

# The Science of Terminology: History and Evolution

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## INTRODUCTION

As the premise for my article I would like to outline some well-known facts that are widely agreed upon by the majority of the professional community of terminology.

1. Terminology is not an isolated phenomenon which can be researched and practiced without close contact with other fields of knowledge. Terminology is a trans- and interdisciplinary field of knowledge.

2. Terminology is embedded in ‘cultural discourse’, a concept which has been defined as “a very general semiotic concept, which corresponds to Wittgenstein’s ‘linguistic discourse’. This discourse includes verbal and non-verbal forms of representation in different quantitative constellations. Forms of representation often have a complementary function and may be interchangeable.” (Laurén, Picht 2000: 216)

3. The basic aim of terminology is a transfer of knowledge at different levels of professionalism with their corresponding registers.

4. Terminology consists – as do many other fields of knowledge – of a theoretical and an applied part.

In the following I shall deal with evolutions which have taken place in the last few decades, but also point out some still unsolved research questions and problems.

## SOME HISTORICAL CONSIDERATIONS

### ABOUT TERMINOLOGY STILL RELEVANT TODAY

The German philosopher Oehler (2007: 83), states that Plato in an epistemological paragraph of his 7<sup>th</sup> letter points out that the cognition of an object requires several cognitive media: the name, the definition, a

clear representation by an illustration and the object itself. As terminologists we can recognise without any doubt this train of thought.

Generally speaking the need for terminology has existed for as long as we are able to find evidence of professional communication. The question of terminology became and still becomes central as soon as professional communication fails or is hampered by a deficient terminology. Terminology as the most central part of any knowledge transfer is hardly questioned today.

Looking into the historical evidence we can state some central terminological deficits:

1. *Lack of or incorrect conceptual ordering.* Linné (1707-1778) established a systematisation of concepts by his works on taxonomy. The superior aim of all later classifications was the ordering of knowledge as expressed by terms.

2. *Confusion caused by excessive synonymy.* Beckmann (1739-1811), professor of philosophy and economics, criticised the multitude of unnecessary and confusing synonyms.

3. *Lack of terms for the concept in a particular language.* Already in the Middle Ages the translators of the School of Toledo had to struggle with this problem.

4. *Unclear and undefined concepts.* Clausewitz, the German military theorist, wrote: Only when a clarification of the names and concepts has taken place, may one hope to proceed easily and with clarity in the treatment of the matter.

5. *Language planning deficits.* Dürer tried to establish a German terminology for mathematical concepts – although without success. Berthollet, de Morveau, Fourcroy and Lavoisier were successful in creating a chemical terminology in the 18<sup>th</sup> century. Czechoslovakia after 1919, the Baltic States after 1919 and 1990, the Catalans, the Basques and several others had to fight the language planning problem – a problem which is increasingly acute in many language communities.

From this small historical evidence we can deduce that it was first and foremost the specialists and language for specific purposes (LSP) mediators (translators) who felt the need to improve professional communication by solving basic terminological problems. The field of linguistics is only peripherally interested or involved in professional communication. The Brothers Grimm may be mentioned here as one exception.

Another characteristic of the first historical attempts to improve terminologies is their empirical and not very scientific approach. Practical solutions were needed then and there and were proposed or realised without a thorough theoretical framework and foundation. However, that does not mean that early ‘terminologists’ were unaware of the theoretical issues and did not consider theoretical questions as Plato or Clausewitz did for example.

Today’s theoretical research into the historical development of terminology is still rather weak. However, there are academic as well as lexicographical contributions such as articles, diploma theses and mono- or multilingual wordlists related to this subject.

A clearly academic approach with a corresponding theoretical foundation was launched by Grinev in 2004. He called the new scientific discipline ‘anthropolinguistics’. Its aim is to research the development and evolution of human language, cognition, knowledge creation and transfer predominantly from a diachronic point of view including LSP and terminology. The inter- and transdisciplinary approach is obvious considering the combination of knowledge and research from the following disciplines (according to Grinev-Griniewicz et al., forthcoming): gnoseology, epistemology, logic, semiotics, anthropology, the history of science and technology, artificial intelligence, heuristics, age psychology, pedagogical psychology, cognitive psychology, national psychology, ethnolinguistics, cognitive linguistics and culture studies.

