parčić (1832-1902) in Coastal Croatia played a rule similar to that of Šulek in Continental Croatia.

Croatian in the 20th century

Croatia passed through five political structures and five larger communities in the 20th century, beginning with Austria-Hungary up through the First World War. Political circumstances in the next, Yugoslav period favored convergence of the Croatian and Serbian languages, which in turn led to a prolonged period of terminology neglect within Croatia. In particular, after the establishment of the Kingdom of Serbs, Croats and Slovenes in 1921, later known as Yugoslavia, a nonexistent language called Serbo-Croatian-Slovene was pronounced the official language. A period of rigid centralization followed. The new constitution excluded Croatian and Slovenian terms. News reports were sent out from Belgrade to the rest of the Kingdom, and thus contained many terms unknown to most non-Serbian speakers.

Language policy briefly changed when the totalitarian *Independent State of Croatia* was established (1941-1945). Its strict top-down policy devoted inordinate attention to language, thus confirming the symbolic importance that language has. The extremely purist approach to language of the time, often lacking in professional expertise, was primarily geared towards the reduction of loanwords and their replacement by neologisms or existing Croatian words that had been suppressed in the previous period.

At the end of World War II, the victorious partisan movement cited four languages (Serbian, Croatian, Slovenian, and Macedonian) as separate and equal languages. However the authorities still sought to merge the languages, particularly in terminology, so that many existing Croatian terms were replaced by internationalisms. A symptom of the attempt to bring the language closer to Serbian and create a joint terminology is the *Novi Sad Agreement* (1954) which claimed that Serbian, Croatian, and Montenegrin were one language: "Work will proceed on the establishment of a common (Croatian and Serbian) terminology for all spheres of economic, scholarly, and cultural life". A reaction to the Novi Sad Agreement came in 1967 in the form of the Declaration on the Name and Position of the Croatian Literary Language, signed by many Croatian cultural and scholarly organizations. The Declaration (1997: 25) stressed that the expression "Serbo-Croatian or Croato-Serbian language" was imprecise because it could lead to the two names being considered as synonymous, making it possible to impose Serbian as a single language for Serbs and Croatians. It also emphasized the "inalienable right of every people to name its language with its own name, no matter whether the latter philological phenomenon in the form of separate language variants or even in its entirety belongs to some other people as well". A further Croatian reaction to this "agreement" came in 1971 as the "Croatian spring", which ended in the arrest of many prominent Croatian intellectuals and a period of prolonged political (including linguistic) repression. The language became "Croatian OR Serbian" which had never existed as a linguistic fact.

A constitutional amendment of 1972, which became a part of the Constitution of the Socialist Republic of Croatia within Yugoslavia, stated that the language is Croatian or Serbian, and that each people has the right to use the language that it wishes for official communications.

In 1991 and 1992 Croatia, Slovenia, Bosnia and Herzegovina, and Macedonia became independent countries.

It comes as no surprise that the years following Croatian independence laid the foundation for a language strategy which encouraged conscious attempts at eradicating the effects of the enforced unitarism and can therefore be perceived as planning for difference (mainly from the Serbian language) rather than convergence. This is a process typical of young nation states "feeling obliged to underline their cultural as well as their political distinctiveness" (Wright 2004: 49).

In any multilingual state two extremes have co-existed: language unitarism and language separatism. Mamić (2006: 61) finds that former Yugoslavia was marked by the language unitarism of a multilingual state having highly similar languages (another example is the former Czechoslovakia). In such a situation one language is dominant and efforts are made to impose it at the expense of other languages which are not recognized or are recognized only on paper. The Slovenians and the Macedonians found it easier to win recognition for the separateness of their languages, while Croatian still encounters attempts to question its independence.

Katičić (1986: 92) concludes that "in southeastern Europe, typically yet paradoxically, an unusual phenomenon occurs: 'new languages' have a rich history". One cannot say that the dissolution of Yugoslavia led to an artificial splitting of Serbo-Croatian, since the latter never had existed as a fact of language; rather, it denoted the attempt to create a single language by eliminating differences at the expense of another language. After Croatia became independent in 1991, the new Constitution provided that the official language is Croatian written in Latin script. Peti (2009: 73) explains that Croatian in newly independent Croatia, with its changed social and political circumstances, embarked on a process of restandardization which did not aim at improvement of communication but took place on the symbolic level. Katičić (1999: 301) distinguishes between official terminology, technical and scientific terminology, and vocabulary referring to abstract concepts. Official terminology is changed with changes in government, while technical and scientific terminology is more well-defined and more obligatory than the intellectual vocabulary, though it is not strictly prescribed as official terminology is. In speaking about a standard language, one should distinguish these three sets of terms. Accordingly, restandardization concerns official terminology, whereas the technical and scientific have a continuum of their own. Hence restandardization was necessary particularly in military, legal, and economic terms, which is to say that unnecessary foreignisms needed to be eliminated and connections needed to be reestablished with the Croatian terminological tradition from before unitarism. This most of all concerned military and legal terms since these had been the most exposed to Serbian influence.

Are Croatian and Serbian one language?

Croatian and Serbian developed independently. Numerous differences separate them. The first is the alphabet. Croatians have written in Latin script since the 9th century (written documents in Latin language and script with Croatian names) or since the 14th century when Croatian-language documents appear in Latin script. The oldest texts in Croatian are written in the Glagolitic alphabet; in the Middle Ages, besides Glagolitic, the Cyrillic and Latin scripts were also used. The choice of Latin script resulted from the orientation of Croats toward the Roman Catholic Church. On the other hand, Serbs use Cyrillic and are oriented toward the Eastern Orthodox Church. The idea that the two have a single language grew out of the claim that Croatian and Serbian were standardized as a unitary language by Vuk Stefanović Karadžić (1787-1864), but in fact Croatian began to be standardized much earlier. Its standardization rested on a long and continuous literary tradition. The oldest Croatian writing was in the Church Slavonic language, into which elements of the three Croatian dialects began to penetrate at an early date. Thus one of the Serbian-Croatian differences is that the superstructure of standard Serbian is based on one folk dialect, while that of Croatian rests on a rich literary tradition in three dialects: Štokavski, Čakavski and Kajkavski (Brozović 1976: 14). In regard to Serbian, from the 12th to the 18th centuries

Serbian Slavonic was in use, then beginning with the first half of the 18th century the Russian redaction of Church Slavonic, alongside Slaveno-Serbski which was a mixture of the folk language and Russian Church Slavonic. Finally Vuk Stefanović Karadžić brought Serbian closer to Croatian, using some Croatian reference books.

An important question for linguistics is when two idioms can be considered as different languages. Radoslav Katičić (1986: 55), one of the most eminent Croatian linguists of the older generation, speaks of a model of composite language identity which encompasses genetic identity (languages arising historically from the same source), typological identity (referring to the grammatical systems), and axiological (concerning value judgements) which refers to whether the speaker feels the language to be his own or foreign. The latter has often been ignored because it seemed not sufficiently scientific, yet it is exceptionally important. Similar to Katičić, Matasović (2001: 15-18) cites the criterion of mutual intelligibility, the structural criterion, the criterion of speakers' own identification, the genetic criterion and that of standardization. If we use the standardization criterion, Croatian and Serbian must be regarded as different languages because they have neither shared language reference materials nor common history. (The first grammar of Croatian was printed in 1604 in the Latin language; the first Serbian grammar in 1814.)

Often cited as a key criterion for categorizing Croatian and Serbian as one language is their mutual intelligibility. Two idioms would be considered different languages if their speakers cannot understand each other, but the same language if speakers do understand each other. The problem with this criterion is that it is applied selectively; it could make Norwegian and Swedish, Russian and Ukrainian, Slovak and Czech etc. into single languages, but this is not claimed in practice.

Croatian and Serbian differ in their attitude to purism. Serbian is more open to the influence of foreign languages and to receiving loanwords (see Klajn 2008), while Croatian has a long rejectionist tradition.

We should also mention the views of Snježana Kordić, who is known to Slavists worldwide, and who differs from the views of Croatian linguists. She regards the language(s) of Croatians, Serbs, Bosniacs, and Montenegrins as one polycentric language which should be called Serbo-Croatian. An argument for the name 'Serbo-Croatian' rather than 'Croato-Serbian' is that Serbs are larger in number. She also feels that a nation has no necessary connection with a language, and that peoples do not have the right to name their languages as they wish, since this is unscientific and susceptible to nationalistic and religious considerations. We can agree that nations have no necessary connections with languages, but different nations find different symbols to be important in creating their respective identities. Some nations are large and politically and economically powerful, so that their language is not vital for creating their identity, while for other nations, including the Croatians, it is.

Neo-Štokavian is the basis for the standard languages of the Croatians, Serbs, Montenegrins, and Muslims in Bosnia and Herzegovina, but it is only the dialect basis, while the superstructure of Croatian, as was mentioned above, is tridialectal and has been developing since the 15th century. "The commonalty of dialect basis is a fact, but using nothing but the resources of that basis we would only be able to speak about farm work (at the level of pre-feudal agriculture), the main weather phenomena, and fundamental physiological processes." (Brozović 1971)

Present-day younger linguists, sociolinguistically oriented and critical of purism, do not call into question the identity of Croatian as an independent language. Thus Mate Kapović (2010: 144) concludes "It is difficult to grasp, unless we are to explain it by simple habit and inertia, why some foreign linguists are so disturbed by the use of separate names *Croatian* and *Serbian*, when the same thing is done in so many other cases and when nobody seems to be particularly disturbed that we practically never or very rarely speak of Dano-Norwegian or Indonesian-Malaysian."

The Croatian Standard language today

A very widely accepted definition of 'standard language' is the one by Dalibor Brozović (1970: 28) (drawing on the Prague school tradition), which states that this is "an autonomous language, always codified and functionally polyvalent, born in the moment in which a nation, aware of its peculiar identity, started using it as its national linguistic expression within an international community". A standard language has what is called 'elastic stability' in time and space.

Since every self-respecting people seeks to have a developed language (Haugen 1966: 927), the purpose of language planning is a minimum of variation in form (codification) and a maximum of variation in functions (elaboration). It is natural to want to reduce internal differences and increase differences with the outside. An important part of corpus planning is thus a controlled development of terminology.

The process of standardization is an open process. Ferguson (1991: 221), for example, claims that there are three dimensions relevant for measuring language development: graphization, standardization, and modernization which explicitly implies the development of terminology and word formation patterns. Similarly, Haugen (1987: 61) stresses that "elaboration is in some ways just a continued implementation of a norm to meet the functions of a modern world. A modern language of high culture needs a terminology for all the intellectual and humanistic disciplines, including the sciences, and not to forget the cultural underworld that runs from low to popular". In other words, the process of selection and codification should be followed by an intense and targeted terminology development because a "language without a developed terminology loses its standardhood". (R. Katičić, Minutes of the Standard Croatian language Council, March 22, 2007).

Tendencies towards purism

Croatian is often perceived as a purist language, a characteristic it shares with many European languages, not only those in constant struggle for survival. Its inclination towards purism goes back to its early history, and the very short historic overview we provide in this article is intended to explain such a development rather than defend it.

Contemporary linguists, however, differ in their interpretation of purism, depending mainly on the theoretical and to a certain extent ideological views they represent. So, for example, Turk and Opašić (2008: 80) state that "purification aims to preserve the standard language, as a 'symbol of national identity' from foreign influence. To purism in this sense, exclusivity and intolerance are usually ascribed, and so purism is commonly spoken of as a negative phenomenon. However, instances of purism should not be judged a priori; instead, each should be evaluated on the basis of its own characteristics, taking into consideration the sociocultural context and sociolinguistic situation in which it appears ...". They go on to explain that a long tradition of purism in the Croatian language is rooted basically in its unfavorable history in relation to other languages and the fact that Croatian largely modeled itself on other purist languages – German, Hungarian and Czech. In following these models, "it was itself purist, in particularly towards German and Hungarian, in an effort to mitigate their influence." (Turk, Opašić 2008: 82). The authors argue that "Croatian linguistic purism is consonant with similar activities taking place in other European languages, addressing the same issues according to the same criteria, and that it has been a constant feature of the language, varying only in the degree of intensity. Croatian, as a traditionally purist language, has not accepted foreign language models passively, but has adapted loanwords according to its rules, at the same time activating its expressive potential by creating calques as substitutes for foreign language models." (2008: 73)

One radical opposing view comes from Anita Peti (2011: 343) who, discussing the current language situation, tends to see the prevailing language policy as 'planning for difference': "There are three main institutions in Croatia today that are actively engaged in language management activities on the national level: The Croatian Academy of Sciences and Arts, The Croatian Standard Language Council[2], and the Institute for the Croatian Language and Linguistics. Their efforts are focused on establishing the status of Croatian as a separate language in its own right, as historically and culturally distinct from Serbian and other related language varieties, and on corpus planning to further differentiate Croatian from these neighboring varieties. ... These

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2 The Croatian Standard Language Council was abolished in 2012 and its function superseded by the Institute of Croatian Language and Linguistics. This decision stirred a lot of heated discussion, and in our view rightfully so, since such an authoritative but also widely representative body of language experts can have a very influential and welcome role in the processes of language planning, as well as terminology planning in particular.

three institutions share a number of features with prototypical examples of language academies and are functionally equivalent to such institutions, although they do not bear this name."

Purism and terminology

Terminology work is by its nature, especially in the circumstances relevant for our case, always to a great extent prescriptive. It, on the other hand, does not take place in isolation and should reflect not only tradition but also current trends in the linguistic development of a particular language community. It furthermore, apart from the array of responsibilities we have touched upon, harbors a responsibility toward the professional community of particular domains that may not necessarily go hand in hand with the generally accepted normative approach.

How is the practicing terminographer to find the answer to all these challenges? Generally speaking, as well as from our experience, the wisdom is in the compromise. How, then, does one make compromises without compromising professional criteria and consistency?

In this quest we seek to rely on the expertise of eminent Croatian linguists who might differ in their approaches but provide a wider frame within which it is possible to find plausible solutions.

Katičić repeatedly stresses the importance of "our Croatian lexical heritage along with our European heritage" referring to the need for a more relaxed attitude towards internationalisms (especially those of classical origin) above all in scientific terminology as opposed to some other terminological domains (e. g. military and administrative language) which should more justifiably be cleansed of unnecessary foreign words. The process of terminology purification should thus primarily be in the function of continuing the severely interrupted Croatian terminological development. Katičić insists (1986: 70) on his own definition of purism, which as one of its extremes also includes excessive use of loanwords. According to him, such a form of purism makes it impossible to construct a terminological system; there is no deeper analysis of the object intended, no differentiation of words, particularly of abstract denominations, since the approach itself is primitive and one-dimensional.

In spite of the fact that the evidence for the above interpretation may not seem conclusive, Katičić (1999: 304) has to be given the credit for allowing that the parallel systems of native and international terminologies or lexical pairs can in certain domains be highly justified and the "standard norm cannot flee from either kind of name, neither from Europeanisms nor from words of Slavic origin; they can be used in parallel or else a choice should be made without obstinate consistency."[3]

3 In particular disciplines, indeed, parallel terminological systems coexist, for example in medicine and law where we find two active terminological layers – Latin and Croatian.

Pranjković (2010: 66) in connection with scientific terminology considers that co-existence of international and Croatian terms is the best, since internationalisms are very often most suitable due to their lack of ambiguity, their neutrality and precision.

Internationalisms should however be used with caution. Silić (2006: 60) argues that their word-formational structure needs to be transparent, simple, economical, and that their general meaning should not be burdened with additional meanings. He emphasizes that internationalisms in science are not problematic because science is international in content. They enable successful communication among scientists. But we should not forget that scientists are responsible for developing their national language, hence for creating terms in Croatian.

Samardžija (2002: 81) cites three possible approaches to internationalisms in terminology. The first is to accept neo-internationalisms (mainly Anglicisms) without resistance or criteria. The second requires replacing all neo-internationalisms with Croatian lexemes. The third and surely most rational is to accept what is necessary and reject what is unnecessary.

Of course, it is for the terminologist and terminographer to decide what is necessary and what is not.

Pranjković (2010: 39) therefore holds that one of the key questions in standardizing is which foreign words are unnecessary and which are needed. He concludes that those for which we have good Croatian replacements are unnecessary, but some loans are unnecessary in one of their meanings and irreplaceable in another. Before we seek to replace a loan with a Croatian lexeme, Pranjković (2010: 41) calls for taking the semantic differentiation of the words and their functional-stylistic register into account. "We should, finally, say that new coinages or obsolete words that have long been disused are generally not good replacements. Such words can at best be proposed as replacements, but certainly should not be normatively prescribed or administratively imposed."

References

Brač, Ivana; Lončar, Maja (2012) Terminology Planning for the Croatian National Terminology Database *STRUNA*. *Terminology and Knowledge Engineering Conference*, 258-269

Bratanić, Maja; Ostroški Anić, Ana. (2013) National Croatian LSP Term Base Creation – Challenges and Lessons Learned. *Strokovna leksikografija. Tiskane in digitalne oblike, strokovni slovarji, terminološke zbirke.* (forthcoming)

Brozović, Dalibor (1970) *Standardni jezik*. Zagreb: Matica hrvatska

Brozović, Dalibor (1971) Deset teza o hrvatskome jeziku, Zagreb, *http://govori.tripod.com/deklaracija_naziv_polozaj.htm* (last accessed 4th Jan. 2013)

Brozović, Dalibor (1976) O tronarječnoj dimenziji hrvatske književnosti. *Croatica,* 7-8, 1976, 11-18

Deklaracija o nazivu i položaju hrvatskog književnog jezika (1997) Matica hrvatska

Ferguson, Charles A. (1971) *Language Structure ana Language Use*, Stanford: Stanford University Press

Haugen, Einar (1966) Dialect, Language, Nation. *American Anthropologist*. 68: 922-935

Haugen, Einar (1987) *Blessings of Babel: Bilingualism and Language Planning: Problems and Pleasures*, Berlin – New York – Amsterdam: Mouton de Gruyter

Gostl, Igor (1995). *Bogoslav Šulek, Otac hrvatskoga znanstvenoga nazivlja*, Zagreb: Matica hrvatska

Kapović, Mate (2010) *Čiji je jezik*. Zagreb: Algoritam

Katičić, Radoslav (1986) *Novi jezikoslovni ogledi*. Zagreb: Školska knjiga

Katičić, Radoslav (1999) Načela standardnosti hrvatskoga jezika. *Norme i normiranje hrvatskoga standardnoga jezika*. Zagreb: Matica hrvatska. 295-307

Klajn, Ivan (2008) Purizam i antipurizam u današnjem srpskom jeziku. *Južnoslovenski filolog LXIV*. 153-176

Mamić, Mile (2006) Hrvatsko jezično zakonadavstvo i jezična politika u 20. stoljeću *Hrvatski jezik u XX. stoljeću*. Zagreb: Matica hrvatska. 59-70

Matasović, Ranko (2001) *Uvod u poredbenu lingvistiku*. Zagreb: Matica hrvatska

Mićanović, Krešimir (2006) *Hrvatski s naglaskom*. Zagreb: Disput

Minutes of 16th meeting of the Standard Croatian Language Council. *https://hr.wikisource.org/wiki/Zapisnik_sa_16._sjednice_Vije%C4%87a_za_normu_hrvatskoga_standardnog_jezika* (last accessed 17th Jan. 2013)

Novosadski dogovor. *http://hr.wikisource.org/wiki/Novosadski_dogovor* (last accessed 11th Jan. 2013)

Peti-Stantić (2009) Restandardizacija (hrvatskoga) standardnoga jezika. *Jezični varijeteti i nacionalni identiteti* (ur. Badurina, Lada; Pranjković, Ivo; Silić, Josip) Zagreb: Disput. 71-82

Pranjković, Ivo (2010) *Ogledi o jezičnoj pravilnosti*. Zagreb: Disput

Samardžija, Marko (2002) *Nekoć i davno. Odabrane teme iz leksikologije i novije povijesti hrvatskoga standardnoga jezika*. Rijeka: Izdavački centar Rijeka

Silić, Josip (2006) *Funkcionalni stilovi hrvatskoga jezika*. Zagreb: Disput

Turk, Marija; Opašić, Maja. (2008) Linguistic Borrowing and Purism in the Croatian Language. *Suvremena lingvistika* 65/1, 73-88

Trudgill, Peter (2004) *Sociolinguistics. An Introducion to Language and Society*. London: Penguin Books

Wright, Sue (2004) Language Policy and Language Planning: From Nationalism to Globalisation. New York: Palgrave Macmillan

Responsibility for terminology through standardization

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Introduction

This paper presents a terminology project that was financially supported by the Norwegian central government and which resulted in the launch of a new publicly accessible terminology database – SNORRE. The SNORRE term base was developed at Standards Norway and launched in October 2011. It is accessible online at www.termbasen.no. The historical and political background of the terminology project is outlined, as well as the project management, plan and objectives. Furthermore, the content of the term base and the user interface design and functionality is described.

Standards Norway

Standards Norway (SN), which was established in 2003, is a private and independent member organization and one out of three standardization bodies in Norway. The organization is responsible for standardization activities in all areas except for electrotechnology and telecommunication. Standards Norway is the Norwegian member of the European standardization body CEN, and the international standardization body ISO. Some 1 200 new NS (Norwegian Standards) are adopted and published by Standards Norway annually based on national, European and international standards.

Historical background

Over the years a vast amount of terminology has been developed as a result of Norwegian participation in the production of European and international standards (CEN/ISO), and publication of national standards (NS) as well as translations. More than 3 000 experts in Norway from various industries and representing both the private and public sectors are involved in the work of standardization committees in Norway and abroad.

Since the 90ies terminology has been recorded in electronic terminology databases. This primarily includes terminology from standards in the languages English, Norwegian Bokmål, German and French. Over the years more than 200 000 terms have been recorded. Until the launch of SNORRE, however, this significant terminology collection has been primarily for internal use – as a tool in the production and translation of standards and related documents.

The environmental terminology database Milterm was launched in 2002 comprising a subset of the terminology collection. Milterm contains terms that have been extracted from standards mainly on environmental aspects. The database also contains terminology extracted from other sources, such as Gemet (GEneral Multilingual Environmental Thesaurus). Milterm has 10 000 entries comprising terms in English and Norwegian Bokmål.

Political background

In 2005 a report on the situation of the Norwegian languages was initiated by the Language Council of Norway. The report acknowledges Standards Norway as an important partner in the work to strengthen the position of the Norwegian languages. Among other things, the report concluded that there was a need for increased governmental funding with the purpose of having more standards translated into Norwegian and, moreover, more Norwegian terminology. The report furthermore concluded that the two official Norwegian languages, Norwegian Bokmål and Norwegian Nynorsk, should have equal representation in matters of terminology, meaning that terms in Norwegian should be available in both official languages.

In 2008 the Norwegian government presented a White paper on work carried out in the language field and future policy in this field. Several initiatives were outlined, including a proposal to offer Standards Norway funding for a terminology project that would give access for the general public to the standards terminology collection. Consequently, funding for such a terminology project was provided by the Ministry of Culture (NOK 1.9 mill.) in 2009.

Terminology project

The provision of governmental financial support resulted in the initiation of a cooperation project involving the Norwegian Ministry of Culture, the Language Council of Norway, Norwegian terminology and language technology experts, and Standards Norway.

The project was funded partially by the Ministry of Culture and partially by Standards Norway. The work was planned and coordinated by Standards Norway. The project was furthermore supervised by a steering committee of experts in terminology and language technology. Jan Hoel of the Language Council was the Head of the steering committee. The Language Council also provided the terminology policy for the project and partook in some of the practical terminology work. The project plan, the steering committee and the terminology policy were to be approved by the Ministry of Culture.

Extensive work was performed prior to the launch of the SNORRE term base. This includes measures regarding the terminological content of the database as well as the software.

Terminology

First and foremost, substantial work was invested into quality assurance of the term base content. Standards, including terms and definitions, are subject to technical quality assurance by relevant experts. Consequently, the terminology in SNORRE has been technically quality assured. In addition, prior to the launch of SNORRE every database record was quality assured by linguists ensuring that all the terminological data were presented correctly.

Effort was also made to add to the existing terminology collection. New terminology was developed by the means of translations of standards in several areas. The selected standards were translated into either Norwegian Bokmål (approximately 75 %) or Norwegian Nynorsk (approximately 25 %). All the new terms were furthermore electronically recorded so that they could be included in the new terminology database.

According to the policy produced by the Language Council of Norway it was an essential principle that the two official Norwegian languages were to have equal representation in SNORRE. The Norwegian Bokmål terms (entry terms, synonyms, and abbreviations) were therefore translated into Norwegian Nynorsk. The Norwegian Nynorsk terms that were produced in the translation projects were translated accordingly, into Norwegian Bokmål.

Additionally, initiatives were made to increase the general level of terminology skills among technical experts involved in standardization-related terminology work. Courses in terminology principles and methods with a practical view to standardization work were arranged at Standards Norway. Both in-house experts as well as external experts actively participating in national standardization committees were invited to attend the courses.

Software

Prior to the launch of SNORRE a significant amount of work was furthermore invested as regards IT development. A new terminology database was built that supports the structures of both the term entries from Milterm and the entries from the terminology databases that were previously kept for internal use. The data of the existing term bases were converted and transferred to the new database SNORRE.

SNORRE was integrated with the Standard Norway database of standards and relevant documents to enable the collection of data regarding source documents. This includes, for example, information about subject fields. Standards are classified according to the ICS-code system (ICS: International Classification for Standards). Terms extracted from standards thus inherit the ICS-codes of the documents from which they are extracted.

As illustrated subsequently in this paper, a modern user interface was developed that offers many features of high value to those working with terminology and LSP. Users may make simple and advanced search requests among terms, definitions, etc. in several languages. It is also possible to search for term lists based on for example a specific source or subject field. Furthermore, the search results page has filter functionality that makes it possible to narrow down search results according to source, language and category, as well as free text search.

The SNORRE user interface was furthermore integrated with the Standards Norway web site, www.standard.no, which allows the users to benefit from relevant applications on the site. For example, the source references listed in the term entries are linked to a product information page where various types of information regarding the referenced standards can be collected. It is also possible to get a limited preview of the documents.

New terminology database: SNORRE

Term entries and content

As a result of the project described above Standards Norway launched SNORRE in October 2011. The term base has more than 50 000 term entries and comprises more than 200 000 terms and more than 35 000 definitions. The term entries moreover contain notes and examples in addition to information regarding sources, subject fields, etc. Available languages are Norwegian Bokmål, Norwegian Nynorsk, English, German and French.

Subject fields

SNORRE provides the users with terminology from a wide range of standardization areas. Environmental terminology is highly represented because the terminology from the Milterm term base has been included in SNORRE. SNORRE furthermore has a significant amount of Building and civil engineering terminology, because traditionally many standards have been translated into Norwegian in this area.

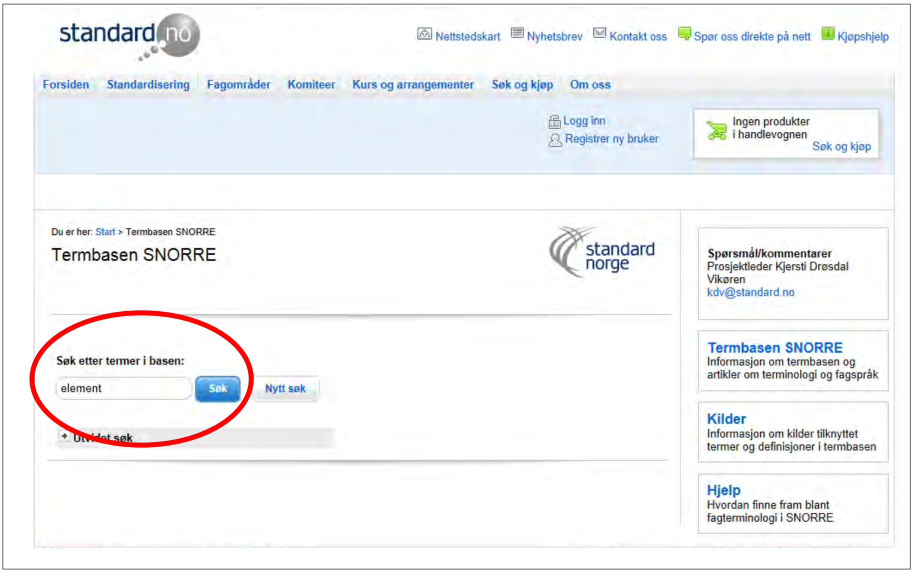
Other examples of the many standardization areas that are represented in the database include Food technology, Sports equipment and facilities, Company organization and management, Textile and leather technology, Shipbuilding and marine structures, Quality, Services and Transport, etc.

User interface design and functionality

SNORRE is a publicly accessible terminology database that is available online at www.termbasen.no.

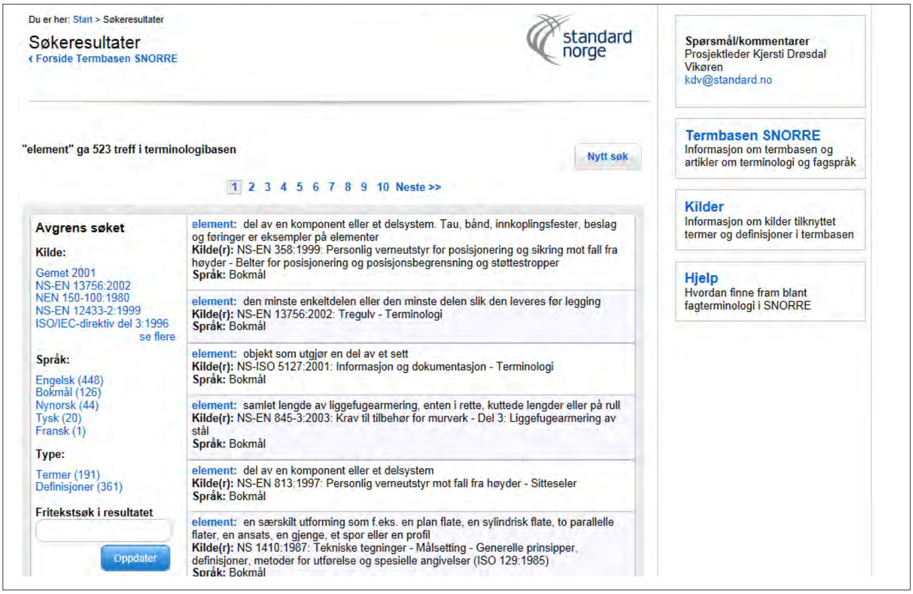
Attention is drawn to the fact that the following sections present the user interface design as of the time of writing this paper, and that SNORRE will be relaunched with a new design in February 2014.

Front page



The SNORRE front page permits the user to perform simple search requests among the various data in the term base. Truncated search is possible and allows simultaneous searches for variant forms. An asterisk (*) is used as the truncation symbol. To make a search request, type the requested string and click "Søk" (Search). The example illustrates a search for "element".

Search results



The search for "element" returns 523 hits. The hits in the hit list (the wide column to the right) are sorted in decreasing order of relevance to the query. The hit list displays term entry information relevant for your search – term, definition (if any), source, and (term) language.

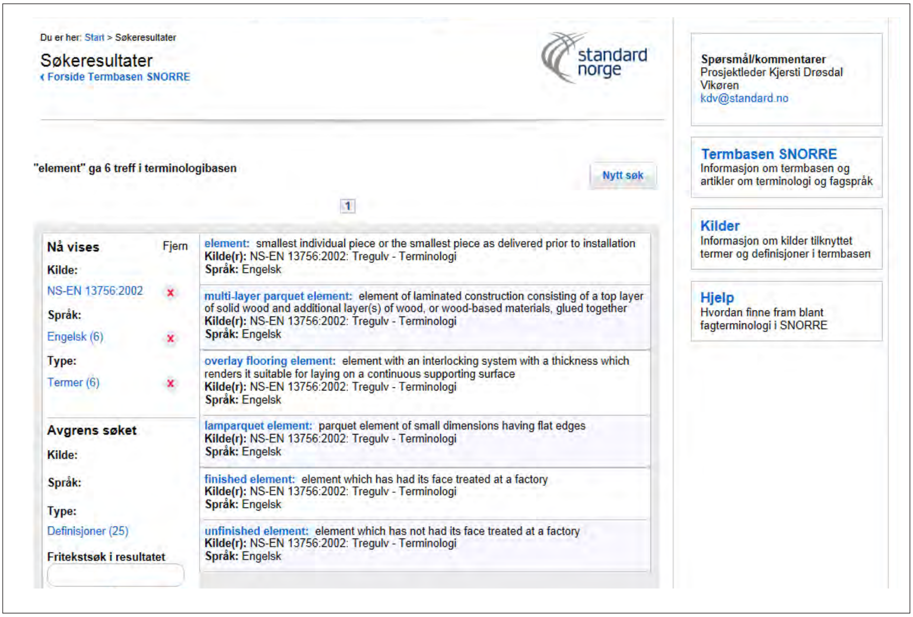
To view an entry in the list, click the relevant term (highlighted in blue). This will display all the information contained in the entry, e.g. synonyms and abbreviations, terms and definitions in other languages, notes, examples, sources, and subject areas.

Click "Forside Termbasen SNORRE" (SNORRE term base front page) in the top left corner or the "Nytt søk" (new search) button to the right to return to the front page and search field.

Narrow search results

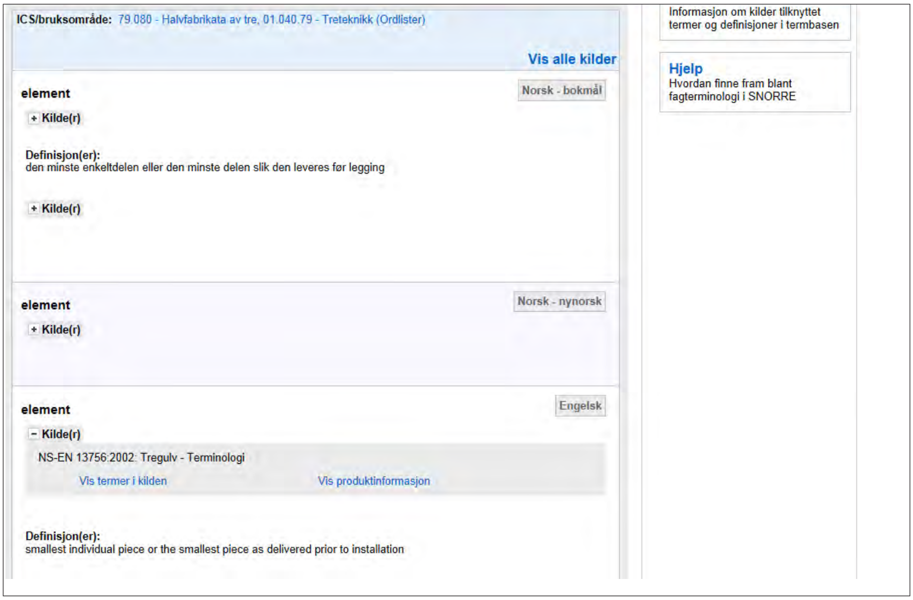
The column on the left-hand side displays information about the content of the search results (see previous screenshot). "Kilde" (source) lists all the sources referenced in the entries in the hit list. Click "Se flere" (View more) to view the entire catalogue of referenced sources. "Språk" (language) and "Type" (category) categorize the hits according to language and category (terms vs. definitions).

This column offers filter functionality to narrow the search results. The example below illustrates a filter on the search for "element" based on 1) terms, 2) in English, 3) from NS-EN 13756:2002, *Wood flooring – Terminology*. This narrows the hit list to 6 entries.



Free text search is also included, on the bottom of the column ("Fritekstsøk i resultatet").

Term entry



The term entry for "element", extracted from NS-EN 13756:2002, *Wood flooring – Terminology*, comprises terms in Norwegian Bokmål, Norwegian Nynorsk, and English. There are also definitions in Norwegian Bokmål and English.

At the top of the entry "ICS/bruksområde" presents information about ICS-codes/subject fields – in this case 79.080 (Semi-manufactures of timber) and 01.040.70 (Wood technology (Vocabularies))[1].

Sources are not displayed initially. To view sources, click "Vis alle kilder" to view all sources listed in the entry. Alternatively, click the relevant "Kilde(r)" to view the sources of the various data individually. In the example entry the source of the English term is displayed.

View product information
The source sections of the term entry offers additional features. One of these features is the View product information application ("Vis produktinformasjon"). This opens a product information page which allows users to collect background information regarding the document from which the term

1 See *ICS-code system overview – Advanced search* further down for information on how to access the ICS-code catalogue, which is available in Norwegian and English.

has been extracted. This page is part of the Standards Norway web site www.standard.no and available in Norwegian and English.

NS-EN 13756:2002

Preview

Status:	Published
Norwegian title:	Tregulv - Terminologi
English title:	Wood flooring - Terminology
Item type:	Standard
Language:	no/en/de
Edition:	1 (2003-02-10)
Number of pages:	36
Price:	NOK **607,00** (excl VAT) NOK **758,75** (with VAT)
Included in:	NS ICS 01.040.79 NS ICS 79.080 NS STANDARDER PÅ WEB NS ICS 01 NS ICS 01.040 NS ICS 79
Scope:	Denne europeiske standarden inneholder termer og definisjoner på området tregulv. This European Standard defines terms and their definitions relating to wood flooring.
Committee:	SN/K 097
Adopted:	2003-02-10

The product information page has a preview application which allows users to get a limited preview of the documents.

Among the various types of information, the product information page presents the scope of the document. For terminology standards, such as NS-EN 13756:2002, *Wood flooring – Terminology*, the scope may be a single sentence. For other documents, however, the scope may be far more complex. The following example presents the scope of NS-EN ISO 14001:2004, *Environmental management systems – Requirements with*

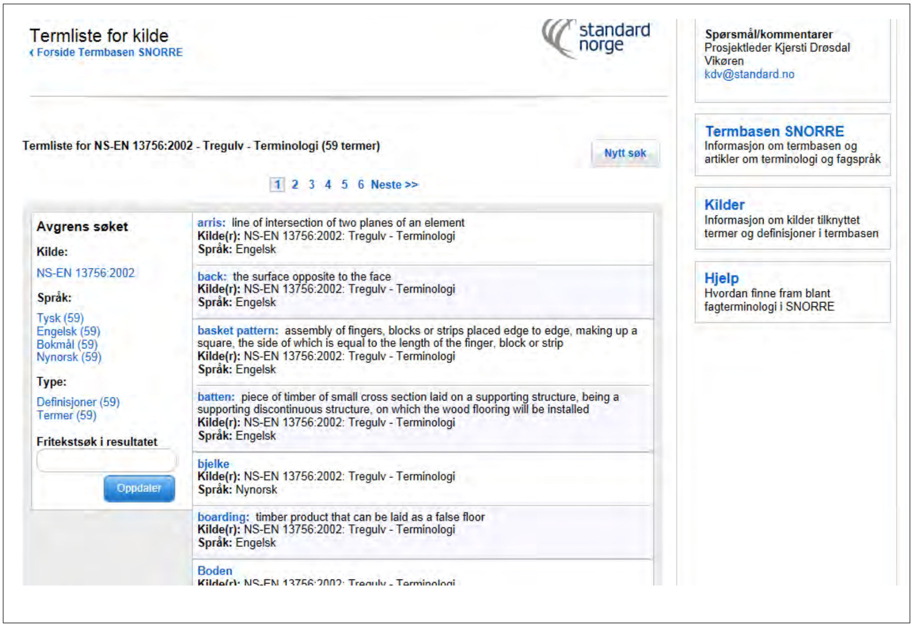
This International Standard specifies requirements for an environmental management system to enable an organization to develop and implement a policy and objectives which take into account legal requirements and other requirements to which the organization subscribes, and information about significant environmental aspects. It applies to those environmental aspects that the organization identifies as those which it can control and those which it can influence. It does not itself state specific environmental performance criteria.
This International Standard is applicable to any organization that wishes to
a) establish, implement, maintain and improve an environmental management system,
b) assure itself of conformity with its stated environmental policy,
c) demonstrate conformity with this International Standard by
1) making a self-determination and self-declaration, or
2) seeking confirmation of its conformance by parties having an interest in the organization, such as customers, or
3) seeking confirmation of its self-declaration by a party external to the organization, or
4) seeking certification/registration of its environmental management system by an external organization.
All the requirements in this International Standard are intended to be incorporated into any environmental management system. The extent of the application will depend on factors such as the environmental policy of the organization, the nature of its activities, products and services and the location where and the conditions in which it functions.
This International Standard also provides, in Annex A, informative guidance on its use.

guidance for use:

View source term list

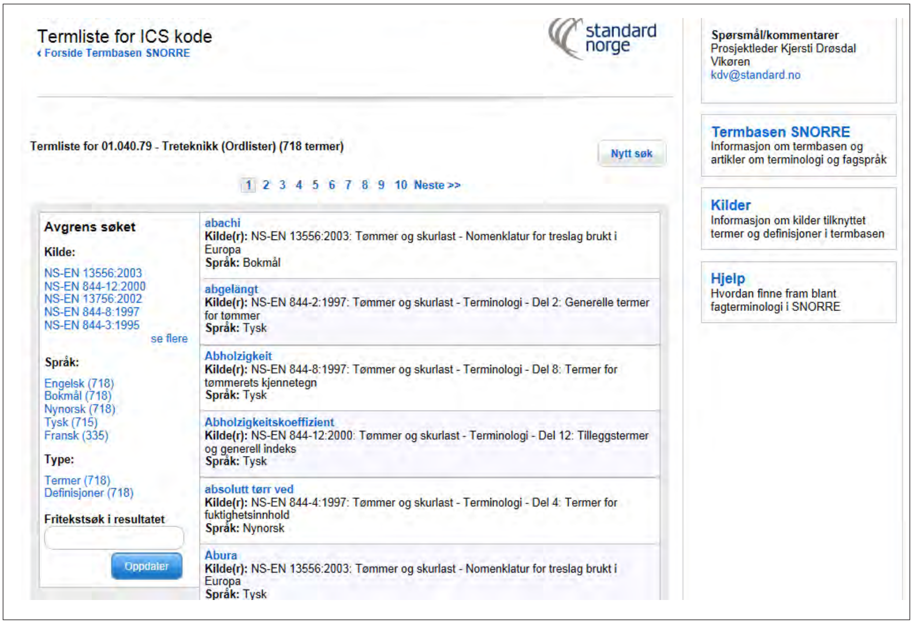
Another source-related feature is "Vis termer i kilden" (View source term list), which returns a complete list of all terms that have been extracted from the referenced document.

For NS-EN 13756:2002, *Wood flooring – Terminology* this returns a search results page with a list of 59 entries containing terms in German (59), English (59), Norwegian Bokmål (59) and Norwegian Nynorsk (59) – alphabetically ordered. The list may furthermore be filtered by e.g. terms in German.

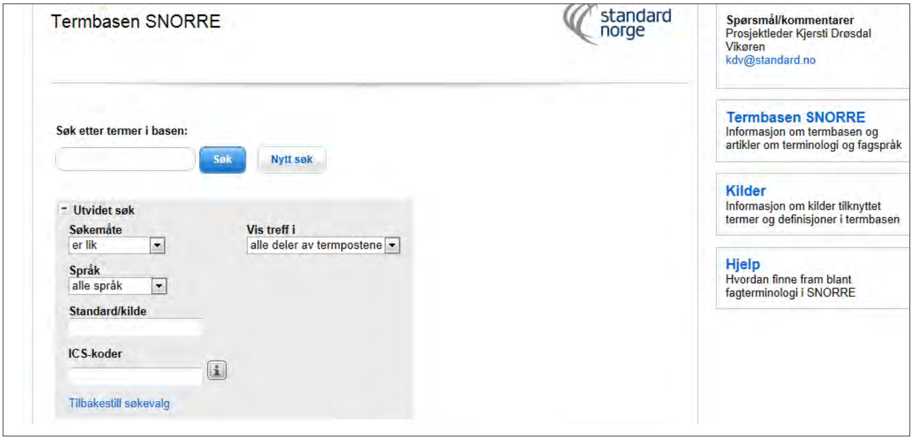


View subject field term list

The ICS-codes listed on top of the term entry correspondingly offers the possibility of viewing subject-field term lists. When you click an ICS-code, a list of all terms recorded within this subject area will be available. For ICS 01.040.70 – *Wood technology (Vocabularies)* this returns a list of 718 entries.



Advanced search



The SNORRE front page also permits the user to perform advanced searches. Click "Utvidet søk" to view the advanced search panel. The following options are available:

- Search method ("Søkemåte")
  - exact match ("er lik")
  - string* ("begynner med")
  - *string* ("inneholder")
- Category ("Vis treff i")

    - all term entry fields ("alle deler av termpostene")
    - terms ("termer")
    - definitions ("definisjoner")
- Language ("Språk")
    - all languages ("alle språk)
    - Norwegian Bokmål ("norsk, bokmål")
    - Norwegian Nynorsk ("norsk, nynorsk")
    - English ("engelsk")
    - German ("tysk")
    - French ("fransk")
- Standard/source ("Standard/kilde")
- ICS-code ("ICS-koder")

ICS-code system overview – Advanced search

The advanced search panel includes a link to the ICS-code system catalogue at www.standard.no. The ICS-codes are available in Norwegian and English. Click the information button to get an ICS-code system overview.

ICS

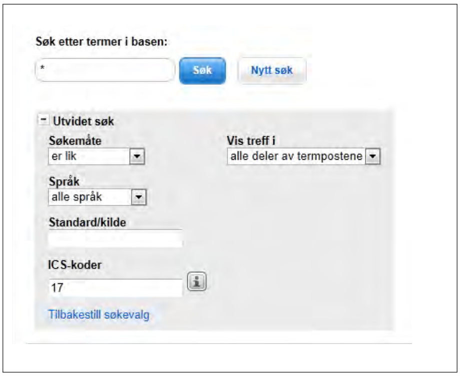
- 01 - Generalities. Terminology. Standardization. Documentation
- 03 - Services. Company organization, management and quality. Administration. Transport. Sociology
- 07 - Mathematics. Natural Sciences
- 11 - Health care technology
- 13 - Environment. Health protection. Safety
- 17 - Metrology and measurement. Physical phenomena
- 19 - Testing
- 21 - Mechanical systems and components for general use
- 23 - Fluid systems and components for general use
- 25 - Manufacturing engineering
- 27 - Energy and heat transfer engineering
- 29 - Electrical engineering
- 31 - Electronics
- 33 - Telecommunications. Audio and video engineering
- 35 - Information technology. Office machines
- 37 - Image technology
- 39 - Precision mechanics. Jewellery
- 43 - Road vehicles engineering
- 45 - Railway engineering
- 47 - Shipbuilding and marine structures
- 49 - Aircraft and space vehicle engineering

The ICS is a hierarchical classification which consists of three levels. Level 1 covers 40 fields of activity in standardization. Click the individual ICS-codes to view the subdomains.

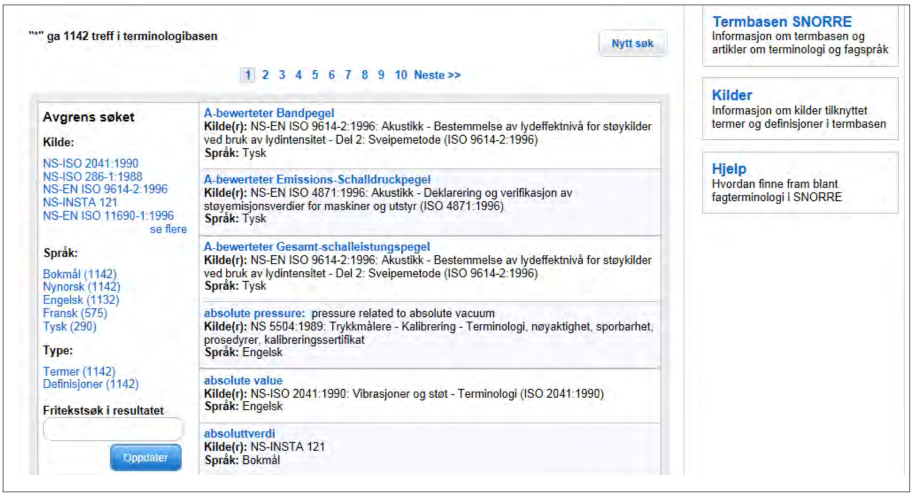
Subject field term list – Advanced search

The term entries have features allowing users to view term lists containing all terms that have been extracted from a source or a subject field that is related to a specific term in a specific entry. The advanced search panel, however, enables wildcard searches that produce term lists based on source or subject field alone.

The following example demonstrates a search for all terms in the field *Metrology and measurement. Physical phenomena*. An asterisk (*) is used as the wildcard symbol. The ICS-code 17 denotes the selected subject area, as listed in the catalogue above.