#### THE DAWN OF MODERN TERMINOLOGY

The intensification of industrialisation and the increase of international commerce at the beginning of the last century gave birth to at least two phenomena of paramount importance:

- standardisation,
- the *Wirtschaftslinguistik* movement.

In the decades to follow standardisation played and still plays an important role in the development and application of terminology.

The *Wirtschaftslinguistik* movement originated in Austria, Germany, the Netherlands and some Nordic countries which felt the need and pressure to be able to communicate about professional matters with other language communities. Language studies related to LSP had to be established, but who and where were the trained teachers? In the beginning, classical phi-

logists had to recognise the existence of LSP – the term ‘Fachsprache’ was introduced by Blum in 1916 – and they had to find out how to teach LSP. The most salient element was terminology and therefore as good philologists they tried to approach the problem from a diachronic angle – the so-called ‘historische Wirtschaftslinguistik’. Perhaps the most important experience gained was the fact that no LSP can be taught or learned without professional knowledge – knowledge about the concepts and the terms. We find at this point in time the first encounter between linguistics and professional knowledge. Wirtschaftslinguistik split up into several branches (Picht 1998), the most important of which was the functional Wirtschaftslinguistik developed in the intellectual environment of the Prague School especially in the 1930s. After World War II this line of research was continued and further developed by Drozd and especially by Hoffmann combining it with the pragmatic approach to linguistics in the 1970s and 1980s.

Another pioneer in the field of terminology was the engineer and economist Alfred Schlomann. In 1906 he started the compilation and publication of a total of 21 multilingual technical dictionaries in which he realised one of the classical requirements of terminology: the systematic ordering of knowledge (Schlomann-Lowe, Wright 2006: 153ff).

#### THE FOUNDERS – WÜSTER, DREZEN, LOTTE

The Austrian Eugen Wüster, the Latvian Ernst Drezen and the Russian Dmitrij Lotte are considered the spiritual fathers of modern terminology. All three were engineers who recognised the deficits of professional communication. In 1931 Wüster’s doctoral theses “Internationale Sprachnormung in der Technik. Besonders in der Elektrotechnik” was published and in the same year Lotte wrote his central article “Pressing Problems in the Field of Scientific and Technical Terminology”. The common background in the natural sciences determined to a certain extent their synchronic approach to the pressing terminological problems. It seems to be only natural that all three men showed a special interest in standardisation as a vehicle to minimise terminological deficits in professional communication among specialists – a limitation which was quite understandable on the premises of that time, when linguistics was only marginally occupied with LSP.

Apparently there was no direct contact between Wüster and Lotte. However, Wüster and Drezen knew each other; both were Esperantists. Although their original expectations towards the communicational possibilities of

Esperanto in LSP were abandoned, the main idea of international communication survived in terminology and can be noticed as a kind of red thread running through their works. By the way, Drezen promoted the translation into Russian and the publication of Wüster's theses.

Common to the three founders were the basic approaches to terminology such as

- the concept as a unit of knowledge,
- knowledge ordering,
- term formation regulated by guidelines,
- dynamic standardisation of concepts and terms.

#### THE DEVELOPMENT OF THE THEORETICAL FOUNDATIONS OF THE SCIENCE OF TERMINOLOGY

In the beginning the development was not very coherent or even coordinated. Two mainstream developments can be observed.

In the Soviet Union the evolution of the theory of terminology started rather early and has continued without mayor interruptions until today (Moschitz-Hagspiel 1994; Shelov, Leitchik 2004; Laurén, Picht 2006).

The relationship between terminology and linguistics has been quite different in the Soviet Union and the Western countries. In the Soviet Union, very early famous linguists such as Reformatskij, Vinogradov, Vinokour and many others took part in the development of the theoretical foundations of terminology and LSP (Moschitz-Hagspiel 1994).

Alexeeva quoting Leitchik (2004: 65) distinguishes three periods of development in Russia:

1. 1930s–60s: the period of accumulation of knowledge of the term. The term was defined as a special word or phrase to be studied using methods of linguistics and logic (central persons: the aforementioned founders).
2. 1960s–70s: period of comprehension of knowledge of the term. Terminology was regarded as a separate branch of science.
3. 1980s–today: characterized by research exceeding the boundaries of linguistics the subject of terminology came to be regarded as a component of a dynamic model of science.

In Western countries, for different reasons, a clear-cut division in the periods of theoretical development is less obvious.

In the 1930s it seemed to be more urgent to tackle problems in applied terminology on an empirical basis. In the Nordic countries Norway and Sweden recognised the necessity of practical terminology work and cen-

tres such as RTT and TNC started working on terminological dictionaries at the end of the 1930s and beginning of the 1940s, respectively. Further proof of this development was the publication of IEC's multilingual and systematically ordered dictionary *International Electrotechnical Vocabulary* in 1938. World War II interrupted nearly all theoretical research and only at the end of the 1950s do we find the first really theoretically oriented works in Western countries, for instance Wüster's article "Das Worten der Welt" (Wüster 1959/60/2000).

In the 1950s and 60s linguistics in general was not really interested in LSP and terminology. LSP and terminology were considered the same thing and treated as a lexicological problem which could be solved using traditional semantic theories – according to the opinion of the mostly pure linguist. Standardisation was not really understood and fought with the slogan 'language cannot be standardised'. Nevertheless, on the one hand the tradition of the *Wirtschaftslinguistik* movement was not forgotten and on the other, linguists such as Leo Weisgerber were much closer to Wüster's ideas than the mainstream linguistics at that time.

In addition, in the 1960s and 70s the need for professional LSP translators and other language mediators became more and more obvious and led to the establishment of LSP studies at, for instance, the Copenhagen Business School and other academic institution in Western European countries. In such environments the need for terminologies and their significance for LSP translations were evident. It was equally evident that the adequate application of terminologies was inseparably connected to professional knowledge. The works of Jumpelt (1961) reflect this evolution.

A fundamental change occurred – in my view – when Lothar Hoffmann in his book *Kommunikation Fachsprache* – combined textual linguistics and pragmatics with the following seven approaches to LSP and terminology:

- the lexicological-terminological approach,
- functional linguistics,
- *Wirtschaftslinguistik*,
- functional stylistics,
- the natural science and philosophical approach,
- the translation-related approach,
- theory of sublanguages (Hoffmann 1976).

Hahn (1983: 75) converted Hoffmann's description in the following model.

**Figure 1: Hoffmann’s model of the vertical structure of LSPs**

Levels of LSP (L.Hoffmann)

	degree of abstraction	linguistic form	environment	communication carrier
A	highest	artificial symbols for elements and relations	theoretical basis sciences	scientist ↔ scientist
B	very high	artificial symbols for elements natural language for relations	experimental sciences	scientist (technician) ↔ scientist (technician) ↙ ↘ scient.-tech. auxil. personnel
C	high	natural language very great number of terms strongly deterministic syntax	applied sciences and technology	scientist (technician) ↔ scient. -tech. director of production
D	low	natural language great number of terms relatively free syntax	material production	scient.-tech. ↔ trained worker director of prod. ↘ master
E	very low	natural language some terms, free syntax	consumption	representative (production) ↔ representative (commerce) ↙ ↘ consumer

The step towards professional communication including textual linguistics and pragmatics is quite obvious and although the element of terminology is apparently less visible, it can be easily deduced.

Later Kalverkämper (1992: 61ff) incorporated Hoffmann’s model into a more complex LSP model including

- the language system,
- varieties as a sociological category,
- stratification (Hoffmann’s model),
- medium (written and oral),
- interlinguality,
- time as a chronological category.

TERMINOLOGY – AN AUTONOMOUS DISCIPLINE?