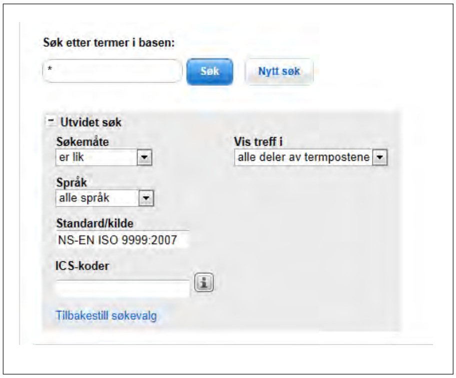


The search request returns a list of 1142 entries in the field *Metrology and measurement. Physical phenomena*.

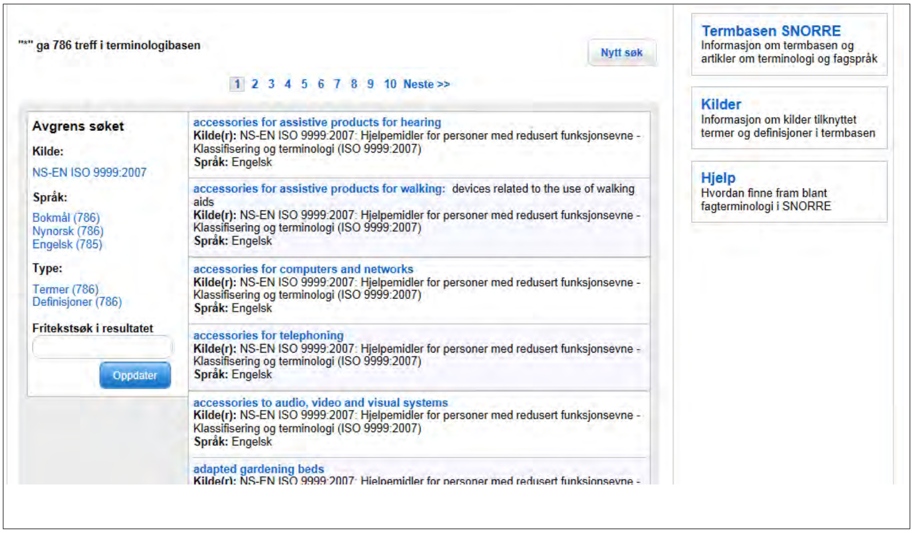


Source term list – Advanced search

Wildcard searches for source term lists may be performed in the same way. The following example demonstrates a search for all terms extracted from an ISO standard on assistive products for persons with disability. Again an asterisk (*) is used as the wildcard symbol.
NS-EN ISO 9999:2007 denotes the selected source.



This returns a list of 786 entries extracted from NS-EN ISO 9999:2007, *Assistive products for persons with disability – Classification and terminology (ISO 9999:2007).*



Towards a Norwegian infrastructure for terminology

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1. Introduction

Internationalisation has in recent years become a strategic goal for Norwegian higher education institutions due to Norway's adaptation to the Bologna declaration. This is one reason why English is rapidly growing in importance and strengthening its impact in a number of domains (Anderman and Rogers 2005; Saarinen 2011; Kristiansen 2012). In Norway, for instance, English has become the lingua franca in international research in many disciplines and is extensively and increasingly used both in teaching and in course material in Norwegian higher education.

At the same time, several white papers and reports have recently stressed the need for a nationally coordinated effort focusing on language policy as well as terminology planning, including Norsk i Hundre! prepared by the Norwegian Language Council and a white paper on national language policies (Report no. 35 (2007-2008) to the Storting [Mål og meining/ Språkmeldingen]). Both these two documents emphasise the importance of maintaining Norwegian special languages, including terminology, to enable us to communicate within and across domains in our native tongue, as well as for society at large.

Following these reports an amendment has been made to the Norwegian Act relating to universities and university colleges.

> § 1-7. Responsibility for the maintenance and further development of Norwegian specialised language
>
> Universities and university colleges have the responsibility to maintain and further develop Norwegian specialised language (LSP) (author's translation)

This amendment places much of the responsibility for terminology development with higher education institutions (HEI). Also, the Norwegian Association of Higher Education Institutions (UHR), has proposed language policy guidelines which promote the maintenance of Norwegian LSPs. UHR is the umbrella association for Norwegian HEIs, and most major institutions have now established their local policies in line with those of the UHR. The Norwegian School of Economics (NHH), for instance, has taken on the responsibility to develop and maintain Norwegian economic-administrative terminology through its local NHH termbase.

> NHH has a national responsibility to uphold and develop Norwegian as a professional language within the areas of economics and business administration. The NHH Norwegian-English termbase shall continue to be developed and expanded to become a national termbase for economics and business administration.
> (From the NHH language guidelines, http://www.nhh.no/en/about-nhh/language-guidelines-for-nhh.aspx

In the following I will present an initiative to maintain and further develop Norwegian terminology by means of establishing a national infrastructure to harmonise terminological language resources and technologies in one common internet portal. First, I will briefly outline the main scope of the project, called Termportalen, with particular focus on the challenges facing Norwegian HEIs. I will, however, not go into the technological challenges of establishing such an infrastructure (cf. Andersen & Kristiansen 2009, 2012). Next, I will add a comment on financing solutions, or the lack of such. Finally, I will present two collaboration initiatives that we are currently pursuing in the Termportalen project to achieve such a goal.

2. Termportalen

The project Termportalen is headed by the Department of Professional and Intercultural Communication at NHH, and represents the terminology initiative in a comprehensive national project, the CLARINO project[1], which focuses on establishing a national language resource and technology infrastructure. CLARINO is funded by the Research Council of Norway (RCN) and is the Norwegian associated project of the European CLARIN ERIC[2], which aims at establishing a common European language resources and technology infrastructure. As part of CLARINO, Termportalen aims at establishing a national knowledge base consisting of quality-assured terminological resources which are freely available through one common internet-based portal.

The motivation behind Termportalen is to take the responsibility for establishing and maintaining Norwegian terminology now given to higher education institutions. As stated in Report no. 35 (2007-2008: 104) electronic term banks are the best possible medium for the development, archiving and dissemination of terminology. It must be stressed, though, that although the increased focus on terminology policy emphasises that terminology development, such as the NHH termbase, is the responsibility of higher educa-

1 CLARINO = Common Language Resources and Technology Infrastructure Norway, http://clarin.b.uib.no/

2 CLARIN = Common Language Resources and Technology Infrastructure; ERIC = European Research Infrastructure Consortium, http://www.clarin.eu/external/

tions (HE) in particular, the scope of Termportalen goes beyond HE terminology, and will include any kind of quality-assured terminology resource which can be made available through the internet portal.

Since Termportalen is developed as part of the CLARINO project, it is important for us not only to establish a common Norwegian terminology portal, but also a resource which is compatible with other European language resources. The resource will comprise a technical architecture that integrates available structured, mono- and multilingual terminology bases via a common interface. The infrastructure will provide public and controlled unified access to these resources in a national grid-based architecture. Next, this architecture will be linked with European terminology resources via CLARIN. Both distributed and centralised solutions will be offered to providers and end-users of terminology resources. It is important to stress that whereas the data will be accessible through one common search interface, the various termbases will remain as independent resources that are maintained and controlled by their original developers.

In order to achieve this goal, there must be a certain compatibility in how domains are represented across various bases, as well as how data is recorded in the various resources, something which is a challenge in terminology work. As stressed in Report no. 35 (2007-2008: 104) existing terminological practices vary considerably, and the work is often carried out without consulting existing guidelines. Furthermore, the terminology is often not made externally accessible. Also, the use of many variable data formats may be an obstacle for efficient search and web-based presentation. In Termportalen we will develop an architecture which allows us to join autonomous bases with a common interface and search system containing entries for concepts and conceptual descriptions such as main terms and synonyms, definitions and concept relations within an overall domain structure. This is important to enable the users to search across bases and domains, as well as only within a selected range of domains or bases.

The project will be a natural extension of already existing resources originating from the Norwegian Term Bank which in recent years have been further developed in projects such as KB-N (Knowledge Bank Norway, Brekke et al 2006), Mikroøkonomen (Kristiansen 2010) and Termportalen (Andersen & Kristiansen 2009). Since the main objective is to provide the technical architecture needed for integrating and accessing such resources, new terminologies will not be developed per se (Andersen & Kristiansen 2009; 2010).

3. A note on financing and support

So far it has proven difficult to receive funding for a comprehensive terminology infrastructure project in Norway. The KB-N project (Brekke et al 2006), for instance, received funding from the RCN to establish the technological solutions for the termbase and its related parallel Norwegian-English specialised corpus, including a tool for semi-automatic term extraction in Norwegian through the research programme Kunsti, a language technology programme. The CLARINO project is also funded by the RCN to incorporate Norwegian language technology resources in a compatible portal. However, there has been no initiative to establish programmes which can fund research on and development of content, for instance the actual terminology work needed to establish terminologies in domains where much terminology is formed in English, such as within finance or ICT (Kristiansen & Andersen 2012). In contrast, Finland has recently funded a major terminology project to establish a bank of Finnish terminology for arts and sciences (Bank of Finnish Terminology).

As mentioned above, Norwegian HEIs have now been given the responsibility for maintaining and developing Norwegian LSPs. However, the legislators have not made any funding available for the institutions to carry out this kind of work. As a consequence, new terminologies will not be developed within the Termportalen project. Nevertheless, we follow a step-by-step bottom-up approach to reach our goals. For our project it is also important that we establish the infrastructure within the CLARINO project to enable a pan-European cooperation (through CLARIN ERIC).

4. Examples of cross-institutional cooperation

Although it is early days in the project, we have already initiated cooperation with some partners. One such partner is that of the UHR. The UHR has in recent years developed a termbase which consists of some 2000 administrative terms related to higher education and includes Norwegian (Bokmål and Nynorsk) and English terms (http://termbase.uhr.no/). The termbase has been developed by a separate terminology group on behalf of the UHR, and the group members represent various HEIs in Norway.

The termbase is relatively simple in structure, including a search field and main term entries in English and Norwegian. Some explanatory information and examples are given, however, this information is included in the main entry together with the term. It is also possible to click from one entry to another when these are related as either synonyms, superordinate terms or similar, as illustrated in Figure 1.

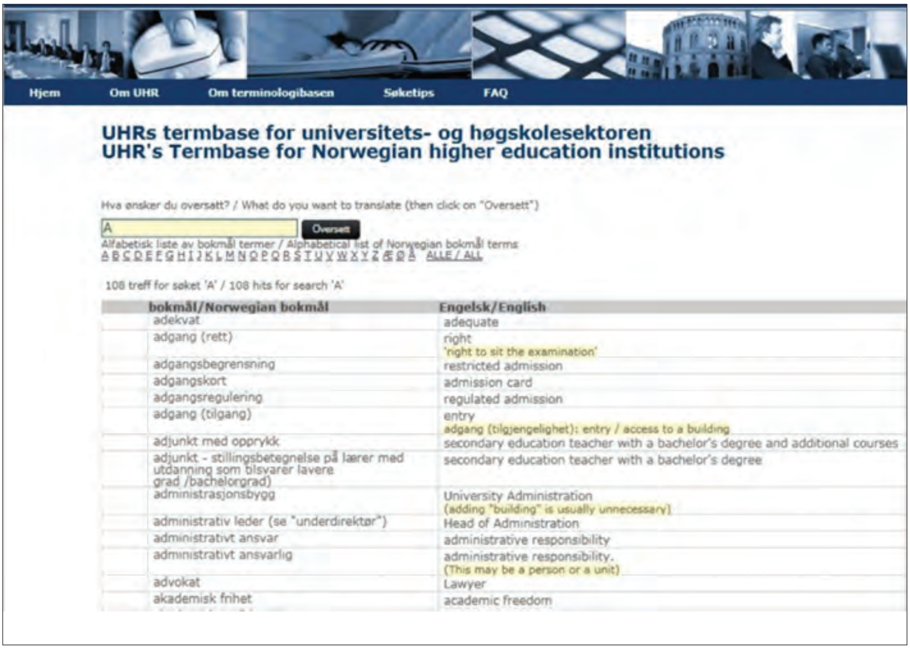

Figure 1. The UHR termbase for Norwegian higher education institutions

Figure 2. TBX format of a termbase entry in the UHR termbase

In a case study, this termbase has been converted into a TBX-compatible XML database, as illustrated in Figure 2. The TBX format will be used as the principal data format for terminology resources in CLARINO. By using this, Termportalen will more easily be compatible with other European termbase resources already developed or being currently under development.

4.1 Norges Bank

Another example of collaboration that could be mentioned is that with Norges Bank, the Norwegian central bank. This initiative aims at cooperating on extracting terminology already established in published central bank parallel texts, such as monetary policy reports or financial stability reports, as well as on a regular basis discussing financial and macroeconomic terminology to ensure a sound development of Norwegian terminology in this domain.

5. Concluding remarks

As discussed above, the scope of Termportalen is to build an infrastructure with one common interface from which to visit scattered terminological resources. This, we believe, will in itself result in greater dissemination of Norwegian terminology. CLARINO is about the dissemination of existing resources, and making sure that these are more easily accessible to the end user.

Termportalen also aims at establishing cooperation with central institutions in Norway which are important in the development and dissemination of Norwegian terminology. Within this infrastructure we will attempt to further develop existing resources to meet the demand for Norwegian terminology development in higher education in collaboration with other UHR institutions. However, it is important to also work with other partners, such as the Norwegian central bank to ensure a wider focus than only terminology relevant for research, popularisation and teaching purposes. An added gain from the project will also be the reuse of methodology and technology as a possible best practice to help the development of terminologies for other domains.

Since the provision of content is not the focus of the CLARINO project, maintaining and further developing Norwegian terminology is not actually part of the tasks in the subproject of Termportalen. Thus funding remains a major challenge in our attempt to meet the national demand for Norwegian terminology.

References

Anderman, Gunilla and Margaret Rogers. 2005. In and Out of English: For Better, For Worse? Buffalo: Multilingual Matters.

Andersen, Gisle and Marita Kristiansen. 2009. Terminor og Termportalen – nye initiativer for norsk terminologisk infrastruktur. In Nordterm 2009: Ontologier og taksonomier, 9.-12. juni 2009, København, 209-222.

Andersen, Gisle and Marita Kristiansen. 2010. Towards a national infrastructure for terminology in the framework of the CLARA and CLARINO projects. In Simonnæs (ed.). Synaps 25/2010. Festskrift for Åge Lind. Bergen: Norges Handelshøyskole, 1-8.

Andersen, Gisle and Marita Kristiansen. 2012. Towards a national portal for Norwegian terminology in the CLARINO project. Poster presented at the Sixth European Terminology Summit, 11-12 October 2012, Oslo.

Bank of Finnish Terminology. https://tuhat.halvi.helsinki.fi/portal/en/projects/the-bank-of-finnish(216c36fd-c796-43e8-963f-631e83a3abeb).html (21.12.2012)

Brekke, Magnar, Kai Innselset, Marita Kristiansen and Kari Øvsthus. KB-N: Automatic Term Extraction from Knowledge Bank of Economics. LREC 2006 - 5th International Conference on Language Resources and Evaluation, 1912-1916.

Kristiansen, Marita & Gisle Andersen. 2012. Corpus approaches to neology and their relevance for dynamic domains. In Neologica 6/2012, 43-62.

Kristiansen, Marita. 2012. Hvordan ivareta et norsk fagspråk i en internasjonaliserende hverdag. Om domenetap og parallellspråklig terminologiutvikling i høyere utdanning. In Nordand – Nordisk tidsskrift for andrespråksforskning 2012, 7(2), 85–112.

Kristiansen, Marita. 2010. Language Planning in Higher Education. The Case of Microeconomics. In Heine, C. og J. Engberg (red.) Reconceptualizing LSP. Online proceedings of the XVII European LSP Symposium 2009. Aarhus 2010, http://www.asb.dk/fileexplorer/fetchfile.aspx?file=19126 (01.10.2012)

NHH Language Guidelines. http://www.nhh.no/en/about-nhh/language-guidelines-for-nhh.aspx (01.10.2012)

Norsk i Hundre. http://www.sprakrad.no/upload/9832/norsk_i_hundre.pdf (01.10.2012)

Report to the Storting no. 35 (2007-2008) Mål og meining. Ein heilskapleg norsk språkpolitikk. http://tinyurl.com/79ng68t (01.10.2012)

Saarinen, Tania 2011: Nordisk syntes. Preliminära resultat av utredningen om den språkutbildningspolitiska situationen vid högskolorna i deltagarländerna. Presentation at Synlig politik – osynligt språk. Helsinki, Finland, 4 November 2011.

UHR termbase. http://termbase.uhr.no/ (21.12.2012)

Institutions, individuals and societies – the model of shared responsibility in the Bank of Finnish Terms in Arts and Sciences

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Introduction

The Bank of Finnish Terminology in Arts and Sciences (BFT) is a five-year research infrastructure project aimed at forming a permanent platform for continuous terminological work within the academic sector in Finland. It was launched in January 2010 with funding from the University of Helsinki and the Academy of Finland. During the stage of the five year project funding BFT seeks to develop working methods and well-formed practices for shared terminological work and establish itself as the leading resource of Finnish terminology in academic sector in Finland.

The BFT has so far taken a form of terminological database, accessible via the Internet through a wiki-based interface. The interface and the practices and methods are being developed through three pilot projects of botany, linguistics and jurisprudence. Terminological work is being performed by users, who have been granted expert status. To function as the basis of the work, lexicons and excerpts relating to specific terminological entries from numerous volumes of each field have been imported to the database. As an infrastructure, the main task of the BFT is to enable terminological work within the academic sector and provide a channel for it to share its results not just within the research community, but with wider audience as well. BFT can also function as a medium for raising awareness on terminology and language politics.

The motivation behind the project stems from language political concerns of Finnish losing ground as a language of higher education and research. Diminishing status of Finnish as a language of research and higher education will influence the language as a corpus, and the first domain of language use this affects is terminology of specialized fields. This in turn has negative repercussions throughout the society, from political decision making to ground level education.

Language policy setting and institutional responsibility in terminology

As a language of higher education and research, Finnish is losing ground quite rapidly. Until the last years of the 20th century Finnish had a quite stable status in the academic context: its share of publication was balanced alongside English and nearly all instruction was given in Finnish or Swedish.

The early years of the 21th century saw the introduction of English Language Master's Programs in the Finnish higher education sphere. The scope and scale of these programs have since expanded and it seems likely that they will, at least to some extent, replace the traditional bodies of studies offered in Finnish or Swedish, which in turn will be seen as redundant. Quite recently School of Business in Helsinki announced its plans to entirely give up the use of Finnish as a language of master level instruction, even though this is against the legal statutes governing the use of languages in higher education. The School's announcement is un-precedent case, but it goes to show that the tendency to replace the language of higher education to English exists in Finland.

Tendency to expand and diversify instruction in English is due to growing importance of internationality in the evaluation of universities in Finland, where internationality, when applied in concrete level in the institutions offering education, is usually interpreted synonymously with "in English only".

Another consequence of re-evaluation and re-interpretation of internationality as monolingualism can be seen in the language choices of academic publishing, where also a steady decline of use of Finnish can be seen since the last years of 20th century in every publication category (disputations, research articles, monographs etc.) and all fields of research (Hakulinen et. al. 2009). For example, according to Reference Database of Publications (http://julki.linneanet.fi) and the Research Database TUHAT (https://tuhat.halvi.helsinki.fi/portal/en/), where University of Helsinki records the publications of its staff, the ratio between publications in Finnish and English has shifted from 1:1 in 2000 to 1:2 in 2012.

In the context of Finnish losing ground to English as both language of instruction and publication in the institutions of higher education and research, maintaining strong Finnish terminology in any field of research becomes exceedingly challenging. Stagnation in the reproduction of terminology in specialized fields of research have in turn negative repercussions throughout the society: from ground level education to political decision making, from understanding such abstract global or local phenomena as climate change or inflation, to dealings with local administration or even the health care system. In every situation where the citizens need to access spheres of scientific or scholarly knowledge, lack of terminology in local language becomes an unnecessary barrier.

The universities in Finland have in recent years come to understand the need of explicit language policy guidelines. The main topics of the so far published policy papers have been the relations between the two national languages of Finland, Finnish and Swedish, but also the status of English as the international language.

Those universities, who have taken some initiative in defining their language policies, have usually acknowledged that they have at least some responsibility of maintaining and developing the Finnish and Swedish terminology of the fields practiced in them. These acknowledgements usually have taken place in language policy programs, strategies or other such declarations of the institutions. For example University of Helsinki Language Policy states that: "Creating and maintaining domestic terminology within different disciplines is central to the University's duty to interact with society."(University of Helsinki 2007) The Aalto University Language Guidelines goes a bit further by defining that "Aalto University plays an active role in developing Finnish and Swedish terminology for academic discourse" (Aalto University 2010).

Almost all of the universities in Finland, who have published some language policy documents, have usually included statements of terminological responsibilities in them. It is likely that terminology will be included in the documents published in the future as well. However, it is more or less unclear, what for example "playing an active role in developing terminology" actually means or what kind of actions it entails. Institutions in higher education and research do not have experience of taking responsibility of terminology, and so it is understandable, that they do not have any proposed models for tackling this challenge. So even if there is will, the way still awaits to present itself.

What is clear, though, is that terminology does not simply happen, even if it gets mentioned in a language strategy. Terminology work is action or a process, and as such needs people actually engaged in it to happen. If, even for a minute, we take the intentions expressed in the strategies seriously and speculate how academic institutions would take up the challenge, we might arrive to following conclusions:

In order to take any responsibility or engage in any terminological activity, there has to be people with explicitly designated tasks relating to terminology work. If terminology work is seen as a new task to be introduced to an institution, there are roughly three ways how it can manage this added responsibility: it can buy it as an outside service, it can hire new personnel, or it can add the task to the responsibilities of existing personnel. This in turn translates to three likely scenarios:

Externalize terminological work to outside organizations

From administrative point of view, the maybe simplest way to acquire a new service is to purchase it from an outside provider. This would require the least amount of internal accommodation to a new situation, and would be merely a question of allocating funds. However, it is quite questionable if there would be even enough professional level technological services available to cater for the needs of every single field of research in Finland.

Centralizing all of the terminology work to a team, agency or office of professional terminologists

From personnel management to IT-services and from libraries to accounting, centralization has been the panacea by which the academic institutions in Finland have tried to improve the cost-effectiveness of their administrative and auxiliary services. Centralized terminological coordination service would fall in line with this trend. However, it is quite unlikely that any academic institutions would be willing to make the necessary investments for establishment of in-house terminology office. Centralization of processes has usually involved services already offered by the university. Its purpose has been to reduce overlapping between different offices or agencies offering the same service within the university.

Including terminology work in the curriculum of the staff

Professional teachers and university level teachers actually perform tasks, which have elements of terminology work on regular basis. Concept analysis, defining concepts, coining new terms and translating term equivalents and such are all actually quite normal activities to them. The prevailing problem in the perspective of terminology is that terminological resources are not used as a starting point of the effort, and the results of this effort are not usually stored in any terminological resource either. This means that, for example, terminological knowledge of a given field does not cumulate, a life span of a single term or term equivalent might be as short as just one text, analyzing larger concept system is rare, and definitions are usually intended to have applicability only in the context at hand. From this point of view, adding terminological work to the workload of research and teaching staff at the institutions in research and higher education becomes actually a matter of harvesting the results of work already done and refining its products. This harvesting would entail that a suitable model of practices are devised to facilitate the terminology work, to minimize its transactional constraints (such as access to existing resources), and to cumulate and organize its results. These practices may take a form of, for example published guidelines, but also a virtual collaborative platform such as the BFT.

The example of BFT would suggest that, if the language political statements have any effects, in Finland they will be in the lines of the third option presented above and terminology work will be made to be a part of the workload of the teaching and research staff. The level of the academic institution's commitment for its language political principles will in part dictate the emphasis terminological work will be granted in the staff's curriculum and what are the expectations of the institutions involvement in wider terminological situation in Finland. However, the matter is not entirely up to institutions themselves.

The funding of the universities, which is in great deal based on public funding, is determined by number of quantitatively measured criteria and the institutions can not alone set the criteria they are evaluated on. In fact, it is not at all granted that the academic institutions in Finland are even capable of taking care of the terminological responsibilities they have willingly acknowledged, even if it would mean such an light-weight investment of staff's working time as participation for example in the BFT would demand. Even if the institutions would not actively prohibit individual researchers or teachers from taking part in terminological work in their field, this might be caused by the fact that terminology work is not taken account in when for example evaluating candidates for academic posts or grading individual publications. For this reason alone it might be, that maintaining and developing Finnish or Swedish terminology will probably not be part of professional academic work within academic institutions for any time soon.

Approaches adopted in the Bank of Finnish Terminology in Arts and Sciences

The BFT has pursued to activate the informal academic institutions, namely the learned societies, in terminology work. The learned societies in Finland are brought together by their umbrella organization, Federation of Finnish Learned Societies (FFLS), which coordinates joint efforts and projects concerning all fields of research. In the 2010 FFLS launched a project specifically aimed at activating the learned societies in terminology work in conjunction with the BFT.

The involvement of the learned societies in terminology work has many benefits. Many of the learned societies have long traditions in Finnish terminology work. Some of the learned societies have historically even defined their purpose to be promoting the use of Finnish language in their field, integral part of which is the terminology work. Since most active members and most members in their governing bodies are leading experts in their field working currently in the academic institutions, learned societies have impetus on what is considered prestigious within the field. Through the learned societies terminology might make its way to the centre of the self-understanding of an academic field. This in turn might raise its importance and value inside the academic institutions as well and trigger the necessary changes to make working with terminology part of academic profession.

The results so far have depended on the level of activeness of the societies. Some societies, such as The Lawyer's Association of Finland, have been very active indeed, while others have been virtually dormant. While learned societies are a good way of promoting visibility and importance of terminology work, the problem concerning the actual terminology work stated in the previous chapter prevails: active members of the learned societies are professional researchers and teachers working in the universities and research institutions, and their efforts are constrained by the policies of the institutions they work in. If, for example, their work is evaluated solely on grounds of number of researched articles published in international referee journals per year, there is very little room left for development of Finnish terminology. If work for example in the BFT would be made visible in the evaluative criteria of the universities, this would dramatically enhance the status of Finnish terminology in scientific and scholarly fields.

One possible way for academic institutions to uphold their terminological obligations and still concentrate their staff's efforts on tasks their funding is dependent on, is to add terminological work in the post graduate curriculum.

From the institutions perspective this approach has many qualities. The first is that post-graduate curriculums are more flexible than university level evaluation criteria and can be easily defined within the institution. Second is that directing terminological efforts to post-graduate students would give academic institutions easily definable model for fulfilling their terminological responsibilities.

In any virtual collaborative environment (such as wikis) it is vital, that single records or articles become evaluated or looked at by more than one user. This keeps the content up to date and reduces errors and ambiguities. Post-graduate students, while not yet the leading authorities of their subjects, bring along with them evaluation structure in the form of their supervisors: post graduate students are usually more or less closely supervised by the experts of their field. If drafting terminological records would be made to be a part of the post graduate curriculum, the experts would become authoritative figures behind the records as well, provided that the records would meet the same evaluation as any other element in the student's curriculum.

Involving the post graduate students and their supervisors is currently being tested in the BFT, specifically in the pilot project for terminology of linguistics. So far the preliminary results have been good and expectations are high. The university administration in the University of Helsinki has also shown some green light to proposals concerning adding terminology work in the post graduate curriculum in the future.

Conclusion

The situation of Finnish terminology in arts and sciences is challenging, and if matters are let to run their own course, it might worsen dramatically. There have been signs of awareness and positive initiatives, reflected by for example the BFT or the terminological acknowledgments in the language policy documents published by the academic institutions. However, the underlying reason is the weakening status of Finnish as a language of research and higher education, a process which is not compensated by any single terminological project, no matter how ambitious. What is called for is a form of terminological involvement recognized and appreciated by the evaluation mechanisms governing the academic work.

The BFT is currently working on practices for enabling academic experts participate in terminology work in their fields. The practices under development include for example promoting the importance of Finnish terminology through the learned societies and adding terminology work in post graduate curriculums.

Essentially the concerning status of Finnish terminology is not a result from actions of institutions or individuals in any given level, but sum of them all: from individual research scientist to the department or university she or he is working in, and to the state Ministry of Education and Culture. The responsibility likewise should be shared between all of the levels. The individual experts have certain responsibility to donate their terminological knowledge, and the universities have the responsibility to enable this. The Ministry of Education and Culture in turn has a responsibility not to indirectly financially sanction universities for these efforts.

References

Aalto University 2010 Language guidelines. http://www.aalto.fi/en/about/strategy/language_guidelines/aalto_languageguidelines_201011.pdf (18.2.2013)

Hakulinen et. al 2009 Suomen kielen tulevaisuus. Kielipoliittinen toimintaohjelma. [The future of the Finnish language. A strategy for language policy.] Helsinki: Institute for the Languages of Finland. 241 pp.

University of Helsinki 2007 University of Helsinki Language Policy. University of Helsinki. Administrative Publications 45.Strategies and Plans. Yliopistopaino. Helsinki. http://www.helsinki.fi/strategia/pdf/HY_2007_kieliperiaatteet.pdf (18.2.2013)

Sami terminology work - developing Sami terminology across borders

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The role of the Sami Parliament in Norway

The Sami Parliament in Norway (*Samediggi* in Northern Sami, *Sametinget* in Norwegian) is the Sami's elected governing body, elected by and among the Sami population. It plays an important role in helping the Norwegian government to ensure that the Sami can safeguard and develop their language, culture and way of life and secure fair treatment for the Sami people. Under international law Norway has an obligation to its indigenous population, and the establishment of an elected body is an effective way of fulfilling such obligations.

As an indigenous people, the Sami have a different standing to other ethnic minorities in the Nordic region. The Sami are not immigrants, having lived in their settled areas long before the borders were drawn for today's nations. Consequently, the Storting (the Norwegian Parliament) has ruled that the Sami language and Sami culture must be viewed as indigenous to Norway, and enjoy the same requirements with regard to preservation and development opportunities as the languages and cultures of the majority Nordic populations.

One of the important motivations for the establishment of the Sami Parliament in Norway was that, as a minority, the Sami are precluded from representation on the standard bodies based on a mass-democratic system. The Sami Parliament in Norway was established in order to remedy this, and to provide the Sami with a common voice. This does not mean that all representatives in the Sami Parliament agree among themselves, but that adopted motions are based on a political process.

Establishment of Sami rights

- 1987 – The Sami Act
- 1988 – The Norwegian Constitution, §110a
- 1989 – Opening of the Sami Parliament in Norway
- 1990 – ILO Convention no. 169
- 1992 – Language rules (the Sami Act)
- 1998 – Sami education (the Education Act)
- 2005 – The Finnmark Act

Sami languages

The Sami languages are today spoken in an area within four countries which form Sapmi, the Sami territory. These four countries are Norway, Sweden, Finland and Russia. In Norway the southernmost part of Sapmi is Elgå and the northernmost part is Kirkenes, as for Sweden the southernmost part is Idre and reaches from there all the way up to the north of Sweden. In Finland Sapmi constitutes the northern part of the country and in Russia it is the Kola Peninsula that belongs to Sapmi. In every one of these countries the Sami languages are minority languages and also the Sami population has been subjected to cultural assimilation. The Sami language has to a certain degree withstood the cultural assimilation but has been influenced by the majority language in respective country and has adapted certain grammatical and lexical element from the actual majority language that originally was not too been found in the Sami language. A language is formed by the culture within it thrives.

The Sami languages are divided into three main groups with respective sub groups. The three main groups are East Sami, Central Sami and South Sami. East Sami is spoken in the Kola Peninsula, Central Sami is spoken in Finland, Sweden and Norway and South Sami is spoken in Sweden and Norway.

1. South sámi
2. Ume sámi
3. Pite sámi
4. Lule sámi
5. North sámi
6. Anar sámi
7. Skolt sámi
8. Akkala sámi
9. Kildin sámi
10. Ter sámi

The Sami languages that constitute the East Sami group are Skolt Sami, Akkala Sami, Kildin Sami and Ter Sami. The Central Sami group constitutes of Pite Sami, sometimes called Arjeplogs Sami, Lule Sami and North Sami. The South Sami group constitutes of South Sami and Ume Sami. In total there are 10 different Sami languages, as you can see her illustrated on this map over the Sami area and the borders for the languages.

Two Sami languages that are adjacent to one another on the map are fairly understandable for respective speaker but become more difficult to understand as the distance between the language borders increase.

The biggest of the Sami languages is North Sami which approximately 15000-17000 speakers of which 9000-10000 speakers live in Norway, 5000-6000 speakers in Sweden and 2000 speakers in Finland. The number of South Sami speakers is between 500 and 1000 divided into Norway and Sweden, it is difficult to say anything about the numbers of people who speak Ume Sami since there are not any numbers available. Lule Sami is spoken by about 500-1000 speakers also divided into Sweden and Norway. In Finland there are about 500 people who speak Enari Sami and about 500 people who speak Skolt Sami. In the Kola Peninsula in Russia there are 700 persons who speak Sami, with about 20 Ter Sami speakers, Akkala Sami with less than 10 speakers and a variety that belongs to Skolt Sami, Notozer Sami with about 25 speakers. The biggest Sami language on the Kola Peninsula is Kildin Sami which has about 650 speakers.

The Sami languages belong to the fenno-ugric languages and are related to Finnish, Estonian, Livonian and Hungarian. The main groups in fenno-ugric languages are Sami, Baltic Finnic, Permic, Volgaic and And Ugric, which of all have a common origin.

Rich derivational system

The possibility to produce word derivationals is strongly contributing to the abundance of word forms in Sami, here is an example with som derivationals from the North Sami verb *lohkat* 'to read or count':

- *logastit* 'to read or count little or quickly'
- *lohkalit* 'to read or count quickly'
- *logadit* 'to be reading or counting'
- *logahit* 'to make someone read or count'
- *logahallat* 'to make several people to read or count'
- *lohkkojuvvot* 'to be read or counted'
- *lohkagoahtit* 'to start reading or counting'
- *logaldallat* 'to give a lecture'

Some derivational endings enable to produce derevationals that represent new word classes, for example:

- *lohkki* 'reader'   *lohkan* 'lecture or counting'
- *logus* 'reading, something to read'
- *lohku* 'amount, number, account'
- *lohkamuš* 'something to read or count'
- *logakeahttá(i)* 'unread, uncounted'
- *logahahtti* 'readable, countable'
- *lohkalas* 'inclined to read, count'
- *lohkameahttun* 'uncountable, unreadable'
- *logaldallan* 'lecture'

Terminology development

In order to develop the Sami languages it is of utmost importance to conquer new language areas. To be able to use Sami languages at academic occasions academic terminology and academic terms in Sami languages are needed. The Sami parliament is responsible for normalization of Sami words and terms. The Sami parliament has produced the word database www.risten.no. The web based database was launched in 1998.

It is possible to do searches in the database using Norwegian or Sami. The word database contains Sami terminology data bases, Sami word lists and Sami dictionaries in South, Lule and North Sami. It is a continuous work to update the database with additional databases, word lists and dictionaries. It is the Sami language board that approves of Sami terms. The Sami language board coordinates terminology projects, also across the borders, in order to use the spare language resources wisely. Coordination and mapping of words is important in order to avoid confusion of the terminology. The different countries where Sami is spoken can have different terminology for the same terms.

Terminology regarding laws and acts is a time consuming work and a big question is how to secure the quality of the work.

Earlier the Sami language board has chosen different areas of interest to be prioritized, for Lule and South Sami it was terminology regarding social studies, for North Sami it was terminology regarding natural science. Also names for geographical areas have been prioritized.

A challenge when developing terminology is that since the Sami language have few speakers it is difficult to find people working within different specialist areas that also speak Sami. A lot of the time language workers without knowledge of the certain area are to produce the terminology.

Another time consuming aspect is to gather the people that are elected as members of the Sami language board. When the lists with new words are being examined one has to send the lists back to the owner of the list who shall accept or decline the alterations that are made. And then it is for the language board to examine the list at the next meeting. Needles to say this is a major obstacle that needs to be solved in order to accelerate the process of accepting new terminology.

As the Sami language is influenced by the majority languages is each country the terminology is many times based on the majority language, hence the same term in Sami has one Norwegian and on Swedish or Finnish origin, that is a problem that needs to be addressed for terminology development in the future. There is a need to systematize the development of terminology. Up until now the terminology work has been as following:

The examiner in the Sami parliaments terminology and place name team receives a terminology list. From there an assessment is made if it is necessary to send the list to the Sami language board in order to get approval. When the Sami language board has examined the terminology list they send it in return to the Sami parliament. Then it only remains to publish the terminology list. In addition the database also contains a grammar page regarding South Sami, Lule Sami and North Sami grammar.

The Sami parliament has launched a project to improve the word data base and make it more user friendly, it will hopefully be finished within 2012.

Nordic Sami language center

The Sami language is heavily influenced by the majority language in the countries. Our languages are dependent of that we manage to cooperate across the country borders. A weak cooperation will result in that the Sami languages develop in different directions in the different countries and in the worst case scenario this will result in difficulties in understanding each other.

Sami language board has realized the need for a powerful language body in order to optimize the Nordic language work. The mandate for the language board expired in 31.12.2011 and in June 2012 Sami language board have decided to establish the "Sami language well – Nordic resource center for Sami languages", that will be fully operating since 1.1.2013. "Sami language well" will among other things work with the development of Sami language, development of terminology, language attendance and information to the general public regarding language questions. Associated with the center there will be 9 language workers, 3 North Sami, 2 Lule Sami, 2 South Sami, 1 Enar Sami and 1 East Sami.

CTR – the Danish Research Foundation's Centre for Textile Research et les programmes de terminologie TEMA et TEXTILNET

SUSANNE LERVAD
TERMPLUS ET CTR, DANEMARK

INTRO

Depuis l'année 2005, le CTR (*Centre for Textile Research*) de l'institut SAXO, à l'Université de Copenhague, mène le jeu dans le domaine de la recherche sur les textiles. Des méthodologies ont été établies et les savoirs ont été remis en question et complétés. Des recherches de pointe montrent comment les textiles peuvent apporter une contribution importante à notre connaissance et à notre interprétation des sociétés préhistoriques.

Nous nous intéressons tout particulièrement aux textes portant sur la production des textiles et sur son rôle dans des sociétés de plus en plus complexes. Les écrits du Proche Orient de la région méditerranéenne datant du 3e, du 2e et du 1er millénaire avant J.-C. témoignent d'une terminologie complexe des textiles, des outils et des techniques, des vêtements et costumes, de la décoration et des désignations professionnelles spécialisées. Pourtant, bien souvent, nous n'avons qu'une idée imprécise de leur signification.

« Les textiles jouent un rôle vital dans l'environnement humain ; ils expriment qui nous sommes, traduisent nos goûts, nos affiliations et notre savoir-faire. Un textile est le résultat des nombreux choix faits à chaque étape de sa production par son fabricant. Nous utilisons ici le terme « textile » dans son sens le plus large, qui couvre divers matériaux et techniques parmi lesquelles le tissage n'est qu'une des nombreuses possibilités. Les peaux et les cuirs sont d'autres ressources importantes pour les costumes et les accessoires d'habillement ; ils sont donc inclus à notre champ de recherche. La production de peaux et de textiles définit les interactions et l'environnement humains depuis la fin de la période paléolithique. Les textiles sont faits de fibres animales, végétales ou artificielles. »

Ces lignes, qui servent d'introduction aux plans de recherche du CTR pour la période 2010-15, délimitent d'emblée le champ de recherche et exposent l'esprit qui imprègne tout le travail de recherche du Centre de Recherche en Terminologie de l'Université de Copenhague.

1. TEMA (Textile Economies in the Mediterreaen Area)

Le programme TEMA 2010-15, fondé sur la coopération entre le CTR, des centres de recherche internationaux, des universités et des musées, est un programme qui envisage d'analyser la culture du textile dans les régions méditerranéennes, plus particulièrement la production et le commerce des textiles.

Quelques domaines de recherche du programme TEMA sont :

- l'économie de la laine (production des palais et production domestique) ;
- le développement de la culture du lin (production de nourriture et de fibres) ;
- L'enquête terminologique, confrontée aux analyses techniques des outils et aux vestiges archéologiques, avec une dimension historique, ethnographique et anthropologique, a permis de mieux appréhender la production textile et sa place dans les sociétés anciennes.
- la terminologie des textiles en langue grecque et la classification du vocabulaire des textiles.

L'intégration de la terminologie à ce projet assure la prise en compte de la délimitation des concepts et des relations qui les unissent.

Le thème central de ce programme TEMA, en ce qui concerne la terminologie, a été défini suite à un séminaire de terminologie textile organisé au CTR, sous l'égide de la « European Science Foundation » (ESF) en 2009 sur les textiles au 3e et au 2emillénaires avant J.-C.
L'ouvrage Textile Terminologies, publié à la suite de ce séminaire, sert de référence aux projets du domaine concernant les textiles.

Un deuxième volume doit paraître en 2014, à la suite d'un deuxième séminaire sur les textiles couvrant cette fois-ci le 1er millénaire avant J.-C jusqu'au 1ermillénaire après J.-C.

2. Le colloque et l'ouvrage « Textile terminologies »

2.1 Terminologie et innovations techniques

Le cadre géographique et chronologique de ce colloque concernait une vaste zone allant de l'Iran à l'Égée, du IIIe au Ier millénaire av. J.-C. Dans cette région, à l'exception notable de l'Égypte, les vestiges textiles sont exceptionnels. En revanche, la richesse et la variété de la documentation textuelle représentent une source d'information unique sur les textiles, leur production et leur usage. Il s'agissait d'explorer cette terminologie de manière diachronique et à travers une vaste zone géographique et d'analyser les paramètres qui influencent les changements sémantiques et l'adoption de nouveaux termes. La terminologie relative aux textiles naît et évolue en parallèle avec les innovations techniques, les découvertes, les modes et les réseaux commerciaux. Les mots désignant les outils, la technologie et les textiles se sont développés au-delà des millénaires pour répondre à une demande sans cesse renouvelée. Le colloque, puis le volume, ont rassemblé des études sur les terminologies textiles dans les langues sémitiques et indo-européennes, ainsi que des analyses comparées d'autres champs de la recherche, archéologie, iconographie, ethnoarchéologie et archéologie expérimentale.

2.2 Un vocabulaire régional des textiles

Le vocabulaire de l'artisanat textile varie selon les langues et selon le type de textes (officiels, administratifs, privés). Aujourd'hui, anglais et allemand utilisent deux mots pour la première fibre végétale utilisée : « flax » (anglais) et « Flachs » (allemand) pour la plante, et « linen » (anglais) et « Leinen » (allemand) pour le tissu, alors que le français ne connaît que le mot « lin » pour désigner à la fois la plante et l'étoffe tissée à partir de cette plante. L'enquête terminologique, confrontée aux analyses techniques des outils et aux vestiges archéologiques, avec une dimension historique, ethnographique et anthropologique, a permis de mieux appréhender la production textile et sa place dans les sociétés anciennes.

La terminologie textile moderne témoigne des routes commerciales, des modes et des traditions ; on emploie certains mots avec des sens multiples : les « Jeans » viennent de Gênes, « denim » désigne des vêtements « de Nîmes », une région où l'on cultivait la guède, Isatis tinctoria – une plante herbacée dont on extrayait le pastel, etc. De même, l'enquête terminologique menée sur l'Antiquité a révélé le croisement, le développement et l'échange de termes du domaine du texte entre les régions, les époques et les cultures du passé. Dans la documentation cunéiforme, chaque population a développé un vocabulaire spécifique typiquement local.

Toutefois, la présence de certains termes a pu être retracée sur de larges zones géographiques et à travers les millénaires : le mot grec pour une longue chemise,*khiton*, attesté déjà en linéaire B à la fin du 2e millénaire sous la forme *ki-to*, dérive de la racine sémitique *ktn*. Le terme akkadien pour le lin est *kitûm*, mais le mot paléo-assyrien *kuta num* est fait de laine et dans plusieurs langues modernes notre mot coton pourrait avoir la même racine dérivé de l'arabe et ainsi arrive en Europe au 1er millénaire après J.-C. Ainsi l'étymologie ne suffit pas pour identifier un terme antique ; cette identification repose sur la compréhension des techniques, l'évaluation des possibilités et des plausibilités et de bonnes connaissances sur la terminologie textile dans nos langues modernes. L'énoncé de cette conclusion peut sembler banal, il constitue pourtant une véritable révolution des pratiques historiennes et philologiques.

2.3 La terminologie du vêtement, un marqueur social

Une classification terminologique des textiles utilise des critères relatifs à la nature du tissage, la composition des textiles, leur provenance géographique, leur qualité, leur couleur ou leur usage. À l'âge du bronze, la toponymie associée aux textiles semble jouer un rôle important, qu'elle renvoie à un lieu de production ou de commercialisation ou à un savoir-faire spécifique. La distinction entre textile et vêtement n'apparaît pas triviale, tout particulièrement aux IIIe et IIe millénaires, période où, selon l'iconographie, le prêt-à-porter apparaît rare : le vêtement drapé ne nécessite aucune coupe particulière mais plutôt des dimensions adaptées et des agrafes fibules élaborés. Les costumes des rois et de l'élite sont décrits avec détails comme des agrafes fibules élaborés, tout comme les tissus d'ameublement des palais. Les teintures sont délibérément utilisées pour exprimer le statut ou ont un sens symbolique. Si la majorité des teintes (blanche, brune, noire) semblent d'origine naturelles, le jaune « d'or » est réservé au roi en Ur II, l'élite portant du bleu (indigo de plante ou purpurin du murex) chez les Hittites, tandis qu'à la cour assyrienne du Ier millénaire, le rouge domine. Au-delà de ces marques sociales, la terminologie textile, dans son ensemble, est apparue fortement liée à l'expression de la cosmologie et des mythes.

À l'issu de ces travaux, il ne fait aucun doute que les textiles génèrent un vocabulaire complet *via* le développement des technologies et l'émergence de professions spécialisées et d'une division du travail. Le développement du vêtement et l'expérimentation avec des vêtements drapés, fibules et autres systèmes de fermeture, puis le prêt-à-porter, ont généré d'autres termes techniques pour les éléments de l'habit, pour la combinaison des éléments et pour l'ensemble.

3. Projet Textilnet – la construction d'une base de données terminologique sur les costumes et les textiles du XVIIIe siècle à nos jours.

3.1 Description du projet

Le programme Textilnet est un autre projet organisé autour de la terminologie des textiles ; il se fonde sur une collaboration entre les musées culturels et de design au Danemark et sur les collections de textiles du 17e siècle à nos jours et subventionné par le « Danish Heritage Board ».. L'objectif principal de ce projet est de numériser les données déjà existantes dans les fichiers des musées.

Le but de ce projet est à la fois de sauvegarder l'héritage culturel immatériel que représentent les termes se rapportant aux costumes et aux textiles, et de rendre accessibles les expressions et leur sens aux personnes intéressées, par le biais d'une base de données consultable sur Internet.

Ce projet a été initié lorsque les musées danois ont constaté, ces dernières années, un intérêt croissant pour les costumes et les textiles de leurs collections, ainsi qu'un intérêt croissant pour les expressions qui leur sont associées.

Les termes se rapportant aux costumes sur une période de 400 ans sont un héritage culturel important qui doit être préservé.

Les nouvelles générations pourront ainsi trouver une inspiration non seulement dans les collections des musées, mais aussi dans une banque de données en danois contenant les expressions anciennes relevant du domaine des textiles.

Un groupe de travail scientifique a été créé dans le cadre de ce projet. Ce groupe constitue un réseau interdisciplinaire des musées danois (voir www.dragt.dk), et participe à la mise en place de la base de données terminologique. Il est composé de conservateurs et autres professionnels ayant une expérience de longue date en matière de textiles et de musées. La coordinatrice du projet est le conservateur du musée le plus visité au Danemark, le musée « Den Gamle By » d'Aarhus.

Dans ce contexte, il semblerait qu'une base de données terminologique pourrait donc être un outil très utile pour tous ceux qui s'intéressent à ce domaine : étudiants, chercheurs, designers, éditeurs, danseurs ou metteurs en scène, par exemple. Cette base de données servira à enregistrer et visualiser des objets (textiles et costumes) conservés dans les musées et pourrait aussi assurer la formation d'une terminologie homogène, offrant aux musées un instrument de travail important. Enfin, cette base de données sera une base de connaissances informatisée accessible à tous et apportant des réponses là où les dictionnaires et les lexiques ne le font pas. Les termes « toile » et « satin » seront par exemple inclus avec des illustrations, des explications et des contextes, ainsi que des définitions.

Cette base de données se base sur les fichiers existant de chercheuses danoises ayant travaillé dans le domaine des textiles et costumes, comme Margrethe Hald, Erna Lorenzen et Ellen Andersen. Par la suite, des thèses, des articles et des publications pertinentes seront également inclus.