Apart from being an engineer Wüster was very well informed on the linguistics of his time, which is reflected in several of his works. On the other hand he recognised very well that terminology is not a mere linguistic discipline; in any case such as linguistics were defined in the 1960s and 70s. This can be seen quite clearly in his extensive article “Die allge-

meine Terminologielehre – ein Grenzgebiet zwischen Sprachwissenschaft, Logik, Ontologie, Informatik und den Sachwissenschaften“ (1974/2000).

In the approximately 25 years that followed, two positions could be singled out. On the one hand those who advocated for terminology as an absolutely independent discipline and on the other, terminology as a linguistic discipline belonging to applied linguistics. Since linguistics in the last three decades has widened its scope and quite a lot of other disciplines today belong to the array of linguistics such as sociolinguistics, ethnolinguistics, anthropolinguistics and many others, Laurén et al. (1998) argued that terminology today disposes of the same variety of non-linguistic elements as other disciplines adjacent to linguistics. According to this viewpoint terminology may be considered a linguistic discipline, however, within a widened and flexible framework of the discipline ‘linguistics’. That means: terminology is an autonomous, but not completely independent discipline of modern linguistics.

Today, the question of autonomy, which caused much discussion, seems to be less salient. The idea of considering terminology as a meta-discipline necessary and appropriate for all fields of knowledge seems to me very attractive, since the approach to modern terminology necessarily includes elements from many different disciplines in order to cope with domain-specific problems (see also Budin 2001: 20).

#### TERMINOLOGICAL SCHOOLS?

The concept of terminological schools was imported in the 1970s from the Soviet Union. Felber named in his works the Prague School, the Vienna School and the Russian School. In addition, the Nordic and the Canadian approach should be mentioned in connection with this.

The problem of the introduction of the School-concept, however, lies in the dissimilarity of the Russian and the Western School-concepts. The Western concept of ‘School’ implies a common theoretical approach, classification of the research object and basically common research strategies. The result of the introduction of a foreign concept with the same term – a false friend – was the impression that there existed fundamentally different approaches to terminological theory.

In 1993 a collection of terminological articles from Eastern and Western Countries was published. A thorough comparison and analysis of the supposed ‘schools’ and ‘approaches’ was carried out based on the parameters of the central issues of terminological theory. The supposed differ-



ences which might justify the constitution of independent schools did not exist. There were differences, of course, which, however, were characterized as individual focal points determined by certain aims and purposes. They belonged all together to terminological theory and could be identified as complementary (Laurén, Picht 1993: 535f).

Today, the discussion on terminological schools has died down; different opinions and ideas exist as is usual in scientific disciplines. The result of the IITF colloquium *Approaches to terminological Theories. A Contrastive Study of the State-of-the-Art* held in 2005 in Bergamo was an up-to-date comparison, which *grosso modo* and *mutatis mutandis* confirmed the former analysis (Laurén, Picht 2006: 163f).

#### FIELDS OF KNOWLEDGE WHICH CONTRIBUTE TO TERMINOLOGICAL THEORY

Without going into the details of the argumentation in pro and contra I shall state as a kind of hypothesis that the following fields of knowledge have a share in the foundation of the central units of the theory of terminology:

- all subject fields as the providers of objects and concepts – we may call it the semantics of terminology;
- semiotics, including linguistics, socio-linguistics, cognitive linguistics, anthropolinguistics, etc. providing representational forms and their application under different pragmatic conditions and at different stages of development;
- computer science and data processing;
- knowledge engineering;
- language planning and standardisation;
- information and documentation including classification, thesauri and other knowledge ordering systems;
- philosophy of science.

#### ELEMENTS OF TERMINOLOGICAL THEORY AND THEIR EVOLUTION

The central elements of terminological theory are:

- the object and the concept,
- representational forms of objects and concepts,
- knowledge ordering,
- terminography.

## **The object and the concept**

The theoretical treatment of both units is strongly based on philosophical and cognitive considerations. The symbiotic relationship between both units is obvious – one may say that objects are the raw material for any concept formation.