3.2. Structure de la base de données

Chaque vedette se présentera avec une définition ou une explication, une illustration, des références et des liens. Plusieurs modes de recherche à l'intérieur du système permettront de répondre aux différentes demandes, et la base de données sera consultable sur le site du Musée National du Danemark.

Le travail actuellement mené porte sur les termes des 400 dernières années. Il sera possible d'élargir cette période pour inclure des textiles plus anciens dans le projet. Les collections des musées danois sont riches en textiles et costumes de l'âge du fer, car l'acidité des marais où ont été retrouvés ces objets a favorisé leur conservation (voir www.ctr.hum.ku.dk).

Étant donné que ce projet porte sur une période très vaste, il est tout à fait naturel que les termes des textiles qui seront inclus dans la base de données terminologique aient un sens différent suite à l'évolution des concepts qu'ils désignent. Il est donc indispensable que ce travail comporte aussi un volet diachronique.

Au cours de la première phase du projet nous enregistrons les entrées issues principalement de documents produits par des chercheurs dans le domaine des textiles (ces documents étant simultanément numérisés). Les vedettes se trouvent dans quatre bases différentes suivant la classification du projet :

1) Textiles et techniques de construction ;
2) Costumes et parties de costumes ;
3) Décoration et techniques de décoration ;
4) Façons de parler/idiomes.

Pour une technique de construction de tissu, une entrée de la base de données peut se présenter de la manière suivante :

Vedette:	Toile
Lang:	No : lerret, En: tabby, linen ; Fr : Toile
Class:	textiles
Définition:	Armure de base
Référence:	Paul Sterm, Textilbogen, Ordbog over de danske sprog : (1300-1700), Kbh

Le même terme « toile » peut désigner le tissu en armure de toile. Il faudrait donc deux entrées pour représenter ces deux concepts dans la base de données terminologique TEXTILNET.

Vedettes:	Toile, agenois, arabias, arauns, avignons, barrage, battist, beaufort, bebelais, bocadilles, bougrams, daridas etc.
Lang:	No: lerret, En: linen, Fr: Toile
Class:	textiles
Définition:	Tissu en armure de toile
Référence:	P. Sterm, Textilbogen Kbh, 1960; Karkar: Ordbog over det danske sprog (1300–1700)

4. Conclusion – sources écrites, iconographiques et archéologiques

La directrice du Centre de Recherche en Textiles, Marie-Louise Nosch, est très consciente du rôle central joué par la terminologie et elle assure que la terminologie et l'analyse des concepts de base s'intègrent à tous les projets.

Nous accordons un intérêt particulier aux représentations et configurations verbales et non-verbales dans nos projets et comme exprimé récemment dans un article paru dans les actes du réseau Toth (Terminologie et Ontologies : Théories et Applications).

Cela sera aussi le thème du workshop de Toth et le groupe de terminologie et d'ontologie de la Société Francaise de Terminologie le 8 novembre en 2013 au CTR à Copenhague.

En tant que terminologue titulaire d'une thèse sur la terminologie des textiles , mon rôle est plutôt d'effectuer une analyse et une délimitation des concepts clés et de montrer les relations entre eux.

Un exemple de ce travail méthodologique se trouve dans un chapitre de volume « Textile terminologies » et ce travail sur la méthode de diachronie longue et la représentation verbale et non-verbale des armures de tissage – trois concepts de base de la terminologie des textiles.
Ce chapitre est également la base d'un enseignement annuel au CTR/ Université de Copenhague pour toutes les filières émanant de nos projets.

Cette année le titre de programme d'enseignement à l'université de Copenhague était: « Textiles, fashion, production and consumption in the Ancient Mediterranean».

D'un autre côté, j'interviens pour conceptualiser les définitions de bases dans les travaux de doctorat d'une collègue indienne qui travaille sur la terminologie des textiles et des costumes en Inde au 20ème siècle fortement influencée de l'anglais. Mon rôle de terminologue au CTR s'étale donc sur toute l'année et c'est donc un rôle continu d'être terminologue au centre. J'espère pouvoir établir une ontologie de base/une top-ontologie sur les concepts de base du domaine comme suite aux classifications et du domaine que j'ai établi avec ma collègue Lotte Weilgaard, de SDU lors de notre travail de thèse.

Les archéologues du centre ont besoin d'un catalogue pour classifier et analyser les textiles anciens (dater etc.) et leur travail d'archéologie expérimentale se base forcément sur les concepts fondamentaux du domaine.

Lectures complémentaires :

Dury, P. & Lervad, S. & Nosch M.-L. (2011) Verbal and Non-verbal configurations of textiles – a diachronic study, in Toth 11, Actes de la cinquième conférence Toth – Annecy 26 &27 mai 2011, 201-220.

Dury, P. & Lervad, S. (2010) Synonymic variation in the field of textile terminology: a study in diachrony and synchrony. In C. Michel & M.-L. Nosch (eds.), Textile Terminologies in the Ancient Near East and the Mediterranean Area from the 3rd to the 1st millennium BC, Ancient Textiles Series 8, Oxford, 1-9.

Lervad, S. (1999) Les éléments graphiques dans la terminologie des textiles, LSP and Professional Communication, Vol. 22, N. 2 (48), 38-4, CBS, Copenhagen

Lervad, S. (1991) En analyse af den fagsproglige kommunikation i tekstilområdet, Ph.D. thesis, Handelshøjskole Syd, Kolding.

The ECHA-term project: Multilingual REACH and CLP Terminology

DIETER RUMMEL, HEAD OF THE TRANSLATION SUPPORT DEPARTMENT
TRANSLATION CENTRE FOR THE BODIES OF THE EUROPEAN UNION

The ECHA and the Translation Centre

The Translation Centre for the Bodies of the European Union was founded by Council Regulation (EC) No 2965/94 in 1994 to provide translation services to the decentralised Agencies of the EU. This initial mandate was enlarged in 1995 by the dimension of "interinstitutional cooperation". This meant that the Centre became a full member of the Interinstitutional Committee for Translation (ICT), an internal group that brings together the management of the EU's language services to exchange information or launch projects of common interest. The extended mandate also gave the Centre the possibility to provide services to EU bodies that have their own in-house translation service to cope with peaks of workload or specific projects.

The biggest contribution of the Centre in the field of terminology and inter-institutional cooperation is the IATE project (**I**nter-**A**ctive **T**erminology for **E**urope). This ambitious project that merged the existing terminological resource of a number of EU services (Commission, Council, and European Parliament etc.) was launched by the Centre in 1999. The Centre has since been involved in the management of the project and the IT system that has been used internally by the IATE partner services from 2004. Today the Centre chairs the interinstitutional IATE Management Group and provides technical support for the tool.

The EU Agencies cover every aspect of life: intellectual property rights, xenophobia, medicine, occupational health and safety, environment issues, banking, IT security etc. Terminology – namely the creation of thematic glossaries – is thus an integral part of the Centre's quality assurance approach. A small central terminology team (2 -3 people) complete between 3 to 9 terminology projects per year. These glossaries are usually rather "translation-centric", i.e. they aim at providing the Centre's linguists with a concise, problem-oriented terminology in the areas covered by the EU Agencies. The central team works together with an internal network of terminology coordinator (one per language), i.e. translators who are the contact points for terminology related questions in their language group.

One of the Centre's highly specialised clients is the European Chemicals

Agency (ECHA) that is based in Helsinki, Finland and was founded in 2007. The ECHA is the driving force in implementing the EU's groundbreaking chemicals legislation for the benefit of human health and the environment. Through the REACH Regulation, companies are responsible for providing information on the hazards, the risks and the safe use of chemical substances that they manufacture or import. The Classification, Labelling and Packaging Regulation (CLP) introduced a globally harmonised system for classifying and labelling chemicals into the EU.

Besides its technical and logistic aspects, the implementation of this new EU legislation also constituted a major challenge for multilingual communication: how do you ensure that a complex and vast EU regulation becomes understandable and "actionable" for all concerned stakeholders? And how do you ensure that this feat is achieved in 23 official EU languages?

The ECHA considered coherent and clear terminology one of the key factors in this process and launched the ECHA-term project together with the Translation Centre for the Bodies of the EU. The purpose of the project was to provide REACH users with a reliable, coherent and up-to-date source of terminology in the chemicals field to harmonise the use of terminology in the REACH context, to enhance clear communication and ultimately to reduce costs for the stakeholders.

The ECHA-term in a nutshell

Discussion between the ECHA and the Centre on this project started in late 2008. A joint project ("Reach-term") was launched in 2009. The first phase of this project include following three activities:

- The creation of a Reach specific core terminology. The partners agreed to kick-off the project with the compilation of a glossary of 400 terms (in 22 EU languages) focused on regulatory and technical terminology;
- The definitions of the functional requirement for the dissemination of the glossary, i.e. the technical platform (database, web site) that should be used to publish this information;
- The implementation of a "proof-of-concept" for the technical platform, i.e. of an IT system that demonstrates the agreed upon main functionality.

The project's second phase was implemented in 2010. It included:

- The extension of the content, i.e. the addition of relevant multilingual concepts;
- The implementation of the full IT system;
- The organization of tests with members of the target user group (industry, Member States and linguists).

The ECHA-term platform was launched in April 2011. Today the Translation Centre hosts and maintains the IT platform and works – in close cooperation with the ECHA – on the enlargement of the terminological content of the system.

The database contains over 1000 CLP and REACH related concepts, phrases and definitions in 22 EU languages, 9 multilingual pictograms with images and 53 substances of very high concern with EC and CAS numbers. Roughly 100-150 new terms are added annually.

Content creation

A key factor in the life of the ECHA-term project was the definition of the scope of the glossary: was ECHA-term to become *the* database on chemical terminology, i.e. an all-inclusive reference guide for industry and citizens? Or should the development of the content focus on the terminology that was introduced with the REACH and CLP regulations? The ECHA decided to focus on the terminology that is indeed covered by its mandate – REACH and CLP – and for which it can provide authoritative and reliable information. This also had an implication for the functionalities that the IT system would provide: the idea of an ECHA "wiki", that had been discussed in an early phase, and that would allow for users to add content was abandoned in favour of a more structured, controlled approach.

Typically terminology work for ECHA-term begins with the definition of a relevant corpus in the source language (usually English). Using semi-automatic term extraction tools, the Centre will create an initial list of concepts in the source language and complete them with definition, reference, context, note etc. This monolingual glossary is then validated by 2 or 3 translators to ensure the pertinence of the included material (does the list contain concepts that are "trivial" and should not be included? Are important – i.e. problematic – concepts missing?). A native speaker will then revise the English term list to ensure that is does not contain formal errors (typos etc.).

The consolidated monolingual glossary is then submitted to the ECHA for validation by their domain experts. The subsequent multilingual phase of the project, when target equivalents and relevant information are completed by the Centre's terminologists, is thus based on a solid foundation. Wherever possible the ECHA reviews and validates the multilingual glossary. In practice, however, it can be difficult to cover all languages. The final glossary is imported into the ECHA-term database.

While it is true that ECHA-term is not a wiki, user feedback is still important and encouraged. Registered users of the database have the possibility to comment on the existing content or to propose new concepts that should be added. The Centre and the ECHA analyse user feedback and update the database where appropriate.

The database also keeps track of unsuccessful ECHA-term searches, i.e. it allows the production of statistics on frequent queries that did not produce a result. This feature provides additional input for the ongoing ECHA terminology work.

Main feature of the ECHA-term IT platform

The ECHA-term database is accessible under http://echa.cdt.europa.eu.

The home screen offers different search options as well as an alphabetic index of the database. It includes news items and a "word cloud" of the most frequently searched terms. A menu bar at the top of the screen gives access to other functionalities (export, user preferences, help, consultation and download of documentation etc.). The user interface and some parts of the documentation have been localized in 22 official EU languages.

Fig. 1: ECHA-term home page

Look-up of terms, translations and definitions

The basic functionality of the IT system is look-up of terminology. ECHA-term supports both mono-lingual and bi-lingual queries (Fig. 1).

Fig. 2: ECHA-term search interface

Search results are presented in a simple hit list that typically contains the matching terms in the source language and their translation as well as indicator of any additional information that is available (reliability of the term reference, definition of the concept etc. – see Fig. 2)

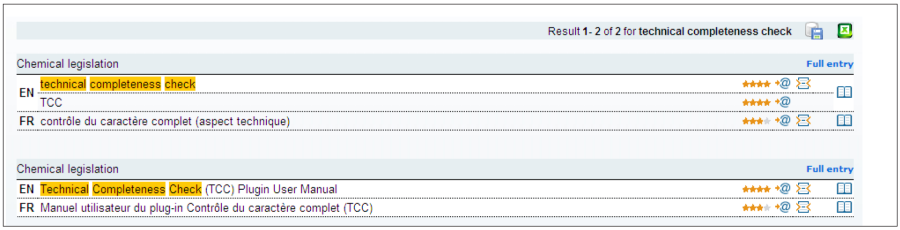

Fig. 3: ECHA-term result list

Users have the possibility to visualize the concept by clicking on any entry in the hit list. The detail view" also allows for submitting entry specific feedback (Fig. 3)

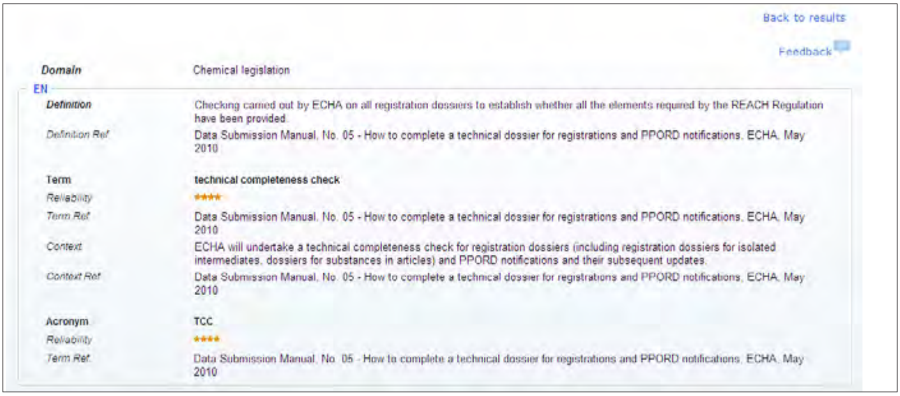

Fig. 4: ECHA-term detail view

ECHA-term also provides an alphabetical index that is intended for users wanting to browse the full list of terms contained in the database. Users can display the full list of terms or filter by term type (displaying only a specific category of terms: acronyms, phrases, substances, descriptors, etc.)

User Management

While access to ECHA-term is not restricted – anyone can consult the database – the system also supports the management of different access rights and user role. A simple registration mechanism gives access to export and feedback functionality. A limited number of users have the possibility to edit or validate terminology on-line (see below).

The database currently supports the following user roles:

ROLES	RIGHTS
Read-only access	Searching the multilingual terminology
Registered access	Searching the multilingual terminology, exporting data, sending feedback on entries, receiving news alerts
Editor	Searching the multilingual terminology, exporting data, sending feedback on entries, receiving news alerts, editing existing data, creating new entries, adding missing languages, adding synonyms
Validator	Searching the multilingual terminology, exporting data, sending feedback on entries, receiving news alerts, editing existing data, creating new entries, adding missing languages, adding synonyms, validating entries created by editors
Administrator	Searching the multilingual terminology, exporting data, sending feedback on entries, receiving news alerts, editing existing data, creating new entries, adding missing languages, adding synonyms, validating entries created by editors, managing users accounts, managing feedback messages, compiling statistics

On-line editing

Users with the corresponding access rights can modify or delete existing information or add new concepts or languages on-line. This is done via an editable version of the detail view (Fig. 3).

Fig. 5: On-line editing

The database keeps an audit trail of all modification made to the glossary. Users have the possibility to compare the current content of, e.g. a definition, with their previous content.

Consultation - Validation

The initial approach defined for the validation of terminology in ECHA-term was based on the Centre's experience with the IATE database. One of the founding principles of IATE is that EU linguists should be able to use this database to record their terminology interactively. Today terminologist and translators in the EU's language services add about 200 terms to IATE every day and modify roughly the same number. The validation of these changes is an integral part of the IATE philosophy: every modification launches a validation workflow, i.e. the review of the change by another colleague.

The approach chosen for ECHA-term is slightly different: interactive modifications are today the exception rather than the rule. New terminology is added according to a well-defined and structured process that includes several validation steps (see above); write access is limited to a very small number of administrators at the moment. Overall the potential user population of editor and validators is very restricted. In this set-up it did not make sense to implement a sophisticated validation workflow.

However, the ECHA saw the need to revise parts of the glossary in the future, e.g. by a small dedicated group of reviewers. The idea of a systematic validation mechanism was dropped in favor of a feature that supports the review of specific entries. In this scenario administrators could define a sub-set of entries that should be reviewed; colleagues carrying out the review see the entries or terms concerned in a specific screen:

Entry ID	BG	CS	DA	DE	EL	EN	ES	ET	FI	FR	HU	IT	LT	LV	MT	NL	PL	PT	RO	SK	SL	SV
6986	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7001	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7627	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✓	✗	✗	✓	✗	✗	✗	✗	✗	✗	✗	✓

Fig. 6: Review screen

The progress of the review process is indicated by check marks.

Downloading of terminology

Registered users have the possibility to download sub-sets of the database or the entire glossary in either TBX or Excel format. Export filters allow limiting the download to specific sub-domains or term types (terms, acronyms...). Terminology can be exported in a monolingual form (i.e. terms and definitions) as well as in a bi- or multilingual format.

Feedback management

As mentioned above registered users of ECHA-term can comment on entries or terms. This feedback is stored in the database; it is accessible to administrators in a "Feedback management" screen that can also be used to indicate the status of the follow-up to a comment.

Feedback management

36 items, 1 - 10 [<</<] 1, 2, 3, 4 [>/>>]

Name	Entry ID	Lang	Date	Useful	Comment	Type	Status	Remark
[illegible]	7096	bg	2012-12-29		Translate Според мен е по-правилно да се използва "граница на откриваемост"	General	Open	Sent to BG terminologist
[illegible]	7422	fi	2012-10-11	yes	Translate I am a professional translator and have translated over 1.000 pages for ECHA. I think the word "kandidaattilista" is bad Finnish and should not be indicated as the preferred translation for the English term "candidate list". Candidate in Finnish is "ehdokas", list is "luettelo"; it is true that the words "kandidaatti" and "lista" are also used, but in my opinion they are too colloquial for most ECHA texts. "Kandidaattiluettelo" is a bit better, but personally, I would vote for "ehdokasluettelo" as the most "Finnish" option. "Kandidaattilista" is poor style and should not be indicated as the preferred translation.	General	Closed & Rejected	FI team consulted. Finnish expert and validator of ECHA documents wants translators to use "kandidaattilista"
[illegible]	7474	fr	2012-09-10	no	Translate I propose a more meaningful translation in French: "Guide sur les exigences d'information et l'évaluation de la sécurité chimique"	General	Closed & Rejected	FR team consulted. They agree but since this is a title of an already publised document it needs to be kept as it already is

Fig. 7: Feedback management screen

Where purely linguistic or terminological questions are highlighted by users the Centre's terminologist and translators can usually evaluate the comment and take actions when necessary. For more complex feedback that concerns the substance of the ECHA-term the Centre liaises with the experts at ECHA to provide an appropriate response.

Results of the 1st ECHA-term user survey

In June 2012, about 14 months after the launch of the site the ECHA launched an on-line user survey to find out what ECHA-term users think about the glossary and the IT system that was designed to disseminate it.

The statistics that can be produced by the system show that ECHA-term around 850 registered users from over 40 countries. Around 250 to 300 queries are submitted via the user interface per day. Overall the usage figures of the database show a positive the trend:

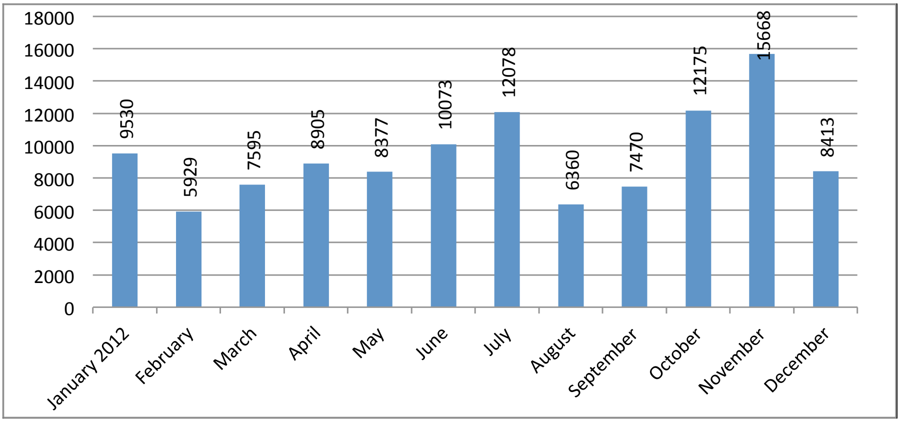

Fig. 8: number queries submitted to ECHA-term per months in 2012

The user survey aimed at complementing this type of quantitative information by a qualitative element: who are the ECHA-term users? Is the information provided relevant to their work? How is the system perceived by it target group?

153 ECHA-term users took the time to reply to the survey. 56% of respondents indicated that they work in the chemical industry; 22% are translators. Other users work for EU Member States, international organizations, NGO or social partners.

The main findings of the survey are:

- Overall, the tool serves the user's needs as initially designed. The vast majority of users visit the site to look up translations for terms (77%)
- the multilingual database is one of the key features for ECHA-term users.
- 67% of users agree with the statement that ECHA-term makes their work more efficient.
- 62% of users state that the database helps them understand the REACH Regulation and 63% indicate the same about CLP.
- 83% of users replied that the terminology available on ECHA-term is relevant to their work.
- The users appreciate the possibility to download the content of the database.

Conclusion

The results of the user survey confirmed that a relatively small, but well-maintained glossary can indeed make a difference and support users in the implementation of a rather complex EU regulation. This much said, ECHA-term will grow over the next few years. We have foreseen to add between 100 -150 concepts per year.

From a technical and functional point of view it is interesting to note that many users, namely from the industry, download ECHA-term data to integrate it in their local IT systems (e.g. authoring tools). The possibility to use ECHA-term not only via its user interface remains an important topic. Many respondents stated that they would like to see an ECHA-term web service or a way of integrating ECHA-term in their standard document editing environment. Finding ways to push relevant terminology to end users – e.g. by linking terms in ECHA documents or web pages to definitions in the database - would be another well-appreciated feature.

Seamless integration, interoperability but also the controlled growth of the database content are promising ways to ensure the relevance and usefulness of the ECHA-term database in the future.

Further Reading:

ECHA-term web site, http://echa.cdt.europa.eu, 22 January 2013

European Chemicals Agency (ECHA), http://echa.europa.eu, 22 January 2013

Translation Centre for the Bodies of the European Union (CdT), http://cdt.europa.eu, 22 January 2013

Results of the ECHA-term user Survey 2013, http://echa.cdt.europa.eu/downloadDoc.do?docType=report&lg=en&name=ECHA-term User Survey 2012 - Results.pdf, 22 January 2013

Terminology and LSP in higher education in Hungary[1]

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1. Introduction

The central topic of the conference is responsibility and awareness in terminology, and this panel focuses on the question of professional responsibility.

The topic choice is not a coincidence, as responsibility and awareness in terminology are central issues in the publications of Swedish terminologists.

At the previous Summit held in Budapest, Anna-Lena Bucher talked about Sweden's terminological infrastructure (see Bucher 2011). The paper presented Swedish national terminology policy, more precisely terminological infrastructure. The programme called 'Terminology Infrastructure for Sweden (TISS)' was launched in 2002 (Nilsson 2010: 61). The main aim of the Swedish Centre for Terminology (TNC) is to develop a *terminology infrastructure*, which process has three pillars: "(1) a Language Act which addresses the terminology issue, (2) a well-established national centre for terminology, TNC, (3) a repository of "all" Swedish terminology, i.e. a national termbank: *Rikstermbanken*" (Bucher 2011: 143).

In practice, the TNC is a centre of Swedish terminology works; one of its main tasks is to train coordinators and participants in terminology projects. A crucial benefit of this role is the common principles of training and that terminology work is carried out with standardised and tested methods. For the joint work TNC developed the four-step Term-O-Stat model (see Bucher 2011: 145–146).

The first pillar of terminological infrastructure is the Swedish Language Act, which entered into force in 2009. The TNC was founded as early as in 1941, it is government funded and the aim of the support is to "promote an efficient specialized communication in Swedish industry and society by the means of terminology work" (Bucher 2011: 147). Works on the third pillar, a national termbank: *Rikstermbanken* began in 2006, when the Swedish government allocated a special financial grant for its development. According to Nilsson (2010), this was not only a key step in the development of the national termi-

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nology infrastructure, but also a landmark in raising the terminological awareness of Swedish society.

2. Awareness and responsibility in Hungarian terminology

Awareness and responsibility in terminology are concepts relevant to the whole community of speakers of a language. Although at various levels, it is crucial in science, professions, also in governmental, scientific and educational administration, and for the speakers of the language in general. One of the positive examples (good practices) in Europe is the Swedish example I have just mentioned.

Hungarian language politics mostly occupied itself with the problems related to the status planning of Hungarian minorities living abroad. Research related to corpus planning – mainly of the general language (most importantly the compilation of the Hungarian National Corpus by the Research Institut for Lingusitics) – is carried out in a network of research institutes across the border. Issues of the spoken language, mainly the sociolinguistic aspects thereof, are discussed at a conference series (titled "Élőnyelvi Konferencia") held at a different venue every year.

The problems arising from language use and the international literature have drawn professionals' attention and sense of responsibility to issues of terminology. There have been numerous initiatives at institutions of science and higher education, but these have been isolated and therefore their findings are limited. Nevertheless, they indicate that participants in tertiary education have acknowledged their responsibility for the terminology of the Hungarian language. What is yet to be achieved, is drawing the attention of the government to its responsibility and the need for conscious action. This lack of awareness is the reason why there is no terminology policy that would set the principles for long term development, there are no terminology development projects, and the support system for these is also missing. The pillars of terminological infrastructure listed in the Swedish example are non-existent in Hungary, and all we can do is hope that this is only for the time being.

In my talk I will discuss the teaching of terminology in Hungarian university education, and the sense of responsibility and awareness of those involved.

2.1. Hungarian language and terminology

The official language of Hungary is Hungarian. Hungarian belongs to the Finno-Ugric language family, it is a Uralic language, and among the official languages of Europe, its sister languages are Finnish and Estonian. Speakers of Hungarian are surrounded by Indo-European (Slavic, Germanic and Neo-Latin) languages.

In Hungary, Latin used to be the official language (and the language of education and public administration) till 1844. Hungarian started to evolve as the official language starting from 1844, and a significant period in the process was the "neologist movement" (1772-1872): when words were created in large numbers, the new scientific vocabulary was established and specialised dictionaries were published. The field of terminology saw a boost during the industrialisation of the 1950s, when the specialised vocabulary was also developed and got published in specialised dictionaries. Ever since, the teaching of LSP and of specialised vocabulary has been done in the professional sphere. That is the time when so called specialised universities were founded in Hungary, where the specialised texts and vocabulary of the given field were developed. In the 1970s foreign language teaching teams (so called lectorates) were founded at these universities, among these were the units that taught Hungarian specialised language to foreigners, and new teaching materials were developed. This system of specialised universities was abolished after the change of the political system in 1990, universities were transformed and now have multiple faculties. The reasons for this was manifold: the aim was to reform Hungarian higher education, to follow the transformation of the industrial structures (including the withdrawal of some sectors) and the introduction of the Bologna system. (On the Hungarian neologist movement and the situation of Hungarian terminology, see Fóris 2007, 2010a., On the Hungarian as the language of education in the universities of the Carpathian Basin, see Fóris 2011b.)

2.2. Terminology in professional higher education

In Hungarian university education, the teaching of LSPs and of terminology was linked to professional training and standardisation.

The presence of Hungarian terminology in tertiary education can be divided into two main fields:

1. Starting from the end of the 19th century specialist terminology in Hungarian was present in tertiary (university) professional education as a means of transmitting knowledge. Since that time, and even up to today, every field of study in higher education in Hungary has been taught in Hungarian, and a prerequisite of this is that every subject have its own accepted Hungarian terminology. Teaching the proper terminology has become a crucial part of teaching any subject. Naturally, even today there are arguments about the use of borrowed Greek and Latin terms especially in legal and medical language, and nowadays such arguments also extend to the translation or borrowing of English terms. These arguments have become especially heated in economics, medicine and technology. Nevertheless we can claim that the vast majority of specialised textbooks and lecture notes used in university education are in Hungarian (whether originally, or in translation).

In several subject fields, well-known professors took part in the standardisation of newly evolving specialist fields, for example the preparation of standards on the terminology of chemistry was assisted by János Inczédy, who mentioned in his talk in 2007 that the scientific organisation IUPAC (International Union of Pure and Applied Chemistry) is cooperating with ISO (International Organization for Standardization) and other international organisations when drafting their recommendations and regulations. International, English terminology is similarly handled at the fields of physics, biology, geology, environmental science and engineering, etc., and the Hungarian nomenclature of chemistry was also regularly published (Inczédy 2007, c.f. Horányi 1991, Inczédy et al. 1997).

2. Teaching terminology in a foreign language became important in the second half of the 20th century related to the training of specialised translators. In the 1970s specialised translators formed workshops at Hungarian universities (the Technical University of Heavy Industry in Miskolc, the University of Agricultural Sciences in GödöllĐ, the Eötvös Loránd University in Budapest, the Faculties of Natural Sciences at the Kossuth Lajos University in Debrecen, the University of Economics in Budapest, and the Faculty of Economics at the University of Pécs etc.). The training of specialised translators in various sectors was launched in 1974, and at the same time the teaching of LSPs also began (Klaudy 1993). The collection and recording of the terminology of mining and the heavy industry for example, also had significant results. (The majority of these are bi- or multilingual glossaries.)

Communication between people today is facilitated by new tools and methods that have appeared as a result of scientific and technological development. The changes in information systems, the fact that they have become widely used, and the automation and electronic documentation of human activities have transformed the ways of human communication. The aim is to help people find more information in less time, and to ensure this, what is needed in the accelerating and expanding international communication processes is the harmonisation of conceptual/terminological networks. Unambiguous relations between the terminology of natural languages have to be ensured – this includes between two language variants and also between different languages – so that knowledge necessary to use high performance tools and new methods can be accessed. All this requires experts who are familiar with new requirements and who easily find their way in this new era.

In the past one and a half decades we have seen an increasing number of linguists working in terminology, and that the results of various branches of linguistics (mainly of applied linguistics, for example lexicography, translation studies, corpus linguistics, computational linguistics or psycholinguistics; and the new trend in cognitive linguistics) are used in terminology work as well.

3. Issues of teaching Hungarian Terminology at universities

There are several reasons why issues of terminology have returned to the forefront of interest around the world, in particular at the field of the development of information technology and telecommunications devices and the introduction of new tools and methods in research, education and practical work. Recently the need has become very strong to create the unified economic, conceptual, terminological system for a unified Europe, which has also played a significant role in this process. One consequence of this is that since the middle of the 1990s terminology (and/or lexicography, and/or computational linguistics) has been introduced into the education of several European countries, and has today become a profession and broad field of research and application. In many countries one can obtain a BA or even an MA degree in Terminology, or even study at a postgraduate level leading to a PhD. The changes that have taken place in Europe in the last three decades, and the radical transformation of the political and economic life in Hungary, have also led to further conceptual and terminological changes in the Hungarian language area. This is why interest in the issues of teaching Terminology in Hungarian became a significant area of growth in the 1990s, and many universities reformed or launched their teaching of Terminology. Terminological issues may be approached from various angles, but differences of approach do not affect the basic principles of either scientific or practical issues.

As infocommunication systems are improving all the time and are being used in Hungary too, the isolation of specialised fields is significantly decreasing, and it is not only the experts within this field who are familiar with the professional conceptual systems. Professionals from other fields know them too; *data, knowledge, information* have become central concepts. The development and intertwining of telecommunication and information science together with the development of the internet and other networks make it easy to access and forward a lot of important information. The conceptual and terminological systems of given professions are also closely related and influence each other. The precise definition of concepts and the comparison and harmonisation of the various systems make communication between the systems of the different professions easier and more efficient. The appearance of infocommunication systems and the spread of the internet radically changed the methods of research and application of terminology, and the possibilities of teaching terminology.

Besides providing the definition of the concept users are helped in finding their way among the large amount of information and use that information effectively if all the data is accessible on the relations of that concept and the characteristics of those relations as well. These so-called ontologies help users locate the required information quickly and effectively. Less widely used languages are currently struggling to create and continuously update such databases. – Although in the Hungarian language area high level work is done in corpus building, corpus linguistics, and computational linguistics (see MNSZ, Váradi–Héja 2011) the compilation of terminology databases has only just begun, and a national terminology database has not even been planned yet.

Training to meet the new requirements of terminology started on many levels in the 1990s. Several terminology courses were launched by companies, institutions and associations to meet specific needs. These are interesting for this study because they made up for the lack of institutionalised terminology training. However important they may be, I will not go into details, but instead focus on the university education of terminology in Hungary.

3.1. Terminology in undergraduate studies

3.1.1. Teaching Hungarian terminology at Hungarian universities

One of the main tasks of teaching terminology is to present and teach the complex terminological system of a particular subject field or domain. In one approach the teaching of terms and terminological systems is an integral part of professional training, since knowledge can only be expressed and communicated by using such terms. One of the main tasks of institutionalised education is the communication of specialised knowledge, which includes teaching the concepts of the subject precisely, teaching the appropriate terminology and the presentation of the relations between terms. A good exam in any subject is one that demonstrates the correct use of relevant terms. This means that university education automatically plays its part in the teaching of Hungarian terminology through the training of specialised teachers who possess adequate terminological knowledge. Every branch of university education has to play a significant role in developing an approach to terminology. This view evolved in Hungarian tertiary education, building on the traditions of neologism, and it is still present today. There are no separate Terminology courses in professional higher education. The teaching of Terminology is the task of head teachers and experts.

However, nowadays the growing number of terminological tasks requires a young generation of professionals with a high degree of expertise as well as the knowledge that will enable them to solve the problems involved in the use of specific language in their everyday work. They should be familiar with the conceptual systems and should handle the linguistic system as well.

3.1.2. Terminological issues related to Hungarian medium education abroad

Native speakers of Hungarian live in several countries. 98.5% of the ten million people living in Hungary speak Hungarian as their mother tongue and it is also the official language. There is also a significant number of native Hungarian speakers living outside the borders of Hungary. According to rough estimates there are 5 million such people; 3 million of them in the countries surrounding Hungary (Austria, Croatia, Romania, Serbia, Slovakia, Slovenia, Ukraine), the largest group being in Romania. One third of all Hungarian speakers live outside Hungary in bilingual environments, where they use their native language alongside the majority language. The education of Hungarian speaking minority communities abroad in their native language, especially the teaching of languages for specific purposes, faces the problem of creating and acquiring Hungarian terms for new concepts. The biggest challenge in maintaining bilingualism is the lack of teaching materials in the native language covering old and modern sciences and professions.

The root of the problem is that there is no thoroughly planned, scientific, centralised Hungarian language planning, and no terminology policies for the territories in question. Native Hungarian speakers living abroad face several problems in relation to language use, terminology and translation in both directions. Specialised dictionaries, unified terminology inventories and databases are missing even within Hungary, and this makes the job of textbook writers, coursebook translators and dictionary compilers who work abroad very difficult. When translating textbooks from the majority language into Hungarian, they encounter several problems over use of terminology and normativity. Péntek (2004), writing about the situation of Hungarians living in Romania, speaks of the fear of foreign words often manifesting itself in defensive purism. Authors and translators of coursebooks and textbooks try to avoid even the generally known and widely used international terms, have problems translating geographical names, place names and names of institutions, and they face problems in the fields of the newer branches of physics, medicine, biology and economics.

The best solution would be bilingual education (including at university level), and the publication of textbooks and terminology databases that take both terminological and language systems into consideration (see Fóris 2005, Kontra 2004).

3.1.3. The teaching of foreign terminology

Teaching the terminology used in a specific profession in a foreign language is important for professional training at university level. As previously mentioned, specialised translation at the foreign language centres in universities fulfilled this task from the 1970s onwards. These foreign language centres were founded in Hungarian universities after the Second World War and their task was to teach the basics of foreign languages in order to fill the gaps in knowledge Hungarians had in foreign languages. However, by the end of the century, on the one hand university freshmen had a better knowledge of foreign languages, and on the other hand universities no longer considered it their task to provide elementary level teaching of languages. In the 1990s specialised universities joined to form large universities with many faculties; and the foreign language centres in these faculties took up the teaching and assessing of languages for specific purposes. The teaching of foreign language terminology and the creation of methodologies for testing was equally important in education and assessment.

In the new Bologna system of university education the training of specialised translators was also transformed; and now specialised translators are trained through higher vocational education, such as postgraduate education, at several universities. A number of bilingual collections of terms, glossaries and smaller sized explanatory dictionaries have been published, mostly by university faculties. From the 2008/2009 academic year, the training of translators became an MA course, and in the MA in Translation Studies Terminology as a separate discipline has also been included in the curriculum.

3.1.4. Teaching terminology within the framework of linguistics

Most of the theoretical and methodological foundations of terminology belong to linguistics, this is why terminology forms part of the training in Hungarian literate and linguistics. Previously, this was undertaken within the curricula of individual subjects. However, due to the boom in the theory and methods of terminology, broad theoretical and methodological foundations are also needed to enable the knowledge gained to be used for the solution of specific problems. To meet this need, applied linguistic specialisations were launched within the faculties of humanities as part of the teaching of Hungarian linguistics. The first university to launch a specialisation in applied linguistics linked to the teaching of Hungarian or foreign language and literature was the University of Pécs. Here new applied linguistics courses have been introduced, such as a separate course on Lexicography or Terminology.

3.2. Terminology in Hungarian PhD studies

Students of doctoral programmes with a linguistic focus demonstrate a special interest in the issues of research into terminology. The importance of the topic is indicated by the interest of doctoral students in terminology and lexicography and their choice of related research fields. This is why terminology, as a separate discipline, was first introduced into PhD training in the applied linguistic doctoral programme of the Doctoral School in Language Sciences at the University of Pécs, and later in Veszprém at the Doctoral School of the University of Pannonia as part of the programme in language for specific purposes, and in the spring semester of the 2008-2009 academic year at the Doctoral School of Language Sciences of the Eötvös Loránd University in Budapest as part of the programme in Translation Studies. The material for the course was published under the title *Hat terminológia lecke* (*Six Lectures on Terminology*) (Fóris 2005), which is used as a textbook in all three doctoral schools.

Issues of terminology form a significant part of the research programme of PhD training. Students who choose Terminology and/or Lexicography as their research field soon joined to form a group working according to the same unified principles, they make up the core of the terminology research group. To date, four members of the group have obtained their PhD with the following theses: *Sports Lexicography and Sports Terminology in view of new sports disciplines* (Bérces 2006), *Inquiries in the Domain of Hungarian Mathematics Terminology* (Czékmán 2010), *Terminology Issues of the Translation of Texts in Economics in the Case of the Italian-Hungarian Language Pair* (Tamás 2010), *The Terminology of Music. Lexicographic, Terminological and Semiotic Approach* (Bérces 2011).

4. The organisation and launch of the MA in Terminology

Practice forces production plants, financial institutions, administrative authorities, and research institutes to use terminological, taxonomical and ontological methods in order to process data and information. Such tasks are becoming more and more frequent in Hungarian practice as well. As institutionalised training has not begun yet, skills necessary for such tasks can mostly be gained through self-instruction. In addition, some quality insurance and standardisation organisations, and certain companies launch courses to teach workers about terminology regulation and new standards so that they can do their own job.

The growing importance of terminology created the need to employ special experts who are trained to do special terminological tasks.

Hungarian university education belongs to the European Higher Education Area, and most of the training is done in the Bologna system. In this framework, we launched the MA in terminology in Hungarian, as a two-year programme at the Károli Gáspár University, Budapest. The first students started their education in the fall semester of the 2011/2012 academic year. (I shared the details of the training in English in my talk titled "Terminology master in Hungary – a case study" in November 2011 in Bucharest at the conference organised by Corina Lascu-Cilianu, Fóris 2011.)

I am convinced that the theoretical methodology of terminology and terminographic working methods have to occupy an important role in terminology majors, professional training and language instruction in university education equally.

5. Conclusions

From the above it shows that the situation of terminology is in many aspects different from the situation in other European countries. From this it follows that the university education of terminology also has to accept roles such as raising awareness and the feeling of responsibility in the various layers of society, and at various institutions. This has a strong relevance to the actual teaching because specialised knowledge obtained in training can only be used if the environment is appropriately prepared.

Note

The talk itself was not delivered at the Terminology Summit in Oslo due to health problems. I would like to express my gratefulness to the organizers for publishing the paper.

References

Bérces, Edit 2006. *A sportlexikográfia és -terminológia az új sportágak megjelenésének tükrében. [Sports Lexicography and Sports Terminology in wiew of new sports disciplines]* PhD thesis. Pécsi Tudományegyetem, Pécs.

Bérces, Emese 2011. *A zene terminológiája. Lexikográfiai, terminológiai és szemiotikai megközelítés. [The Terminology of Music. Lexicographic, Terminological and Semiotic Approach]* PhD Thesis, Pécsi Tudományegyetem, Pécs.

Bucher, Anna-Lena 2011. Act, Awareness & Availability – Sweden's current terminological infrastructure. *Magyar Terminológia [Journal of Hungarian Terminology]* 4 (2), 142150.

Czékmán, Orsolya 2010. *Vizsgálatok a magyar matematikai terminológia tárgykörében. [Inquiries int he domain of Hungarian mathematics terminology]* PhD thesis. Pannon Egyetem, Veszprém.

Fóris, Ágota 2005. *Hat terminológia lecke. [Six Lectures on Terminology.]* Lexikográfia Kiadó, Pécs.

Fóris, Ágota 2007. Hungarian terminology today. In Pusztay, János (ed.) *Terminology and Lexicology in Middle-Europe.* Szombathely: BDF. 15-24.

Fóris, Ágota 2010a. The situation and problems of Hungarian terminology. In Thelen, Marcel – Steurs, Frieda (eds.) *Terminology in Everyday Life*. (Terminology and Lexicography Research and Practice Vol. 13.) Amsterdam/Philadelphia: John Benjamins. 35–46.

Fóris, Ágota 2010b. Hungarian as the language of education in the universities of the Carpathian Basin. In: Humar, Marjeta – Žagar Karer, Mojca (eds.) *Nacionalni jeziki v visokem šolstvu. National Languages in Higher Education.* Ljubljana: ZRC Publishing, Scientific Research Centre SASA. 71–78. [ISBN 978-961-254-203-0]

Fóris, Ágota 2011. *Terminology master in Hungary – a case study.* Talk at the International conference – Training in Terminology, 3-4 November 2011, Bucharest. (In press.)

Horányi, György 1991. A magyar kémiai nevezéktan és helyesírás valamint a IUPAC-ajánlások adaptálásának harminc éve. *Magyar Kémiai Folyóirat* 97, 471-473.

Inczédy, János 2007. *Sürgős teendők a helyes és szép magyar műszaki- és természettudományos szaknyelv használatának és fejlesztésének érdekében*. Talk at: Conference of the World Council of Hungarian Professors, Budapest, 11 May 2007.

Inczédy, János – Lengyel, Tamás – Ure, Allan M. (eds.) 1997. *IUPAC Compendium of Analytical Nomenclature, Definitive Rules*. Oxford: Blackwell Science.

Klaudy, K. 1993. „Fordítástudomány a világban – fordításoktatás Magyarországon." In: Klaudy (ed.): *Harmadik Magyar Alkalmazott Nyelvészeti Konferencia*. Miskolc: Miskolci Egyetem. I. 39-45.

Kontra, Miklós 2004. Tannyelv, (felső)oktatás, nyelvpolitika. *Fórum Társadalomtudományi Szemle VI (4), 26–40.*

MNSZ = *Magyar Nemzeti Szövegtár. [Hungarian National Corpus.]* http://corpus.nytud.hu/mnsz/

Nilsson, Henrik 2010. Towards a national terminology infrastucture. The Swedish experience. In: Thelen, Marcel – Steurs, Frieda (eds.) *Terminology in Everyday Life*. (Terminology and Lexicography Research and Practice Vol. 13.) Amsterdam/Philadelphia: John Benjamins. 61–77.

Péntek, János 2004. Magyar nyelvű tudományosság – kezdet és vég? In: Péntek J. (ed.), *Magyarul megszólaló tudomány*. (Kisebbségkutatás könyvek) Budapest: Lucidus. 233242.

Tamás, Dóra-Mária 2010. *A gazdasági szakszövegek fordításának terminológiai kérdéseiről az olasz–magyar nyelvpár esetében. [Terminology Issues of the Translation of Texts in Economics in the Case of the Italian-Hungarian Language Pair]* PhD thesis. ELTE, Budapest.

Váradi, Tamás – Héja, Enikő 2011. Multilingual term extraction from parallel corpora – A methodology for the automatic extraction of verbal structures and their translation equivalents. *Magyar Terminológia [Journal of Hungarian Terminology]* 4 (2), 226-231.

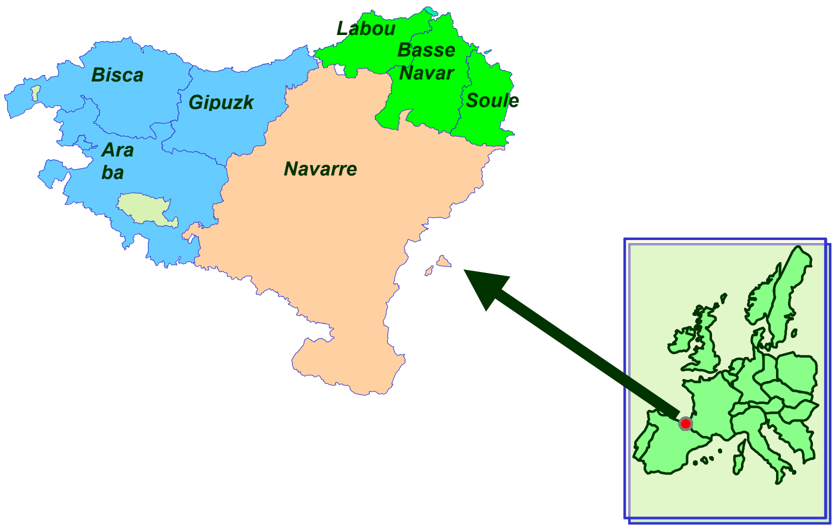
Utilisation d'outils pour le Processement du Langage Naturel: une voie d'optimisation des ressources

IMANOL URBIETA, DIRECTEUR
UZEI

Contexte

Avant de commencer à parler d'outils et de ressources, il me semble nécessaire de contextualiser le travail d'UZEI, en fonction de différents facteurs ainsi que d'éléments qui conditionnent notre langue.

L'euskera, ou langue basque est une langue en processus de standarisation qui est géographiquement, politiquement et administrativement divisée en trois territoires, répartis entre la France et l'Espagne.



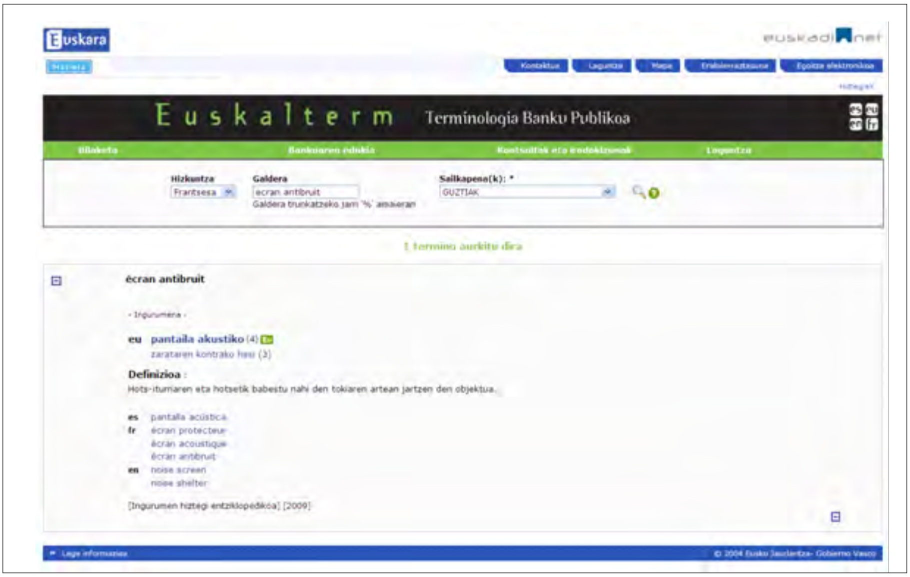
Dans la Communauté Autonome Basque, les langues officielles sont l'espagnol et le basque. Dans la Communauté Forale de Navarre, l'espagnol est la langue officielle, tout en partageant sur certaines zones son officialité avec le basque. Enfin, en France, la seule langue officielle est le français.