In early terminological literature, the object did not play any central role, objects were apparently considered to be existing units which did not require more thorough explanation or research. However, this point of view has changed considerably under the influence of the works of the philosopher Oeser. Budin already claimed in 1994 the need for an object theory. In later works by me (2003: 154f) a system of concepts for different types of objects was proposed which again would facilitate the explanation of the creation of different types of concepts. Furthermore, I claimed to consider the object a unit of knowledge (op.cit.).

The concept has always been considered a central element of terminological theory. The founders of the science of terminology operated with concepts, but also other scientist such as the Icelander Finnbogason (Jónsson 2007) followed this train of thought. Wüster based his idea on Aristotle using the abstraction approach and defined a concept as a unit of thought (Denkelement). Others, for instance Dahlberg (1976), criticised this view and argued for the consideration of the concept as a unit of knowledge using an approach based on predicate logic. Research into the nature of the concept was intensified from the late 1980s onwards. Special mention is deserved by the works of Oeser (1988), Ozeki (1987), Weissenhofer (1995), Ahmad (1996), Pilke (2000), Picht (2004) among others. Central issues were the life cycle of concepts, classifications of types of concepts, different ways of concept formation, concept types in relation to different subject fields, etc. The last two items are especially interesting. Concept formation takes place not only by abstraction, but also by concept construction usually based on thought objects, where the construction occurs through discussion and consensus, which is quite different from abstraction. Many of those concept constructions are found in fields such as law, economics, social sciences and theology (Picht 1998: 118f; 2010: 21).

A different view of the concept is usual in Russian literature. A distinction is made between concept and notion, where concept is expressed as a term and belongs to the field of science and technology while notions

are denoted in words and belong to everyday language (Grinev 2004b: 55). However, in practice this distinction may be difficult since concepts and notions are dynamic units and depend on cognitive processes.

### **Representational forms of objects and concepts**

Until approximately the 1990s it was generally agreed upon, for instance in the ISO and other standards, that objects and concepts are expressed as names or terms. Not surprisingly, the linguistic sign as a representational form dominated research activities in this sub-field of terminological theory. However, differences may be noted when comparing the developments in Eastern and Western countries.

For instance, when screening Russian literature it is striking that the concept 'term' very soon became a central issue for research due to the early involvement of famous linguists in LSP and terminology. A comprehensive and critical overview of the different phases of development, the former and modern approaches and models is offered by Alexeeva (2004: 62-78). Referring to the linguistic sign denoting a concept, Russian researchers distinguish between several types of terms according to their status, for instance, Grinev (2004b: 56) distinguishes between nouns, prototerms, terminoids, pre-terms, quasi-terms and terms. This differentiation reflects the diachronic and socio-linguistic approaches and contributes to a more detailed consideration of 'termness', the status of a linguistic sign as object and concept representation in professional communication.

This distinction is hardly touched upon in Western theoretical works, where a term denotes a concept without any further distinction. Of course, the question of 'termness' is addressed, but a clear classification of terms according to their status cannot be observed.

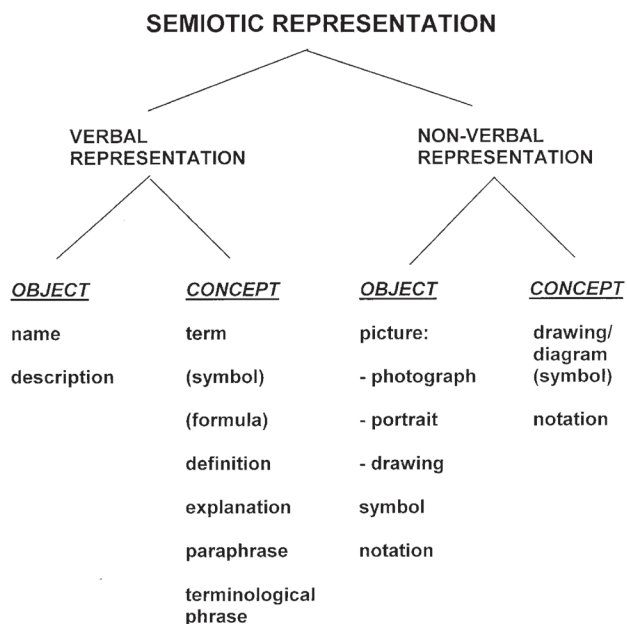
Common research objects are issues such as

- the term as an object of cognition,
- transparency of a term,
- term motivation,
- term formation,
- requirements for terms,
- term autonomy.

In the 1990s the merely linguistic approach to representational forms of concepts and objects was questioned and found to be too narrow, since

several other, not necessarily linguistic representations occur in professional texts (Galinski, Picht 1997). The semiotic approach was developed further and may be summarised in the following model (Laurén et al. 2008: 106). Also the basic terminology standards adopted this widened approach by introducing the concept of ‘designation’ defined as “representation of a concept by a sign which denotes it” (ISO 1087-1:2000).

Figure 2: Forms of object and concept representation

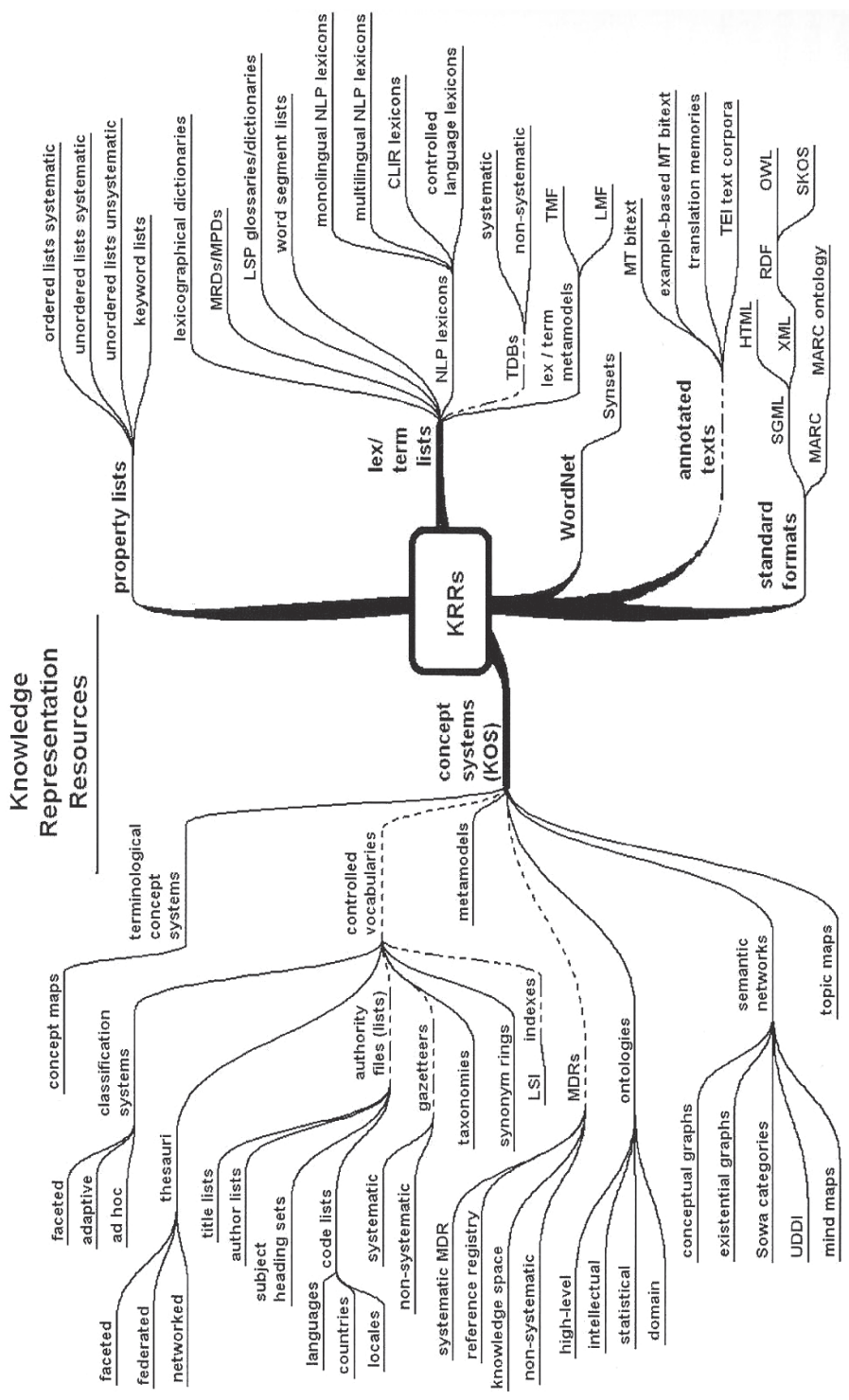


### Knowledge ordering

The idea of ordering concepts in systems was already practiced by Schlomann as mentioned above and very early became a key element in terminological theory. For a long time, research in this field stuck to the classical forms of concept systems governed by logical and ontological relationships. Neither the necessity of knowledge ordering in concept systems nor the basic relationships were ever questioned. However, more intensive research into the different types especially of ontological relationships was required.

A remarkable contribution to the research into the types of relationships and concept systems was made by Nuopponen (1994). Her point

Figure 3: Wright's model of knowledge representation resources



Sue Ellen Wright (2009: 12)

of departure was the work of Wüster, especially the unpublished part of it. She presented a detailed differentiation of the logical and ontological relationships and a more flexible form of concept systems, the so-called ‘satellite system’.

A considerable widening of the subject was presented by Wright in 2007 (2007: 157ff; 2009: 10ff). Her approach can be characterized by the keywords: knowledge representation resources, knowledge organization systems, concept systems, ontologies, classifications and thesauri and the Semantic Web. An idea of the complexness is offered by her following model (see Fig. 3).

Without any doubt the idea of knowledge ordering, already presented by the founders of terminology, has developed from relatively simple concept systems to highly complex models in which central elements of other disciplines are integrated.

### **Terminography**

The historical roots of terminography – a rather recent concept – go back to lexicography. However, the representation and proliferation of terminologies in the form of traditional dictionaries already changed some basic lexicographical approaches, for instance through the introduction of systematic concept representations and definitions. Here the work of Schlomann has to be mentioned again, but also the IEC-vocabulary (1938) and Wüster’s Machine Tools (1968).