De plus, l'euskera est une langue d'une grande complexité pour son traitement automatique: ayant 15 cas de base et 22 variantes. En espagnol, un nom a deux variables, alors qu'en basque il en a 275. Un adjectif en espagnol peut avoir 4 variables et en basque 825. Un lexique en basque de 50.000 mots conjugué à deux niveaux peut atteindre 13.750.000 combinaisons.

Par ailleurs, le basque est une langue préindoeuropénne sans aucun tronc commun connu avec d'autres langues.

UZEI est une organisation sans but lucratif, créée en 1977, qui a pour objectif la standardisation et modernisation de la langue basque. Ainsi, UZEI offre des services de lexicographie, terminologie, traduction et ingéniérie linguistique.

En ce qui concerne le travail terminologique, UZEI a créé Euskalterm (Banque Publique de Terminologie). Euskalterm contient plus de 100.000 fiches terminologiques, avec des équivalences en espagnol, français, anglais, et latin (en taxonomie). Les termes sont actualisés constamment en accord avec les normes d'Euskaltzaindia, Académie de la Langue Basque, ainsi qu'avec les propositions de normalisation terminologique (Commissions Techniques et Commission de Terminologie). Les termes sont classés par domaines de connaissance.



Interface de Euskalterm dans la Web du Gouvernement Basque

Comme le basque est une langue en processus de normalisation, la base de donnée inclut le lexique à éviter, le lexique recommandé ainsi que le lexique proposé comme la meilleure option.

Outils

En 2005, en réponse à des critères d'amélioration continue, UZEI décide de développer un système de détection de l'utilisation de la terminologie normalisée. Tenant compte des caractéristiques de l'euskera, il était nécessaire de développer un lématisateur, soit, une application informatique analysant les formes d'un texte à partir de l'information d'un dictionnaire. La base de l'application est la morphologie à deux niveaux, et le dictionnaire est une base de données du lexique (euLEX) qui a environ 125.000 entrées. Chaque entrée contient l'information grammaticale et l'information pour le PLN, ainsi que des normes d'usage proposées par l'Académie de la Langue et la Commission de Terminologie du Gouvernement Basque.

L'exemple le plus clair d'application de ces ressources est un outil qui vérifie le lexique d'un texte (IDITE). Cet outil permet d'analyser un texte en basque. S'il reconnaît le lexique, il l'analyse et nous indique si une forme n'est pas recommandée ou ne doit pas être employée, en le spécifiant même par domaines de spécialisation, ou tout simplement en ne spécifiant rien, si tout est correct.

S'il ne reconnaît pas le lexique, c'est qu'il s'agit d'une erreur ou bien qu'il ne se trouve pas dans les bases de données d'UZEI. Dans ce cas, le plus probable est qu'il s'agisse d'un néologisme (nous monitorisons des textes tous les jours afin d'incorporer le nouveau lexique).

L'Académie de la Langue basque utilise cet outil afin de vérifier qu'elle applique ses propres normes d'utilisation, dans le domaine lexicographique. UZEI incorpore l'usage de cet outil dans tous ses process.

Comme l'espagnol est notre principale langue de référence, nous avons développé ces mêmes outils pour l'espagnol.

Un exemple de succès : la création d´un dictionnaire de traduction a partir d´une mémoire de traduction

Une fois le lexique contrôlé dans une base de données, pouvant être étiqueté avec des informations morphologiques, nous nous sommes demandé comment nous pouvions améliorer des process, par l'utilisation de ces outils.

Si nous pouvions analyser et étiqueter morphologiquement les textes en euskera et en espagnol, et si nous savions qu'une grande quantité de termes sont "multimots" (composés par plusieurs mots), nous pouvions obtenir des candidats à des termes multimots par l'usage de patrons de placement du lexique.

Avec ces antécédents, nous avons décidé de créer un dictionnaire de traduction, ou dit autrement, nous avons pensé à extraire des termes parallèles correspondants en deux langues, à partir d'une MT.

Un cas concret: dictionnaire financier

Dans tout processement de texte, soit d'un corpus, d'un document ou d'une MT, nous obtenons de meilleurs résultats dans l'extraction de termes quand le texte se réfère à un sujet bien concret.

Depuis plus de 15 ans, UZEI stocke dans une base de données des documents traduits et leurs assigne des metadonnées (sujet, date, client, ...). Grâce à cela, nous pouvons créer des MT "ad hoc".

Phases:

- Nous avons créé une MT d'une entité financière composée de documents de l'entité, des 3 dernières années.
- Nous avons analysé (lématisé) le texte en euskera et en espagnol.
- Nous avons identifié dans chaque langue les différents modèles de placement du lexique.
- Nous avons analysé statistiquement les différents placements. Il est important de savoir que chaque terme a son terme correspondant dans chaque unité de traduction.
- Nous avons obtenu ainsi une liste de possibles correspondances, avec un indice de probabilité et une fréquence de présence.
- Un terminologue a révisé la liste.
- En partant de 21.491 différentes unités de traduction, nous avons obtenu 6.101 paires de candidats à de possibles termes. Nous avons éliminé ceux qui avaient une probabilité (confiance) inférieure à 30%, et avons obtenu une liste de 2.109 candidats. Une fois révisés par un terminologue, nous avons obtenu un dictionnaire financier de 849 entrées.
- Nous avons constaté des inconsistences (termes traduits de difféntes façons). Et finalement, nous avons obtenu un dictionnaire de traduction de 830 entrées, dans un délai inférieur à une semaine.
- Par ailleurs, dans des documents monolingues, l'extraction de placements peut aider à classer les documents au moyen des fréquences d'utilistion des termes.

Création de MT

42.675 unités de traduction (documents complets)

21.491 unités de traduction

6.101 paires de possibles termes

Nous éliminons ceux qui ont un indice de confiance inférieure a 30%

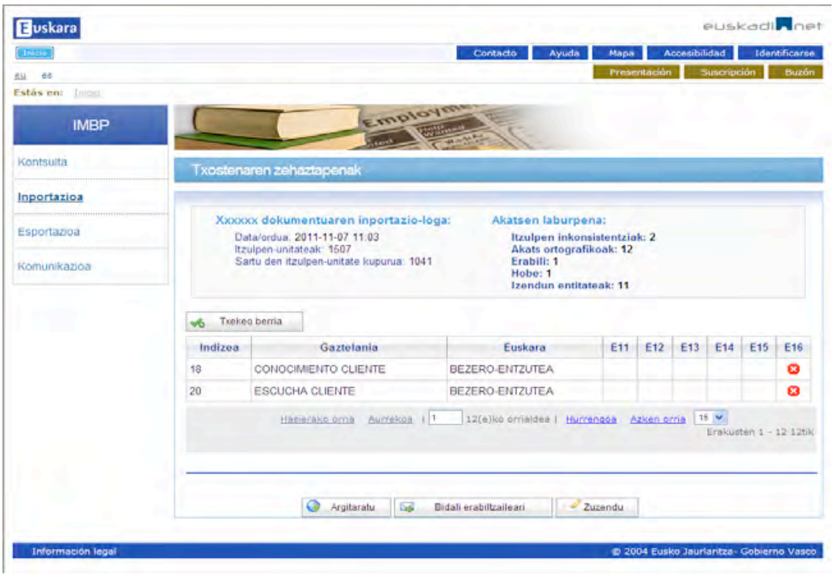
2.109 entrées devant être révisées par un terminologue

849 entrées

830 entrées (en éiminant les inconsistances/ un même terme traduit de différentes manières)

Présent et futur : outils de collaboration

Pour la fin de l'année 2012, la Banque Publique de Mémoires de Traduction (BPMT) du Gouvernement Basque, qu'UZEI est en train de développer, sera en marche. Cette Banque stockera les traductions réalisées par les différentes entités administratives du Pays Basque.



Interface de la Banque Publique de Mémoires de Traduction

Ce projet aurait été irréalisable sans les outils que nous avons mentionnés, car celui-ci devait remplir deux conditions fondamentales:

- Respecter la Loi de Protection de Données. – En menant à bien différentes stratégies, nous pouvons éliminer dans des documents lématisés, les données et noms d'entités.
- Publier les MT qui respectent des critères minimum de qualité. – Nous pouvons détecter le lexique non normalisé ainsi que les inconsistences de traduction dans des documents lématisés.

A partir de cette Banque, des MTs "ad hoc" pourront être créées pour alimenter des traducteurs automatiques.

L'utilisation de la BPMT par les traducteurs supposera un grand progrès dans la normalisation, tout en baissant de façon considérable les coûts de traduction.

Projets intégrés de terminologie au service du monde des affaires de Roumanie: entre le milieu académique et le milieu entrepreneurial

CORINA CILIANU-LASCU, PROFESSEUR DES UNIVERSITÉS
ACADÉMIE D'ÉTUDES ÉCONOMIQUES DE BUCAREST

1. Préliminaires

La diversification des situations de communication spécialisée, déterminée par des besoins variés quant à la transmission des savoirs et de savoir-faire spécialisés de plus en plus nombreux et complexes, implique la richesse des contenus et des formes des échanges internationaux. Il s'agit d'un accroissement continu des communications multilingues en langues de statut sociopolitique et de famille linguistique distincts et entre pays aux cultures et aux niveaux de développement économique et technique différents.

Par ailleurs, le statut social et la politique des langues ont connu des changements importants dus, entre autres, à l'importance accordée par les États aux langues parlées sur leur territoire comme instruments d'affirmation nationale, et à la participation effective de l'appareil politique au développement du corpus des langues officielles et à la promotion de leur utilisation au moyen de politiques linguistiques.

Le traitement des langues comprend toutes les formes d'intervention humaine, implicites ou explicites, sur des questions de langues qui se posent dans ces différentes situations.
Nous devons nous appuyer dans notre présentation sur la définition de la politique linguistique : Quand le traitement est explicite et fondé sur des principes, objectifs ou références généralement adoptés par une instance chaque fois qu'elle est confrontée à des questions de langues (v. C.Truchot, 2009).

« Les besoins terminologiques d'une société sont liés au développement de ses activités socio-économiques et sont étroitement dépendants de la mise en œuvre des connaissances scientifiques et du développement des technologies, le tout en rapport avec les politiques et les choix linguistiques » (L.J. Rousseau, 1988 :69).

La diffusion du savoir specialisé par des moyens de communication de masse et la généralisation de la formation spécialisée à tous les niveaux d'étude ainsi que l'apparition et l'implantation des technologies dans tous les secteurs professionnels (v. Cabré, 2007) ont mené au développement de la recherche fondamentale et des applications en terminologie conçue en tant que :

- besoin social
- pratique
- application ou ensemble de ressources
- domaine du savoir

Pour envisager les progrès des travaux en terminologie, il faut bien envisager la *reconnaissance disciplinaire et politique de la terminologie* du point de vue : sociopolitique, académique et scientifique (M.T.Cabré, 2007) mais aussi ses *responsabilités politiques, économiques et culturelles* supposant des activités concertées où les Etats, les institutions nationales et les milieux académique, administratif et entrepreneurial occupent une certaine place dans les politiques linguistiques internationales, nationales et sectorielles.

Les sujets d'intérêt ne se limitent plus aux sciences dites dures et aux techniques. Comme ils concernent également les sciences et les activites humaines et sociales, nous avons conçu plusieurs projets de recherche appliquée en terminologie économique (Finances, Marketing, Publicité, etc.) et des dispositifs de formation en terminologie pour les étudiants en économie et pour les professionnels des entreprises.

Nous présenterons dans ce qui suit trois de ces projets qui démontrent que de telles activités ne peuvent pas se limiter au niveau académique car, dans un domaine interdisciplinaire comme celui de la terminologie, elles ne pourraient pas répondre aux *exigences de la responsabilité* qui leur incombe. Par exemple, il est obligatoire de prendre en compte les implications politiques, économiques et administratives de la terminologie pour un domaine comme celui des finances, la politique des entreprises pour des activités de formation et d'élaboration d'outils terminologiques les concernant ou bien l'activité concrète des agences spécialisées pour les études sur les néologismes dans certains domaines à terminologie très internationalisée comme ceux du marketing et de la publicité.

2. Caractéristiques générales des projets intégrés

Discipline d'étude, domaine de recherche et application, la terminologie doit être mise en relation avec la communication professionnelle, le discours et l'enseignement/apprentissage des langues.

2.1.Terminologie / communication professionnelle

Une première caractéristique de ces projets est la prise en compte des rapports entre la terminologie et la communication professionnelle : *"La terminologie est la base de la communication entre spécialistes"* (M.T.Cabré,1998: 90) et il est essentiel de la s*ituer au sein de l'acte de la communication avec ses différentes composantes : linguistique, référentielle, discursive et socioculturelle* (J.M.Defays, 2003 :162).

2.2. Terminologie / discours

Ensuite, pour envisager la terminologie comme « pratique sociale plus que science, la terminologie [qui] doit prendre en compte la dimension discursive de l'utilisation des termes » (F.Gaudin, 1993:179), l'analyse des discours est un élément indispensable.

Cela suppose l'analyse des *aspects sémantiques et pragmatiques* dans la description des termes et de leur usage tout comme la prise en compte de *textes de spécialité* considérés dans leur contexte communicatif et aussi la *recherche linguistique basée sur des corpus.*

En même temps, les variations en fonction des registres fonctionnels distincts de la communication spécialisée sont forcément moins systématiques, moins souvent univoques ou universelles ce qui est à étudier à travers certaines redondances et variations conceptuelles et synonymiques. Cela explique les nombreuses infractions au principe d'équivalence parfaite entre les langues (la *Théorie communicative de la terminologie* (TCT) de M.T. Cabré, 1999) à prendre en compte lors de l'élaboration des outils terminologiques multilingues et des travaux de traduction.

Tout ceci soutient la revalorisation de la nature fondamentalement sociale des langues et de leur rôle symbolique dans les communications nationales et internationales, notamment avec les revendications en faveur du multilinguisme propre à la politique européenne actuelle.

2.3. Recherche / enseignement / apprentissage – formation

Enfin, l'élaboration des projets visant *l'enseignement / apprentissage et la formation* en terminologie suppose des types de recherche qui diffèrent d'une étape à l'autre :

- la *recherche appliquée à la pédagogie du projet*
- la r*echerche sur le terrain* pour étudier les besoins et les motivations institutionnels et personnels
- la r*echerche documentaire, linguistique et pédagogique* et les travaux terminographiques et terminotiques en vue de l'élaboration des outils spécifiques et du déroulement de l'enseignement / apprentissage / formation.

Les contenus et le poids de ces étapes diffèrent selon les objectifs spécifiques de chaque projet : si la *recherche appliquée à la pédagogie du projet* est le corollaire de chaque projet mais conçue différemment, la r*echerche sur le terrain* visera plutôt une orientation documentaire et sociolinguistique pour le projet sur la terminologie de la publicité, une *orientation pédagogique* pour le projet TERMCOM ou une *orientation terminographique et terminotique* pour la terminologie financière.

3. Projets intégrés

3.1. La terminologie de la publicité (roumain/anglais/français) et son usage

Ce projet étudie dans une première étape les *relations entre la terminologie de la publicité et son usage* par une approche socioterminologique, et, ultérieurement, *les relations entre les langues,* tout d'abord, entre l'anglais et le roumain, et puis entre l'anglais et le français par une approche linguistique, pour cibler la spécificité de l'assimilation en roumain et en français des emprunts anglo-américains dans le domaine de la publicité.

<u>3.1.1. Objectifs</u>

Il s'ensuit que ce projet vise à :

- Comparer du point de vue socioterminologique l'usage et la fréquence de ces termes dans les deux types de discours, soit l'existence et l'usage différenciés du seul anglicisme ou bien de l'anglicisme et du terme roumain ou français ;
- Analyser du point de vue linguistique :
- les relations sémantiques entre l'anglicisme et le terme roumain ou français ;
- l'adaptation et l'intégration morphosyntaxique de l'anglicisme au système du roumain ou du français ;
- l'orthographe des anglicismes ;
- Comparer du point de vue socioterminologique l'usage et la fréquence de ces termes dans deux types de discours afin de découvrir l'existence et l'usage différencié du seul anglicisme ou bien de l'anglicisme et du terme roumain.

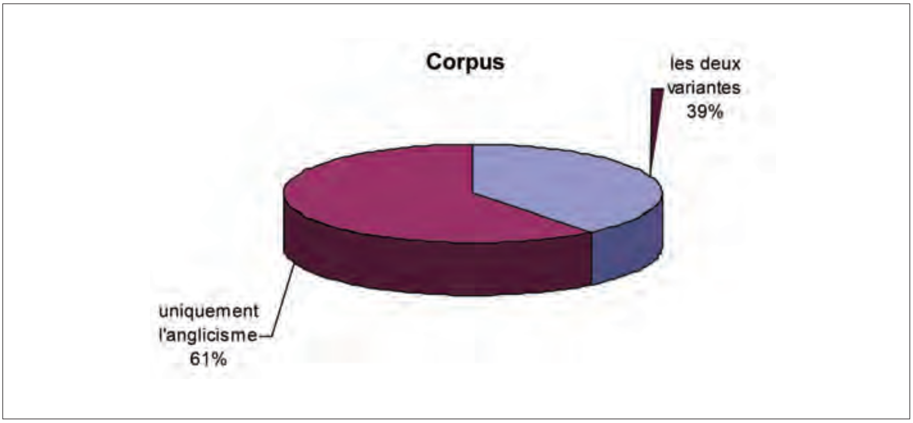
<u>3.1.2. Corpus et méthode</u>

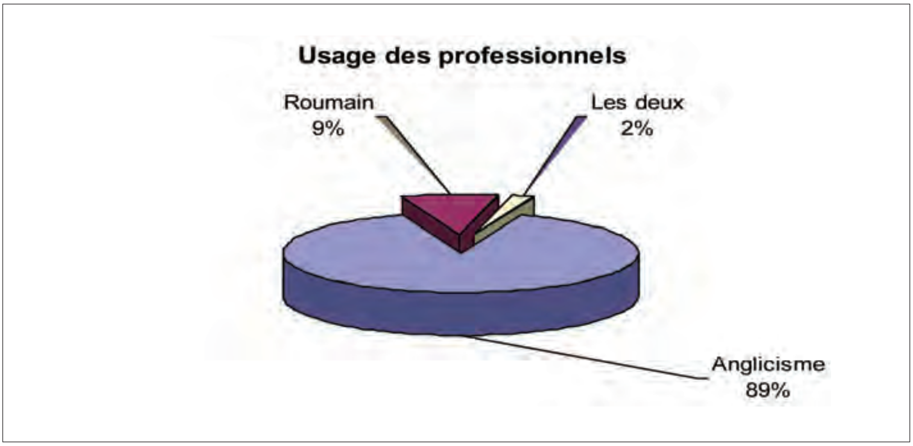
Au début de cette recherche, en 2005, nous avons élaboré *un vocabulaire roumain de la publicité*, avec des équivalents français et anglais, qui comprend 395 termes, dont une centaine d'emprunts anglo-américains. Ultérieurement, nous avons élargi notre corpus et établi une liste de 329 anglicismes.

Le premier corpus a été constitué à partir de textes didactiques (cours universitaires) spécifiques au discours pédagogique et de textes de lois propres au discours officiel. C'est pour cela que le pourcentage des anglicismes (7%) a été nettement inférieur aux termes d'origine roumaine (93%) (Cilianu-Lascu, 2005a).

Par la suite, notre corpus a inclus aussi des textes journalistiques (revues de spécialité ou de vulgarisation) et la terminologie utilisée dans les agences de publicité, donc un discours spécialisé de type semi-vulgarisation ou un jargon professionnel, ce qui explique le poids de l'emploi des deux variantes, roumaine et anglaise (39%) ou uniquement de l'anglicisme (61%) (Cilianu-Lascu, 2011a).

Il est intéressant à remarquer que, par rapport au corpus général ci-dessus, le comportement linguistique des professionnels est différent quant au taux des anglicismes (89%) par rapport à l'emploi de la variante roumaine (9%). Il faut bien comparer les graphiques ci-dessous :





Selon les réponses des professionnels de plusieurs agences de publicité de Roumanie au sondage que je leur ai proposé, leurs remarques portent aussi sur les différences de comportement linguistique selon les situations, ou, respectivement, de fréquence :

> «Cela dépend des personnes » disent-ils pour le choix entre : *close-up - prim-plan, sample – mostră, packaging – ambalaj*, *outdoor - afisaj stradal, print de probă - print proof – blueprint.* »

Ils déclarent qu'ils emploient uniquement les anglicismes entre eux, alors qu'avec leurs clients, ils sont bien obligés d'employer la variante roumaine par souci d'intercompréhension.

En outre, les opinions des professionnels diffèrent selon leur expérience dans l'agence et leur âge : un jeune du département de *client service* a forcément choisi plus de doublets (1) qu'un professionnel du département de création (2) qui ne communique qu'avec ses collègues :

1. 132 anglicismes/11 termes roumains/17 doublets
2. 175 anglicismes/17 termes roumains/4 doublets

3.1.3. Perspectives

L'usage des emprunts anglo-américains dans la terminologie roumaine de la publicité correspond à des raisons objectives, faciliter la communication professionnelle nationale et internationale ou répondre à des lacunes terminologiques du roumain, mais aussi à des raisons subjectives visant le maintien de la graphie et de la prononciation anglaises comme marques de prestige.

Si pour les sciences exactes et les techniques, les activités de l'Association Roumaine de Terminologie (TermRom) soutenues par l'Académie Roumaine et l'Union Latine ont enregistré des progrès de *normalisation*, tout un travail reste à faire dans le domaine de la publicité pour contribuer à *l'unification de l'usage en éliminant les variantes, les oscillations phonétiques, les graphies hybrides, les « faux amis » et en corrigeant les erreurs sémantiques*
La Commission de l'Académie Roumaine qui s'occupe de la culture de la langue nationale est directement concernée par *l'assimilation des anglicismes* dans le discours de la publicité, et un *outil terminographique* des anglicismes employés en roumain, à *caractère explicatif et normatif*, s'avère extrêmement nécessaire à tous ceux qui sont intéressés, d'une manière ou d'une autre, publicitaires, journalistes, enseignants, chercheurs, traducteurs, terminologues, par l'emploi correct et par l'assimilation des anglicismes de la publicité.

3.2. Projet TERMCOM universités/entreprises

Le projet de recherche/formation TEMCOP (Terminologie économique multilingue pour la communication professionnelle) au service des entreprises de Roumanie envisage une démarche intégrative de la recherche appliquée et de la sensibilisation des professionnels des entreprises aux compétences linguistiques en général et aux compétences en terminologie tout particulièrement (Cilianu-Lascu, 2010).

3.2.1. Public - cible

Ce projet concerne les professionnels des PME et des multinationales de cinq régions de Roumanie: Bucarest, Cluj, Sibiu, Ploieşti, Constanța.

3.2.2. Equipes du projet - partenariat

Les ressources institutionnelles et humaines impliquées comportent des partenariats entre les universités et les Chambres de commerce et d'industrie de Roumanie, entre les cinq universités partenaires et le travail des équipes interdisciplinaires: chercheurs / terminologues /enseignants / économistes / informaticiens formées à l'intention de ce projet.

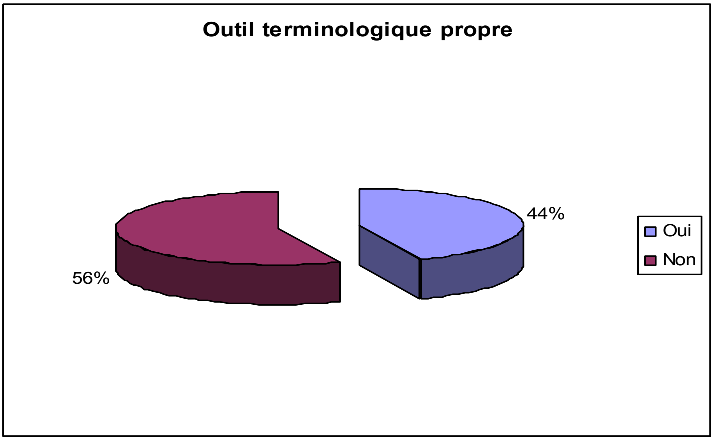
3.2.3. Objectifs et contenus de l'enquête de terrain

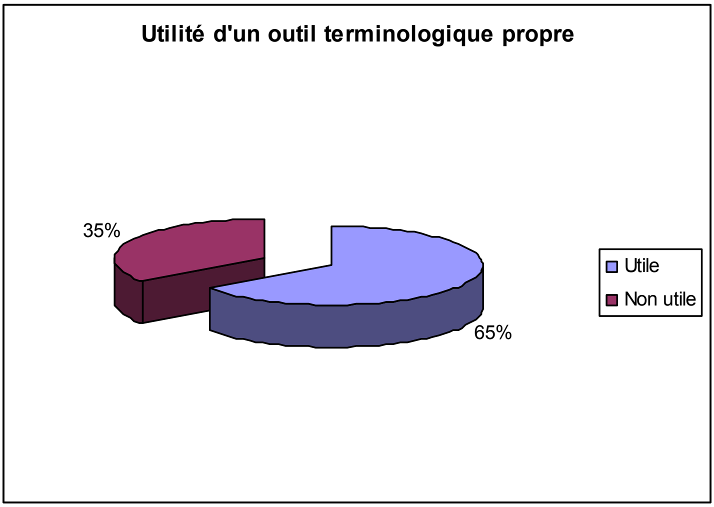
Pour connaître concrètement les *réalités roumaines*, nous avons conçu un *questionnaire* et reccueilli des informations auprès de *100 professionnels des entreprises du pays* pour :

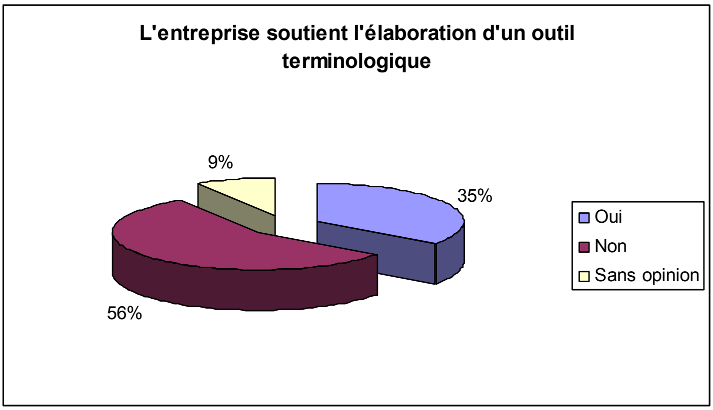
- Recenser des informations sur la *politique des entreprises* concernant deux volets: *la mise en place d'un outil terminolgique propre existant* ou *à réaliser* et *l'organisation de cours de langues étrangères ;*
- Étudier les rapports entre l'emploi du *roumain* et des *langues étrangères* dans l'exercice de la profession.

3.2.4. Résultats de l'enquête de terrain

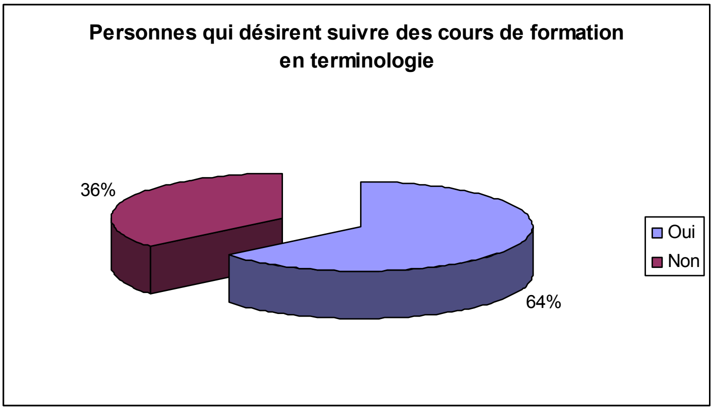
Si 56% des entreprises interviewées disposent déjà d'un outil terminologique propre, celles qui n'en ont pas, ne sont pas tellement prêtes à soutenir la rédaction d'un tel outil (56%) tout en étant conscientes de son utilité (65%) :


Outil terminologique propre
44%
56%
Oui
Non


Utilité d'un outil terminologique propre
35%
65%
Utile
Non utile


L'entreprise soutient l'élaboration d'un outil terminologique
9%
35%
56%
Oui
Non
Sans opinion

Le nombre très important de professionnels intéressés à suivre une formation en terminologie nous a démontré que ce projet a des chances importantes de réussite et qu'il sera bénéfique aux entreprises par la suite :



3.2.5. Rapports entre le projet "académique" et l'enquête de terrain

Les sondages réalisés ainsi que les différents débats autour de la problématique de ce projet ont révélé plusieurs éléments dont il faudra tenir compte dans le développement des activités : un grand écart quantitatif entre la demande de formation selon les langues, un intérêt personnel inattendu des interviewés pour le travail terminologique et une réflexion très mûre sur les techniques d'acquisition de la terminologie compte tenu des besoins réels dans l'exercice des différentes professions et fonctions. Il s'agit d'une orientation "professionnalisante" des activités d'apprentissage et surtout de formation qui comportent des jeux de rôle, des études de cas, des débats, des simulations, etc. exigeant une approche actionnelle et une pédagogie sur les tâches et sur le projet.

3.2.6. Techniques et outils pédagogiques de l'enseignement/apprentissage de la terminologie en entreprise

Pour mettre en place une telle démarche, il est nécessaire d'adapter les stratégies de mise en situation par des approches textuelles et discursives en compréhension et en production et aussi par des techniques de paraphrase linguistique et / ou textuelle. En même temps, il faudra trouver un équilibre entre des activités plutôt traditionnelles d'orientation sémantico-syntaxiques comportant ce que l'on appelle en didactique des langues des „gammes" (exercices à trous, transformations, polysémie, synonymie, antonymie, etc.) (Cilianu-Lascu et al., 2005b) et l'acquisition des savoir-faire en TICE, obligatoirement utiles à toute activité terminologique actuelle et non seulement.

Une sélection adéquate des domaines de référence intéressant telle ou telle fonction dans l'entreprise et aussi tel ou tel groupe d'entreprises selon leur secteur d'activité doit précéder le travail d'élaboration de bases de ressources textuelles, de glossaires et de recueils d'exercices terminologiques. Selon les besoins terminologiques multilingues différents, nous avons choisi pour une première étape les domaines suivants : Commerce international, Comptabilité, Finances et Marketing pour lesquels nous avons déjà conçus un dispositif denseignement plus complexe qui inclut des techniques de compréhension et de production orales, des techniques d'interaction et de production écrite s'ajoutant à la compréhesion écrite prévue initialement (Cilianu-Lascu, 2011b).

3.3. Projet sur la terminologie financière

Un troisième projet qui n'est qu'à ses débuts est parti d'un autre type de besoins ayant un impact très important sur la mise en oeuvre des règles de l'Union Européenne dans différents pays qui la composent. La Commission européenne a réalisé une étude sur la terminologie (http://ec.europa.eu/internal_market/finances/terminology_fr.htm) avec pour double objectif :

- d'identifier les différentes manières dont la terminologie est utilisée / définie dans la législation relative aux services financiers ;
- d'analyser dans quelle mesure ces différences peuvent conduire à une mise en œuvre inappropriée des règles de l'UE dans différents pays de l'Europe.

Ce nouveau projet pourra bénéficier de nos recherches antérieures sur la formation en terminologie (Cilianu-Lascu, Vasiliu, 2010, Cilianu-Lascu, 2011b) mais surtout sur la terminographie (Cilianu-Lascu, 2005, 2011a).

Il aura comme objectifs la constitution d'une base de données textuelles en roumain accompagnées d'un glossaire roumain-anglais-français et devra répondre aux besoins des institutions financières roumaines et des représentants roumains auprès des institutions européennes. Ce projet se propose de soutenir le réseau d'excellence de la langue roumaine (RO+) (http://excelenta-ro.ning.com/) et les activités du Département de la Langue roumaine de la DGT de l'UE pour améliorer la qualité et la cohérence de la langue roumaine utilisée dans les documents officiels de l'UE et dans la législation roumaine.

4. Conclusions

La sensibilisation et la prise de conscience des différents acteurs sociaux quant au rôle de la terminologie et à la qualité de son emploi en langues différentes dans tous les secteurs d'activité impose le *décloisonnement des barrières psychologiques et bureaucratiques* entre tous les milieux concernés (entrepreneurial, administratif, académique) car il est bien évident que le fait de *décloisonner sert à mieux articuler* (Ferrari, 2007).

D'une part, ceci suppose des *difficultés d'adaptation des enseignants universitaires* aux conditions de la formation continue et demande une forte volonté de *changement des mentalités* quant aux stratégies d'approche des relations entre les structures du savoir et la terminologie, et à l'emploi des compétences terminologiques dans la communication professionnelle.

D'autre part, *les professionnels* des entreprises doivent *adapter leurs comportements d'apprentissage et leur formation* aux techniques et aux stratégies de communication professionnelle en roumain et en langues étrangères par un emploi adéquat de la terminologie.
Les enjeux importants des objectifs et de la mise en oeuvre de tous les projets mentionnés nous obligent à trouver les moyens humains, financiers et technologiques par les *partenariats multisectoriels* (recherche - enseignement, administration, secteur privé des entreprises) et les *partenariats multilingues* nécessaires afin de contribuer à la réussite économique des entreprises de Roumanie et à la qualité des activités de terminologie et de traduction des spécialistes roumains auprès des institutions européennes.

Bibliographie sélective

Cabre, M.T., (1998), *La terminologie. Théorie, méthode et applications*. Presses de l'Universite d'Ottawa, Paris, Armand Colin.

Cabré, M.T., (1999), *La terminología : representación y comunicación. Elementos para una teoría de base comunicativa y otros artículos*, Universitat Pompeu Fabra, Institut Universitari de Lingüística Aplicada, Barcelona.

Cabré, M.T. (2000), « Sur la représentation mentale des concepts : bases pour une tentative de modélisation », in *Le sens en terminologie*, Presses universitaires de Lyon, p.20-40.

Cabré, M.T, (2007), « La terminologie, une discipline en évolution : le passé, le présent et quelques prospectives » in L'Homme, M.-C.; Vandaele, S. (dir.). *Lexicographie et terminologie: compatibilité des modèles et des méthodes,* Ottawa: Les Presses de l'Université d'Ottawa, p. 79-109. [En ligne]. Format PDF disponible sur: http://www.upf.edu/ pdi/dtf/teresa.cabre/docums/ca07passe.pdf (Consulté le 25 septembre 2012).

Cilianu-Lascu, C. (2005a), « Principes de recherche en terminologie – quelques remarques sur le vocabulaire de la publicité », dans *Europe des cultures et espaces francophones*, Editura ASE, BucureĐti, p.139-154.

Cilianu-Lascu, C. et al., (2005b), *Mots, Expressions, Discours en Economie*, (coordonator Đi co-autor), Editura Teora, BucureĐti.

Cilianu-Lascu, C., Alexandru, F., (2008), „L'analyse et la modélisation du système des concepts du domaine de la fiscalité" (coautor), in *Buletin ştiinţific,* nr.5, *Valeurs, discours, praxis, Démarches linguistiques et champs d'application,* Editura ASE, BucureĐti, 2008, p. 24-33.

Cilianu-Lascu, C., Sala, M., (2010), « Les langues de la communication professionnelle dans les entreprises de Roumanie: enjeux, réalités, perspectives » (coautor), in European Federation of National Institutions for Language 6th Annual Conference *„Language Use in Business and Commerce in Europe"*, Lisbon, 12-14 November 2008, Ed. Peter Lang, 2010, p.123-135.

Cilianu-Lascu, C., Vasiliu D., (2010), « En marge d'une formation d'appoint pour les futurs diplômés de l'Académie d'Etudes Economiques de Bucarest : Terminologie et Traduction Economiques en Français » (coautor), in *Dialogos*, Vol.XI, 22, p.194-202,

Cilianu-Lascu, C., (2009), « Les rapports entre la politique linguistique des entreprises et les langues de la communication interne », 2e Assises européennes du plurilinguisme -18-19 juin 2009 Berlin,

http://plurilinguisme.europe-avenir.com/index.php?option=com_content&task.

Cilianu-Lascu, C., (2010), « Le projet de recherche / formation TEMCOP (Terminologie économique multilingue pour la communication professionnelle) au service des entreprises de Roumanie », Faro, Portugalia, 6e Journée scientifique Realiter, 2010, http://www.realiter.net/spip.php?rubrique176.

Cilianu-Lascu, C., (2011a), «Caractéristiques des emprunts d'origine anglo-américaine dans le domaine de la publicité », 7e Journée scientifique Realiter « Multilinguisme et pratiques terminologiques », Québec, 2011, http://www.realiter.net/spip.php?rubrique176.

Cilianu-Lascu, C., (2011b), « Un dispositif de formation en terminologie pour les futurs spécialistes en économie à l'Académie d'Etudes Economiques de Bucarest », in *Buletin ştiinţific*, nr.8, Actes de la Conférence Internationale *La formation en terminologie,* 3-4 novembre 2011, Editura ASE, BucureĐti, p.118-133.

Defays, J.-M., (2003), *Le français langue étrangère et seconde – enseignement et apprentissage*, Mardaga.

Ferrari, De, M., (2007), « Langue et situations de travail : décloisonner pour mieux articuler », in *Le Français dans le Monde*, juillet 2007, p. 46-59.

Gaudin, F., (1995), *Pour une socioterminologie*, *Des problèmes sémantiques aux pratiques institutionnelles*, Publications de l'Universite de Rouen, no.182.

Rousseau, L.J., (1988), « Terminologie et virage technologique » dans OLF-STQ, p.69-86.

Slodzian, M., (2000), « L'émergence d'une terminologie textuelle et le retour du sens », in

Le sens en terminologie, Presses universitaires de Lyon, p.61-86.

Truchot, C., (2009), « Du traitement des langues aux politiques linguistiques dans

l'entreprise » http://51959387.fr.strato-hosting.eu/plurilinguisme/images/Evenements/2e_Assises/Contribut... (consulté le 10 octobre 2012).

La terminologie au service de l'administration et de la population bernoises

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Le canton Berne à l'intérieur de la Suisse : présentation du contexte

La Suisse est un pays multilingue comptant environ huit millions d'habitants, dont 64 pour cent de langue maternelle allemande, 20 pour cent de langue maternelle française, 6,5 pour cent de langue maternelle italienne, 0,5 pour cent de langue maternelle romanche et 9 pour cent qui ont une autre langue maternelle.

Sur les 26 cantons, les Grisons sont trilingues (allemand, italien, romanche), Berne, Fribourg et Valais sont bilingues (allemand-français). Un canton, le Tessin, est monolingue italien et quatre cantons (Genève, Jura, Neuchâtel, Vaud) sont monolingues français. Tous les autres cantons sont monolingues allemand.

Deuxième par sa population (1 mio. d'habitants) et par sa superficie (env. 6000 km^2), le canton de Berne est un canton bilingue. 84 pour cent de ses habitants sont de langue maternelle allemande et 8 pour cent environ sont de langue maternelle française. Ses cinq régions administratives sont subdivisées en dix cercles administratifs, dont un est francophone (Jura bernois) et un bilingue (Biel/Bienne). Le principe de territorialité est inscrit dans la Constitution cantonale.

Ce multilinguisme a conduit à de vastes activités de traduction, qui ont – à leur tour – mené à des activités terminologiques tant dans le secteur public que dans le secteur privé. La Confédération et le canton de Berne font partie du peu d'institutions qui disposent d'une unité de terminologie indépendante. La plupart du temps, ce sont les services linguistiques ou de traduction qui sont chargés des activités terminologiques.

Berne : un canton bilingue avec une administration bilingue

Les bases légales[1] du bilinguisme bernois se trouvent notamment dans la Constitution du canton de Berne du 6 juin 1993 (art. 4, al. 1; art. 5, al. 1 et art. 6, al. 1) et dans la loi du 18 janvier 1993 sur les publications officielles (art. 11, al. 1). Le bilinguisme bernois s'explique par la volonté de garantir des

1 http://www.sta.be.ch/belex/f/default.asp

droits constitutionnels à la minorité francophone, et est donc l'expression d'une volonté politique. Il a pour conséquence que la plupart des textes produits dans l'administration cantonale doivent être disponibles dans les deux langues officielles et ceci simultanément.

Afin de mettre en œuvre ce bilinguisme, le canton de Berne a mis sur pied une administration bilingue : sur les plus de 20 000 collaborateurs, environ huit pour cent sont de langue maternelle française. La plupart du temps, le bilinguisme est garanti par les traducteurs, puisqu'il y a moins de juristes et d'autres experts de langue maternelle française (qui, en plus, rédigent souvent en allemand !). Les douze services de traduction des sept Directions et de la Chancellerie d'État emploient 45 personnes (traducteurs, terminologues, jurilinguistes) pour un total d'un peu plus de 35 postes à temps plein. Pour les sessions du parlement et les séances des commissions parlementaires, l'interprétation simultanée est assurée – du suisse allemand en français et inversement !

L'administration cantonale traduit environ 40 000 pages par année. Conformément aux Directives du 17 juin 2009 sur les prestations linguistiques dans l'administration centrale du canton de Berne[2], il s'agit de textes arrêtés par le Grand Conseil ou servant à ses délibérations, de textes arrêtés par le Conseil-exécutif qui concernent l'ensemble du canton, de textes publiés par l'administration cantonale qui concernent l'ensemble du canton et de textes destinés au personnel cantonal.

En plus des textes législatifs, sont notamment traduits les rapports explicatifs qui accompagnent ces derniers, les rapports fondamentaux sur des sujets stratégiques (énergie, déchets, 3e âge, etc.), les arrêtés du gouvernement, les interventions parlementaires, les messages pour les votations, les communiqués de presse, les contrats. En général, les textes sont d'abord rédigés en allemand, puis traduits. Cela signifie que 95 pour cent des textes en français sont issus d'une traduction. Il n'arrive que très rarement d'avoir de la co-rédaction, où deux auteurs travaillent simultanément à leur version linguistique d'un texte. Comme il y a beaucoup plus de collaborateurs francophones dans les services de traduction que dans les services juridiques et spécialisés, la traduction reste la solution de choix.

La terminologie au service de l'administration

Pour garantir la sécurité du droit et les droits de la minorité francophone, les textes bernois doivent avoir une qualité linguistique irréprochable. Celle-ci se traduit par une cohérence rédactionnelle et terminologique dans tout le canton, les mêmes textes étant utilisés, repris et cités dans différentes unités administratives.

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2 http://www.sta.be.ch/sta/fr/index/ein_kanton-zwei_sprachen/ein_kanton-zwei_sprachen/amtssprachen.assetref/content/dam/documents/STA/ASR/fr/Texte/20090512_directives_sur_les_prestations_linguistiques_et_rapport.pdf

C'est pourquoi le Service central de traduction à la Chancellerie d'État et les services de traduction dans les Directions ont mis sur pied un système d'assurance-qualité comportant des processus et des outils. À part la révision, le Service central de terminologie est directement impliqué dans tous les processus. De plus, il est responsable de la gestion des outils.

Les processus d'assurance-qualité

Les processus comprennent la révision des textes à plusieurs niveaux, les procédures de consultation et de corapport ainsi que le passage à la Commission de rédaction.

Révision
Toute traduction fait l'objet d'une révision. L'organe de révision dépend du type de texte et de sa portée. Les textes législatifs sont révisés par les deux jurilinguistes de la Chancellerie d'État, qui vérifient notamment la correspondance juridique et sémantique entre le texte original et sa traduction. Les textes non législatifs qui passent devant le gouvernement (et quelquefois devant le parlement) sont révisés par le Service central de traduction. Tous les autres textes sont révisés à l'intérieur des services de traduction dans les Directions (sur le modèle du « peer review »).

Procédures de consultation et de corapport
Les projets législatifs des unités administratives sont soumis à un certain nombre de destinataires à l'intérieur et à l'extérieur de l'administration. Le Service central de terminologie peut ainsi faire part de ses commentaires concernant le choix et l'utilisation cohérente des termes et éventuellement provoquer des changements en amont de la parution du texte législatif.

Commission de rédaction
Il s'agit d'une commission composée de représentants du parlement, de l'administration cantonale, des organes de la justice suprême et de l'université. Elle examine les projets de révision constitutionnelle et de loi quant à la langue et à la systématique et assure la concordance des textes allemand et français. Le Service central de terminologie assure le secrétariat de la Commission de rédaction et peut, le cas échéant, intervenir sur les textes.

Les outils d'assurance-qualité

L'administration cantonale met à disposition de ses collaborateurs plusieurs outils d'aide à la rédaction et à la traduction.

Banque de terminologie : LINGUA-PC
LINGUA-PC, la banque de terminologie du canton de Berne, existe depuis 1989 et est une application propriétaire. Elle est disponible sur l'intranet de l'administration cantonale depuis 2001. Depuis 2009, une version grand pu-

blic est en ligne sur le Web[3]. LINGUA-PC contient des fiches terminologiques bilingues allemand-français sur des termes qui ont leur propre spécificité linguistique (terme propre) ou conceptuelle (définition propre) dans la législation du canton de Berne.

<u>Mémoire de traduction : MultiTrans</u>
Depuis 2010, les services de traduction de l'administration cantonale utilisent la mémoire de traduction MultiTrans, à approche par corpus.

<u>Ouvrages de référence</u>
La Chancellerie d'État dispose d'un centre de documentation avec des ouvrages portant sur tous les sujets d'intérêt pour les activités cantonales. De plus, le canton de Berne achète, depuis 2000, des licences pour un certain nombre d'ouvrages de référence électroniques de qualité destinés à l'ensemble du personnel de l'administration cantonale.

Le rôle du Service central de terminologie

Depuis sa création, à la fin des années 1980, le Service central de terminologie se tient à la disposition de tous les collaborateurs de l'administration cantonale, et principalement du corps des traducteurs.

Il contribue au traitement, à la gestion, à la recherche et à la communication de l'information à l'intérieur de l'administration cantonale et, à ce titre, il est impliqué dans l'assurance-qualité à plusieurs niveaux : gestion et alimentation de la banque de terminologie et de la mémoire de traduction cantonales, mise à disposition des ouvrages de référence électroniques et sur papier, distribution des informations destinées aux traducteurs à travers le « serveur langagier ». De même, il participe aux corapports et aux consultations et vérifie l'utilisation de la terminologie appropriée dans la législation et dans les textes importants. Il donne des avis terminologiques et linguistiques, effectue des recherches de terminologie ponctuelles pour aider les traducteurs, mais aussi les juristes et autres rédacteurs de textes cantonaux. De plus, à la demande de collaborateurs de l'administration, traducteurs ou non, il réalise des travaux terminologiques thématiques sur des sujets qui touchent l'administration cantonale, mettant ainsi à disposition des collaborateurs – et dans un deuxième temps du public – le vocabulaire correct pour parler des nouvelles réalités.

La terminologie au service de la population bernoise[4]

La Constitution du canton de Berne établit le *principe de publicité* : « Toute personne a le droit de consulter les documents officiels, pour autant qu'aucun intérêt public ou privé prépondérant ne s'y oppose. » (Constitution

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3 http://www.linguapc.apps.be.ch/

4 d'après http://www.rr.be.ch/rr/fr/index/rrbonline/rrbonline/informationen_zurrb/oeffentlichkeitsprinzip.html

cantonale du 6 juin 1993, art. 17, al. 3). Ce principe de publicité se traduit par un accès facilité aux dossiers de l'État et une politique d'information active des autorités, qui doivent assurer la confiance des citoyens dans les autorités de l'État même dans les conditions induites par la société de l'information et de la communication. Le principe de publicité comporte les trois éléments suivants : l'information active, le droit de consulter le dossier et l'accès aux délibérations et aux documents des autorités.

Le principe de publicité est une condition *sine qua non* de la participation des citoyens aux processus démocratiques ; il favorise le dialogue et un processus d'apprentissage. Les citoyens, tout comme les milieux économiques, accèdent aux informations utiles de l'administration.

L'information active, sur laquelle repose le principe de publicité, demande que l'information soit suffisante, et l'information est suffisante quand elle est clairement énoncée, rapide, complète et objective, selon les circonstances.

Par ses activités terminologiques, le canton de Berne a mis sur pied un dispositif qui contribue à rendre *suffisante* l'information (cohérence terminologique, utilisation d'un langage clair et compréhensible, rédaction de textes au service de la clientèle). De plus, la banque de terminologie du canton de Berne, accessible sur le Web, permet à la population du canton de Berne de bien saisir les termes et, par là, les concepts et les énoncés importants des organes cantonaux bernois et de l'administration.

Ainsi, les activités terminologiques du canton de Berne jouent un rôle important pour la transmission d'informations et de connaissances tant en amont – à l'intérieur de l'administration, où ces informations sont produites – qu'en aval, auprès des citoyens, auxquels la majeure partie de ces informations est destinée.

The use of Norwegian in higher education as the institutions go international

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1. Introduction

Norway has seen an increased focus on language policy and in particular terminology planning in recent years, something which has culminated in the following amendment to the Norwegian Act relating to universities and university colleges:

> § 1-7. *Responsibility for the maintenance and further development of Norwegian specialised language*
>
> Universities and university colleges have the responsibility to maintain and further develop Norwegian specialised language (LSP) (author's translation)

This amendment places the responsibility for developing Norwegian LSPs with higher education institutions (HEIs). At the same time, the institutions, together with other European institutions "go international" and strive to strengthen their positions internationally when it comes to promoting their research, attracting exchange students as well as foreign faculty members. An obvious consequence of this strategy is that the use of English in the institutions increases, not only in research publications, but also in teaching and in internal administrative settings. Thus the institutions face a strategic conflict of interest.

In this article I will discuss this conflict of interest between language policies and internationalisation strategies. I will take some recent developments which concerns the language situation in Norwegian higher education as a point of departure. This includes in particular two national reports, Report no. 35 (2007-2008) to the Storting on national language policies (*Mål og meining*) and Report no 14 (2008-2009) to the Storting on internationalisation of education (*Internasjonalisering av utdanning*).

These two reports have in many ways paved the way for local strategies for both internationalisation and language policy in the HEIs, however, the strategies which are established in the institutions to meet the aims of the reports, pull in opposite directions.

2. Conflict of interest in higher education

The two reports to the Storting on internationalisation and language policy, respectively, both focus indirectly on the importance of language in higher education.

Report no 14 (2008-2009) to the Storting on internationalisation of education states that internationalisation should be a strategic goal for Norwegian HEIs since this will, among other things, contribute to higher language skills, an international orientation and a multicultural competence. According to the report, it will also promote quality in teaching, professional development and institution building (pp. 6-7).

At present more than 3,500 foreign-language study programmes are offered in Norway, 200 of which comprise English-language master's programmes. The report stresses that this is a trend which ought to continue, at the same time as it is important that courses in Norwegian for foreign students are developed (ibid.: 13).

In fact, this report is in many ways a report on language policy. The focus on internationalisation, not only when it comes to student exchange and research leaves for faculty members, but also through its focus on creating an international campus to promote "internationalisation at home", will indirectly have to result in more English being used as this is at present the most widely used lingua franca.

> Internationalisation at home therefore means developing the provision of better and more internationally oriented education in Norway, and one in which foreign students are made a natural and integrated part of the international campus (ibid.: 13).

At the same time, Norway has seen an increased focus on language policy as well as terminology planning for instance in national reports such as *Norsk i Hundre!* prepared by the Norwegian Language Council and in a white paper on national language policies (Report no. 35 (2007-2008) to the Storting [Mål og meining/Språkmeldingen]). Both these reports emphasise the importance of maintaining Norwegian special languages to enable us to communicate within and across domains in our native tongue, as well as for society at large.

Also, the *Norwegian Association of Higher Education Institutions* (UHR, http://www.uhr.no/ressurser/temasider/sprakpolitisk_plattform), which is the umbrella association for Norwegian HEIs has proposed language policy guidelines which promote the maintenance of Norwegian LSPs. Today most major Norwegian HEIs have established their local policies in line with the UHRs. The local policies are mostly general in nature, but with a strong focus on the danger of domain loss and the need to establish parallel language use between Norwegian and English.

If we use NHH as an example, the institution has in its policies taken on the responsibility to develop and maintain Norwegian economic-administrative terminology:

> NHH has a national responsibility to uphold and develop Norwegian as a professional language within the areas of economics and business administration. The NHH Norwegian-English term base shall continue to be developed and expanded to become a national term base for economics and business administration.
> (NHH language guidelines, http://www.nhh.no/en/about-nhh/language-guidelines-for-nhh.aspx)

Following these two reports, an amendment has been made in the Norwegian Act relating to universities and university colleges, as mentioned in the introduction above.

3. Language policies in higher education

The UHR's language policy platform for higher education recommends that the teaching language in Norwegian HEIs should normally be Norwegian, but that students at higher level should encompass an LSP competence both in Norwegian and English (or other foreign languages). In line with this most institutions have chosen Norwegian as their primary teaching language for the bachelor's programme, whereas Norwegian and English both are to be important languages at the master's level. In the PhD programmes, many institutions now recommend English as the primary teaching language. Thus, a gradual shift from Norwegian to English as the studies progress is the goal, through which a parallel LSP competence should be acquired.

This is the case for instance at NHH. The NHH language guidelines state that Norwegian is the primary teaching language for the NHH Bachelor of Science in Economics and Business Administration. As a main rule compulsory teaching shall be in Norwegian (http://www.nhh.no/en/about-nhh/language-guidelines-for-nhh.aspx). Whereas this is mostly true, the situation is quite different when we look at textbooks that are used in the NHH bachelor courses, as illustrated in Table 1.

Term	Courses (red = main textbook in English)			
1	Introduction to economic-adm. analysis/Intro. to ethics	Mathematics for management and economics	Management accounting and budgeting	Business data processing
2	Introduction to microeconomics	Statistics for Management and Economics	Quantitative modelling and analysis	Elective course
3	Advanced microeconomics	Marketing	Financial accounting	Elective course
4	Applied quantitative methods	Psychology in organization and leadership	Capital budgeting and finance	Elective course
5	International trade and economic growth	Organizational theory	Elective course	Elective course
6	Macroeconomics	Strategic management	Management accounting	Elective course

Table 1. Text book language in NHH's bachelor programme

In the bachelor programme, 11 out of 24 courses use English-language textbooks (indicated in red). The general elective courses, indicated in green, include language courses (in German, Spanish, English, German and Japanese) and will necessarily involve the use of non-Norwegian textbooks. Some other general elective courses are also offered. The students should also take two elective economic-administrative courses. The teaching langugage in these courses is normally English.

The bachelor students have, in line with the language guidelines, lectures mainly in Norwegian, however, they will read about concepts and theories in English to a great extent. It is therefore likely that a particular awareness is necessary in order to maintain Norwegian terminology within these domains.

The MSc master programme includes eight profiles, of which three are in English with English textbooks. Only a few courses given in Norwegian have Norwegian textbooks. A gradual increase of faculty members that do not master Norwegian indicates that English is likely to become more dominant at both bachelor and master levels.

When it comes to the PhD programme all courses are given in English and English literature is used, something which is in line with the language guidelines.

4. Language attitudes favour English

Research indicates that we are relatively more positive towards English than our native language in the Nordic countries. This is true for society in general and for faculty members in higher education in particular (Kristiansen & Vikør 2006; Jensen et al 2009). As expressed by a professor at NHH:

> It simply does not work for a top business school to pretend that foreign competition should not affect the school's curriculum and the language in which it is taught. A former colleague in the U.S. used to say that Norwegian is a luxury language that can be used for friends and family, but which has little relevance to a top-level academic environment (blogg.nhh.no/focus).

Other studies indicate that students believe the learning outcome to be the same irrespective of teaching language used, i.e. whether lectures are given in English or in the mother tongue (Airey 2009). In his study, Airey demonstrates, however, some important differences, such as the fact that the students ask fewer questions when lectures are in English, and those who take notes have difficulties following the discussion/presentation (Airey 2009). The students' attitudes are not much different from what is found among lecturers, who believe their own English competence to be solid (Jensen et al 2009).

These findings indicate that we may lack an awareness of what the consequences are of shifting from our mother tongue to another language, in this case, English, in specialised communication. It does not necessarily mean that we should not use English, but that we need to get a better understanding of what happens in the communication situation, and how we may cater for the asymmetry between the perceived and actual outcome of such a situation.

5. Concluding remarks

In this article I have tried to highlight some of the challenges higher education faces when trying to go international at the same time as we want to maintain, and further develop specialised languages in Norwegian, including terminology.

A practical challenge is to meet the stated language policies and national requirement to, on a regular basis, develop new Norwegian terms which are widely accepted among the subject specialist, and to make new terms easily available to everyone (cf. Kristiansen, this publication). However, the toughest challenge is to meet the indirect language policies underlying the internationalisation of higher education.

A success in going international will lead to more exchange students on campus demanding interesting courses, more non-native speakers among faculty and consequently an increased pressure to change to English in teaching, in administrative communication and in social settings in general. This will require that we are able to raise the awareness concerning the implications of both the stated and the indirect language policies and how we best can go international at the same time as we maintain and further develop our native specialised communication.

References

Airey, J. 2009. *Science, Language and Literacy. Case Studies of Learning in Swedish University Physics.* Acta Universitatis Upsaliensis. Uppsala Dissertations from the Faculty of Science and Technology 81. Uppsala [online]. http://publications.uu.se/theses/abstract.xsql?dbid=9547 (19.12.2012).

Jensen, Ch., L.S. Stæhr and J. Thøgersen. 2009. *Underviseres holdninger til engelsk som undervisningssprog – en spørgeskemaundersøgelse på Københavns Universitet http://cip.ku.dk/pdf/publ/Underviseres_holdninger_til_engelsk_som_undervisningssprog.pdf/ (19.12.2012).*

Kristiansen, T. and L. S. Vikør. 2006. *Nordiske språkhaldningar. Ei meiningsmåling*. Oslo: Novus forlag.

NHH Language Guidelines. http://www.nhh.no/en/about-nhh/language-guidelines-for-nhh.aspx (19.12.2012).

Norsk i Hundre. http://www.sprakrad.no/upload/9832/norsk_i_hundre pdf (19.12.2012).

Report to the Storting no. 14 (2008-2009) *Internasjonalisering av utdanning* [internationalisation of education] http://www.regjeringen.no/nb/dep/ kd/dok/regpubl/stmeld/2008-2009/stmeld-nr-14-2008-2009-.html?id=545749 (19.12.2012).

Report to the Storting no. 35 (2007-2008) Mål og meining. Ein heilskapleg norsk språkpolitikk. [on national language policies] http://tinyurl.com/79ng68t (19.12.2012).

European multilingualism at risk – scientific languages and terminology disappear rapidly

JAN ROUKENS

Introduction

This paper is about the lack of interest in many countries of the European Union – and probably in many countries around the world – to maintain and develop their scientific languages and terminologies[1]. Yet, research and development need up-to-date domain-specific terms, embedded in their national languages. No terms, no knowledge, no science, no innovation, no prosperity, no hope; in that order. It is as simple as that. The negligence has developed since the last decades of the 20th century. It varies from country to country and is strongly correlated with the negligence of the national languages in the Higher Education and Research institutions in a country. National languages are predominantly replaced by English, a foreign language for teachers and students in all countries except the UK and Ireland, even more so for the wider community. Terminology and educational materials are adopted or copied from the U.S. originals.

In this paper we explore the reasons for the sudden disruption of a cultural development that started half a millennium ago during the European Renaissance. We will touch upon the consequences for the European Union whose deeper structure is based upon a fundamental desire[2]

> *to deepen the solidarity between their peoples while respecting their history, their culture and their traditions.*

Communities are losing their universities

An advertisement in a daily newspaper announced that a Dutch university invited scholars to apply for a post of ordinary professor. Among the three main qualifications required was the ability to raise research money for the faculty and the university. In order to be successful, the applicant was to show a record of his or her abilities in this respect.

The university professor as a part-time lobbyist, fundraiser and salesman, what happened to the European university?

Major changes were imposed on universities in the last 30 years, and to HE in general[3]. The institutions behave as if they have cut the anchor cables linking them with historical and societal environments, to float away on global seas. Or pretend to do so[4]. HE institutions seem not to care how they are perceived by the communities that nurtured them and still feed and finance them: what really matters to them is their rank on the Shanghai scale[5] and how they are perceived globally.

The HE fetishes today are *internationalisation* and *autonomy*. In the daily practice, internationalisation is not as ambitious as it sounds. It often boils down to attracting as many as possible students and lecturers from abroad and promoting the national[6] students to follow courses elsewhere. Some universities advertise themselves as the *most international* university of a country, scoring the highest percentage of students from abroad. They claim to be attractive players on the worldwide *student market,* and they produce graduates and post-graduates for the global *market for knowledge workers*.

The percentages of foreign students enrolled are actually rather low in Europe, generally 1-5% of total student populations. With some exceptions for HE schools in border regions[7], and for the very few universities and faculties recognised as outstanding[8] internationally. Nonetheless, even if percentages are tiny, they are quoted by university administrators in terms like *floods* or even *tsunamis* of foreign students, floods that determine in a significant way the internal and external operational priorities of the institutions. Most frequently quoted adaptations to the international students are linguistic. The language used by the school administration and the language of instruction are optimised to attract the largest number of students from abroad. National students and their rights seem non-existent in the discourses of university administrators and even of many politicians promoting the policies of their HE institutions.

University administrators and many staff members rank *research* higher than *education*. Research is felt to be inherently international, fitting the internationalisation agenda better. Educating students to become professionals contributing to the quality of live and to the wealth in a country, does not contribute to the international image of a school. Indeed, over 90% of the graduates chose careers such as medical doctor, lawyer, teacher, engineer, civil servant, entrepreneur, manager etc. They do not contribute to the image the institution wants to be created: these are professions with a predominantly national, not an international flavour. Needed and appreciated by the community, but not particularly interesting in the context of the university globalisation agenda.

HE institutions desire to be *autonomous*. In general these schools are regulated by national laws and they are embedded in the government structures. They are largely financed by the state on behalf of the taxpaying inhabitants. The HE institutions envy the freedom of the leadership of private companies, particularly the large and multinational corporations. To become truly independent from regulation and politics the institutions must look for the private sector to finance their operations. But this is difficult if not impossible for the great majority of the institutions, even if they try hard by increasing tuition fees, project financing, financing by alumni and rich donors. Boards cutting their lifelines with the national budgets are extremely rare, therefore. So they focus primarily on loosening the ties of laws and regulation, by influencing the drafting of regulations.

Members of university boards and high level administrators are preferably recruited from the business sectors, nowadays. The dominant ideology of the capitalist Western world dictates that HE institutions be run as business enterprises. Recruiting managers with business experience or strong ties with business sectors in the highest echelons of the HE institutions has become common practice in many countries. Half a century ago the university staff organisation was flat: very powerful professors and education-, research- and technical staff were the core of the organisation. The organisational structure has been stretched vertically to comprise a wealth of directors and managers and their staff, supposedly in support of the education and research staff but actually largely executing the policies emanating from the top governors.

In the universities most advanced in implementing this model, the staff engaged in education and research, the minds and hands of the university, comprises about 50% of the employees, and the management and all kinds of supporting and auxiliary staff the other half. Obviously, students are not part of this equation.

Even if the support staff is as extensive, lobbying and fundraising which have little to do with education and research, remain tasks of the university professors and the members of the research staff. Time-intensive and heavy tasks requiring many meetings, travel and text preparation. The research and education staffs are not trained to do this, nor does this work contribute to the quality of education and research. But the 'funding culture' as it is designed, there is seem to be no alternative. The direct dependency of researchers on business and other sources of funding threatens the intellectual freedom and independence of the scientist. And a significant part of the their time available for education and research is spent on commercial activities.

Every time period and every culture will devise its own organisations to provide HE, seeking the balance of changing needs and views with experiences gained in the past or gained elsewhere. In this era we observe the clash between the traditional European university with its' roots almost a millennium old, and an ideology that emerged in the United States in the second half of the 20th century. The ideology has a name: neo-liberalism. It is pervading the entire society, not merely effecting the HE sector, which makes it difficult to oppose it.

Interlude

The banana metaphor illustrates a significant aspect of the ideology that pervades the greater part of the Western society since 30 years. Standardisation and effectively reducing diversity allows larger production and wider distribution and simplified marketing of the same goods, concentrating vastly increased profits in fewer hands. 'Banana' is replaced by a brand name to facilitate identification of the standard product and alienation from its natural history and variety of forms and tastes.

On the left, a small selection of the variety of bananas the world enjoys, a consequence of sustained Darwinian evolution. On the right, bananas after globalisation, shipped to consumers in an ever larger part of the world by an increasingly small number of global banana manufacturers and distributors

The neoliberal university

The preceding paragraphs describe in some detail the characteristics of the new style of HE that is being introduced in a growing number of European countries. In the literature[9] the underlying university model is called *the neoliberal university*. In many public domains neo-liberalism has been introduced. With many consequences. Main objectives and consequences are the gradual evaporation of the public domain altogether, the partial replacement of political decision-making by the mighty market and democratic power by much more rational financial power.

An aspect of the neoliberal ideology is the neglect, if not denial, of cultural diversity. Cultural and linguistic differences are considered artificial barriers by business, delaying the roll-out of marketing campaigns. Diversity increases immediate costs due to confusion and delay. The world would be much simpler if everybody thinks the same way and speaks one language. Free trade must be free of any barrier for the entrepreneurs who bring the packaged goods to the worlds' consumers. The free traders promote the removal of all barriers to free trade. Barriers reduce profits for the companies and their financiers and increase consumer prices.

In this monoculture, one language, one culture, one science will emerge globally. As the focus of the global political and the economical power since World War II moved to the U.S.A. and as that era is not over yet, the one language shall be English with an American accent.
According to the neo-liberals and their followers.

European Union, Unity and Diversity

A broad European university lobby led to the *Bologna Declaration*[10][11] of 19 European Education Ministers in 1999, establishing a European HE Area, allowing permanent mutual consultation

- to promote exchanges and mobility between HE institutions, their staff members and students;
- to promote a method for quality assurance;
- to facilitate the mobility of students between universities, by adopting a unified curriculum now adopted in many European countries[12].

The European Union supported the implementation of the mobility objective by launching the Erasmus programme. The programme provided some financial support for students who spend some time in another HE institution in another country. Obviously the time spent abroad was intended to deepen or to broaden the knowledge in the field of study. It was also considered important to use the occasion to learn more about other cultures and languages, particularly those of Europe. This fitted nicely another important EU policy objective endorsed in Barcelona in 2002[13], aimed at improving foreign language skills of European citizens. The intentions were positive but the reality often resisted. Many universities wanted to attract as many as possible *Erasmus-students* and designed special English taught courses for the foreign students, whereas other institutions introduced English as the instruction language in regular classes replacing the national language. This attitude did not help to improve the understanding of the local language, although it was of some help in dealing with the English language.

'Bologna' is considered by many politicians and university administrators as an operation harmonising structural and programme aspects of the HE curricula. Allowing students to move back and forth from one university to another without losing time, allowing teachers to move likewise and exchanging programme modules and teaching materials between institutions. This is how car manufacturing is organised, several plants produce specific parts to be assembled in other plants, and so on, until ultimately a complete car is rolled out: the graduate! A uniform teaching language facilitates in such an operation, although it is not a necessary condition for success. Many university board members 'believed', and many still do, that Bologna recommended English to become the unified teaching language in European institutions of HE. This assumption is false.

Instead, the Declaration explicitly recognises *diversity* and the fundamental values of European higher education. The Declaration

- clearly acknowledges the necessary independence and autonomy of universities;
- explicitly refers to the fundamental principles laid down in the *Magna Charta Universitatum* signed (also in Bologna) in 1988[14];
- stresses the need to achieve a common space for higher education within the *framework of the diversity of cultures, languages and educational systems* (italics, J.R.).

A clone does not improve the original, and is always later

In the mid-20th century university studies in Europe were conducted in the National Languages (NL)[15] of the various countries[16]. Mathematics, natural sciences, economics, humanities, medicine, all in the NL. The few foreign teachers in the university used the language of the country and the students. The relatively small but significant number of foreign students spoke the language of the university. All of this was completely normal and was not challenged.

In the 15th-17th century many languages in Europe had emerged as cultural languages, gradually overtaking Latin in the classrooms and in scientific writings as well. In the 20th century the process of standardisation and scientific enrichment of national languages in Europe was largely completed. It had become possible to express scientific and technical achievements in many European languages and to use these languages in the classrooms and in working environments *nationally*. For *international* scientific communication, French and German were frequently used, as well as Italian and English. In the second half of the 20th century these interlinguae were increasingly replaced by English in Western Europe and with some delay in Central and Eastern Europe.

A language reaching maturity in a particular domain, implies that the language is up-to-date and usable in that domain, and has reached the enrichment phase. Continuous adaptation of the language to the evolution of science and the arts is necessary to maintain its qualities as an instrument of knowledge expression, communication and education. In speaking and in writing. This applies to the extremely dynamic area of scientific and technical terminology in particular.

In 2012, NL as the language of instruction for *mathematics* and *natural sciences* in HE has disappeared in some countries and is threatened all over Europe, NL being replaced by English. Where English has become the dominant instruction language, graduating in the national language is not recommended and even prohibited. Expressing new knowledge in NL is not encouraged: writing scientific papers, science books or doctoral theses or even didactic materials in the NL, is *not done*. Publishers wouldn't publish them and colleagues would not consider them seriously. In the extreme cases, it is not exaggerated to conclude that mathematics and the natural sciences have been eliminated from the language. In such cases scholars are not able to use their native language to publish, supposed they would be allowed to do so.

Other scientific disciplines inevitable follow with varying delays or have already made the switch to English: economics, law, medicine, even the humanities are not spared. The claim by scholars in the humanities that use of English in the natural and technological sciences can be justified because of the supposedly more 'objective' character of those sciences, has been proven false. Even writing scientific papers in NL about the NL itself has become exceptional. And it is logical: if scientist primarily seek international audiences and recognition for their publications, why then should a linguist not chose the same communication means?

According to a study by the Academic Cooperation Association (ACA)[17] the Netherlands leads all other European countries in replacing the Dutch language by English in the university classrooms. Nordic countries and Germany follow in a second echelon. Central Europe as a group is third whereas in Southern Europe the use of the NL seems yet unchallenged in the university classrooms, although even there the winds of change are felt to come from the West. The trend in Europe is shown in the next diagram.

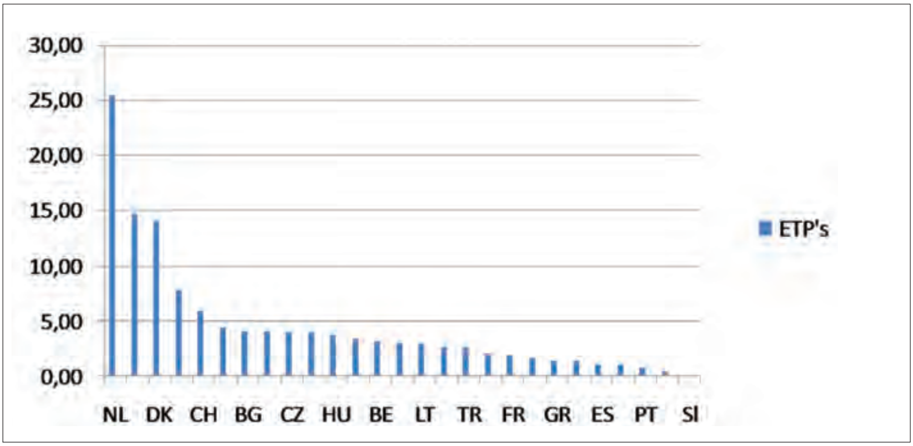

Figure. Percentages of English-taught programmes in HE for the EU&EEA member states and Turkey. Data derived from a 2007 study by the ACA. This diagram depicts relative positions and trends.

The evolution of the use of the national or native languages in higher education is decisive for the future of these languages in our societies. If politicians, administrators and civil servants, judges and lawyers, businessmen, army officers, medical doctors, teachers and engineers; if these and all other high level professionals 'think' English in their working life because they are trained in English, there is no future for their NLs. In small language communities throughout the world where parents perceive that the ability to use a dominant non-native language is advantageous for the future of their children, their rational choice is easily made even if accompanied by an emotional struggle. For individuals it is impossible to escape from such a process of spiralling domain loss, from this Malstrøm once it has been set in motion.

Perspective

The multilingual pattern for sustainably structuring Europe culturally makes sense only if a considerable number of flourishing languages strive for a future together. Also, every citizen must belong to at least one language group. The people using those languages enrich them in all domains of social, economic and cultural life.

Their governments should provide the means to establish standards, (infra) structures, documentation and language training that surpass the capacities of individuals. Enterprises complement this by developing infotechnical tools. The EU supports with strategies and frameworks that are language-independent and establishes the bridges between languages in cooperation with the actors directly concerned. The EU might engage in the Charter for a Multilingual Europe with the member states, laying down the principle objectives and obligations of all parties towards their citizens and all other stakeholders including those from outside the EU.

In HE and science, the member states for their languages together with the EU for generic and multilingual issues should promote the use of all languages in scientific contexts. They are individually and together responsible for maintaining all languages as scientific languages together with the scientific associations concerned. This implies that scientific and technical terminology are systematically developed and maintained in all domains of concern, and that publishing scientific papers, handbooks and textbooks in all the national languages is promoted and discriminating measures are forbidden. No doubt that the national academic environment is constantly in discussion with scholars in all parts of the world. In many languages, not necessarily in one language although an individual selection is inevitable. But the main language of the HE institution must be a national language of the nation where the institution is established.

(Endnotes)

1 The Academy of Sciences spokesman in one EU member state with a long scientific tradition, in response to an inquiry: "We are not aware of any terminological development in any field of science in this country."

2 From the preamble of the subsequent European Treaties since 1957.

3 HE: Higher Education is a container concept. Wikipedia-English: *higher, post-secondary, tertiary,* or *third level education* is the stage of learning that occurs at universities, academies, colleges, seminaries, and institutes of technology. Higher education also includes certain college-level institutions, such as vocational schools, trade schools, and career colleges, that award academic degrees or professional certifications.

4 In this paper there are frequent references to Higher Education in the Netherlands. The author, being Dutch, knows that country better, obviously. But the Netherlands is also clearly leading the HE de-nationalisation league in Europe, followed by Nordic countries at a considerable distance. In the 'leading nation', the University of Maastricht is by far the 'leading university'. This quote is from the university Mission Statement, very typical for modern marketing principle to package messages attractively:
Based in Europe, focused on the world. Maastricht University is a stimulating environment. Where research and teaching are complementary. Where innovation is our focus. Where talent can flourish. A truly student oriented research university.

5 The Academic Ranking of World Universities (ARWU), commonly known as the *Shanghai Ranking*, is a publication that was founded and compiled by the Shanghai Jiaotong University to rank universities globally. The rankings have been conducted since 2003 and updated annually. Since 2009, the rankings have been published by the Shanghai Ranking Consultancy.

6 In this paper *national* in general refers to the country or region where the HE institution is established.

7 For example: universities in the Eastern part of the Netherlands close to the German border. Close to 40% (2010) of the students in the university of Maastricht are German, Only 3% of foreign students came from elsewhere.

8 The University of Cambridge is an the outstanding university in Europe according to several rankings. Total student population 18.100 (2010), foreign (non- British) students 5.800 (2010) or 32%. Oxford has a status close to Cambridge.

9 Some web-references out of many:
http://www.globalresearch.ca/the-neoliberal-university/11223
http://www.independent.co.ug/news/news-analysis/6259-beyond-the-colonised-neoliberal-university-
http://www.nica-institute.com/workshop-how-to-survive-the-neo-liberal-university/
http://socialistresistance.org/4398/neoliberalism-at-manchester-metropolitan-university-and-an-alternative
http://opinionator.blogs.nytimes.com/2009/03/08/neoliberalism-and-higher-education/

10 The mother of all Bologna Declarations is the Magna Charta Universitatum adopted in Bologna in 1988, on the occasion of the 900th anniversary of the university:
http://www.magna-charta.org/library/userfiles/file/mc_english.pdf

11 Declaration of the Bologna Policy Forum 2009 is to be found here: http://www.ond.vlaanderen.be/hogeronderwijs/bologna/forum/Bologna_Policy_Forum_Statement_29April2009.pdf

12 'Bologna' gave rise to the well-known Bachelor – Master structure of the curriculum. Signatories included England, Wales and N. Ireland who apparently had some problem to fit their qualifications in the European British-based framework. But they managed: http://www.qaa.ac.uk/Publications/InformationAndGuidance/Documents/BolognaLeaflet.pdf

13 Among other references: http://ec.europa.eu/invest-in-research/pdf/download_en/barcelona_european_council.pdf

14 On the occasion of 900 years Università di Bologna. Several references http://www2.unibo.it/avl/charta/charta.htm

15 Natling is a national language used in the EU member state Eutopia

16 With some exceptions, such as on Luxembourg and in countries or regions where this was not permitted on political grounds

17 English-taught programmes in European higher education; ACA report, Lemmens Herausgeber Bonn, 2008

Dynamique de la langue et de la terminologie dans le domaine de l'énergie nucléaire

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Présentation du sujet et originalité de ce travail

Le travail présenté concerne l'étude de la dynamique de la langue et de la terminologie dans le domaine de l'énergie nucléaire.

Ce sujet, très vaste, mérite sans aucun doute d'être précisé. Ce travail s'intéresse plus particulièrement, au sein du domaine de l'énergie nucléaire, au vocabulaire de l'ingénierie nucléaire pour les métiers et les compétences de l'entreprise AREVA NP en France, qui a accueilli ce travail de recherche et lui a accordé son soutien pendant trois années en partenariat avec le laboratoire UMR CNRS HTL "Histoire des Théories Linguistiques" de l'Université Paris Diderot (Paris 7).

Outre une analyse terminologique dans le domaine des sciences et techniques nucléaires, peu étudié jusqu'à présent dans les travaux de recherche universitaire, cette étude du vocabulaire technique bien circonscrit dans l'ensemble du lexique du nucléaire et bien délimité dans le développement historique de la langue, espère présenter une originalité certaine.

En effet, le nucléaire étant une science ou une technique moderne et qui peut être étudiée en tant que réalisation technique dans des limites historiques précises, nombre de ses acteurs, jouant un rôle majeur pour son développement, nous sont contemporains ou ont travaillé avec des personnes pouvant témoigner aujourd'hui de son histoire. On notera que l'apport de ces témoignages constitue une ressource importante pour l'étude de l'émergence de cette terminologie, qui malheureusement ne sera pas pérenne indéfiniment. Dans ce contexte, l'accueil de ce travail de recherche au sein d'AREVA NP, ayant permis l'accès à un important réseau de personnes, à l'intérieur ou à l'extérieur de l'entreprise, en activité ou en retraite, a été primordial.

On notera aussi que la jeunesse de l'énergie nucléaire laisse la possibilité au linguiste terminologue lexicologue, en sus d'un travail diachronique, de mener une étude de l'évolution contemporaine des termes de ce domaine.

Deux approches complémentaires

Pour cette étude de la terminologie et de son évolution, deux approches principales ont été adoptées.

La première approche consiste en une étude méthodique de la langue et de la terminologie de l'ingénierie nucléaire et de son évolution dans le temps en se plaçant en position d'analyste extérieur.

La seconde approche consiste à étudier les processus régissant la création et l'évolution terminologique dans le domaine de l'ingénierie nucléaire en se plaçant en position d'acteur au sein d'une démarche d'élaboration d'une ressource terminologique dans l'entreprise, que l'on souhaitera voir aboutir en Dictionnaire de l'ingénierie nucléaire.

Sans nier l'importance de leurs apports spécifiques, nous verrons que, ces deux approches présentent une certaine complémentarité. La première fournit les éléments de réflexion préalable à une construction terminologique rigoureuse. La seconde, par la confrontation aux problèmes pratiques liés à l'élaboration même de la ressource, met en lumière les voies à approfondir ou les nouvelles pistes à suivre pour l'analyse de l'évolution de la langue et de la terminologie dans l'ingénierie nucléaire.

Première approche : l'analyse terminologique sous plusieurs angles

La première approche d'analyse méthodique, du point de vue de l'analyste extérieur, de la création et de l'évolution de la terminologie dans le domaine de l'ingénierie nucléaire est l'objet des quatre premières parties du présent travail.

Dans la première partie, c'est un historique des grandes étapes de l'évolution de l'énergie nucléaire qui est proposé. Il permet au lecteur non spécialiste du domaine d'avoir un aperçu du contexte dans lequel se situe ce travail. La naissance de la physique nucléaire, la description de ce qu'est l'énergie nucléaire, les différents types de réacteurs, les phases de pré-industrialisation puis d'industrialisation à grande échelle et l'impact environnemental du nucléaire sont abordés dans cette partie. En parallèle de cet historique, les premiers jalons terminologiques et linguistiques sont introduits à travers des témoignages d'experts du nucléaire, d'historiens ou de linguistes, afin de donner une première esquisse du contexte terminologique dans le domaine de l'énergie nucléaire et plus particulièrement de l'ingénierie nucléaire, et de mettre en avant l'histoire des idées linguistiques. Nous mettons alors en évidence comment la terminologie a dû accompagner le déploiement de la science qu'est la physique nucléaire vers ses applications que sont les sciences et techniques de l'ingénierie nucléaire. Nous sommes donc au centre de l'expression d'une réalité nouvelle. Dans ce premier chapitre, nous examinons enfin comment, pour répondre au besoin terminologique, les pouvoirs publics sont intervenus afin de mettre en place des processus d'élaboration et de maintien d'une ressource terminologique de l'ingénierie nucléaire.

Dans la deuxième partie de ce travail, nous nous attachons à mettre à profit la ressource que constituent l'expérience et le témoignage des personnes ayant vécu l'essor de l'énergie nucléaire en France, qui en ont été les acteurs et que l'on considère par conséquent comme experts du domaine de l'ingénierie nucléaire pour ce travail terminologique. Aussi, cette partie décrit-t-elle la mise en place, la réalisation et les résultats d'enquêtes linguistiques « de terrain » menées dans un milieu spécialisé chez des personnes que l'on qualifiera d'experts du domaine. Les méthodologies mises en jeu ainsi que les différentes étapes de ces enquêtes sont également décrites dans cette partie. Les résultats de ces enquêtes nous indiquent des axes de création, d'évolution, de variation et d'instabilité de la terminologie dans le domaine de l'ingénierie nucléaire.

Après l'étude historique de la première partie et l'étude linguistique « de terrain » de la deuxième partie, la troisième partie de notre travail se place dans une logique d'analyse plus approfondie des axes décrivant la terminologie de l'ingénierie nucléaire décelés dans les parties précédentes. Les témoignages des experts laissent la place à l'analyse terminologique. On examine alors la question de la position défendue jusqu'alors par les linguistes devant la création terminologique dans le domaine de l'ingénierie nucléaire.

Les trois premières parties de notre travail ayant présenté des analyses a posteriori de la dynamique de la terminologie de l'ingénierie nucléaire et mis en évidence un certain nombre de conclusions, la quatrième partie traite de l'actualité terminologique de l'ingénierie nucléaire. Qu'en est-il de la création et de l'évolution des termes dans l'ingénierie nucléaire au XXIe siècle ? Quels en sont les faits remarquables ? Voilà les questions auxquelles la quatrième partie de notre travail se propose de répondre. Cette partie contribue de manière importante à tirer les grandes lignes de la dynamique contemporaine de la terminologie dans l'ingénierie nucléaire. Des exemples de traitement terminologique de certains sujets d'actualité y sont également présentés.

A l'issue de ces quatre parties, un certain nombre d'éléments caractérisant la création et l'évolution terminologique dans le domaine de l'ingénierie nucléaire ont été dégagés par le lecteur. Nous mettons en particulier en évidence le rôle de la néologie dans la création terminologique, l'importance de l'apport des langues étrangères, l'influence des possibilités de dérivation pour les choix terminologiques, l'influence et l'envergure de la personne qui est à l'origine du terme pour son adoption finale, le contexte de création du terme et enfin l'importance de l'usage dans le choix et le figement des termes, qui l'emporte souvent sur la normalisation ou le cadre institutionnel.

Deuxième approche : Vers la construction d'une ressource terminologique

Suite à ces analyses où nous nous sommes placée en tant qu'analyste extérieur de la terminologie de l'ingénierie nucléaire, la cinquième et la sixième partie de ce travail adoptent une démarche d'acteur dans l'élaboration d'une ressource terminologique. Les grandes lignes de constitution et d'évolution des termes dégagées jusqu'ici sont alors autant de repères nous guidant dans notre travail.

Dans un premier temps, nous examinons la pertinence des répertoires terminologiques disponibles au sein d'AREVA NP et plus généralement dans le domaine de l'ingénierie nucléaire, afin de pouvoir statuer sur le besoin de constitution d'une nouvelle ressource et, le cas échéant, sur les caractéristiques et les contraintes que doit vérifier la nouvelle ressource élaborée. C'est ainsi que nous examinerons les répertoires terminologiques existants, leurs apports mais aussi leurs limites. Nous soulignons également, dans cette partie, l'importance de mettre à disposition du personnel de l'entreprise une ressource terminologique rigoureuse, la constitution de cette ressource s'inscrivant dans une logique de transmission et de gestion des connaissances. Nous mettons en évidence qu'au sein de l'entreprise, seules des applications pratiques et qui servent de support au succès globale de l'entreprise, comme la performance des systèmes d'information et la diffusion du savoir pour le personnel, peuvent être le moteur de la mise en place des données nécessaires à la constitution d'un référentiel terminologique fiable. Nous mettons aussi en exergue les signes et les témoignages en faveur d'une telle ressource : le renouveau de l'énergie nucléaire entamé en 2004, le départ massif en retraite de salariés de grande expérience nés juste après la seconde guerre mondiale remplacés par de jeunes ingénieurs non directement formés à la discipline de l'ingénierie nucléaire, une évolution de la nature des projets vers le « clé en main » avec une gestion de plus en plus internationale, nécessitent plus que jamais de stabiliser et de maintenir la ressource documentaire et plus généralement la connaissance, sachant qu'un projet de réacteur tel que l'EPR, depuis les premiers contrats de développement jusqu'à son démantèlement complet, devra être géré sur un siècle environ. Ce temps est très long à l'échelle industrielle et colossal à l'échelle de la gestion documentaire. Peut-on aujourd'hui retrouver dans des documents les bases de conception d'un outil industriel datant de 1907 et toujours en fonctionnement aujourd'hui ? Il semble évident que la réponse est négative.

Toutefois, pour AREVA NP comme pour la plupart des entreprises de l'industrie nucléaire, la maîtrise des installations industrielles sur cent ans impose une gestion sans faille de la connaissance, de l'expertise technique et de la documentation associée, qui est tout aussi importante que l'installation physique. Cette documentation, preuve que le problème a été examiné, offre un état de l'art de l'époque pouvant lui-même servir d'explication pour l'installation et permettre les modifications des installations dans le futur, une des clés nécessaires pour obtenir le droit de faire fonctionner l'installation.

Dans ce contexte industriel de gestion documentaire sur le long terme, on comprendra l'importance, pour les connaissances qu'on appelle « à longue durée de vie », d'investir dans la constitution d'une ressource terminologique de qualité. Celle-ci sert de support de nombreux outils de l'ingénierie des connaissances et qui améliore durablement la performance opérationnelle de l'entreprise.

Après avoir démontré le besoin de ressource terminologique et lexicale au sein de l'entreprise AREVA NP, on s'intéresse également dans cette cinquième partie à la constitution de la ressource dans le domaine de l'ingénierie nucléaire au sein d'AREVA NP en France. Le cadre du projet mérite, dès le départ, que l'on identifie et que l'on confronte les besoins inhérents à la construction d'une telle ressource et les moyens qu'il est raisonnable de déployer pour atteindre cet objectif. On comprend aisément que l'ampleur du travail à réaliser dépasse de loin la quantité et la qualité de travail que peut fournir le seul linguiste terminologue lexicologue. Celui-ci aura alors la tâche complexe de faire appel à l'ensemble des moyens disponibles afin de gérer, dans les meilleurs délais et les meilleurs coûts, le projet.

Nous nous intéressons ensuite, à la question du choix des termes devant faire l'objet d'une analyse terminologique dans le domaine ciblé. Plusieurs voies sont examinées afin de permettre un choix aussi pertinent que possible. Les outils informatiques disponibles sont mis à contribution pour la construction de la ressource terminologique et lexicale. Puis nous traitons de la méthodologie de mise en place de la terminologie tant dans le travail d'élaboration des définitions que dans la mise en place pratique de la ressource en fonction du public visé. Pour répondre aux contraintes de la gestion documentaire de l'entreprise mais aussi à des objectifs de flexibilité de construction, de maintenance et d'usage, nous examinons quel format peut être choisi pour la mise en place de cette ressource terminologique. Quant à la méthodologie d'élaboration des définitions, elle fait principalement appel au travail en groupe au sein du « groupe dictionnaire ». Les variations d'usage, mises en évidence chez les experts dans le deuxième chapitre, nous ont incité à diversifier les appels aux experts participant au projet en fonction de leurs compétences mais nous rappelle également à la plus grande modestie et à la nécessité de valider ou d'invalider, les définitions établies par le recours à d'autres moyens.

Étant donné la taille importante du domaine à traiter, un intérêt particulier a été porté dans la sixième partie aux outils de Traitement automatique des langues (TAL) et de l'ingénierie des connaissances afin d'orienter, de stimuler et d'accélérer les réflexions des personnes contributrices du projet. Néanmoins, nous avons veiller à garder le recul nécessaire à un usage critique de ces outils afin d'identifier au mieux les gains et les éléments d'analyse terminologique qu'ils amènent, mais aussi leurs limites.

Nous examinons ensuite comment la représentation conceptuelle et la représentation terminologique d'une même réalité peuvent être confrontées afin d'arriver à de meilleurs résultats. Nous mettons à profit les deux approches possibles pour construire le dictionnaire, avant d'itérer la démarche terminologique. Nous apercevons alors un des champs d'application possible de la ressource terminologique, ce qui permettra de réaliser des indexations de documents les plus intuitives possibles et donc plus pratiques pour la population visée.

Au-delà de la description des différentes tâches réalisées dans le but de construire une terminologie dans le domaine de l'ingénierie nucléaire avec la sélection des termes à définir, la mise en place des définitions et validation du travail terminologique, cette dernière partie met en évidence une nécessaire approche pluridisciplinaire afin de déboucher vers une ressource terminologique et lexicale fiable, utile, exploitable et légitime au sein de l'organisation industrielle.

Comme nous l'avons évoqué plus haut, les études et analyses réalisées dans les quatre premières parties a constitué une base et une aide précieuse au moment de lancer le processus de construction d'une ressource terminologique. Naturellement, la réalisation de cette ressource apporte à son tour son lot d'éléments caractérisant la dynamique de la terminologie de l'ingénierie nucléaire, confirmant ou remettant en question les éléments ayant été préalablement soulignés. A partir de cette étude de la terminologie de l'ingénierie nucléaire et de la construction d'une ressource de ce domaine, il apparait finalement possible de caractériser la dynamique de la langue et de la terminologie du domaine de l'ingénierie nucléaire.

Mais notre travail de construction d'une terminologie montre également, en sus du travail des experts, l'apport mais aussi les limites des outils informatiques de Traitement automatique de langues et l'ingénierie des connaissances pour l'élaboration d'une ressource fiable. Sans se substituer au travail des hommes, ces outils constituent néanmoins une aide précieuse pour le linguiste terminologue lexicologue. Sans succomber à la tentation du « tout automatique » ni au déni du gain apporté par ces méthodes, leur utilisation par le linguiste terminologue lexicologue averti, et à même de réaliser les études nécessaires permettant de juger de la pertinence des résultats obtenus, apparaît comme une voie d'efficacité pour la construction d'une telle ressource terminologique.

Apports et résultats de ces travaux

Ces deux approches, analyse extérieur ou acteur de la construction de la terminologie, présentent des apports spécifiques mais également une certaine complémentarité : la première fournissant des éléments de réflexion préalable à la construction d'une terminologie rigoureuse, la seconde permet d'expérimenter les caractéristiques préalablement identifiées et met en lumière de nouvelles pistes à suivre pour l'analyse de l'évolution de la langue et de la terminologie dans l'ingénierie nucléaire.

Il ressort in fine de nos travaux, l'identification de caractéristiques de la terminologie de l'ingénierie nucléaire telles que :

- le rôle de la néologie dans la création terminologique,
- l'importance de l'apport des langues étrangères,
- l'influence des possibilités de dérivation pour les choix terminologiques,
- l'influence et l'envergure de la personne qui est à l'origine du terme pour son adoption finale,
- la place de l'histoire ou du contexte de création du terme,
- l'importance de l'usage dans le choix et le figement des termes, qui l'emporte souvent sur la normalisation ou le cadre institutionnel,
- le souci de « clarté » ou précision scientifique qui conduit d'ailleurs, paradoxalement, à l'impression d'opacité pour les personnes extérieures au domaine.

Ces caractéristiques ont pu être expérimentées et confirmées par notre expérience de construction d'une ressource terminologique et sont autant d'éléments expliquant et alimentant le besoin ressenti par les experts du domaine pour le développement de telles ressources. Mais elles conduisent également à des difficultés importantes afin d'élaborer une ressource terminologique satisfaisante.

Ainsi, sur ces bases de nos travaux, nous proposons une approche pour la construction d'une telle ressource. Cette approche tente de s'affranchir autant que possible des dérives envisageables au regard des caractéristiques identifiées de la terminologie de l'ingénierie nucléaire en proposant :

- de définir un cadre strict ou une délimitation du projet aussi précis que possible afin que les personnes impliquées puissent partager une certaine communauté historique et culturelle dans le domaine;
- de définir une méthologie rigoureuse partagée et acceptée de tous. Le terminologue intervenant sous forme de rappel à la règle vis-à-vis des experts dont il « catalysera » les travaux sans formuler de remarques positives ou négatives quant aux pratiques discutées;
- de diversifier les méthodes de validations des résultats en croisant le plus possible les approches et en mettant à contribution les études lexicométriques et textométriques, les outils de traitement automatique langue et d'extraction de terme candidat et enfin les outils d'ingénierie des connaissances dans la construction d'ontologie et d'onto-terminologie.
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Au-delà des différentes tâches nécessaires à la construction d'une terminologie dans le domaine de l'ingénierie nucléaire (sélection des termes à définir, mise en place des définitions, validation du travail terminologique), il ait en effet ressorti avec force de nos travaux la nécessité d'une approche pluridisciplinaire afin de déboucher vers une ressource terminologique et lexicale fiable, utile, exploitable et légitime au sein de l'organisation industrielle.

Conclusions

Pour conclure, nous voudrions souligner l'originalité de ce travail.

En effet, nous avons traité dans ce travail de la terminologie de l'ingénierie nucléaire pour les métiers et compétences de l'entreprise AREVA NP en France qui a accueilli et soutenu ces recherches durant trois années. Ce point mérite d'être relevé car les travaux de recherche en terminologie bénéficiant de l'environnement et du soutien d'une entreprise industrielle sont rares.

De plus, le domaine de l'ingénierie nucléaire restant peu étudié et pouvant être considéré comme une science ou une technique moderne présente l'avantage de permettre le recours à des experts ou des acteurs témoignant de son historique et suscite donc un intérêt d'étude particulier.

Enfin, ce travail montre, de manière récurrente, l'importance de croiser les démarches. Les études présentées sont tour à tour synchroniques ou diachroniques, adoptent tantôt le point de vue de l'analyste extérieur, tantôt celui de l'acteur de la construction d'une ressource terminologique, font appel à la fois à la linguistique et au Traitement automatique des langues et mettent enfin face à face onomasiologie et sémasiologie lorsque la terminologie rencontre la lexicologie. Notre travail met ainsi en évidence la nécessité et les apports mutuels d'une recherche interdisciplinaire.

Remerciements

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A Best-Practice Model for Term Planning (PhD summary)

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Introduction

This paper gives a summary of PhD research undertaken in order to investigate good term planning. The motivations, methods and main findings are set out briefly. The thesis presents a best-practice model for term planning in a language planning context, based on the literature and on three qualitative case studies. A model for term planning is proposed, consisting of eight stages: preparation/planning, research, standardisation, dissemination, implantation, evaluation, modernisation/maintenance and training.

Background and motivation

Term planning in a language planning context is an important activity, as acknowledged by, among others, UNESCO (2005) and ISO (ISO 29383:2010). This importance is growing, as language communities become increasingly aware of the benefits of systematic terminology planning (UNESCO 2005, ii).

This thesis presents a general model for term planning which could be adapted to suit many language situations. A standardised model for term planning has potential value in several ways. Although the situations are different, the objectives of term planning organisations are generally similar, as are most of the working methods. Each organisation has to go through the same process of trial and error with regard to all the basic aspects of terminology. In many countries there is no organised terminology authority or organisation (in Spanish-speaking South America, for example: Pozzi 1996). A ready-made model of what has worked well in other cases would be useful for fledgling organisations. It would also be useful as a reference point for more established organisations, as a way to identify and justify improvements, to attract funding and to evaluate processes.

Despite this, much term-planning knowledge is not widely published: most of the resources on which terminologists rely are internal working documents, not easily accessible to the external researcher. Further, many terminology policies are not explicitly formulated, much less written down. This is problematic as it indicates limited sharing of expertise (Budin 2001, 14-15). It appears that relatively few sets of highly developed guidelines for term planning are made available publicly – those that are available are often, like Suonuuti (2001) or Bowman *et al.* (1997), extremely short.