Today, terminography is defined as “part of terminology work concerned with the recording and presentation of terminological data” (ISO 1087-1:2000).

The former version of this standard included the concept of ‘processing’, which today is included in concept terminology work. That means that the collection of terminological data and terminological analysis as merely intellectual activities are separated from terminography proper.

The advent of electronic data processing and its potential has substantially changed the approach to the representation, proliferation and application of terminological data. According to my view, three obstacles inherent in traditional terminography could be surmounted:

- limitation of space available for knowledge representation,
- immediate actualisation and interchange of terminological data,
- application of terminological data to a variety of knowledge based systems.

Great research efforts had to be made so as to single out terminological data elements and their categories, their relevance for different applications and their realisation in terminological management devices and systems. As a typical item of continuous research and practical work within applied terminology the field of localisation should be mentioned (Reineke, Schmitz 2005).

In addition, the progress in theoretical terminology had and has to be integrated continuously in order to avoid incongruity of theoretical and applied terminology.

#### TERMINOLOGY TEACHING AND TRAINING

Any academic discipline has basically the obligation of research and teaching along with the coordination of both elements. Since the development of the theoretical foundations of terminology was different in Russia from the Western countries, the evolution of terminology teaching – at least in the first forty years – followed different paths.

In Russia the first teaching materials and manuals were prepared from the 1950s onward (Terpigorev 1952, Lotte 1961, Grinev 1993) and corresponding teaching activities took place at various universities in the former Soviet Union.

In Western countries, the first teaching of the theoretical foundations of terminology was offered by Wüster in 1972 in Vienna. His lectures, which are the fragment of a much more extensive work planned but not finished, were published in 1979, two years after his death in 1977, under the title of *Einführung in die Allgemeine Terminologielehre und Terminologische Lexikographie*.