A sociolinguistic approach

A sociolinguistic approach is taken here because the emphasis is on term planning for language planning purposes, and not for other kinds of term planning, such as term planning within an enterprise or as an academic research project. This implies a focus on the social use of terms, the view of language for special purposes and language for general purposes as a continuum rather than two separate categories, and the emphasis on de-terminologisation and popularisation as important factors in term use and diffusion. These are all highly relevant to many language situations, in which subject specialists may not create or use terms themselves, terms are often borrowed unchanged from English and other languages, and terminology is needed for 'popularisation' activities such as translation, journalism and education. If terms are to be 'liked, learned and used' (Fishman 1991), and if domain gain is to take place, then the social and linguistic situation must be carefully studied.

Terminology is regarded as an aspect of language planning, with important links to other aspects of this activity, particularly in the organisational and decision-making structures, and in dissemination of term resources. A close connection with language users is vital in planning and in research/standardisation work, including research into language usage, and close interaction with opinion-leaders in language choice, particularly subject specialists and the media. Social aspects of term use are regarded as important, with an emphasis on usage and likely usage (implantability) in term choice and standardisation.

Sources

The model presented draws on several different kinds of source: textbooks, models given in particular publications by international organisations (chiefly UNESCO and ISO), works dealing with specific problems and publicly-available manuals for organisations or particular language situations. Many terminology policies are not explicitly formulated, however, much less written down. Looking at the literature, it is clear that some areas of term planning theory have been well elaborated, and there is general agreement; other areas are the subject of debate (though there are fewer of these debates than might be expected, given the volume of writing about terminology in the last fifty years); while in other areas there is not enough written to be able to clearly establish where things stand, and certainly no in-depth research. In nearly all cases, there is simply not enough material to be able to say that the literature suggests a consensus or a model, and sometimes there is not even consensus on what the topics for research are.

By looking at term planning organisations in their daily work, the assertions made in the literature can be tested and their importance weighted, and the areas not discussed (dissemination and marketing of term resources, for example, as well as the organisational structures that work best) can be expanded. The result is a much more detailed model, with a firmer basis in experience.

In order to investigate the gaps in the term planning literature and to develop the model, a detailed investigation was carried out in 2009–2010 of practice in three term planning situations: TERMCAT (the term planning organisation for Catalan), Terminologicentrum TNC (the term planning organisation for Swedish) and the Irish-language term planning organisations, principally the Terminology Committee (Foras na Gaeilge) and Fiontar, Dublin City University. This research was carried out through a series of 26 in-depth interviews with key actors, which were then coded, analysed and compiled into reports.

Limitations

The model developed here is based on a limited data set. No claims can therefore be made about its universal usefulness and there is a danger of overestimating the importance of explanations discovered in case studies such as these (Collier and Mahoney 1996, 88). Assumptions are made for the purposes of the model about levels of financing, resources, staff, user and staff education and the state of development of the language itself, which are, of course, not valid in all term planning situations. There are considerable differences between the three cases from a sociolinguistic perspective. In all three cases, however, the languages are well developed and fully codified with well-established grammars, orthography and lexicons.

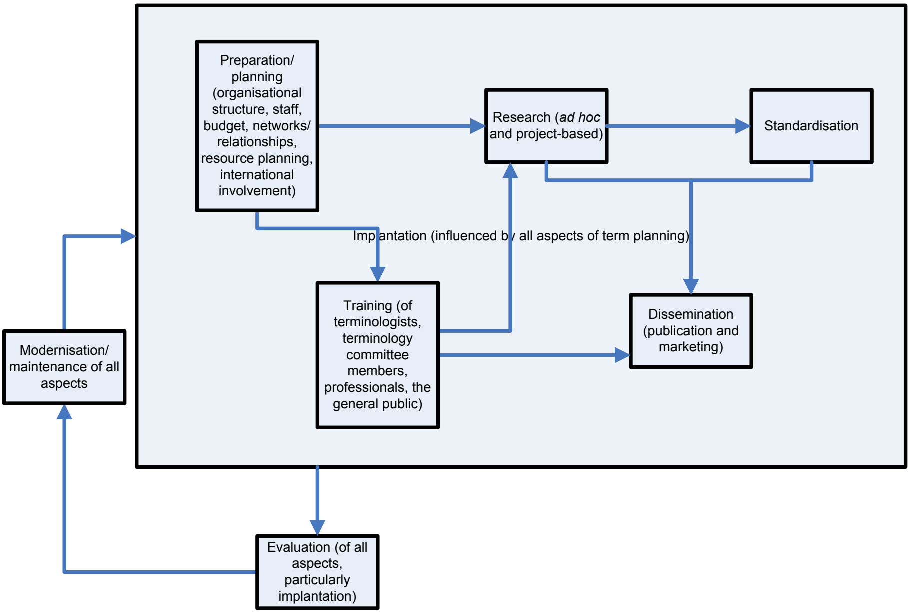
To tackle this issue, the model is designed to be very general, and none of the recommendations is language- or culture-specific. The model is an *ideal* and implementation depends on practical considerations. Furthermore, no matter what the specific sociolinguistic situation, the objectives of the type of term planning organisations considered in this research are broadly similar, as are most of the methods employed.

The importance of term implantation

An overview of the model developed is given in Figure 1. Because term planning is approached from a language planning point of view, term implantation is considered *the* critical factor and measure of success. Examination of the literature and of the cases themselves shows that implantation is a passive stage, however, and not something the term planning organisation can actively 'do', although actions taken by the term planning organisation do influence likely term implantation. Influencing factors include the active participation by representatives of the target audience in the research and decision-making processes; the quality of the terms themselves, including conciseness, absence of competing terms, derivative form capability and compliance with the rules of the language; and the timely provision of terms in easily accessible formats.

Less easily controlled factors could include acceptance by the media, which is in turn influenced by their involvement in term creation and dissemination; and public attitude to the language and to the discussion of specialised subjects in that language, which may be influenced by the awareness-raising work of the term-planning organisation.

Figure 1: Aspects of term planning



It seems clear, therefore, that implantation is affected by the planning, research, dissemination (publication and marketing) and training aspects of term planning work, as well as by the quality of the overall strategic planning. Implantation, if carefully evaluated, is a good measure of the term planning organisation's work as a whole, and it is therefore vital that it is assessed.

Aspects of term planning

The thesis presents the aspects and sub-aspects of terminology planning as practical measures, based on the case research and the literature. These are listed very briefly here.

Preparation/planning

Preparation and planning covers all the organisational aspects of term planning, including allocation of roles and functions to particular organisa-tions, staffing and financial arrangements, networks and relationships, as well as resource planning and international involvement. The way in which preparation and planning are carried out affects all aspects of term planning work, including where, when, how and by whom they are done. The establishment of priorities (strategic planning) is particularly important in this regard.

Research

Term research can be divided into two distinct areas: *ad hoc* research and project-based research on a group of concepts or a dictionary (including research into *in vivo* term use, and *in vitro* term creation). Other kinds of research are also carried out, of course: research into new work methods; or research in order to compile style guides and manuals, as well as the kinds of research listed in the evaluation section below. It is always important to document the work carefully. This is important to guarantee quality, but also in training new staff members and in creating a basis for evaluation and modernisation. Besides *ad hoc* and project work, if the term planning organisation has a large terminology database, time will have to be set aside for the continuous updating and cleaning of that material.

A very large proportion of term provision may be done on an *ad hoc* basis, and not as part of term research projects. This is particularly the case for terms in current usage or newly emerging domains, or for particular user groups, such as the media. The ways in which this work is done are therefore important, and it must not be seen as an 'extra' task to be taken on as time permits, but as an integral part of the organisation's work. This was a significant difference between much of the literature and the experience of terminology practitioners in the cases studied.

Standardisation

In both the literature and the cases, there are different understandings of what terminology standardisation might mean. Most aspects of standardisation methods are unproblematic, however: for example, the need for a committee structure with expert and other representation.

For the purposes of this model, standardisation is considered to be the selection by a representative committee of recommended terms to be used in a defined field, such as in education or administration. It may be decided to only standardise a certain type of term, such as those over which there is controversy, or cases in which there is no agreed term, and where this causes problems. Or every term which has been thoroughly researched and discussed by a certain committee may be considered standardised.

This may or may not be reinforced by an element of obligation; for example, translators working for the government might have to use the standardised term in legal documents, as is the case for Catalan. Whether this is necessary or desirable depends on the language policy, on the language situation and on the administrative culture: the use of standardised terms is not obligatory in Sweden or Ireland. In either case, standardisation must be supported by good term resources and effective dissemination, as well as agreement and cooperation in implementation; obligation alone is not sufficient (see, for example, Martin 1998). Standardisation can only be carried out in cases where comprehensive research (either *ad hoc* or as part of a terminology project) has been done.

Dissemination

Dissemination covers a broad field in terminology, including at least the following aspects:

- publication of term resources
- publication of information about terminology
- drawing the attention of users to resources
- creating debate about, interest in, and appreciation of terminology work

All this work is vital if term resources are to be used and implanted. The overall aim of dissemination should be to empower language users to use and actively engage with terminology resources. The term planning process is more effective, the more people are involved and interested in it; in fact, participation in the research process may be one of the best ways of guaranteeing term use. As with all language matters, a sense of ownership and involvement is important. Getting more language users and specialists involved is also useful for the terminologist, as it means a broader spread of information sources. It is also a way of bridging the gap between *in vivo* and *in vitro* term creation.

There is a need for close coordination with the media as an important user group. As well as being consumers of terminology, journalistic choices largely determine what terms language users will encounter, and, as a consequence, what terms will be implanted. They are the main mediators between term creators and end users. This is particularly the case for terms linked to current events. The media will have particular needs – and speed of response to *ad hoc* requests is very important. An example of media contact is TERMCAT's Antena de Terminologia, which is a distribution list comprising a broad membership of the media, used to spread information about new terms but also to gather information about *in vivo* term use and terminology needs.

Evaluation

Evaluation is a very important aspect of term planning; it allows for corrections and adjustments in the organisation's work, and positive evaluation is an important mark of progress. If evaluation is limited to 'push' factors such as term production alone, this will give an untrue portrait of term use and acceptance. Evaluation of implantation is – from a sociolinguistic perspective

– the most important measurement of the term planning organisation's success.

Training

There are at least four aspects to training, from the point of view of a term planning organisation. These are:

- training of terminologists (term planning organisation staff and future terminologists)
- training of specialists and others advising the terminologist
- training of professionals working closely with terminology
- training/education of the general public

Training work is important both to improve the quality and use of term resources, and to foster understanding of the use and importance of terminology. It is therefore closely related to dissemination and implantation work. The training of terminologists and of terminological advisers is vital to successful research work. Some types of training, such as research into term implantation conducted as postgraduate research, can also constitute evaluation.

Two types of professionals work with terminology: those for whom it is an object of work (language planners, terminographers, etc.), and those for whom it is a communication tool (subject field specialists). Both may benefit from the provision of training. Training is no substitute for providing clear, easily-used resources, however, and, as with general users, it should not be assumed that professionals have received training in terminology.

Modernisation/maintenance

Modernisation and maintenance are necessary in order to keep a high standard of work in each of the aspects of term planning. Modernisation is heavily reliant on the results of evaluation and on reacting in a positive way to findings.

Findings and conclusions

The model outlined here assumes that the term planning organisation works towards not only the provision but also the implantation of terms in the language. The importance of the media in term dissemination is cited throughout. Terminology work is most likely to be successful when it is carried out in an open, inclusive way, with the users involved as much as possible. This includes: public consultation in advance planning and preparation; extensive research into *in vivo* term usage; the most widespread dissemination possible; investment in marketing; research into term success; and user training. A term planning model should be both top-down and bottom-up. The bottom-up aspects of this model are particularly the evaluation aspect, which is largely reliant on feedback from users, and the research aspect, in which as many users as possible are involved. The top-down aspects are the strategic planning and the dissemination and marketing work.

The case research corroborated the literature in some instances; other aspects repeatedly discussed in the literature appear less important in the cases. Interviewees in the cases acknowledged taking a pragmatic, case-based approach to the implementation of ISO standards, for example, and much terminology work – because it was on an *ad hoc* basis, or because the projects were too big – did not suit the ISO approach. Although terminology work should, it was agreed, be based on standardised principles and methods, and based on scientific theory, this was not always the case in practice. This illustrates the value of case-based research into real-life terminology work.

An issue, mentioned by several authors (such as Gaudin 1994, 9), that came up in the case discussion of research, dissemination and training is the fact that LGP and LSP are not as separate as terminology theory sometimes claims – for terminologists or for terminology users. Users of language resources expect to find both in the same place, and do not make a distinction.

The most interesting finding from the case research, however, was the importance of aspects of term planning which are hardly mentioned in the literature. This is particularly so with methods of dissemination, in the sense both of publication, and of marketing and awareness-raising about term resources. Although these are essential for term implantation, they are hardly discussed in the literature. Similarly, there is little discussion in the literature of *ad hoc* term research, although this is just as important as project-based research in certain instances.

This paper has given a very short summary of the model for term planning elaborated in my PhD research, and a very limited overview of the sources used to research that model. It is to be hoped that, as terminology work continues to be discussed in forums such as EAFT, our understanding of best practice in term planning will continue to evolve.

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References

Bhreathnach, Ú. 2011. *A Best-Practice Model for Term Planning*. PhD thesis presented at Fiontar, Dublin City University: Ireland. Available at http://doras.dcu.ie/16548/.

Bowman, C., Michaud, D. & Suonuuti, H. 1997. "Do's and Don'ts of Terminology Management". In S.E. Wright & G. Budin (eds.). *Handbook of Terminology Management. Volume 1: Basic Aspects of Terminology Management*. 215-217. Amsterdam and Philadelphia: John Benjamins.

Budin, G. 2001. "A critical evaluation of the state-of-the-art of terminology theory". *Terminology Science and Research* 12 (1-2), 7-23.

Collier, D. & Mahoney, J. 1996. "Insights and pitfalls: selection bias in qualitative research". *World Politics* 49(1). 56-91.

Fishman, J.A. 1991. *Reversing Language Shift.* Clevedon: Multilingual Matters.

Gaudin, F. 1994. *La socioterminologie : présentation et perspectives*. Paris: Réseau Langage et Travail.

International Organization for Standardization. 2010. *ISO 29383:2010. Terminology policies - Development and implementation*. Geneva: International Organization for Standardization.

Martin, A. 1998, *Les mots et leurs doubles : étude d'implantation de la terminologie officialisée dans le domaine de l'éducation au Québec,* Office de la langue française, Québec.

Pozzi, M. 1996. "Terminological activities in Spanish-speaking countries". *Terminology* 3(1), 171-176.

Suonuuti, H. 2001. *Guide to Terminology.* 2nd edn. Solna, Sweden: TNC.

UNESCO. 2005. Guidelines for Terminology Policies. Formulating and implementing terminology policy in language communities. Prepared by Infoterm. Paris: UNESCO.

Term variation and communicative channel. A contrastive study of specialized oral and written texts on linguistics[1]

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Acknowledgements
First of all I want to thank the European Association For Terminology for this award, I want to congratulate Úna Bhreathnach for this achievement, too, and I would like to express my gratitude to all the people who have supported me over the years devoted to the elaboration of this doctoral thesis, specially to M. Teresa Cabré, founder and head of IULATERM Research Group, Mercè Lorente, director of the Institute for Applied Linguistics (IULA), Judit Freixa, supervisor of this thesis, my colleagues at IULA, my family and my husband, who is here with me today.

1. Introduction

The work I will present is theoretically framed in the Communicative Theory of Terminology (Cabré 1999). Its main objective is to study a specific type of terminological variation known as *denominative variation* in relation to the *communicative channel* (i.e. oral/written mode), a parameter which has not yet been studied as a cause of term variation. The general hypothesis claims that the variation found in oral and written specialized texts is influenced by the communicative channel, while the specific hypotheses state that this influence can be observed at the quantitative, formal and textual-discursive level.

The work is divided in two main parts: theoretical background and empirical study. The theoretical framework contains two chapters which depict the two main different pillars: variation in terminology on the one hand, and speech and writing on the other. The second part consists of four chapters that describe the empirical study carried out. In the third chapter the

1 The full text of the doctoral thesis is publicly available at: http://www.tdx.cat/handle/10803/52066. This thesis has been possible thanks to a pre-doctoral grant from the Government of Catalonia (2004FI-IQUC1/00022) and funding from the research projects RICOTERM 3 (HUM2007-65966-C02-01/FILO, directed by Dr. Mercè Lorente) and TEXTERM 3 (HUM2006-09458, directed by Dr. M. Teresa Cabré), both from IULATERM Research Group.

methodology is presented. Chapters 4, 5 and 6 deal with the data analysis and results. Finally, in Chapter 7, the conclusions of the research, its main contributions to the field of terminology, and some possible lines for future work are outlined in Chapter 7.

Due to time constraints, in this presentation we will focus on the main aspects of the theoretical background, the corpus of analysis – which is the most innovative part, as it involves the use of oral specialized texts for terminology work for the first time – and the main results about the communicative channel as a cause of term variation at the three levels of analysis: quantitative, formal and textual-discursive level.

2. Theoretical framework

2.1. On variation in terminology

As we said at the beginning, our research is framed in the Communicative Theory of Terminology (Cabré 1999), also known as TCT. This is a language-based approach to terminology in which variation plays a fundamental role because terms are considered lexical units subject to the same parameters that affect language variation in general.

There are other approaches to terminology in which term variation also plays a major role (Collet 1997; Faulstich 1998/1999; Temmerman 2000; Gaudin 2003; Diki-Kidiri 2008). These approaches focus on different social, cognitive, cultural and textual aspects of term variation, and complement each other.

Following Freixa (2002), which can be considered the first systematic study of variation in the field of terminology, term variation may affect the content of terms (*conceptual variation*) or the form of terms (*denominative variation*). Our study focuses on *denominative variation*, defined as the phenomenon by which the same concept receives different denominations. And we study this type of variation in relation to the communicative channel. Broadly speaking, we aim to see the differences between oral and written term variation at different levels.

In our study we carried out an extensive review of the state of the art on term variation, concentrating mainly on the latest publications on this subject. What is important to highlight is that the current landscape of research on variation in terminology is marked by the growing interest in this area. Over the last years, a great multiplicity of minor studies on term variation have been conducted, from different perspectives and covering the most diverse areas of expertise, from aeronautics to football.

As regards the causes of term variation, five main blocks have been established: dialectal, linguistic, discursive, cognitive and functional causes (Freixa 2002, 2006). The communicative channel belongs to the group of functional causes, which include the parameters of the communicative situation or *register* (Halliday 1964): field, tone, tenor and channel. In the field of terminology it is considered that the tone (degree of specialization) is a key factor in term variation – and the most studied –, the field (subject area) is important to a lesser extent, while the tenor (communicative function) and the communicative channel (oral/written continuum) are the functional factors with least influence on term variation in specialized texts. However, the communicative channel remains unexplored as a cause of term variation and this motivates and justifies our study.

Recent studies reveal the complex interplay between the causes of variation in terminology and their overlap with cognitive factors. But this is an emerging area of study. Fernández Silva (2010), for example, claims that term variation is a cognitive strategy. According to her findings the sender (specialist), influenced by multiple factors, chooses at each point of the message the most "useful" denomination, i.e. the most suitable form according to the communicative situation; the most informative one, and the one most understandable to the receiver. As we will see later, this premise is essential in the relation between term variation and the communicative channel, especially in relation to the cognitive function of term variation in speech.

2.2. Speech and writing in specialized texts

In order to study the communicative channel as a cause of term variation, we had to explore the nature of speech and writing in specialized texts. It must be stressed that spoken language has not been studied from the terminological perspective. Thus, in our study we reviewed and gathered all the data found in the general literature about speech and writing which was relevant to study the differences between specialized oral and written texts in the field of terminology.

The *mode* of the communicative register (Halliday 1964) is an essential notion and the point of departure. The communicative mode is a broad and gradual notion that goes beyond the simple dichotomy of graphic vs. acoustic channel and also includes the factors from the contexts of production and reception of texts, as well as genre conventions.

As a consequence, the gradual relation between speech and writing originates a continuum which allows for intermediate stages, such as formal oral language. This is important because this is the type of language specialists use most when they communicate orally with peer experts in conferences, for example. But this is not everyday speech, on the contrary, formal speech is a type of spoken language with characteristics of the written language.

We tried to systematize the main similarities and differences between specialized oral and written texts. The result is that both are formal and planned (prepared) texts, but they differ mainly in the characteristics of their contexts of production: while written texts are produced for an absent (ideal) reader, and can be reviewed and corrected (specially if they are intended for publication), oral texts are produced under real-time constraints and have a shared situational context (Castellà and Vilà 2002).

These similarities and differences between written and spoken texts are important from the methodological point of view, because they may influence the results of the research. For example, the comparison of oral and written texts with the same degree of formality increases the validity of the results, but at the same time neutralizes the differences; several studies of formal written and spoken samples revealed no major differences, but on the contrary, numerous coincidences (Akinnaso 1982, 1985). Likewise, due to its degree of planning, formal speech may be quite similar to written language. However, it has been shown that, unless the text is read aloud, speech will never be equal to written discourse, for though statements may be planned in advance, online production in front of a real audience always leaves traces (Tannen 1982).

All these aspects are important and have to be taken into account when dealing with the comparison of speech and writing from the terminological point of view.

3. Methodology

The main aspects of the methodology in our research on term variation in specialized oral and written texts involve the compilation of the textual corpus and the selection of units (term variants) to build the terminological corpus.

We do have to say that finding comparable written and oral specialized texts for our corpus was not an easy task at all. For this reason I would like to thank Dr. Mercè Lorente, director of IULA, for allowing me to consult all the material available at IULA's repository, specially the audiovisual recordings. All the material comes from IULA's audiovisual and publication repository.

After a thorough selection process, our corpus was composed of 20 texts: 10 oral presentations (5 conference lectures and 5 communications) and their respective 10 published articles. In this way, in each pair, the spoken and written texts share similar characteristics (subject area, level of speciali-zation, communicative function, sender, recipients, etc.), and their main difference is the communicative channel (oral vs. written). All the texts were produced by ten different native speakers of Spanish and deal with one topic of applied linguistics. The corpus is made up of 100,000 words (the spoken corpus has 40,000 words, and the written corpus has 60,000 words).

From the texts mentioned above we selected the units of analysis, i.e. the oral and written term variants. It is important to stress the fact that corpus-based terminology work deals with real texts, therefore, we need a broad notion of denomination, in our case, to select the term variants. Thus, we applied the notion of *discursive denomination* in order to collect not only the units with a prototypical structure, but also those which would be normally discarded due to their low or lack of lexicalization. We consider that they are also important for the description of term variation in real texts. We restricted the selection to nominal units of the lexico-syntagmatic level. For instance, we collected the term variants *terminological unit* (prototypic denomination) and *unit from a special field* (discursive denomination), but we did not extract *unit which proceeds from a special field* (fails to comply with the established selection criteria).

The identification of terms variants was done manually, and as a main criterion they had to be interchangeable in their context of use. Oral and written term variants for the same concept were grouped together for analysis. The resulting terminological corpus was composed of nearly 900 concepts in the written as well as in the oral mode, for which approximately 1,500 term variants were registered in each mode.

4. Analysis and results

In order to test our hypothesis about the influence of the communicative channel on term variation, we carried out three different types of analyses, at the quantitative, formal and textual level.

4.1. Analysis (i). Quantitative relation between term variation and communicative mode

The first analysis was intended to examine the influence of the communicative channel on term variation at the quantitative level, i.e. how much variation is found in speech and writing? Is there more term variation in speech or in writing?

In order to address this issue we had to take into account two main theoretical premises. First, that spoken and written specialized texts are highly similar, mainly because formal speech is very similar to written language. Second, the main differences between speech and writing are brought about by the particular characteristics of the textual genre. Thus, taking these aspects into account, the hypothesis was formulated as follows: at the quantitative level, the communicative channel does not exert a significant influence on the term variation of specialized written and oral texts, except when different textual genres are involved.

We conducted a series of quantitative analyzes (mainly variation indexes and statistical tests) which were favourable to our hypothesis. As expected, we found that:

a. If written and oral specialized texts are taken as a whole, the amount of term variation does not differ by communicative mode (the results in both modes were almost always identical). This is because specialized speech and writing bear similar characteristics, and the impact of the transmission channel does not exceed the specialization parameter.

b. However, if written and oral specialized texts are separated according to genre, the amount of term variation is greater, because the conditions of production of speech and writing are different. I would like to remember here that we worked with two different academic genres: conferences lectures (which last approximately 1 hour), and communications (of about 20 minutes each). Thus, the written texts of lectures and communications showed a similar amount of term variation, while the oral versions presented a sharp contrast, and there was much more variation in conferences than in communications. We believe that this is due to the contextual conditions: conferences are produced before an audience with which speakers can interact at the visual level; in addition lecturers have enough time to resort to different strategies involving term variation in order to help listeners understand the concepts being explained. Communications, on the contrary, show less variation because speakers are subject to the strict conditions of online production and have to present a lot of information in a very short time.

In brief, the numerical results show that the amount of term variation in oral and written specialized texts does not depend on the communicative channel itself but on other more determining factors, such as the textual genre and the conditions of production.

4.2. Analysis (ii). Formal contrastive analysis of written and oral denominations

The second analysis was intended to examine the influence of the communicative channel on term variation at the formal level, i.e. are written and oral denominations different? If so, how do they differ?

The hypothesis claimed that the production conditions of each communicative mode influence the form of terminological denominations, which will result more lexicalized in writing, and more analytical and discursive in speech. This hypothesis is based on different theoretical assumptions about the denomination of terms and the features of academic speech and writing:

a. At the terminological level, depending on the communicative situation, the same content can be expressed in various ways, ranging from prototypical terminological structures to units with more analytical forms (Cabré 1999).
b. Lexicalization is a gradual process which depends on many factors, especially on linguistic use (Brinton and Traugot 2005); the degree of lexicalization of terminological denominations can be observed in their syntactic structure through the presence of certain linguistic elements and categories, such as articles, the head of the prepositional phrase, etc.

c. Speech and writing have their own characteristics. For example, the written language has a nominal style, while speech has a verbal style. Thus, we believe that the lexical features typically associated with oral or written discourse (such as adjectives in writing and verbs in speech) will be reflected in the terminological denominations produced in each mode.

To test our hypothesis we conducted two contrastive analyses of the oral and written denominations: one focused on the formal denominative changes observed in pairs of term variants, and another focused on the degree of lexicalization of the syntactic structure of written and oral denominations as a whole. Among the main results we can mention the following:

a. Both terminological speech and writing make extensive use of the most frequent and prototypical terminological structures: NA and NPP(N). However, a closer analysis of the differences in the distribution of structures in each mode indicated a preference for the use of more compact structures in the written mode, and more analytical structures in the oral mode.
b. The written denominations in general showed a high degree of lexicalization as well as several indicators of discourse elaboration (abbreviations, acronyms, elisions by coordination or anaphora, juxtaposition of adjectives – structures of the NAA and NAAA type –, adverbs, participles, etc.).
c. On the contrary, the oral denominations showed more analytical structures and contained features associated to the immediacy and the ephemeral nature of speech: proper names for easier reference, plural forms, infinitive verbs, long descriptive structures with two and three PPs, exclusive use of the preposition *for*, inversion of the natural order of elements, etc. Table 1 below shows examples of prototypical written and oral denominations.
d. Last but not least, contrary to our expectations the analysis of the structures also showed that the structures that only occurred in a single mode were more frequent in writing. This indicates a greater structural diversity, closely related to the higher degree of discourse elaboration in the written mode.

Written denomination	Oral denomination
MR	modifieur réalisant
original text	*original (text)* [2]
hyphen	small hyphen
absolute precision	total and absolute precision
lexical class	"class, paradigm"
linguistic sign	Saussure's linguistic sign
addressee's expectations	customer's expectations
constructional development	development of the grammar
expressive ability	ability to talk
individual evolutive phonic profile	evolutive profile
lexicographic article of a thematically marked word	article of a special unit
expression test	test to assess expression
term candidate	possible term candidate
test of a fundamentally linguistic nature	linguistic test
terminology management for translation	terminology management for the translators' needs

Table 1. Examples of typical contrasts between written and oral denominations

All in all, we can say that the mode of communication determines the form of terminological denominations, which are the result of multiple parameters specific to the particular contexts of production of written and spoken texts. In consequence, written denominations are more lexicalized, complex and elaborated, while oral denominations are more spontaneous, analytical and transparent.

4.3. Analysis (iii). A discourse-textual approach to the analysis of the function of term variation in written and oral texts

Our last hypothesis claims that the functions of term variation in written and oral texts are different: it has a primarily stylistic function in written texts, and usually fulfils a cognitive function in oral texts.

As we said at the beginning, recent studies have shown that the motivations behind the term variation are multiple (Fernández Silva 2010), and term variation often serves as a strategy to achieve different objectives, ranging from a stylistic effect (achieving a more elaborate discourse) to a cognitive function (facilitating the reader's understanding and assimilation of concepts).

So as a last step in our research we wanted to study term variation in speech and writing in greater depth to corroborate the hints about the functions of term variation observed in the previous analyses. We believe that to achieve

2 Denominative elements between brackets are omitted in the original denomination.

a deep description of term variation it is necessary to go beyond the formal (structural) aspect and the limitations of the analysis restricted to context or sentence level and apply a global approach.

In order to take into account the whole discourse in which term variation takes place, we propose a discursive-textual approach to the analysis of variation that we have called *denominative topography*[3], i.e. the study of the denominative process through the distribution of term variants in the texts.

The textual analysis of term variation requires, as an essential first step, a thorough study of the organization and content of the text with a double function: to draw the textual map which will reveal the terminological topography, and to be able to explain the patterns of term variation observed: Why are the denominations for a given concept distributed in this way? Do they perform a specific function?

We carried out a systematic study of about 100 groups of oral and written term variants and we could establish two main topographies or distribution types: regular distribution (A...A...A) and block distribution (AAA), with intermediate possibilities, of course.

What is important is that, according to our results, in most cases the distribution of terms is not random; on the contrary, the different topographies indicate different functions of term variation. The main findings about the relation between variation patterns and the function of term variation in speech and writing can be summarized as follows:

a. The regular distribution of term variants (A...A...A) tends to have a cohesive function in both communicative modes (especially if it is a key concept) in order to maintain the discourse thread and advance in the development of the topic. However, in writing the regular distribution usually activates the stylistic function of term variation, as it is necessary to use different denominations as the text develops in order to avoid exact repetitions and improve the text style. On the contrary, in oral discourse repetitions are inherent and, rather than avoided, repetitions are exploited as a useful resource for both, the production and reception of speech in real time.
b. The block distribution (AAA), i.e. term variants appearing very near to each other, reinforced the contrast in the function of term variation in speech and writing:

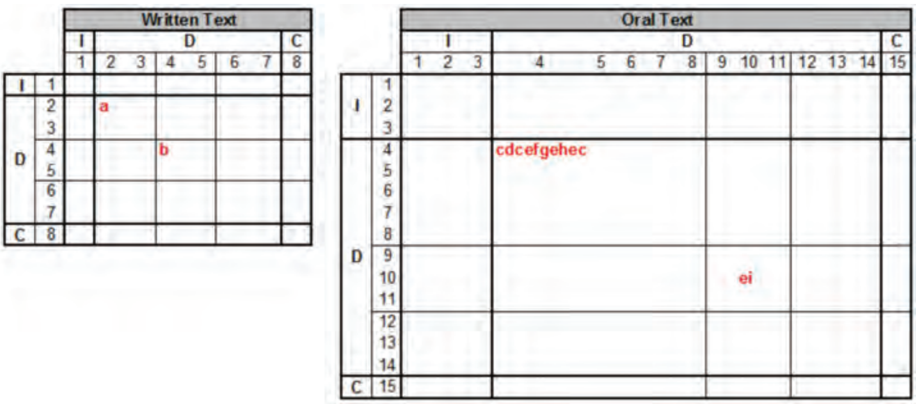
b1. As expected, the denominations grouped in pairs in the written texts had basically a stylistic cause, and this was supported by the fact that minor changes were observed in the term variants (e.g. *communication model/ communicative model*). In the oral texts, on the contrary, the pairs of

3 Our proposal is inspired in the work by Thoiron and Serant (1989), Topographie des termes.

term variants adopted a repetition-like form, usually activating different features of the concept in order to help listeners to understand the concept in question (e.g. "*the general speaker, the common speaker*").

b2. Finally, the block groups containing numerous consecutive term variants indicated the sharpest contrast in the function of term variation in speech and writing. In fact, the cluster topography was confirmed as an exclusive trait of speech, where the use of several term variants in a short span of time has a cognitive function with the aim to help the audience to assimilate and understand the concept being explained.

In the next example we can see the contrast of the term variants for the concept *basic predicative scheme* in speech and writing. While the written textual map (left) shows two unrelated and distant term variants, the oral map (right) shows up to 10 consecutive term variants grouped together in a block in order to explain the concept to the audience. The term variants, marked in bold letters in the original speech fragment below, are the following (some of them are repeated): *scheme, semantic predication, basic scheme, semantic construction, pattern, basic scheme of predication*[4]:



Example:

El primero de los ejemplos que se hace figurar es el de Martina ¿h? que es una niña de tres años y ocho meses. Martina construye, construye el esquema, o lo que es la predicación semántica del verbo "trabajar" como "trabaja *en*" ¿h? Lo... probablemente el... la frecuencia de manejo de esa predicación o de ese esquema es con la preposición "en" y ella copia, ella imita. De manera que extiende todas las construcciones con el verbo

4 In the textual maps, I, D and C indicate the main parts of the text: Introduction, Development and Conclusions. The numbers in the horizontal and vertical axis refer to the page numbers in the original texts and are used as coordinates for placing the denominations (codified with letters) in the part of the text where they are used. At the end of the original fragment [FER] is the author's code.

"trabajar" añadiéndole la preposición "en": "trabaja en las va- vacas": "¿Sabías que mi mamá, mi papá…" (bueno, mi mama, mi papa) "trabaja *en* las vacas?". Habrá escuchado "mi padre trabaja *en* la fábrica, mi padre trabaja *en* Santiago, mi madre trabaja *en* la escuela". Se ha quedado con el esquema básico, con lo que es la… la construcción semántica, patrón, de "trabajar" y ha extendido ese esquema básico a todos los casos en los que se maneja "trabajar". Es un rasgo, es un rasgo singular del lenguaje infantil, pero es regular ¿eh? Es regular. Todos los niños van adquiriendo un esquema básico de predicación, correspondiente a cada elemento verbal y, a partir de ahí, es como si solamente existiera ese esquema básico, y lo construyen para cualquier caso, es el esquema que manejan para cualquier caso. [FER]

To conclude, we can say that the textual study of real cases of term variation allows us to state that the functions of term variation in speech and writing are different. We could say that in both cases term variation is focused on the addressee, but at different levels: while in writing most of the time term variation appeals to the reader's sight in order to achieve a stylistic effect, in speech term variation helps the listener to process the information, because as Müller (2005) says, the speaker speaks with the eyes "not on the paper, but on the public".

Plakater / Posters / Posters

Terminology and terminography work in Slovenia

MARJETA HUMAR
FRAN RAMOVŠ INSTITUTE OF THE SLOVENIAN LANGUAGE

The main entities in this field in Slovenia:

- The Fran Ramovš Institute of the Slovenian Language of the Research Centre of the Slovenian Academy of Sciences and Arts (SRC SASA), Ljubljana, with its Section for Terminological Dictionaries
- Faculties of the University of Ljubljana, Maribor, Primorska, Nova Gorica
- Other institutions (institutes, companies, etc.)
- Individuals

The Fran Ramovš Institute of the Slovenian Language (http://isjfr.zrc-sazu.si/#v, isj@zrc-sazu.si). Terminology and terminography is mainly the priority of the **Section for Terminological Dictionaries.**

Section for Terminological Dictionaries

The most important achievements in the field of terminological theory and the history of Slovenian terminology and terminography in recent times:

Published theoretical works in the Slovenian language (only books):

– Study *Slovenska pravna terminologija od začetkov v 19. stoletju do danes* (*Slovenian Legal Terminology from the Beginning of the 19th Century to Today*) (**Mateja Jemec Tomazin**, 2010)

– Study *Terminologija med slovarjem in besedilom* (*Terminology between the Dictionary and the Text*) (**Mojca Žagar Karer**, 2011)

– Language guide *Slovensko tehniško izrazje* (*Slovenian Technical Terms*) (**Jakob Müller et al.**, 2011)

Published dictionaries (usually interpretative, normative and multilingual):

– *Gledališki terminološki slovar* (*Theater Terminology Dictionary*) (**Marjeta Humar** et al.**,** 2007; published on the internet http://bos.zrc-sazu.si/c/term/gledaliski/index.html, 2011)

- *Slovenski tehniški slovar A–B* (*Slovenian Technical Dictionary A–B*) (**Cvetana Tavzes** et al., 2007)

- *Čebelarski terminološki slovar* (*Dictionary of Beekeeping*) (**Ljudmila Bokal** et al., 2008; published on the internet http://isjfr.zrc-sazu.si/sl/publikacije/cebelarski-terminoloski-slovar#v, 2009)

- Slovensko-italijanski in italijansko-slovenski slovar elektronike, elektrotehnike in telekomunikacij = Dizionario sloveno-italiano e italiano-sloveno di elettronica, elettrotecnica e telecomunicazioni (*Slovenian-Italian and Italian-Slovenian Dictionary of Electronics, Electrical Engineering and Telecommunications*) (**Carlo Mucci and Marjeta Humar**, 2010; it will be published on http://www.termania.net/Dictionary.aspx?page=3)

- *Farmacevtski terminološki slovar* (*Pharmaceutical Terminology Dictionary*) (**Marjeta Humar** et al., 2011)

- *Botanični terminološki slovar* (*Botanical Terminology Dictionary*) (**Borislava Košmrlj Levačič** et al., 2011)

- *Slovenski smučarski slovar* (*Slovenian Skiing Dictionary*) (**Ljudmila Bokal** et al., 2011)

About to be published:

- *Veterinarski slovar* (*Veterinary Dictionary*) (**Cvetana Tavzes** et al., 2012)

Other important achievements:

- Creation and updating of a computer program for the processing of dictionary material SlovarRed 2.1

- Organization of Slovenian and international scientific meetings

- Terminological consulting

Published anthologies of scientific meetings:

- *Terminologija v času globalizacije (Terminology at the Time of Globalization : [collected papers from the Scientific Conference Terminology at the Time of Globalization*, Ljubljana, 5th–6th June 2003] (ed. by **Marjeta Humar**, 2004)

- *Terminologija in sodobna terminografija* (*Terminology and Modern Terminography*) (ed. by Nina **Ledinek, Mojca Žagar Karer, Marjeta Humar, 2009**)

- *Nacionalni jeziki v visokem šolstvu* : [zbornik prispevkov z Mednarodne konference Jezikovna raziĐnost in nacionalni jeziki v visokem šolstvu] =

National Languages in Higher Education : [collected papers from the International Conference Language Diversity and National Languages in Higher Education] (ed. by **Marjeta Humar and Mojca Žagar Karer**, 2010)

Research in progress:

- Jezikovni vidiki slovenske pravne terminologije ob primerih sodb Sodišča Evropskih skupnosti (Linguistic aspects of Slovenian legal terminology in – cases of judgments of the European Court of Justice) (**Tanja Fajfar**)

Dictionaries in the works:

- Slovenian Law, EU Law, Legal History
- Slovenian Technical Dictionary, Chemical Process Technology, Control Engineering
- Urbanism, Art History

The major problems in the field of Slovenian terminology and terminography, and consequences:

Organisation of terminological work in Slovenia

- Work on terminology is not unified enough
- Insufficient transparency: who does what in the field of terminology and terminography, in what phase
- Insufficient control over expenditure of public money
- Insufficient public access to terminological dictionaries, corpora
- Public corpora do not contain enough terminology

Financial means

- Insufficient funding of terminological work

Slovenian terminology is not looked after enough

- Students get familiar with mostly English terminology and do not get trained in how to make Slovenian counterparts.
- Slovenian scientific achievements are evaluated with only half of all points available (document *Measures for the election in the title of university teachers, scientific workers and university co-workers*), which is why the number of scientific publications in Slovenian is on the decrease; this may lead to domain loss.

Evaluation of work on Slovenian terminology and terminography is too low

- A very low system of assigning points for Slovenian terminology and terminological dictionaries disables scientific advancement and does not encourage experts to make dictionaries for a specific professional field

How to improve the situation?

Tasks of those institutions dealing with Slovenian terminology and terminography

- Work should be more interconnected
- Corpora should include scientific and expert texts
- The compilation of terminological manuals, in particular explanatory multilingual dictionaries, should be intensified
- A terminological online portal for terminological counselling and the publication of terminological manuals should be developed

Tasks of the Slovenian state

- Improve the funding and evaluation of terminological and terminographical work
- Introduce a university course on Slovenian terminology
- Improve the evaluation of scientific works in Slovenian language

Tasks of the EU

- Emphasising and encouraging the development of national languages and the multilingual society

Cloud-Based Infrastructure of Terminology Services and Resources

TATIANA GORNOSTAY, ANDREJS VASILJEVS, ROBERTS ROZIS
TILDE, RIGA, LATVIA

Abstract. This short paper presents the concept of the cloud-based infrastructure of terminology services and resources. The first section addresses the needs of an instant access to the most up-to-date terms, user participation in the acquisition, processing, and sharing of multilingual terminological data, and efficient solutions for the reusing of terminology resources based on the cloud-based terminology services for human and machines as users. The second section focuses on the task of the consolidation and harmonisation of different, usually dispersed, terminology resources within the open infrastructure of language resources. This paper also includes the poster to be presented at the EAFT Terminology Summit 2013.[1]

Keywords: terminology, service, resource, cloud-based, infrastructure, acquisition, processing, sharing, reusing, consolidation, harmonisation

1 Introduction

Terminology is everywhere: we come across with terms every day, for example, when we are visiting a doctor, building a house, buying a car, etc. Terminology is a spine of the professional communication and of a document within its life cycle, including the creation, publication, translation, localisation, and other document management processes. Furthermore, terminology is of vital importance for brand consistency and customer satisfaction within businesses.

Terminology is developing rapidly and every day the volume of terminology grows along with the explosion of information available on the web. However, current static models for the acquisition, processing, and sharing of terminological data cannot keep up with this increasing demand. Moreover, in the context of the multilingual Europe, the role of terminology is even more important than ever to insure that people communicate efficiently and precisely.

[1] See Figure 1 for the poster to be presented at the EAFT Terminology Summit 2013.

Thus, there are evident needs for an instant access to the most up-to-date terms, collaborative models for the acquisition, processing and sharing of multilingual terminology, and facilities for the reusing of terminology resources in various applications within different usage scenarios. However, the current static models for these core terminology tasks cannot keep up with the growing demand due to the information explosion, terminology volume growth, etc.

2 Infrastructure of Terminology Services

An ongoing TaaS[2] project has been initiated this year to address the abovementioned needs and establish a sustainable cloud-based platform that provides the following online core terminology services for key terminology tasks:

- Automatic extraction of monolingual term candidates using the state-of-the-art terminology extraction techniques from the documents uploaded by users;
- Automatic recognition of translation equivalents for the extracted terms in user-defined target language(s) from different public and industry terminology resources (for example, TAUS, IATE, EuroTermBank, and others);
- Automatic acquisition of translation equivalents for terms not found in existing terminology resources from parallel and/or comparable web data using the state-of-the-art terminology extraction and bilingual terminology alignment methods;
- Facilities for the platform users for cleaning up, or revising (i.e., editing, deleting), of automatically acquired terminology;
- Facilities for terminology sharing and reusing: APIs and export tools for sharing the resulting terminological data with major term banks and reuse in various applications within different usage scenarios.

The TaaS platform will demonstrate the efficacy of reusing acquired and user-cleaned terminology resources within the following usage scenarios:

- Simplify the process for language workers to prepare, store and share of task-specific multilingual term glossaries
- Provide instant access to term translation equivalents and translation candidates for professional translators through computer-assisted translation (CAT) tools
- Domain adaptation of statistical machine translation (SMT) systems by dynamic integration with TaaS provided terminological data

[2] TaaS: Terminology as a Service (www.taas-project.eu), the work within the project leading to these results has received funding from the European Union under grant agreement n° 296312.

3 Infrastructure of Terminology Resources

After a long history of terminology work that resulted in a large number of terminology resources, the task of the consolidation and harmonisation of different, usually dispersed, terminology resources becomes more urgent. An ongoing META-NORD[3] project addresses this demand. Within the project task of consolidating European multilingual terminology across languages and domains, the project aims at:

- Extending the META-SHARE Open Linguistic Infrastructure with monolingual, bilingual, and multilingual terminology resources across Europe;
- Integrating the EuroTermBank[4] platform into META-SHARE by adapting EuroTermBank to relevant data access and sharing mechanisms;
- Populating EuroTermBank with additional terminology resources and thus broadening the language domain coverage of EuroTermBank.

META-SHARE will contain among others:

- EuroTermBank as a local terminology repository consisting of its own terminology resources and metadata that will follow the META-SHARE schema;
- A local inventory consisting of metadata for the terminology resources stored at the local repository;
- A META-SHARE inventory consisting of the metadata for the terminology resources stored in the repository.[5]

4 Conclusions

The ongoing work lays the ground for the fruitful cooperation in the acquisition, processing, sharing, and consolidating of terminology resources. During last year more than 10 terminology resources were identified to be interlinked with the META-SHARE Open Linguistic Infrastructure via the EuroTermBank portal. The work on the integration of EuroTermBank into META-SHARE has started in the beginning of this year and the number of interlinked terminology resources is increasing.

[3] META-NORD: Baltic and Nordic Parts of the European Open Linguistic Infrastructure (www.meta-nord.eu), the work within the project leading to these results has received funding from the European Union under grant agreement n° 270899.

[4] EuroTermBank (www.eurotermbank.com) is one of the major efforts in the consolidation of terminology resources. It is a centralised online publicly available term bank for the languages of the European Union. EuroTermBank provides a federated access to other interlinked external term banks.

[5] See more about the overall architecture of META-SHARE at: www.meta-net.eu/meta-share/architecture.

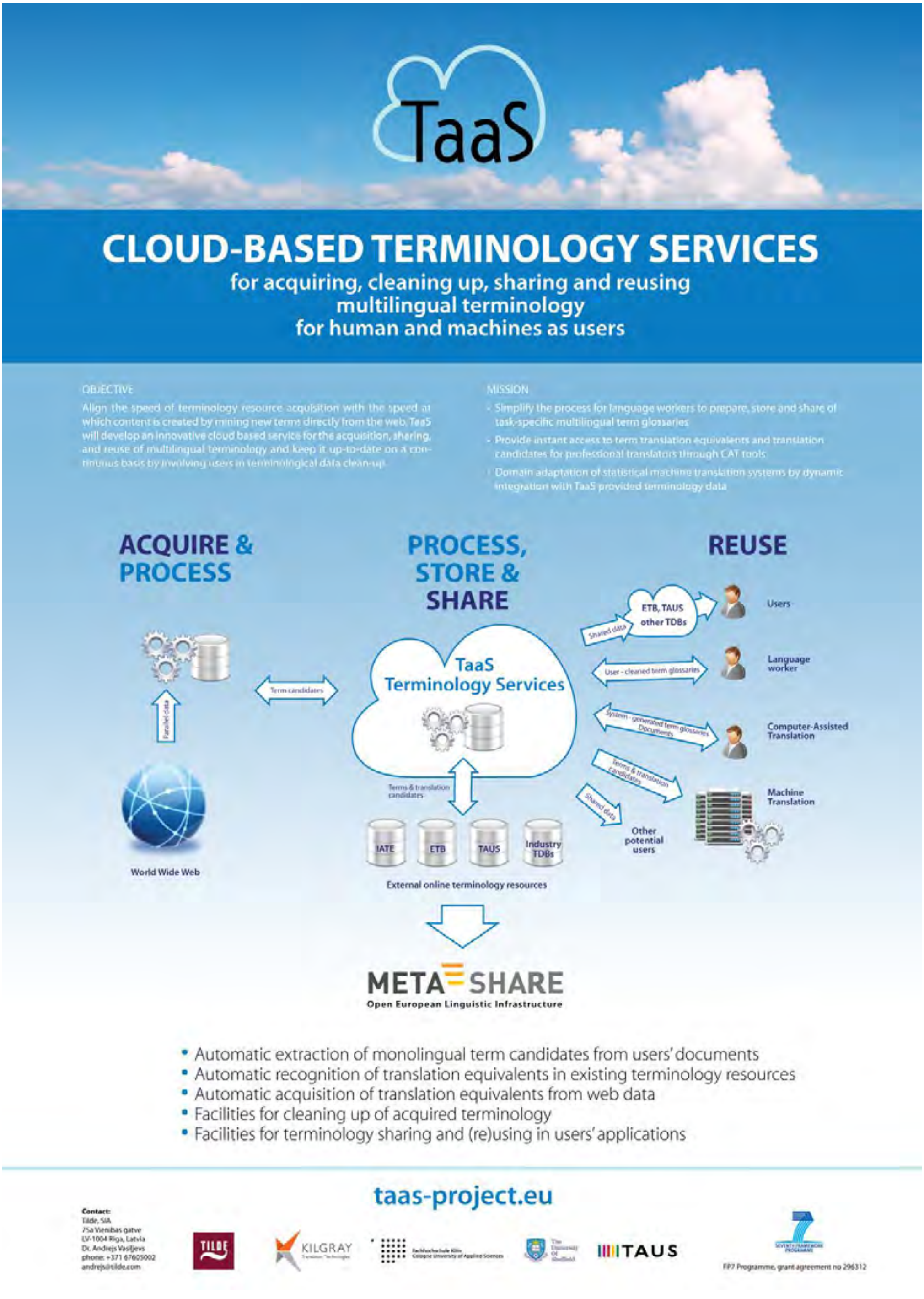


Figure 1. Cloud-Based Infrastructure of Terminology Services and Resources

The DanTermBank project: Automatic Knowledge Extraction and Knowledge Structuring for a National Term Bank

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1. Introduction

If a term bank does not contain a sufficient number of terms, users will not feel encouraged to use it, and on the other hand, users will be frustrated if a term bank contains a large amount of terms with only little or poor quality information. Therefore it is necessary to use automatic procedures in order to extract and systematize information about terms, and the high quality that can be obtained by hand crafting the contents and the large volume that can be obtained by reusing terminology data from existing sources of varying quality must somehow be combined. One way of increasing the amount of terms in a term bank is to extract terms and information about terms automatically from texts.

Another method is to merge terminology from different sources, such as other term banks or existing term lists. However, this approach will often lead to problems, since the term bank will typically contain many entries connected to the same term, but with varying formulation of the definitions and/or different translations.

This paper describes research in the DanTermBank project. The goal of the project is to create the foundations for establishing a national term and knowledge bank, i.e. to develop automatic methods and prototypes for advanced terminology work, including automatic extraction of terms and information about terms as well as the automatic construction and validation of ontologies (or concept systems) on the basis of the extracted information. At present we have developed prototypes for retrieving relevant texts and extracting term candidates from these. We will describe this briefly in section 3.1.

Another goal of the project is to develop methods for automatic merging of terminological data from various existing sources; a problem that existing term banks have not solved adequately. The project also aims at developing methods for automatic construction of ontologies on the basis of definitions from the various data sources and methods for automatic merging of entries based on the merging of these ontologies.

Finally the project aims at developing methods for target group oriented knowledge dissemination. Many other term banks only offer restricted possibilities for setting up user specific search and presentation profiles.

As an introduction to the description of the current project we present some central concepts related to terminological ontologies.

2. Central concepts related to terminological ontologies

In order to clarify and distinguish the meanings of domain specific concepts, these must be described by means of characteristics and relations to other concepts, i.e. in the form of domain specific terminological ontologies. On the basis of such ontologies, it is possible to develop consistent definitions that further the understanding and correct use of terms. Terminology work that includes development of ontologies is, however, a very labor-intensive task, and therefore most term banks do not include ontologies.

The backbone of terminological concept modelling is constituted by characteristics modelled by formal feature specifications, i.e. attribute-value pairs cf. Fig. 2. The use of feature specifications is subject to principles and constraints described in detail by Madsen, Thomsen, & Vikner (2004). Subdivision criteria, which have been used for many years in terminology work, were formalised by introducing dimensions and dimension specifications. A dimension of a concept is an attribute occurring in a (non-inherited) feature specification of one or more of its subordinate concepts. A dimension specification consists of a dimension and the values associated with the corresponding attribute in the feature specifications of the subordinate concepts: DIMENSION: [value1| value2| ...].

3. Subprojects

The current term bank project consists of three main subprojects: 1) Knowledge acquisition, 2) Knowledge validation and 3) Knowledge dissemination. Figure 1 gives an overview of the project and its three subprojects as well as the processes involved. In subproject 1) Knowledge acquisition, methods for a) automatic knowledge extraction, and b) automatic merging and quality assurance of data, are to be developed. Below, the three subprojects are briefly described.

3.1 Knowledge acquisition

3.1.1. Automatic knowledge extraction

The primary aim of the subproject 'Knowledge acquisition' is to develop new advanced models of and methods for automatic extraction of concepts and information about concepts, and to fulfill this aim, the project is developing a prototype.

The prototype consists of two parts (see Lassen, 2012): a corpus compilation part and a corpus processing part. The first part allows us to compile domain corpora from the web, combining a selection of statistical measures with known terminology input and set operations. The second part allows us to extract knowledge in the form of term candidates as well as characteristics from the compiled corpora, using a combination of part of speech-patterns, statistical measures and a combined ranking score.

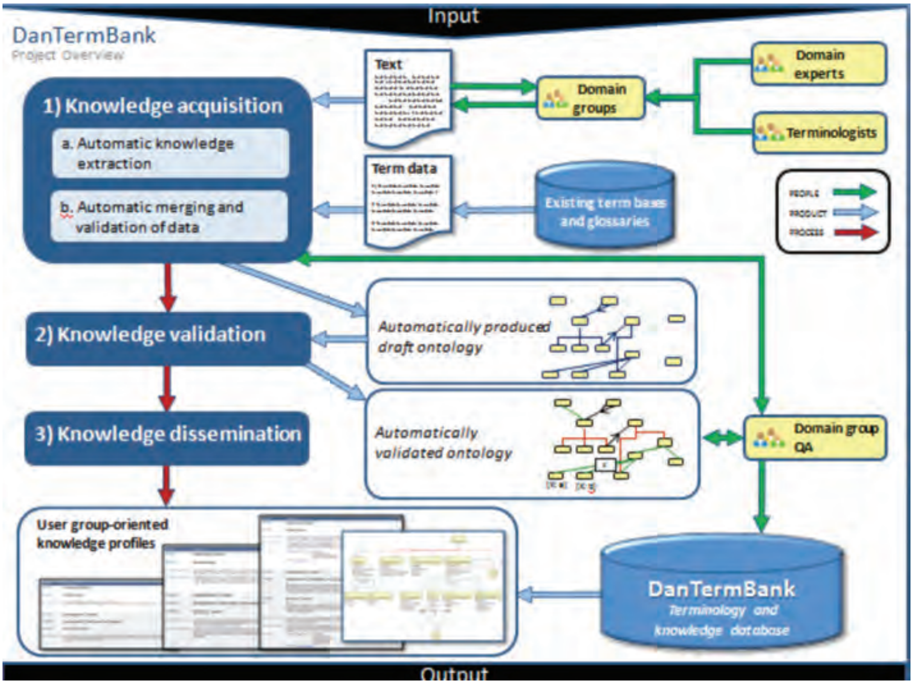

Figure 1 Outline of the project and its subprojects

The corpus compilation system collects texts from the Internet by application of a bootstrapping algorithm, cf. e.g. BootCat (Baroni & Bernardini, 2004), where first, a number of exemplary texts from the given domain are analyzed by applying selected statistic scores, and as a result a set of domain specific words or word combinations is produced, possibly combined with known terms from the domain, and used as search terms. We apply co-occurrence scores, e.g. PMI (Church & Hanks, 1990) and Dice coefficient (Smadja, 1993), as well as 'termhood' scores, e.g. Log Odds Ratio (cf. e.g. Everitt, 1992) and Weirdness (Ahmad et al., 1999), which require a reference corpus. Currently, only the Danish reference corpus, *Korpus2000,* compiled by *the Society for Danish Language and Literature*, is accessible.

For term extraction, we apply a combination of statistical scores, analogous to those applied in the corpus compilation process, in combination with a pattern-based approach. The patterns may be syntactic, e.g. of the form 'JJ+NN', which will match a sequence of an adjective followed by a noun, or they may be morphosyntactic, e.g. of the form 'NN_NN', which will match a closed sequence consisting of a noun followed by a noun. Morphosyntactic patterns match closed compounds, e.g. *forebyggelsesstrategi* (prevention strategy), without blanks. This type of compounding is highly productive in Danish. Using this combined approach, we may rank term candidates based on selected criteria such as source of term discovery (statistics, pattern, or both), combined score and frequency. The result is a ranked shortlist of term candidates, which will have to be validated by terminologists and domain experts in collaboration, before it can be considered a final term list.
Once we have a comprehensive term list for a given domain, we can start looking for linguistic representations of concept relations in the corpora. This part has not yet been implemented and other approaches than the one outlined here (e.g. unsupervised approaches such as clustering) may also be considered. Again, we propose a bootstrapping method, where we initially feed the system with term pairs between which a known relation exists. For each relation, the output will be a set of text patterns; the pattern being any string of characters found between occurrences of individual terms in a term pair. This way, for each known relation, we can collect knowledge patterns (cf. e.g. Ahmad & Fulford, 1992, Halskov & Barriere, 2008, Hearst, 1992, and Meyer, 2001) expressing the given relation. Subsequent searches for occurrences of these patterns in the corpus can be done 1) with a restriction that it should be surrounded by known terms, between which the given relation then can be inferred to exist, or 2) with no restriction on the surroundings other than a window size, and possibly combined with term patterns, with the objective to discover additional term pair candidates. After a validation process, such new term pairs may form the input to a second/third/∞ iteration of the process.

3.1.2 Automatic merging of data

Another aim of this subproject is to develop methods for converting and combining terminology data from various existing sources. Two very complex types of problems exist in this process. The first type of problems that are likely to be encountered pertains to form: The data are likely to have different structures and be stored in different formats. The second type of problems pertains to content: The data may be of varying quality, and entries from the various resources may contain information about the same concept, but be associated with different sets of synonyms and with slightly varying definitions, or the other way round, have overlapping sets of synonyms but be associated with different concepts. Therefore, the aim of this subproject is also to do research in automatic ontology construction on the basis of existing term collections, and to develop methods for merging and quality assurance of term data from different sources.

3.2 Knowledge validation

The aim of the subproject 'Knowledge structuring' is to develop methods and a prototype that may be used for automatic validation and dynamic expansion of the draft ontologies that result from the automatic knowledge extraction. As mentioned above in section 3.1, the draft terminological ontologies will contain subdivision criteria and characteristics as formal feature specifications on concepts. This information can be used in the automatic validation of the draft ontologies: For example, if the draft ontology contains two given concepts that have been placed in a direct type relation, but where the feature specifications imply that a concept should in fact exist between them, the system can introduce a dummy concept in order to make the ontology valid. Afterwards, a domain expert must re-validate the ontology and fill in actual concepts in place of the introduced dummy concepts.

The validation process will require changes to be made in the ontology, and for this process to be performed automatically, we will develop techniques for automatic classification of concepts into ontologies with type relations based on the feature specifications that have been identified for a given concept.

Prior research distinguishes between characteristic features and conceptual relations (Madsen, Thomsen & Vikner, 2004). In the knowledge acquisition prototype, which will be developed during subproject 1, no distinction will be made between attributes and relations per se, but all associative relations will be recorded as attribute-value pairs. For any given concept, a given characteristic feature may either be represented as a feature specification or as a relation to another concept. In a small terminology project, concepts outside the narrow domain will typically not be included in the ontology, but only exist as values of feature specifications, but if these concepts are relevant to the description of the domain, they may be included as concepts in the ontology. The project will develop methods for deciding whether to represent this information as a characteristic or a related concept in a given ontology. Other problems that the project will treat are multiple values and hierarchically typed values.

The knowledge acquisition prototype will potentially describe concepts with more than one (identical) relation to other concepts. However, some relations exist that can only occur once in connection with a given concept; for instance, no concept can have more than one instance of the relation HAS_LENGTH. This corresponds to the principle that a concept can have at most one value for a given attribute. Therefore, in order to facilitate ontology validation, we will develop methods for distinguishing between relations that can only occur once, and relations that can occur several times in connection with a concept.

In the ontology excerpt shown in figure 2, the concept *cell* is subdivided into *exocrine cell* and *endocrine cell*, based on the subdividing criterion SECRETION. The concept *centroacinar cell* inherits the feature [SECRETION:enzymes] from *exocrine cell*, but is already specified with the feature [SECRETION:digestive enzymes]. In this case, it can be argued that the value is a specialization of the inherited value, and therefore there is no conflict. To handle this, we suggest to apply a type hierarchy of values. This approach builds on the methods implemented in e.g. the Lexical Knowledge Base system (LKB) (Copestake, 1992) for use in lexical semantics.

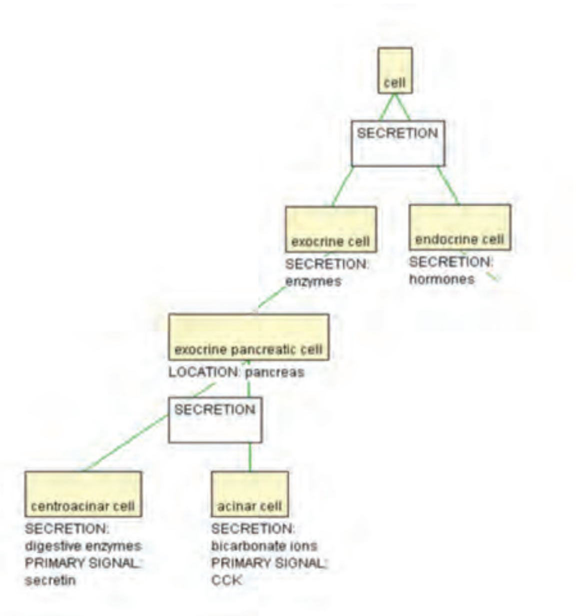

Figure 2 Excerpt of a cell ontology

3.3 Knowledge dissemination

The subproject 'Knowledge dissemination' will focus on the presentation of data in the term bank. Modern technology offers unlimited opportunities to meet the needs of several target groups in one database by offering the possibility of choosing between different presentations (user interfaces). The overall objective of this subproject is to develop user interface prototypes which are adapted to the different needs of target users. The plan is to conduct eye-tracking experiments with users representing different levels of expertise in constructed use cases constituting concept clarification in a chosen domain (taxation) while carefully manipulating with information mode, information position and information complexity. The results from the user experiments will be used to identify user profiles and to outline a user model as the basis for the user interface prototypes which ideally should capture the needs of the different target users.

4. Conclusions

A distinctive feature of our approach includes the automatic extraction of concepts and associative relations, which can be formalised as feature specifications. The ontologies will be based on the principles for terminological ontologies as described above. No other methods or systems exist for automatic construction and consistency checking of terminological ontologies that comprise subdivision criteria and dimension specifications, which are crucial in the development of such ontologies.

References

Ahmad, K., & Fulford, H.: *Knowledge Processing: 4. Semantic Relations and their Use in Elaborating Terminology.* (Computing Sciences Report). Surrey: University of Surrey. (1992)

Ahmad, K., L. Gillam and L. Tostevin. 1999. University of surrey participation in TREC8: Weirdnessindexing for logical document extrapolation and retrieval (WILDER). In: *The Eighth Text REtrieval Conference (TREC-8)*.

Baroni, M. and S. Bernardini. 2004. BootCaT: Bootstrapping corpora and terms from the web*. Proceedings of LREC 2004*.

Church, K. W. and P. Hanks. 1990.Word association norms, mutual information, and lexicography. *Computational Linguistics*, 16(1):22–29.

Copestake, A. 1992. *The Representation of Lexical Semantic Information.* Doctoral dissertation, University of Sussex.

Everitt, B. 1992. *The Analysis of Contingency Tables*. Chapman & Hall/CRC Monographs on Statistics & Applied Probability), 2nd edition.

Halskov, J., & Barriere, C.: *Web-Based Extraction of Semantic Relation Instances for Terminology Work*. Terminology, 14 (2008) 20-44

Hearst, M. A.: Automatic acquisition of hyponyms from large text corpora. In: *Proceedings of COLING-92*, pp. 539-545 (1992)

Lassen, Tine: A Corpus Compilation and Processing Prototype for Terminology Work, *Proceedings of TKE 2012*. (2012) Madrid

Madsen, B. N., Thomsen, H. E., and C. Vikner. 2004. Principles of a system for terminological concept modelling. *Proceedings of the 4th International Conference on Language Resources and Evaluation*, *Vol. I*, pp. 15-18. Lisbon.

Meyer, I.: Extracting knowledge-rich contexts for terminography. In: D. Bourigault, C.J. and M.-C. L'Homme (eds.) *Recent Advances in Computational Terminology*, pp. 279-302. John Benjamins, Amsterdam/Philadelphia (2001)

Smadja, F. 1993. Retrieving collocations from text: Xtract. *Computational Linguistics*, 19(1):143-177.

The Finnish Terminology Centre TSK (Sanastokeskus TSK, Terminologicentralen TSK) - national terminology centre since 1974

GOVERNMENT TERMINOLOGY SERVICE

SPECIALIST IN ADMINISTRATIVE TERMINOLOGY SINCE 1988

PRIME MINISTER'S OFFICE (PMO), FINLAND

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- translates official Government documents into Finnish and Swedish
- publishes the handbook on Swedish legal language, 'Svenskt lagspråk i Finland'
- provides foreign language translation services for the PMO
- specialises in multilingual legal and administrative terminology

PROVIDES TRANSLATORS, PUBLIC SERVANTS AND THE GENERAL PUBLIC WITH:

- free terminology service by e-mail and telephone
- online termbank Valter
- term lists on topical issues, legal terms and phrases, job titles and organisational names
- advice, recommendations and translation memories on the PMO website

GOVERNMENT TERMBANK VALTER www.valter.fi

- free online termbank since 2005
- approx. 3,150 entries with terms, definitions and concept diagrams
- languages: fi, sv, en, de, fr, ru
- user interfaces: fi, sv, en
- an average of 16,850 searches/month

CHALLENGES OF MULTILINGUAL TERMINOLOGY WORK

- selection and creation of terms and assessing their reliability
- terminological equivalence and cultural differences
- availability of reliable source material
- recruitment and commitment of language specialists with the intended expertise
- keeping glossaries up-to-date

Government Terminology Service Prime Minister's Office PO Box 23, FI-00023 Government, Finland Office: Unioninkatu 15
Tel. +358 9 1602 2058 (8–12) kielipalvelu@vnk.fi www.vnk.fi/terminologyservice

FINNISH TERMINOLOGY CENTRE TSK

NATIONAL TERMINOLOGY CENTRE SINCE 1974

- offers information and expert services related to terminology work, e.g. training and consulting, web pages, term banks, Terminfo newsletter
- produces high-quality vocabularies and ontologies with subject-field specialists usually in Finnish, Swedish and English
- uses standardised principles and methods of terminology
- develops methods and tools for terminology work

TERM BANKS

TEPA term bank www.tsk.fi/tepa/

- material produced in terminology projects published for as large audience as possible
- more than 45,000 entries containing special language terms, definitions and concept diagrams
- content: various subject fields
- languages: fi, sv, en, de, also some fr, et, no, da, ru, es
- available to the public since 1987, since 1997 free-of-charge on the Web

IT terminology www.tsk.fi/termitalkoot/

- gives recommendations on Finnish terminology in the field of information technology
- ca. 500 entries and several concept diagrams
- languages: fi, en
- since 1999

Bank and finance terminology www.tsk.fi/bank/

- harmonises and establishes Swedish and Finnish terminology in the field of banking and financing
- more than 900 entries and dozens of concept diagrams
- languages: fi, sv, en
- since 2002

CHALLENGES OF TERM BANKS

- all subject-fields are not equally covered
- not enough resources for updating existing material or finding new material
- those who have suitable material are not always willing to publish it for free use
- since the publishing format protects TEPA's material against copying, search engines do not find TEPA's terms

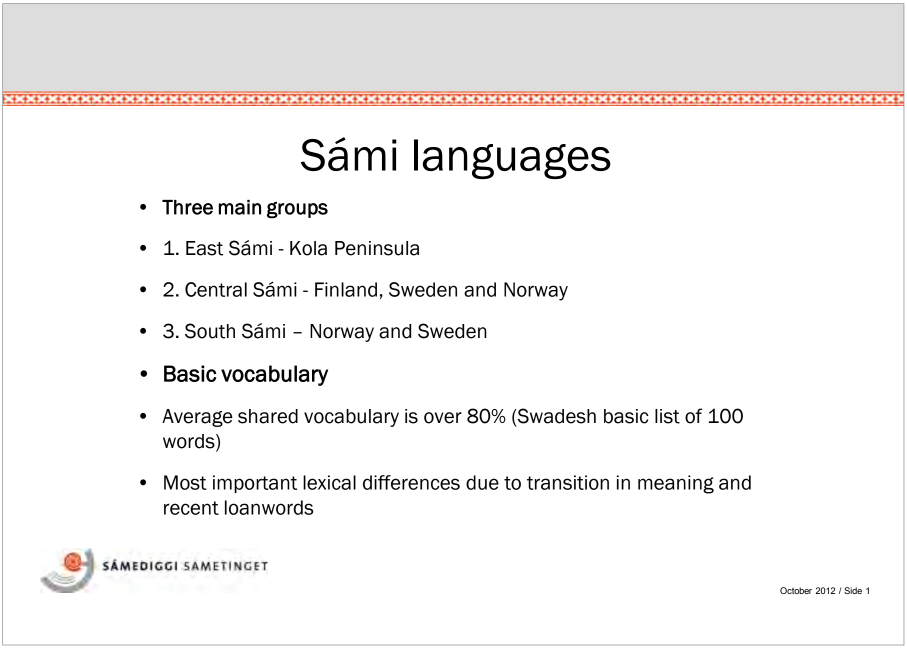
Finnish Terminology Centre TSK Albertinkatu 23 A 12 FI-00120 Helsinki, Finland Tel. +358 9 2709 1060 tsk@tsk.fi www.tsk.fi

PRIME MINISTER'S OFFICE
FINLAND

SANASTOKESKUS TSK
TERMINOLOGICENTRALEN TSK

Sámi languages

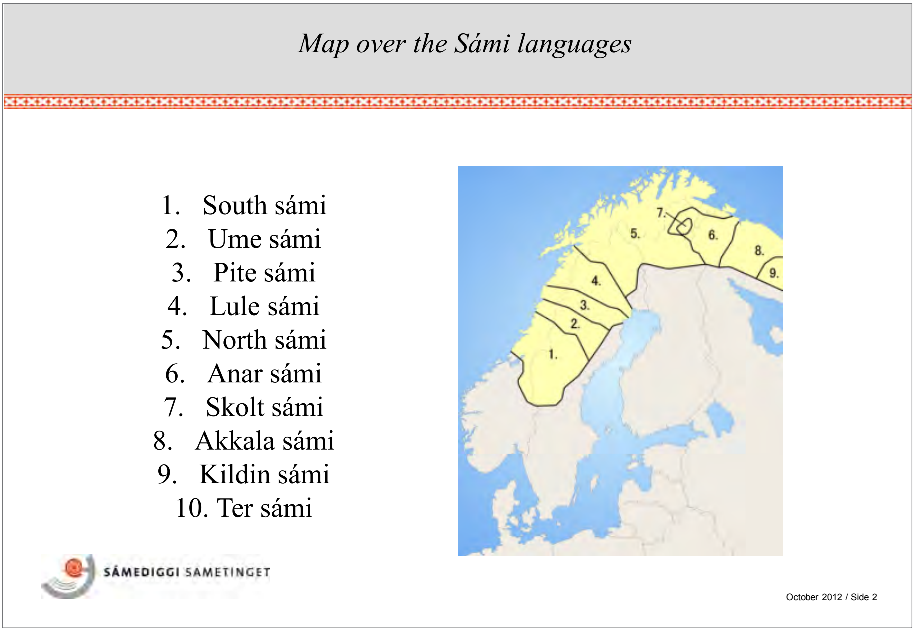
JOSEPH FJELLGREN
THE SAMEDIGGI/SAMETINGET, NORWAY



The three main groups are East Sámi, Central Sámi and South Sámi.

East Sámi is spoken in the Kola Peninsula, Central Sámi is spoken in Finland, Sweden and Norway and South Sámi is spoken in Sweden and Norway.

Two Sami languages that are adjacent to one another on the map is fairly understandable for respective speaker, but it becomes more difficult to un-



derstand as the distance between the language borders increase.

Sami language has a rich derivational system

- The possibility to produce word derivationals is strongly contributing to the abundance of word forms in Sami, here is an example with som derivationals from the north sami verb *lohkat* ’to read or count':
- *logastit* ’to read or count little or quickly'
- *lohkalit* ’to read or count quickly'
- *logadit* ’to be reading or counting'
- *logahit* ’to make someone read or count',
- *logahallat* ’to make several people to read or count'
- *lohkkojuvvot* ’to be read or counted'
- *lohkagoahtit* ’to start reading or countnig'
- *logaldallat* ’to give a lecture'

SÁMEDIGGI SAMETINGET

Rich derivational system

Some derivational endings enables to make produce derivationals that represent new word classes, for example:

- *lohkki* ’reader' *lohkan* ’lecture or counting'
- *logus* ’reading, something to read'
- *lohku* ’amount, number, account'
- *lohkamuš* ’something to read or count'
- *logakeahttá(i)* ’unread, uncounted'
- *logahahtti* ’readable, countable'
- *lohkalas* ’inclined to read, count'
- *lohkameahttun* ’uncountable, unreadable'
- *logaldallan* ’lecture'

SÁMEDIGGI SAMETINGET

Towards a national portal for Norwegian terminology in the CLARINO project

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Introduction

CLARINO is a coordinated effort to create a national infrastructure for language resources, funded by the Research Council of Norway and linked to the Europe-wide CLARIN project. This poster describes ongoing work on terminology in the CLARINO project – called Terminor. Terminor is a specific work package in CLARINO, WP 7 Terminology Integration, led by NHH, which is devoted to the development of a national portal for terminology resources. Terminor will take an important step towards overcoming the fragmentation problem in the terminology field and the need for coordination of terminological efforts at international and national levels.

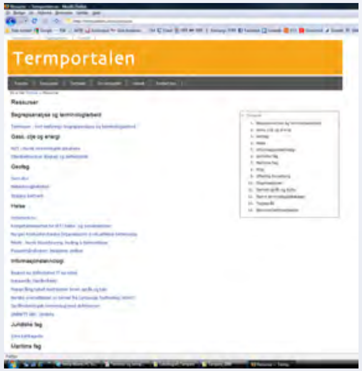
The aim is to establish a national infrastructure and to integrate and harmonise terminological language resources and technologies. This will be in response to the national responsibility now given to higher education to develop and disseminate Norwegian academic terminology, not excluding other terminology resources. The effort comes as a natural extension of already existing resources originating from the Norwegian Term Bank which in recent years have been further developed in projects such as KB-N, Mikroøkonomen, Termportalen and CLARA. It is not the aim of Terminor to develop new terminologies per se, but to provide the technical architecture needed for their integration and accessibility, and to vouch for their interoperability with the international standards.

Aims and objectives

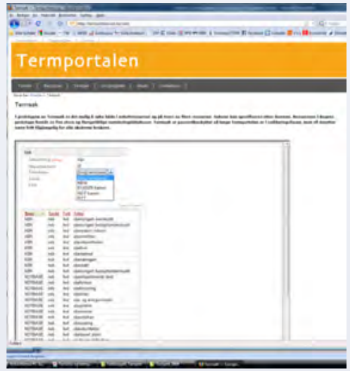
Terminor will include a technical architecture that integrates a variety of structured, mono- and multilingual terminology bases via a common interface. The infrastructure will provide public and controlled unified access to distributed resources in a national grid-based architecture, with links to European terminology resources via CLARIN. Both distributed and centralised solutions will be offered to providers and end-users of terminology resources.

Pilot study 1: The project Termportalen

The pilot project Termportalen (2006-2008), partly funded by the Norwegian Language Council, developed a prototype of a national terminology portal, linking resources from several earlier projects (EØS-base, KB-N, NOT-base, RTT) and making them accessible via a common search interface.



Survey of Terminology Resources in Termportalen



Search interface of Termportalen

The system links together terminology amounting to approx. 124,000 entries from a wide range of technical fields. The project also resulted in a survey of terminological resources. The system and the survey form the basis for the terminology effort in CLARINO.

The need for a nationally coordinated terminology effort

Several white papers and reports have recently stressed the need for a nationally coordinated effort to overcome the fragmentation problem in Norway:

Seminar report (2004)

Norsk i hundre! (2005)

Mål og meining (2008)

Technical report (2012)

Challenges and opportunities

"…electronic term banks are the best possible medium for the development, archiving and dissemination of terminology…" (Mål og meining, p. 104)

"…existing terminological practises vary considerably, often the work is carried out without consulting existing guidelines, and the terminology is often not made externally accessible. The use of many variable data formats is an obstacle for efficient search and web-based presentation…" (Mål og meining, p. 104)

CLARINO/Terminor represents an important initial step from reports and studies to practical action.

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Pilot study 2: The UHR terminology database

In CLARINO/META-NORD we have used the terminology base developed by the Norwegian Association of Higher Education Institutions (UHR) in a case study for the conversion of an unstructured terminology list into a TBX-compatible XML database. The TBX format will be used as the principal data format for terminology in CLARINO.

From downloadable HTML to XML/TBX: the UHR terminology database

Forthcoming work

Administrative issues

- recruit programmer/technical staff (mid October 2012)
- send out invitations to resource suppliers
- establish alternative agreements and licences in CLARINO/Terminor
- arrange technical seminar on terminology management systems (autumn 2012)

Terminology resources

- establish an updated overview of resources with integration priority

Technical solutions

- implement technical specifications for terminology resources in CLARIN(O) such as TBX/XML/XSLT, TEI, LMF, TeDIF, ISOCAT
- plan and initiate resource integration in CLARIN(O)
- select most adequate terminology management system
- develop the initial version of the national terminology portal

References

Andersen, G. & M. Kristiansen (2011) Terminor og Termportalen – nye initiativer for norsk terminologisk infrastruktur. In Madsen, B.N. & H.E. Thomsen (eds). Nordterm 2009: Ontologier og taksonomier, 9-12 June 2009, Copenhagen. Copenhagen: CBS, 209-222.
Andersen, G. & M. Kristiansen (2010) Towards a national infrastructure for terminology in the framework of the CLARA and CLARINO projects. Synaps 25/2010: 1-8.
CLARIN, http://www.clarin.eu/
CLARINO (NFR INFRASTRUKTUR 2012-2017), http://clarin.b.uib.no/
META-NORD, http://www.meta-nord.eu/
UHR, http://termbase.uhr.no/

MeSH speaks Norwegian in 2013!

MeSH (Medical Subject Headings) will soon be available in Norwegian. This is made possible through a collaboration between Norwegian institutions, medical librarians and experts within health, science and terminology. The project is organized by The Norwegian Electronic Health Library (Helsebiblioteket.no).

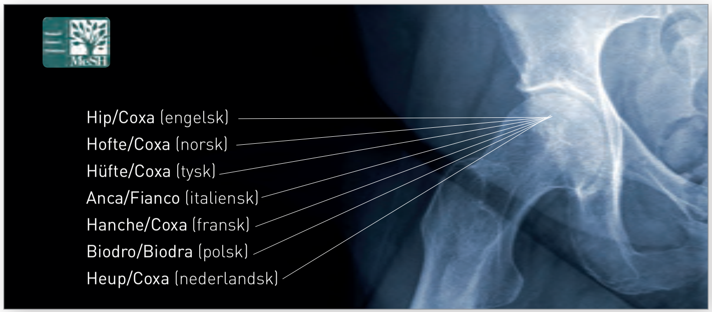
Sigrun Espelien Aasen, Åse Sofie Skjerdal and Katrine Rutgerson, the Norwegian Electronic Health Library[1]

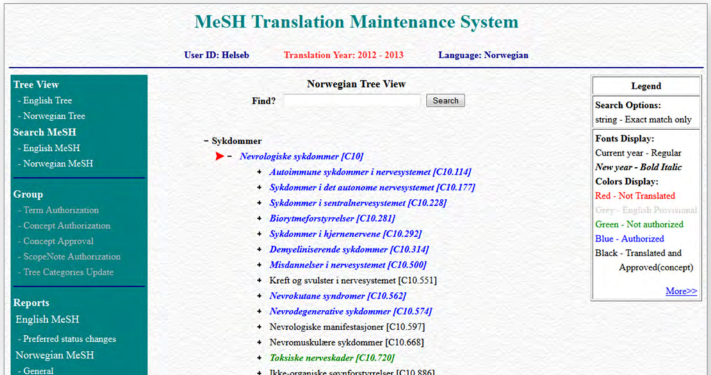
WHAT IS MESH?

- A controlled vocabulary developed by the National Library of Medicine since 1960.
- Contains more than 26 500 topics and approx. 200,000 terms in medicine and related disciplines.
- Defines one preferred term for each topic, and allows up to 29 alternative terms.
- Each MeSH has a unique identifier, a numeric code, which combines a definition with all synonyms and concepts within the MeSH. Linguistic changes of the identifier do not necessitate re-indexing.
- Widely used for indexing of literature, e.g. in databases as PubMed / Medline, Cochrane Library, CINAHL and SveMed+ and websites like the Health On the Net Foundation (HON), the French health portal CISMeF and the patient portal MedlinePlus. Used by Norwegian medical libraries for cataloging of literature.
- Translated to 24 languages (per October 2012).

HOW TO DO THE TRANSLATION WORK?

- Working tool is "MeSH Translation Maintenance System" (MTMS), owned and run by National Library of Medicine (NLM). They give free support!
- The translation work is done by librarians and linguists, helped by dictionaries and reference books. All suggested Norwegian MeSH-terms and definitions are put into worksheets where they can be compared to the corresponding terms in English, Swedish and German.
- Experts within each subject go through the worksheets with the suggested translations and correct them when necessary.
- The terms are finally authorized in MTMS.
- Each November, NLM approves the translations and corrections of the year.
- By the end of 2012 we will have translated 17 000 MeSH out of totally 26 500 MeSH.

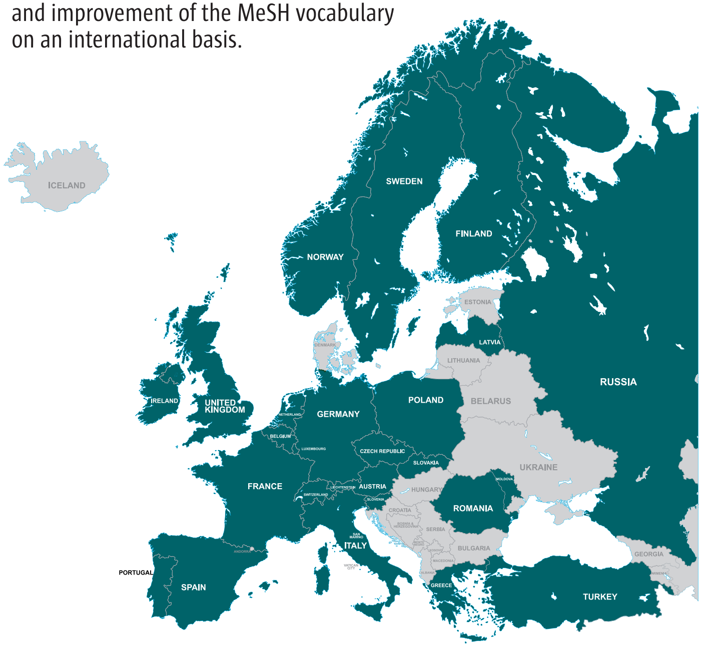




WHY MESH IN NORWEGIAN?

The main objective for translation of MeSH into Norwegian is to get a controlled Norwegian conceptual vocabulary for medicine and health sciences. This will provide:

- Improved indexing and retrieval of health information.
- A standardized terminology, which will facilitate a more accurate communication in the whole spectrum of health information, from patient brochures to websites for professional communication.
- A common terminology for all health professionals.
- An educational tool for students and health professionals - MeSH shows the keywords both in a contextual hierarchy, and in the wider system of various medical professional terminologies.
- A multilingual dictionary of definitions and a reference book containing both professional and popular terms, helpful for patients, health professionals and journalists.
- A possibility to do international information searches using Norwegian MeSH.
- A quality assurance for Norwegian medical terminology.
- A Norwegian contribution to the development and improvement of the MeSH vocabulary on an international basis.



Worksheet for expert

MeSH trekode	Engelsk	Norsk	Svensk	Tysk
L01.178.590.875.800	**Videodisc Recording**	**Videodiskinnspilling**	Videodiskinspelning	Bildplattenaufzeichnung
L01.178.590.875.800.250.100	**CD-I**	*CD-I* *CD interaktiv*	CD-I	CD-I
L01.178.590.875.840	**Videotape Recording**	**Videobåndinnspilling**	Videobandinspelning	Videobandaufzeichnung
	Videotapes	Videobånd		
L01.178.682.099.308	**Bibliography of Medicine**	**Medisinske bibliografier ok/rb** ok	Medicinsk bibliografi	Bibliographie, medizinische
L01.178.682.099.325	**Bibliometrics**	**Bibliometri** **ok/rb** ok Bibliometriske analyser Statistiske bibliografier	Bibliometri	Bibliometrie
L01.178.682.099.325.500	**Journal Impact Factor**	**Impaktfaktor ok/rb** ok	Impaktfaktor	Journal Impact Factor

PARTNERS

- The Norwegian Electronic Health Library – www.helsebiblioteket.no – established the project in 2009.
- Support by the Norwegian Language Council, University Libraries, SIRUS and KITH.
- Professional support by The Journal of the Norwegian Medical Association since 2010.
- Financial support by the Norwegian Directorate of Health in 2012.
- International support by National Library of Medicine U.S., Karolinska Institute in Sweden, Istituto Superiore di Sanità in Italy and the health portal CISMeF in France.

[1] www.helsebiblioteket.no - The Norwegian Electronic Health Library, PO Box 7004 St. Olavs plass N-0130 Oslo, Norway.

"A survey of attitudes towards financial terminology used in higher education teaching"

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Introduction

Internationalization and globalization of higher education highlights the student's abilities to express themselves in a foreign tongue, as well as their mother tongue. In this way, English is often seen as lingua franca in research, as well as in the teaching in higher education. Much of the student literature and the terminology is often only presented in English. Even though efforts are made to develop and translate terminology into Norwegian, attitudes of specialists often go in favour of the use of English.

Furthermore, I have studied the relations between the sociolinguistic framework and methods in traditional terminology. The overall goal was therefore to find out if students reflect upon the language used in the educational setting

I handed out a questionnaire to 117 economic students at the University of Bergen and the Norwegian School of Economics. The student's academic records in economics, ranged from six months to three years. The questionnaire dealt with attitudes towards the use of English terminology in an otherwise Norwegian educational setting

"English as Tyrannosaurus Rex?" (Swales, J.M., 1997)

Objective

One of the goals in my master thesis has been to find out whether the attitudes often found in the specialist environment, that English is the best way to communicate, because Norwegian is not a language for science, is also shared by students. Students were asked to assess both positive and negative sides when it comes to using English terminology in Norwegian lectures and specialized language.

Methods

- **Questionnaire concerning students attitudes**
- **Analysis (including t-testing) of differences between groups:**
  - *Gender*
  - *Length of academic record*
    - *Short academic record have studied economics up to one semester*
    - *Students with longer academic records have studied economics longer than one semester*

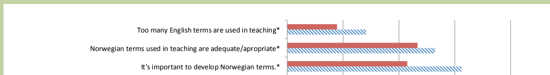
Results: group differences

Gender differences are most obvious when asked normative questions. Significant differences between male and female students are found in cases where they are asked questions about how it should be, if Norwegian terms are good (sufficient) and whether it is important to develop Norwegian terminology.

- Female students are overall more positive to the use of Norwegian terminology and the importance of developing Norwegian terminology.
- They also agree to a higher extent that lecturers tend to use too much English terminology.
- Male students show a slight tendency to be more positive to the use of English terminology.

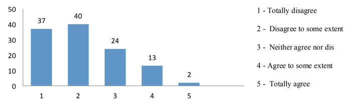
"English terminology is the best. More precise!"
(Male student)

"Lectures and student literature should be in Norwegian at introductory courses. Specialized courses could be in English"
(Female student)

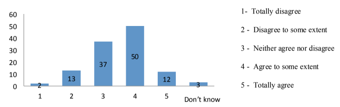


Results

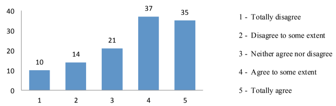
Too many English terms are used in teaching



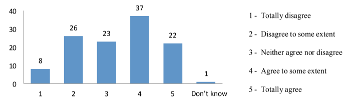
Norwegian terms used in teaching are adequate/appropriate



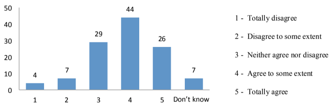
It's important to develop Norwegian terms



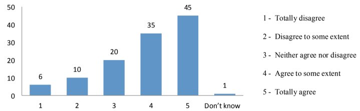
When teaching is done in Norwegian, the terms used should be Norwegian as well



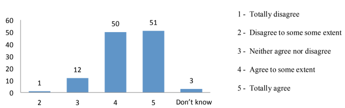
English terms are more precise than their Norwegian counterparts



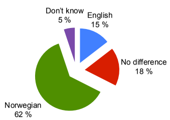
A Norwegian terminology makes it easier to transmit knowledge from the field of economy to those who have no more education in economy ("the ordinary man and woman")

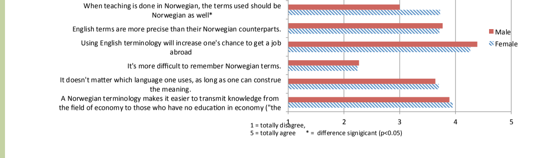


It's more difficult to remember Norwegian terms



What language gives the best 'learning effect'?

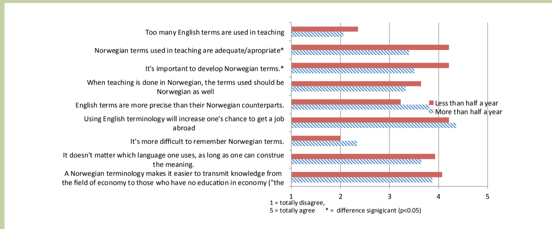




When it comes to ***differences between students at different educational stages***, the following findings seemed to stand out:

- Students with shorter academic records tended to be more positive to the use of Norwegian and some indicated that they saw language use in relation to how well they learned the different subjects.
- Students with longer academic records tended to be more positive to English terminology. My data therefore indicates that students may be socialized into certain attitudes, like English is a better "language of science" and should also be used in higher education teaching.

* To find clearer tendencies more students should be included in the research. Only 14 students were included in the group of students with shorter academic records.



Conclusions

The study shows that students are very conscious when it comes to language used in higher education teaching as well as in in LSP and dissemination of research. Some show a positive tendency towards the use of English and often argue that English is more international and constitutes a lingua franca in research settings. Some also indicate that English terminology is more precise than Norwegian and that the use of English terminology will make it easier to get jobs outside of Norway.

Others show positive attitudes concerning the use of Norwegian terminology and give the following reasons:

- A solid terminology in Norwegian will make it easier to communicate research to non-specialists
- Learning (at least at introductory courses) will be best facilitated using ones mother tongue

Parallel language abilities are important, but a solid terminology in Norwegian should not be at the expense of ones abilities in English. In my opinion, one should focus more on adjusting the communication to the intended group.

To prevent domain loss, students, specialists, lecturers and the public should be aware of the positive aspects of using Norwegian when you can, and English when it's a must.

Acknowledgements

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Astrid Skogvang,
Text, Discourse and Communication

TERMINTRA – a summary from an international seminar on national termbanks

10th October 2012, Oslo (Norway) in connection with 6th EAFT Summit

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Introduction

The storage and distribution of terminology through databases is not a new phenomenon, but the technical development with new and easy-to-use software has led to an increase in the publication of searchable terminology in termbanks of various kinds, some smaller, some larger. The idea of arranging a seminar on the larger termbanks, sometimes attributed as "national" was probably born in March 2009 when Sweden's national termbank, Rikstermbanken, opened after many years of preparation by Terminologicentrum TNC, the Swedish Centre for Terminology. It was not the first **national termbank**, but the first one in Sweden. Prior to its opening, several decisions had to be made and there were no ready answers to have, although there were other existing major termbanks.

The main idea behind the seminar TERMINTRA is to generate a discussion and to exchange experiences with others who are, or have been, involved in the development or management of larger termbanks, on a regional or national level. The following is a summary of the seminar and parts of the discussions around the various aspects of national termbanks; each contribution is not presented in full, but there is a list at the end with links to the various termbanks (and also the full programme).

The concept of "national"

A discussion on national termbanks should perhaps start with a discussion about the concept of "national", and Henrik Nilsson (TNC) therefore gave an introduction on this topic which is summarized below:

When looking at existing, larger termbanks, it is noticeable that the attribute "national" is not always used; sometimes it is rather avoided for various reasons, and sometimes it is used quite deliberately by a region rather than by a nation. And what is to be understood by it may well vary.

One could begin by considering the phrasing of "of national interest" which is often described as "a country's goals and ambitions whether economic, military, or cultural" (Wikipedia). Could *terminological* be added to this list of ambitions?

In Unesco's "Guidelines for Terminology Policies", the concept of **national terminology database** is described in the following way:

> "A national terminology database (TDB) can contain monolingual or multilingual terminological data and be established at country, language community or local levels depending on the needs of the respective communities. In terminology planning and in particular in the framework of a national terminology policy, a national terminology database often is used as one of the primary tools for the implementation of that policy." (Unesco)

It is interesting to notice that neither the content nor the establishment level is specified, but rather that a national termbank can exist also at a local level – and this description does not really help to establish criteria for when a termbank could be called "national".

"National museum" = parallel?

In the NaMu programme (Making National Museums, a research program on national museums financed by the European Union), the concept of "national museum" has been discussed; this could, in some aspects, constitute an interesting parallel to the concept of "national termbank" although there are some differences:

> "What defines a national museum needs some elaboration in the project. It is not only the question of finding a working definition for an analytical concept. […] This concept of a national museum can be identified and materialized in several different buildings and institutions. A national museum may be a single building hosting something labelled National Museum or perhaps a cluster of National Museums of culture, art and natural histories. The different ways of organising the form and content of national public display is in itself the first question […]: What forces and intentions are materialised in the institutional division of labour between national museums?" (NaMu)

So *organization* and *technology* could be interesting aspects to consider when judging if something is "national" or not, also for national termbanks. As opposed to the traditional arrangement, with all terminology in one place (which often leads to double storage), one could also consider (and it has been done) non-centralized solutions where a common interface would make separate terminology collections searchable, creating the "illusion" that the terminology is all in one place. But these characteristics are perhaps not enough: questions of *contents* and *users* could also be important:

> The second question is related to the content of the narratives presented by the national museums: what political order and what values are legitimised? […] The third question has to do with the results: What is the place of the national museum in the culture at large. The question will be answered in terms of visitor figures, by analysing its place in the public sphere and by assessing how exhibitions work at a reception level. […]" (ibid)

Again, statistics of usage could show if the termbank really reaches users nationwide. It would probably be more difficult to assess the role it plays in various contexts and professional groups (although numbers of quotes from it could indicate a certain influence).

Furthermore, *uniqueness* could also be claimed: "since there can really only be one national culture historical museum […] or it is not the National museum." (ibid)

If these aspects are applied to national termbanks, "national" could then perhaps imply one or several of the following:

1. a government responsibility and financing
2. a link to a national terminology (or linguistic) centre
3. a basis in the "national" conceptual world
4. a certain language choice (monolingual, only "national languages")
5. a certain quality
6. a certain accessibility (free of charge, adapted to various users etc.)
7. a certain scope (e.g. cover all terminology in the nation, etc.)
8. a certain status (which could affect its usage, e.g. forcing the use of certain terms in certain contexts etc.)
9. a unique position (being the only one existing)
10. a marketing gimmick?

McNaught (1987) lists the national termbank as one type in his survey of termbanks; this type of termbank

> "attempts to serve a general purpose role in coordinating the creation and use of terminologies within a country, and hence is theoretically multifunctional, multilingual and exploited by widely differing kinds of users"

In some countries (e.g. France, Canada and Lithuania), the connection between the state and the termbank (1) is more direct than in others. In Sweden and Catalonia, the state supports the national terminology centre and financed the creation of termbanks. In other countries, the termbank is linked to a linguistic institution (Croatia, Iceland), a university (Ireland, Finland) or the national standards body (Norway).

As to financing (1), a former TNC employee (Kjell Åström) wrote that

> "[i]f linguistic data banks have national coverage and fulfil an important need in any particular country's linguistic heritage and development it stands to reason that operations should in part be financed as a part of a cultural programme sponsored by the nation at large." (Åström, 1982)

McNaught (1987) stresses the long-term profile of a national termbank:

> ”such a service [a termbank] may not generate any profit perhaps for years to come from its immediate users, but its indirect impact on trade and industry on the larger scale will be highly significant, and it will thus pay for itself many times over” (McNaught)

As to the conceptual basis (2) and the linguistic content (4), it was claimed by the Swedish Government when the Swedish national termbank was planned, that

> ”Rikstermbanken should mainly reflect concepts of the Swedish society; however, this does not mean that the termbank would comprise only Swedish terms. In order to make it function in the way it is planned, the termbank should also contain term equivalents in foreign languages, and not only in English but also in various immigrant languages and in the official minority languages of Sweden.” (IT-propositionen)

After some discussion during the seminar of these “criteria” for a termbank to be “national” in character, it was generally understood that at least three demands (presented by Gisle Andersen from Norway) could be placed on a “national” termbank. It should

- have a certain **coverage**, i.e. not only be limited to terminology from certain domains
- have a certain **status**, i.e. be recognized by professionals and by a terminology or language institution on national level
- be **accessible**, i.e. open and not restricted by issues related to ownership etc.

The concept of “open” was considered especially interesting today, with “crowd-sourcing” and “crowdfunding” solutions being applied also to termbanks. (Should e.g. everyone be allowed to contribute or only those with knowledge of the domain in question? What happens with the distinction between LGP and LSP etc.?)

Aspects of national termbanks

A national termbank can be viewed and discussed from different aspects, e.g. related to its contents, organization, funding, technology and users. As a preparation of the seminar, a list of questions related to these aspects was presented, and various participants had been asked to reflect upon a certain aspect in relation to their termbank. Time did not allow, however, that all aspects were treated in depth.

Below is the list of questions (which could inspire and serve as a basis for future seminars) and a short summary of what was said for each aspect.

General (see also the discussion about the concept of "national" above)

- What should constitute a national termbank? How does it differ from other types of termbanks – about the scope, origin, content, use, or something else?
- How can the concept of "national termbank" be defined? What are the implications of "national"?
- What impact can a national termbank have for working against domain loss, raising terminological awareness in society and organizations?
- How should a national termbank be related to a national language/terminology policy?

Donatella Pulitano (Switzerland) gave the background to the termbank of Kanton Bern, *Lingua-PC* (available since a few years on the Internet). This local termbank is also included in *Termdat*, the terminology database of the Swiss Federal Administration which contains Swiss legal and administrative terminology in the four official Swiss languages – German, French, Italian, and Romansh – and in English. The contents of Termdat are produced by the Federal Administration and by the Cantons of Bern, Fribourg, Valais and Graubünden, which makes it an example of a joint effort where the local becomes the national.

Gisle Andersen (Norway) is working with the establishment of a national terminology portal (*Termportalen*) in Norway as part of *Terminor*, a national infrastructure to harmonize terminological language resources and technologies, using experiences from earlier initiatives such as e.g. Norsk Termbank. In Norway, there are several large termbanks, e.g. at *EØS-EU-basen* (at the Ministry of Foreign Affairs) and *Snorre* at Norsk Standard (see below), and the idea is to link these termbanks and others through a joint portal.

Organization

- Who should be behind a national termbank and manage the collection, quality review, updates?
- What should be the organization framework for a national termbank? (number of people, roles, experts) (see ISO 19104)

Funding

- Who should finance the construction and maintenance of a national termbank?
- Are there developed business plans for national terminology banks and if so, how do they function in reality?
- Can a national termbank be a payable service? Consequences?

According to **Bénédicte Madinier** (France), the termbank *FranceTerme* was never called “national”, nor ”official”, although it is run by the Ministère de la culture et de la communication, and contains the terms that are recommended in Journal officiel de la République française. Such a denomination would not work in France, according to her, since it would entail the opposite, a status of “non-official”. Recently, it was decided that all ministries should use the terms in FranceTerme, and this seems to be working well. FranceTerme is freely available and cannot be used for commercial purposes.

Kjersti Drøsdal Vikøren (Norway), co-organizer of TERMINTRA, presented *Snorre*, the termbank of Norsk Standard (Standards Norway). Again, it was the Norwegian Ministry of Culture which financed the first publication of terminology from translated standards.

Contents

- To what extent should the contents be descriptive or prescriptive – or both?
- Quantity vs. quality in a national termbank?
- How should the content be acquired (as complete vocabularies, through manual and/or automatic extraction)?
- Should the content be processed and if so how (automatically, manually)?
- What types of terminological information should a national terminology database contain?
- What are the problematic choices we face in the selection of contents?
- How can quality be assessed? What kind of revisions can be done? Copyright problems (©)?
- Is there a working process model for continuous updates of the content?
- How can revision and harmonization of the content be handled properly?
- Can a national conceptual world constitute the basis for the selection of terminology for a national termbank?

Delyth Prys (Wales) presented the *Porth termau cenedlaethol cymru/ National terminology portal* through which users can find Welsh terms – and for which the attribute ”national” was deliberately chosen. She stressed that both the users and the manager of the termbank are also important prerequisites for a termbank to be called “national”; when the Welsh Government e.g. had used open tendering for terminology projects, the results were not always satisfactory. The Porth Termau is an example of a distributed solution; it gives free access to the content of the terminology dictionaries which have been developed at the Centre for the Standardization of Welsh Terminology and approved partners since 1993.

Ivana Brač (Croatia) presented the newly opened (2012) Croatian national termbank *Struna*, a database of Croatian special field terminology, financed by the Croatian Science Foundation. It is intended to store and terminographically manage standardized and harmonized Croatian terms from various subject fields and their equivalents in English and, depending on the domain, several other European languages. The termbank follows international standards, and quite some effort has been made to avoid duplicate records. Expert work to standardize the terminology and linguists from the Institute of Croatian Language and Linguistics provide the linguistic and terminographic verification.

Sirpa Suhonen (Finland) presented *TEPA*, the termbank of the Finnish Terminology Centre TSK (Sanastokeskus TSK). It was published on the Internet as early as in 1997. It currently contains some 45 000 records, mainly from their own glossaries, but also glossaries from other organizations. These are arranged in vocabulary groups. There are currently two alternative user interfaces. The technical solution is the MOT® dictionary software provided by Kielikone Ltd.

Technology

- What technical solutions are in use today, and are some more appropriate than others?
- Should a national termbank be based on a distributed solution or not? Or, rather, constitute a kind of portal? Pros and cons?
- What standards should be the basis for national terminology databases (storage and exchange formats, etc.)?
- Are the current terminology management systems suitable for the demands which could be made on a national termbank? To what extent are today's national terminology banks based on proprietary software (use of open source or not)?

Sjur Moshagen (Sápmi) reported on some technical aspects of *risten.no*, a Sámi dictionary and terminology database, which contains Sámi terminological databases, Sámi word lists and Sámi dictionaries in South Sámi, Lule Sámi and North Sámi, but also sections on grammar and history. Since the Sámi languages use quite a few special characters (e.g. ŋ and ŧ) this needs special technical attention. An interface for the editing of the terminological information is also being developed.

Antti Kanner (Finland) reported on Tieteen kansallinen termipankki (TTP) – the Bank of Finnish Terminology in Arts and Sciences (BFT) and its modern technical solution. The termbank is currently being developed in a multidisciplinary project at the University of Helsinki. A network of experts (currently within the pilot areas botany, jurisprudence, and linguistics) who use a Semantic MediaWiki platform, which offers a collaborative environment. The Wiki solution is used both for editing and searching. Although many can collaborate through this tool, changes can only be made by registered users. This way of working generated questions about the discussions and who gets the final say when it comes to definitions and terms.

Hanne Erdman Thomsen (Denmark) is currently working with a team to create *DTB*, a national Danish termbank. Their planned work for finding contents includes both a harmonization of existing resources, but also some innovative solutions involving automatic construction and validation of ontologies and extraction of terminology from text corpora. So far, their work has also meant a restructuring of the existing ISO data categories.

Eduards Cauna (Latvia) summarized the work done on *AkadTerm* (Akadēmiskā terminu datubāze), which can be seen as a spin-off to the work on *Eurotermbank*. AkadTerm is run by the Terminoloģijas komisijas of the Zinātņu akadēmija (Academy of Sciences) and it makes several glossaries, the oldest dating from 1922, simultaneously searchable through one web interface.

As to the technological aspects of national termbanks, it became clear during the presentations and discussions that most of the represented termbanks had developed their own technical solution (which, however, in many cases relied on international standards). The exception was the Finnish termbank using Wiki-technology and open source software.

Users

- What are the main user groups for a national termbank?
- What customization is needed?
- How can a national termbank become the natural reference?
- Should a national termbank be mainly descriptive or prescriptive – or both?
- How can user statistics be used in the development of a termbank?
- What spin-offs could be generated by a national termbank?

Common categories of user groups which could use termbanks in general are

- administration and industry (whose gain would be cooperation, rationalization profits, more efficient administration, less duplication of work, simplified contacts with citizens)
- the media (whose gain would be simple access to terminology in Swedish and other languages, help in adapting texts to various target groups)
- translators and interpreters (whose gain would be easy and quick access to Swedish terminology and equivalents in other languages)

To this could be added citizens (whose gain would be accessibility, simplified contacts with authorities and agencies, understand research and take part in the democratic process) when it comes to national termbanks)

Ágústa Þorbergsdóttir (Iceland) confirmed this through her statistics of the users of *Orðabanki*, which show that the general public constitutes 60 % of the users. Another 30 % stem from educational institutions of various kinds.

Úna Bhreathnach (Ireland) cited translators, students and teachers as the big user groups of the *Focal.ie*, the National Terminology Database for Irish. But there are also many "general users" which affects e.g. the grammatical information presented in the records and the customization of the interface. Taking this into account, an important task for the termbank managers is to inform the users of what a termbank really is and how it should be used compared to other available linguistic resources.

Rosa Colomer í Artígas (Catalonia) does not use "national" about *Cercaterm*, the free on-line consultation service of Termcat, since that would rather indicate something Spanish. The Catalan Government finances the termbank whose contents is constantly updated in connection with the users; if the information obtained from Cercaterm is not satisfactory, users can also send their queries to a terminology specialist.

The usage of national termbanks and the follow-up of this usage also seem to vary (Who uses the termbank? What do they find? Do they come back? etc.) Since a national termbank could be thought of as having a wider scope than other (organization- or subject-specific) termbanks – it is "a large, general termbank to serve an entire nation. Such a bank would satisfy the needs of users with a variety of tasks, of prior knowledge, of organisational adherence, or of requirements for a specific product" (Åström, 1982) – it is not surprising that the users vary more. Some ideas for spin-offs were presented, e.g. downloadable versions in various formats (TBX) and training material.

Why a national termbank?

Although there might be different interpretations of the concept of "national" in connection with termbanks, there seems to be consensus about why such a termbank is necessary and useful. Apart from the "normal" arguments, often presented for termbanks in general but also valid for national termbanks (e.g. time- and money saving arguments, educational and linguistic arguments and in some cases, legal arguments) we stressed, when applying for funding for the Swedish national termbank, that a national termbank can

- raise awareness about terminology and LSP,
- strengthen a country's LSPs and work against domain loss,
- provide an incentive to co-operation in terminology for different actors,
- initiate terminology work and LSP research,
- serve as an inspiration for other countries.

Hopefully, these points, and especially the final one could be true also of the TERMINTRA seminar.

References

- IT-propositionen, prop 2005/06:175, http://www.regeringen.se/sb/d/108/a/47411
- McNaught, John. 1987, A survey of termbanks worldwide, IN: *Translating and the Computer 9*. Proceedings of a conference… 12–13 November 1987, ed. Catriona Picken (London: Aslib, 1988), http://www.mt-archive.info/Aslib-1987-McNaught.pdf
- NaMu programme, http://namu.ep.liu.se/index2.php?option=com_content&do_pdf=1&id=12
- Reference.com (http://www.reference.com/motif/society/what-is-the-concept-of-national-interest)
- Unesco. *Guidelines for Terminology Policies*, http://unesdoc.unesco.org/images/0014/001407/140765e.pdf
- Wikipedia, http://en.wikipedia.org/wiki/National_interest
- Åström, Kjell. 1982. Aspects of term bank operation, IN: *Term banks for tomorrow's world: Translating and the Computer 4*. Proceedings of a conference ... 11–12 November 1982, ed. Barbara Snell. (London: Aslib, 1983), http://mt-archive.info/Aslib-1982-Astrom.pdf

List of presented termbanks

The following list contains links to the termbanks presented at TERMINTRA. Please note that this is just a selection of all existing termbanks and is by no means meant to be complete. Large international termbanks (e.g. IATE, Eurotermbank) have not been listed here because their scope goes beyond a particular nation or region, but they are of course also important resources and sources of inspiration for national/regional termbanks.

Country/region	**Termbank**	**URL**
Catalonia	Cercaterm	http://www.termcat.cat/
Croatia	Struna	http://struna.ihjj.hr/
Denmark	Dansk termbank	http://dantermbank.cbs.dk/dtb
Finland	Tieteen kansallinen termipankki (TTP) TEPA	http://tieteentermipankki.fi/wiki/Termipankki:Etusivu http://www.tsk.fi/tepa/netmot.exe?UI=engr&height=154
France	FranceTerme	http://franceterme.culture.fr/FranceTerme/
Iceland	Orðabanki	http://www.ismal.hi.is/ob/
Ireland	Focal.ie	http://www.focal.ie/Home.aspx
Latvia	Terminoloģijas portāls; AkadTerm	http://termini.letonika.lv/ http://termini.lza.lv/term.php
Norway	Snorre Termportalen	http://www.standard.no/termbasen/ http://termportalen.uib.no
Sápmi	Risten	http://www.satni.org
Sweden	Rikstermbanken	http://www.rikstermbanken.se
Switzerland	Termdat Lingua-PC	http://www.termdat.ch/ http://www.linguapc.apps.be.ch/
Wales	Porth termau cenedlaethol cymru/ National terminology portal	http://termau.org/?lang=en

Programme

13–13.10: Introduction
- Sweden: Henrik Nilsson (Rikstermbanken)

13.10–13.45 General
- Switzerland: Donatella Pulitano (LINGUA-PC)
- Finland: Antti Kanner (BFT)

13.45–14.15 Organization
- France: Bénédicte Madinier (FranceTerme)
- Norway: Kjersti Drøsdal Vikøren (SNORRE)

14.15–14.45 Coffee (+ demonstrations)

14.45–15.45 Contents
- Wales: Delyth Prys (MAES-T)
- Finland, TSK: Sirpa Suhonen (TEPA)

15.45–16.30 Technology
- Sápmi: Sjur Moshagen (Risten)
- Denmark: Hanne Erdman Thomsen (DTB)
- Latvia: Eduards Cauna (AkadTerm)
- Croatia: Maja Bratanić, Ivana Brač (STRUNA)

16.30–16.45 Short break (+ demonstrations)

16.45–17.30 Users
- Ireland: Úna Bhreathnach (Focal.ie)
- Catalonia: Rosa Colomer í Artígas (Cercaterm)
- Iceland: Ágústa Þorbergsdóttir (Orðabanki)

17.30 Summary (and discussion continues …)

TERMINTRA

International seminar on national termbanks

Programme

Each session is supposed to begin with short reflections (ca 5–7 min each) on the theme in question in relation to the termbank in question followed by comments, questions and discussion on that theme.

12–13: Lunch

13–13.10: Introduction

- Sweden: Henrik Nilsson

13.10–13.45 General

13.10–13.25

- Wales: Delyth Prys (MAES-T)
- Switzerland: Donatella Pulitano (LINGUA-PC)

13.25–13.45 Discussion

13.45–14.15 Organization

13.45–14.00

- France: Bénédicte Madinier (FranceTerme)
- Norway: Kjersti Drøsdal Vikøren (SNORRE)

14.00–14.15: Discussion

14.15–14.45 Coffee (+ demonstrations)

14.45–15.45 Contents

14.45–15.10

- Croatia: Maja Bratanić et al. (STRUNA)
- Finland, TSK: Sirpa Suhonen (TEPA)

15.10–15.45. Discussion

15.45–16.30 Technology

15.45–16.10

- Sápmi: Sjur Moshagen (Risen)
- Finland: Antti Kanner (BFT)
- Denmark: Hanne Erdman Thomsen (DTB)
- Latvia: Eduards Cauna (AkadTerm)

16.10–16.30. Discussion

16.30–16.45 Short break (+ demonstrations)

16.45–17.30 Users

16.45–17.10

- Ireland: Úna Bhreathnach (Focal.ie)
- Catalonia: Rosa Colomer i Artígas (Cercaterm)
- Iceland: Ágústa Þorbergsdóttir (Orðabanki)

17.10–17.30: Discussion

17.30 Summary (and discussion continues …)

Dinner

Vedlegg / Appendices / Annexes

CV-er / CV's / CV

Ivana **Brač**
Institute of Croatian Language and Linguistics, Zagreb, Croatia

Ivana Brač obtained MA in Croatian Language and Literature and Philosophy at the Faculty of Humanities and Social Sciences of University in Zagreb in 2009. She is a second year student at the Postgraduate Studies of Linguistics at the University of Zagreb. She worked two years as a teacher of Croatian Language as L2 in Croaticum at the Faculty of Humanities and Social Sciences. Since 2011 she works as assistant at the Department of General, Comparative and Computational Linguistics at the Institute of Croatian Language and Linguistics in Zagreb on the project The Development of Croatian Special Field Terminology.

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Maja **Bratanić**, full professor (senior research scientist), Institute of Croatian Language and Linguistics, Zagreb, Croatia

Maja Bratanić is Head of the Department of General, Comparative and Computational Linguistics at the Institute of Croatian Language and Linguistics in Zagreb. Her main fields of research include lexicographical theory and practice, terminology and terminography, corpus linguistics, anthropological linguistics, and English for specific purposes. She spent an academic year as a visiting lecturer at Nottingham University, Great Britain and two years as a visiting Fulbright scholar at Cornell University, USA. She served as an expert on several Council of Europe linguistic projects. She has published on linguistic and LSP topics, authored, coauthored or edited several monographs and dictionaries. She has recently edited a monograph on terminological topics entitled *The Croatian Language on the Road to the EU.*

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Anna-Lena **Bucher**, managing director, the Swedish Centre for Terminology, TNC, Stockholm, Sweden

I was employed at TNC in 1973 to do different parts of what is now called (and defined!) 'terminology work' (e.g. phone-in term service, particpation in terminology projects including term extraction, expert group meetings, compilation and proof reading of glossaries, term bank development etc.).

Special tasks:

- active in Nordterm, the Nordic forum for terminology work, since its beginning in 1976
- active participation in ISO/TC37 Terminology an other language resources. Principles and coordination, 1988–1995
- member of the board of the European Association of Terminology EAFT 2000–2002
- 'member of the working group "Validation" during the development of EU's term data base IATE in 2000

I was appointed managing director of TNC in 2000.

Educational background:

BA in Swedish, English and History, Uppsala University and Stockholm University, 1972

University-level courses at Stockholm University:
- Theory of science, 1994
- Translation theory and analysis, 1996
- Translation didactics, 1997

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Corina **Cilianu-Lascu**, professor, the Bucharest Academy of Economic Studies, Bucharest, Romania

Corina Cilianu-Lascu is a university professor at the Bucharest Academy of Economic Studies and has a Ph.D. in linguistics. She holds courses on business communication in French, psychology and group dynamics, economic terminology. She has written books and articles and has presented many communications at national and international events in the following fields: contrastive linguistics, semantics and pragmatics, discourse analysis, terminology and didactics of foreign languages for special purposes. She is a member of the Board of the European Association for Terminology and of the Panlatin Network of Terminology (Realiter) and has had different research activities for the European Observatory for Multilingualism.

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Joseph **Fjellgren**, adviser, the Sami Parliament, Norway

Master Degree in Sami languages, Uppsala university, Sweden.
Master of Science in Mechanical Engineering, KTH Royal institute of technology, Stockholm, Sweden.
Advisor at the Sami Parliament, August 2011 – present.
Examiner in Norwegian Industrial Property Office, August 2009 – June 2011
Adviser at the Sami Parliament, January 2008 – July 2009

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Ágota **Fóris,** associate professor, Károli Gáspár University, TERMIK, Budapest, Hungary

Ágota Fóris (born: 1970 in Hungary), habil. (2006), PhD (2002), linguist. Her field of research includes LSP, lexicography, researching technical and scientific vocabulary, and terminology. Associate Professor, Head of the Hungarian Linguistics Department and of the Terminology Research Group of the Károli Gáspár University. She is member of the Board of EAFT (European Association for Terminology), member of the Dictionary Work-committee and of the Applied Linguistics Work-committee of the Hungarian Academy of Sciences, member of the board of the Hungarian Association of Applied Linguists and Language Teachers, and a founding member of the MaTT (Council of Hungarian Terminology). She is the editor-in-chief of 'Magyar Terminológia' (Journal of Hungarian Terminology).

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Antti **Kanner**, Master of Arts, University of Helsinki

Project coordinator of the Bank of Finnish Terminology in arts and sciences.
Post-graduate student (writing thesis about terminology in the field of jurisprudence).
One of the writers in Language Policy Action Plan: Future for Finnish (Kotus 2009).

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Marita **Kristiansen**, associate professor, dr. art, Norwegian School of Economics (NHH), Bergen, Norway

Marita Kristiansen is associate professor of English linguistics at the Norwegian School of Economics in Bergen where she teaches business

English and terminology. She also coordinates the Nordic Termdist network which offers an online master course in terminology. Her current research interests include domain dynamics, neology studies, term formation and the use of online corpora to detect new Norwegian terminology. In addition, she has in recent years worked on language planning and policy issues both as a former member of the Norwegian language council's terminology advisory board and locally at her home institution in establishing language policies for NHH. Presently she is a member of the Norwegian Association of Higher Education Institutions' term group and participates also in a Nordic network which focuses on domain loss vs. the internationalisation of Nordic higher education institutions. She has also for several years worked with colleagues at NHH on developing language technology resources for terminology and in particular on developing a termbase at NHH for economic-adminstrative domains. She has published papers in international journals such as *Terminology, Studies in Corpus Linguistics* and *Terminology Science and Research: Journal of the International Institute of Terminology Research.*

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Susanne **Lervad**, visiting scholar, Centre for textile Research, SAXO Institute, University of Copenhagen, Denmark

Ph.d. in textile terminologies, Southern Danish University, 1991
Member of the Centre de Recherche en Terminologie et Traduction, Université Lyon 2, 1992-
Director of Termplus Aps (www.termplus.dk), Symbion Science Parc, Denmark 2003-
Member of the EAFT Board 1997-2006 (vice-president 2004-2006)
Member of the DANTERM network group
Member of the NORDTERM network 1988-
Visiting Scholar at the Centre for Textile Research 2009-
Member of the Danish Museum's network "Dragtpuljen" and the Textilnet project – a National Heritage Project of digitizing data from the textile collections in Denmark

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Donatella **Pulitano,** cheffe du Service central de terminologie, Chancellerie d'Etat du canton de Berne / Université de Genève, Switzerland

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Jan **Roukens**

Jan Roukens (Bandung, 1937) grew up in Indonesia. He moved to the

Master en traduction (1987) et Certificat de spécialisation en terminologie (1987) de l'Université de Genève.

Cheffe du Service central de terminologie de la Chancellerie d'Etat du canton de Berne (depuis 1994).

Chargée d'enseignement en terminologie à la Faculté de Traduction et d'Interprétation de l'Université de Genève (depuis 1995).

Cours de formation continue en Suisse et à l'étranger.

Domaines d'intérêt: Terminologie, terminographie, outils informatiques d'aide à la traduction, traitement informatique multilingue, lexicographie informatisée.

Associations:

• Compu*term*:	membre fondateur (depuis 1989)
• Associazione Italiana per la Terminologia:	membre (depuis 1991)
• Rat für Deutschsprachige Terminologie:	membre (depuis 1994); présidente (depuis 2004)
• Deutscher Terminologie-Tag e.V.:	membre (depuis 1997); experte (depuis 2010)
• Association européenne de terminologie:	membre (depuis 2009)
• Deutsches Institut für Terminologie e.V.:	membre (depuis 2010); vice-présidente (depuis 2012)

Netherlands in 1950 where he obtained a degree in Physics at the Delft Technical University (1961). After military service he worked for companies and universities: IBM, Leiden University and Philips. From 1973 he managed a company for the computerisation and networking of a dozen hospitals in the Netherlands. He founded the worldwide International Medical Informatics Association and he chaired the Medical Information WG of the European Commission (EC). In 1981 he joined the new R&D framework programme of the EC and he was involved with initiatives such as the Multilingual Information Society (Luxembourg, 1995). Since his retirement in 2002 he advises companies and non-profit organisations in the terminology field and he promotes Languages of Europe. He is board member of Dutch-Flemish and European cultural and language associations. He is a member of the European Platform for Multilingualism on behalf of the EAFT. He lives in Brussels, he is married having 6 grown-up children and a growing number of grandchildren.

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Dieter **Rummel**, head of the Translation Support Department, Translation Centre for the Bodies of the European Union, Luxembourg

Dieter Rummel is the Head of the Translation Support Department at the Translation Centre for the Bodies of the European Union in Luxembourg. The Department manages the Centre's translation workflow and provides technical, linguistic and organizational services to the Centre's translators.

Dieter started his career in the development team for the European Commission's Euramis (European multilingual information system) project in 1995. He joined the Translation Centre in 2000. There his main tasks initially included the coordination of a workflow and translation system for Community trademarks (NEMO) and, from 2001 the management of the interinstitutional IATE ("Inter-Active Terminology for Europe") project for the creation of a single, interinstitutional terminology database. Dieter chairs the interinstitutional IATE Management Group that brings together terminologists from the EU Language services and organizes the joined work in the IATE database.

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Imanol **Urbieta**, director, UZEI – Terminology and Lexicography Centre for the Basque Language, San Sebastian (Donostia), Spain

Imanol Urbieta holds a degree on Economics and Business Administration by Deusto University (Bilbao) and he has worked as financial director in several enterprises in the services sector. Since 2002 he is the Director of UZEI, the Terminology and Lexicography Centre for the Basque Language, where he has promoted the development of different NLP resources:

the first tagged corpus in Basque: the Corpus of the 20th Century
the Basque Public Terminology Bank *(in agreement with the Basque Government)*
the *Public Bank of Translation Memories (in agreement with the Basque Government)*

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Kjersti Drøsdal **Vikøren**, translator / project manager, Standards Norway, Oslo

Kjersti Drøsdal Vikøren (born 1977) holds a degree in English, technical translation and computational linguistics and a Master's degree in Computational Linguistics from the University of Bergen (Norway). She graduated in 2003. Her professional experience encompasses language resources and technology, technical translation, lexicography, and terminology. She works at the Norwegian standardization organization Standards Norway since 2008 where she is Project Manager of the terminology database SNORRE (www.termbasen.no).

Terminology – responsibility and awareness

6th terminology Summit – Soria Moria, Oslo, 11th and 12th October 2012

Programme *(02-10-2012)*

Wednesday 10th October

Time	**Activity**
from 17:00	Registration, Soria Moria
20:00	Dinner

Thursday 11th October (in ”Store sal”)

Time	**Activity**	**Speaker**	**Information on speaker**
08:30–09:00	Late registration		
09:15–09:35	Opening	VONEN, Arnfinn Muruvik	Director-general of the Language Council of Norway
09:40–10:15	Keynote speech moderator: ROUKENS, Jan		
	Down to earth, but up to whom? Terminology, awareness and responsibility	BUCHER, Anna-Lena	Swedish Centre for Terminology
	Section 1: Public responsibility for terminology moderator: ROUKENS, Jan		
10:20–10:40	*Building a Croatian National Termbank: Can a single solution fulfill all our responsibilities?*	BRATANIĆ, Maja and BRAČ, Ivana	Institute of Croatian Language and Linguistics
10.40–11:00	**Coffee break**		
11:00–11:20	*Responsibility for terminology through standardization*	VIKØREN, Kjersti Drøsdal	Standards Norway
11:20–11:40	*Towards a Norwegian infrastructure for terminology*	KRISTIANSEN, Marita	Norwegian School of Economics
11:40–12:05	Panel discussion 1 (keynote speaker and section 1 speakers)		
12:05–13:20	**Lunch**		

Thursday 11th October (in ”Store sal”), cont.

Time	Activity	Speaker	Information on speaker
	Section 2: Institutional responsibility for terminology moderator: WHITTAKER, Sunniva		
13:20–13:40	*Institutions, individuals and societies: model of shared responsibility in The Bank of Finnish Terminology in arts and sciences*	KANNER, Antti	University of Helsinki, Finland
13:40–14:00	*Sami terminology work – developing Sami terminology across borders*	FJELLGREN, Joseph	the Sametinget (Sami parliament), Norway
14:00–14:20	*La responsabilité du terminologue dans les projets TEMA et TEXTILNET du Centre de Recherche en Textile à Copenhague*	LERVAD, Susanne	Centre for textile Research, SAXO Institute, University of Copenhagen, Denmark
14:20–14:45	**Coffee break**		
14:45–15:05	*The ECHA-term project - multilingual REACH and CLP terminology*	RUMMEL, Dieter	Translation Support Department, Translation Centre for the Bodies of the European Union
15:05–15:30	Panel discussion 2 (section 2 speakers)		
	Social programme		
16:00	Buses leave for Oslo City Centre		
16:30–18:00	Reception and guided tour in Oslo Town Hall		
18:00–19:30	Individual time in Oslo City Centre		
19:30	Buses go back to Soria Moria		
20:30	**BANQUET DINNER**		

Friday 12th October

Time	Activity	Speaker	Information on speaker
	Section 3: Professional responsibility for terminology moderator: COLOMER, Rosa		
09:00–09:20	*Terminology and LSP in higher education in Hungary*	FÓRIS, Ágota	Károli Gáspár University, TERMIK, Hungary
09:20–09:40	*L'utilisation d'outils de traitement automatique de la langue naturelle dans le domaine de la terminologie: une voie d'optimisation de ressources*	URBIETA, Imanol	UZEI, Terminology and Lexicography Centre for the Basque Language, Spain
09:40–10:00	*Projets intégrés de terminologie au service du monde des affaires: entre le milieu académique et le milieu entrepreneurial de Roumanie*	LASCU-CILIANU, Corina	Bucharest Academy of Economic Studies, Romania
10:00–10:20	**Coffee break**		
10:20–10:40	*La terminologie au service de l'administration et de la population bernoises*	PULITANO, Donatella	Chancellerie d'Etat du canton de Berne / Université de Genève, Switzerland
10:40–11:05	Panel discussion 3 (section 3 speakers)		
11:05–12:00	Poster session (in ”Store sal” and ”Utsikten”)		
12:00–13:15	**Lunch**		
	Section 4: The responsibility of terminologists moderator: NILSSON, Henrik		
13:15–13:35	*Qui sont les terminologues et quelles sont leurs responsabilités?*	HUMBLEY, John	Université Paris-Diderot, Paris-Sorbonne-Cité, France
13:35–13:55	*European multilingualism, ideal and reality, at risk with reference to multilingual scientific terminology*	ROUKENS, Jan	independent adviser and EAFT's member of the European Platform for Multilingualism
13:55–14:20	Panel discussion 4 (section 4 speakers)		
14:20–14:50	**Coffee break**		
14:50–15:50	International terminology awards Conferment of awards and presentations by award winners chair: LASCU-CILIANU, Corina		chair of the Awards jury
15:50–16:00	Closing of summit	HOEL, Jan	EAFT president
16:00–16:15	**Short break**		
16:15–17:30	EAFT General Assembly		

Terminologi – ansvar og bevissthet

Det 6. terminologitoppmøtet – Oslo, 11. og 12. oktober 2012

Det sjette europeiske og internasjonale terminologitoppmøtet i rekken blir denne gang arrangert av Språkrådet, i samarbeid med Den europeiske terminologiforening (EAFT). Toppmøtet finner sted torsdag 11. og fredag 12. oktober i år på Soria Moria hotell og konferansesenter øverst i Holmenkollåsen i utkanten av Oslo. Dagen før, onsdag 10. oktober, blir det samme sted arrangert et internasjonalt arbeidsseminar om nasjonale termbanker og et nasjonalt grunnleggende terminologikurs. Arbeidsseminaret er åpent for alle og gratis (se eget menypunkt). Torsdag ettermiddag er det et sosialt program, og samme kveld er det festmiddag på konferansestedet. Toppmøtet avsluttes fredag ettermiddag med utdeling av de to internasjonale terminologiprisene. Direkte deretter avholdes EAFTs generalforsamling. Toppmøtet er åpent for alle interesserte.

Engelsk og fransk er konferansespråk for toppmøtet, og det blir tolking mellom de to språkene begge dager.

Konferansestedet er valgt av flere grunner, ikke minst praktiske. Alle deltakerne bor og inntar sine måltider på samme sted og får på den måten god mulighet til å bli bedre kjent. Alle får kort vei til foredragene, og konferansesalen er vel tilrettelagt for tolking. Soria Moria tilbyr en konferansepakke der overnatting inngår, så ingen behøver tenke på å bestille hotellrom. Prisen for konferansepakken er gjort så rimelig som mulig.

Toppmøtet blir innledet med et hovedforedrag om det overordnede temaet. Deretter behandles fire undertemaer i fire seksjoner, to seksjoner hver dag. Undertemaene er, i følgende orden:

- Det offentliges ansvar for terminologi
- Institusjoners ansvar for terminologi
- Yrkesgruppers ansvar for terminologi
- Terminologenes ansvar

Det er en kjensgjerning at terminologi både som fagdisiplin og praksis ofte har vanskelige vilkår, ikke minst økonomisk. Terminologiarbeid er møysommelig og tidkrevende, og nytten blir ikke alltid verdsatt. Terminologiarbeid gis derfor ofte lav prioritet i mange sammenhenger, særlig i tider med økonomiske problemer. Men det er også mange lyspunkter og gode eksempler til etterfølgelse. Det er noen av disse vi ønsker å rette oppmerksomheten mot og få belyst i løpet av toppmøtet. Vi ønsker å få høre om prosjekter eller andre aktiviteter på terminologiområdet som viser at noen har tatt ansvar for terminologien og derigjennom skapt økt bevissthet om den. Det kan dreie seg om prosjekter eller andre aktiviteter som nylig er blitt avsluttet, som fortsatt pågår eller som snart vil bli satt i gang. Det kan dreie seg om prosjekter eller andre aktiviteter satt i gang eller finansiert av offentlige myndigheter, av språkinstitusjoner, institusjoner for høyere utdanning eller andre institusjoner, av nettverk av ulike slag eller av yrkesutøvere. Dessuten ønsker vi å få tydeliggjort hvordan terminologer på ulike måter kan og bør ta ansvar for sitt eget fag, ikke minst for å bidra til økt bevissthet om nødvendigheten av og nytten ved terminologiarbeid.

De fire seksjonene og undertemaene er mer inngående beskrevet slik:

Seksjon 1: Det offentliges ansvar for terminologi

I denne seksjonen vil foredragene handle om terminologiprosjekter eller andre terminologiaktiviteter som er igangsatt, finansiert eller støttet av det offentlige og gjelder vidtfavnende samfunnssektorer, og foredragene bør berøre sentrale spørsmål som:

- terminologipolitikk og -planlegging
- terminologi og fagspråk i høyere utdanning
- finansiering(sløsninger)
- nasjonale termbanker

Seksjon 2: Institusjoners ansvar for terminologi

I denne seksjonen vil foredragene handle om terminologiprosjekter eller andre terminologiaktiviteter som er igangsatt av organer som ivaretar sektorinteresser i samfunnet eller på tvers av landegrenser, det være seg:

- institusjoner for høyere utdanning

- terminologiorganisasjoner og allmennspråklige organisasjoner
- terminologinettverk og -foreninger
- institusjoner for språk med få brukere

Seksjon 3: Yrkesutøveres ansvar for terminologi

I denne seksjonen vil foredragene handle om terminologiprosjekter eller andre terminologiaktiviteter som er igangsatt av yrkesutøvere – i offentlig eller privat sektor – som arbeider med to- eller flerspråklige termlister, ontologier, emnekataloger, klassifikasjoner, nomenklaturer eller løsninger for semantisk interoperabilitet på ulike felter som:

- oversettelse og tolking
- terminologiforskning
- høyere utdanning
- IT-arkitektur
- begrepsmodellering
- informasjonsvitenskap
- juss
- bibliotekarbeid

Seksjon 4: Terminologenes ansvar

I denne seksjonen vil foredragene rette søkelyset mot hva terminologer kan og bør gjøre for å forbedre sin yrkeskompetanse, sine yrkesferdigheter, arbeidsmetoder og arbeidsprestasjoner samt sitt omdømme, med det for øye å oppnå økt anerkjennelse i samfunnet for sitt arbeid og utnytte nye arbeidsmuligheter, f.eks. ved å

- gjennomføre relevant videreutdanning
- lære seg måter å samarbeide, tilpasse seg arbeidsgrupper og oppnå enighet på
- virke som fagkonsulent
- bidra aktivt til å skape økt kunnskap og bevissthet om betydningen av terminologi og terminologiarbeid

ENGLISH

Terminology – responsibility and awareness

The 6th Terminology Summit – Oslo, 11th and 12th October 2012

The sixth European and international terminology summit in the series will this time around be organized by The Language Council of Norway (Språkrådet), in collaboration with The European Association for Terminology (EAFT). The summit will take place on Thursday 11th and Friday 12th October this year at the Soria Moria hotel and conference centre located in the Holmenkollen hill on the outskirts of Oslo. On the day before, Wednesday 10th October, there will at the same place be two pre-conference events: an international workshop on national term banks and a national basic course in terminology. The workshop is open to everybody and free of charge (see separate menu point). Thursday afternoon there will be a social programme, and in the evening of the same day the banquet dinner will be held at the venue. Friday afternoon the conferment of the two International Terminology Awards will mark the closure of the summit. Immediately thereafter the EAFT General Assembly will be held. The summit is open to all interested parties.

English and French are conference languages for the summit, and there will be interpretation between those two languages on both days.

The venue was chosen for several reasons, not least of all practical ones. All participants have board and lodging on the same premises and thereby enjoy the opportunity to become better acquainted. Everyone profits from the proximity to the talks, and the conference hall is well adapted for interpretation. Soria Moria offers a conference package including accommodation, so no one needs to think about reserving a hotel room. The price of the conference package has been made as reasonable as possible.

The Summit will commence with a keynote speech on the main topic. Subsequently four subtopics will be dealt with in four consecutive sections, two sections each day. The subtopics are, in the following order:

- Public responsibility for terminology
- Institutional responsibility for terminology
- Professional responsibility for terminology
- The responsibility of terminologists

It is a fact that terminology both as subject discipline and practice often faces difficult conditions, not at least economically. Terminology work is laborious and time-consuming, and its benefits are not always appreciated. Terminology work is, therefore, often given low priority in many contexts, particularly in times of economic problems. However, there are also lots of bright spots and good examples to be followed. It is some of those that we wish to draw attention to and get highlighted during the summit. We want to hear about projects or other activities in the terminology field which show that someone has exerted responsibility for terminology and thereby created increased awareness of it. It may be about projects or other activities which have recently been completed, which are still ongoing, or which will soon be initiated. It may be about projects or other activities initiated or financed by public authorities, by language institutions, higher education institutions or other institutions, by networks of different kinds or by professionals. Furthermore, we want clarification of how terminologists in various ways can and should take responsibility for their own profession, not at least in order to contribute to increased awareness of the necessity and benefits of terminology work.

The four sections and subtopics are described in more detail as follows:

Section 1: Public responsibility for terminology

In this section the talks will deal with terminology projects or other terminology activities which are initiated, financed or supported by central government, and which affect wide-ranging sectors of society, involving overriding questions such as:

- terminology policy and planning
- terminology and LSP in higher education
- financing (solutions)
- national term banks

Section 2: Institutional responsibility for terminology

In this section the talks will deal with terminology projects or other terminology activities which are initiated by bodies that safeguard sectorial interests in society or across borders, such as:

- higher education institutions
- terminology and general language organizations
- terminology networks and associations
- institutions for less widely used languages

Section 3: Professional responsibility for terminology

In this section the talks will deal with terminology projects or other terminology activities which are initiated and carried out by professionals – in public or private sector – working on bi- or multilingual terminology vocabularies, ontologies, subject catalogues, classifications, nomenclatures, semantic interoperability solutions, in various fields such as:

- translation and interpreting
- terminology research
- higher education
- IT architecture
- concept modelling
- information science
- legal practice
- library work

Section 4: The responsibility of terminologists

In this section the talks will focus on what terminologists can and should do to improve their professional qualifications, skills, working methods, work performance and their esteem, in order to raise society's appreciation of their work and to exploit new work opportunities, by:

- undergoing relevant further education
- learning ways of cooperating, accomodating to working groups and achieving consensus
- acting as professional consultant
- actively contributing to increased knowledge and awareness of the importance of terminology and terminology work

Terminologie – responsabilité et sensibilisation

6e sommet de terminologie – Oslo, 11 et 12 octobre 2012

Le 6e Sommet européen et international de terminologie sera cette fois organisé par le Conseil Norvégien de la Langue (Språkrådet) en collaboration avec l'Association européenne de Terminologie (AET). Le Sommet se déroulera les jeudi 11 et vendredi 12 octobre 2012 à l'hôtel et centre de conférence Soria Moria situé sur la colline Holmenkollen dans les environs d'Oslo. Le jour précédent, le mercredi 10 octobre, deux autres événements auront lieu au même endroit: un atelier international sur les banques de terminologie nationales et, au niveau local, un cours de base en terminologie. Le workshop (l'atelier) est ouvert à tous et gratuit (voir la rubrique concernant ce point). Un programme social est prévu le jeudi en fin d'après-midi. Il se prolongera, en soirée, par un dîner de gala. Le vendredi après-midi, la remise des deux Prix internationaux de terminologie marquera la clôture du Sommet. Cette cérémonie sera immédiatement suivie de l'Assemblée générale de l'AET. Le Sommet est ouvert à toute personne intéressée.

L'anglais et le français sont les langues officielles du Sommet. Une interprétation sera prévue entre ces deux langues durant les deux journées.

Le lieu a été choisi pour différentes raisons, principalement pratiques. Tous les participants seront en effet hébergés au même endroit, ce qui facilitera la prise de contacts. Chacun profitera donc également d'un accès aisé aux conférences. La salle retenue est, quant à elle, parfaitement adaptée à l'interprétation. L'hôtel Soria Moria proposant des forfaits « Conférence » comprenant le logement, personne ne devra dès lors penser à s'occuper de la réservation d'une chambre d'hôtel. Nous nous sommes par ailleurs efforcés de rendre le montant de ce forfait le plus raisonnable possible.

Le Sommet débutera par un discours-thème sur le sujet principal. Ensuite les quatre sous-thèmes seront traités en quatre sections consécutives, à raison de deux sous-thèmes par jour. Ceux-ci sont dans l'ordre:

- Responsabilité publique en matière de terminologie
- Responsabilité institutionnelle en matière de terminologie
- Responsabilité professionnelle en matière de terminologie
- La responsabilité des terminologues

Il est clair que la terminologie aussi bien en tant que discipline qu'en tant que pratique est souvent confrontée à des situations difficiles, tout particulièrement au niveau économique. Le travail terminologique est ardu et exige beaucoup de temps et les bénéfices qui en découlent ne sont pas toujours appréciés à leur juste valeur. En de nombreux contextes, le travail terminologique se trouve donc relégué dans le bas de l'échelle des priorités, spécialement en cas de difficultés économiques. Cependant, il existe aussi de nombreux exemples encourageants à suivre. Nous voudrions attirer l'attention sur certains d'entre eux et les mettre ainsi en lumière durant ce Sommet. Nous souhaitons que soient évoqués des projets ou d'autres activités terminologiques montrant que certaines prises de responsabilités en matière de terminologie ont pu contribuer à en augmenter la visibilité. Il peut s'agir de projets ou d'activités qui viennent de se terminer, d'autres qui sont en cours, ou qui verront bientôt le jour. Il peut s'agir de projets ou d'autres activités initiés ou financés par des autorités publiques, des institutions actives dans le domaine de la langue, des institutions d'enseignement supérieur ou autres, par des réseaux de différents types ou par des professionnels. En outre, nous souhaitons clarifier les divers moyens par lesquels les terminologues peuvent ou pourraient prendre des initiatives en faveur de leur propre profession, principalement en vue de contribuer à accroître la conscience de la nécessité et des bénéfices du travail terminologique.

Les quatre sections et sous-thèmes se détaillent de la façon suivante:

Section 1: Responsabilité publique en matière de terminologie

Dans cette section, les exposés traiteront des projets terminologiques ou d'autres activités terminologiques qui sont initiée, financés ou soutenus par un gouvernement central, ayant une incidence sur de larges secteurs de la société et impliquant des questions primordiales comme:

- politique et aménagement terminologique
- terminologie et LSP dans l'enseignement supérieur
- financement (solutions)
- banques de terminologie nationales

Section 2: Responsabilité institutionnelle en matière de terminologie

Dans cette section, les exposés traiteront de projets terminologiques ou d'autres activités terminologiques qui sont initiés par des organes qui protègent des intérêts sectoriels au sein de la société ou à travers les frontières, comme:

- les institutions d'enseignement supérieur
- les organismes s'occupant de la terminologie ou de la langue générale
- les réseaux et les associations terminologiques
- les institutions pour les langues moins utilisées

Section 3: Responsabilité professionnelle en matière de terminologie

Dans cette section, les exposés traiteront de projets terminologiques ou d'autres activités terminologiques qui sont initiés et menés par des professionnels – dans le secteur public ou privé – travaillant sur des vocabulaires terminologiques bi- ou multilingues, des ontologies, des catalogues par sujets, des classifications, des nomenclatures, des solutions d'interopérabilité sémantique, dans de nombreux domaines comme:

- traduction et interprétation
- recherche terminologique
- enseignement supérieur
- architecture IT
- modélisation des concepts
- sciences de l'information
- pratique juridique
- bibliothéconomie

Section 4: La responsabilité des terminologues

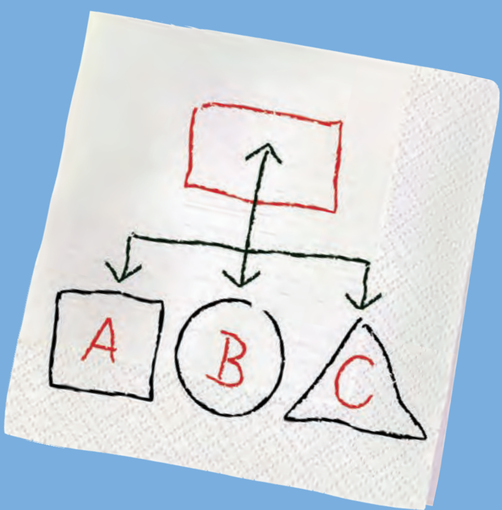
Dans cette section, les exposés se concentreront sur ce que les terminologues peuvent et devraient faire pour améliorer leurs qualifications professionnelles, leurs compétences, leurs méthodes de travail, leurs performances et leur estime personnelle, de façon à améliorer le regard que la société porte sur leur travail et parvenir ainsi à exploiter de nouvelles opportunités de travail, en:

- continuant à se former de façon pertinente
- apprenant les façons de coopérer, de s'adapter au travail en groupe et de parvenir au consensus
- agissant en tant que consultant professionnel
- contribuant activement à une connaissance et une conscience accrue de l'importance de la terminologie et du travail terminologique

Det sjette terminologitoppmøtet ble arrangert i Oslo i oktober 2012 av Språkrådet i samarbeid med Den europeiske terminologiforening (EAFT). Engelsk og fransk var konferansespråk. Arrangementet omfattet også et internasjonalt arbeidsseminar om nasjonale termbanker, *Termintra*. Denne andre utgaven av *Terminologen* inneholder foredragene fra toppmøtet, plakater som ble presentert, en oppsummering fra arbeids-seminaret og foredragene til de tre vinnerne av De internasjonale terminologiprisene, som ble delt ut under toppmøtet.

The sixth Terminology Summit was organized in Oslo in October 2012 by The Language Council of Norway (Språkrådet) in cooperation with The European Association for Terminology (EAFT). English and French were conference languages. The event also included an international workshop on national termbanks, *Termintra*. This second edition of *Terminologen* contains the talks given at the Summit, posters presented, a summary of the workshop and the talks of the three winners of The International Terminology awards given at the Summit.

Le VI^{e} Sommet de Terminologie a été organisé à Oslo, en octobre 2012, par le Conseil norvégien de la langue (Språkrådet) en collaboration avec l'Association européenne de terminologie (AET). L'anglais et le français en étaient les langues officielles. Cet événement incluait également un atelier international consacré aux banques nationales de terminologie, *Termintra*. Ce deuxième numéro de *Terminologen* comprend le texte des interventions et des posters présentés durant le Sommet, un résumé de l'atelier ainsi que les exposés des trois gagnants des Prix de Terminologie.



Språkrådet

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