The introduction of LSP studies in the 1960s and 70s and the obvious terminological components of these studies revealed the need for the development of terminological teaching material and comprehensive terminology manuals. Only in the 1980s were the first research based manuals published for instance by Arntz/Picht 1983, Felber 1984, Felber/Budin 1989. This relatively late start is due to the fact that the research community in terminology at that time – apart from a few senior researchers – was still rather small and young. Although several terminology services were established in the 1960s and 70s (Bundessprachenamt, Siemens) and the national and international standardisation organisations issued the first standards on terminological principles, the fact cannot be disre-

garded that many terminologists were autodidacts, theoretically close to traditional lexicography and only a little familiar with the theoretical foundations available at the end of the 1970s.

This panorama has changed completely. Today, terminology is taught at various levels and in different environments. Adequate and purpose-oriented teaching materials and manuals have been developed. The didactic forms range from introductory and specialised courses for different user groups to extensive components of several semesters mostly embedded in academic studies such as LSP translation and communication studies. The Terminology Summer School offered by TermNet in cooperation with universities, the studies at Fachhochschule Köln and Vienna University and the Nordic MA studies in terminology may serve as examples.

In short, we can state that terminology has developed into a complete academic discipline.

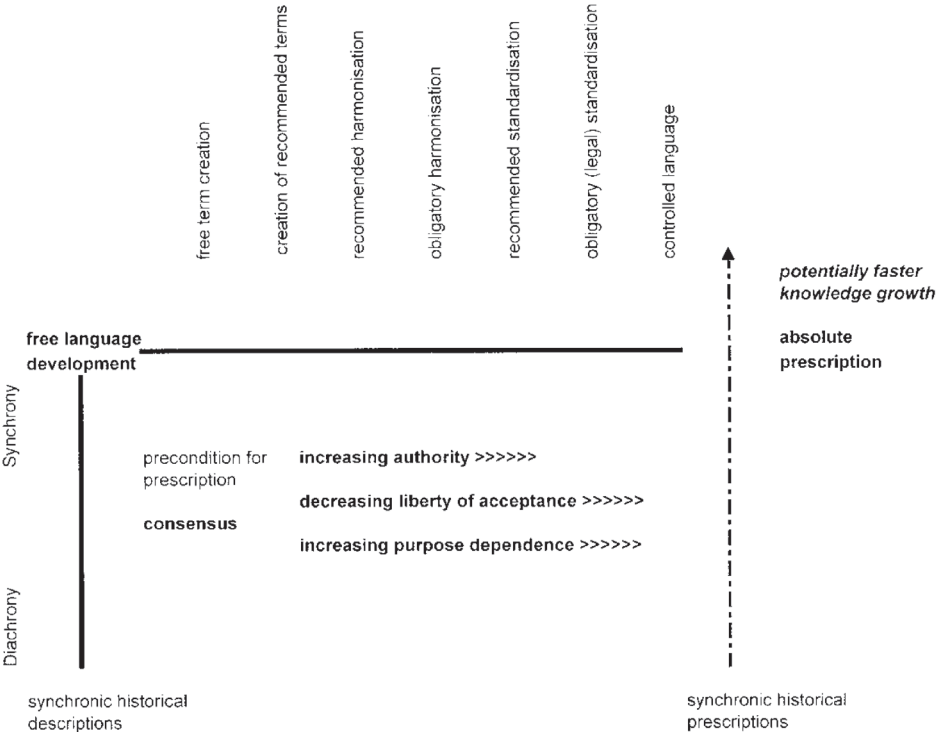
#### STANDARDISATION AND LSP PLANNING

The close connection between standardisation and terminology has a long tradition. It dates back to the time even before the founders of terminology. However, very early on they recognised the need for controlled intervention into the management of terminologies and their development. Drezen underlined the dynamic nature of standardisation and Wüster introduced the idea of developing guidelines for practical terminology work in the 1930s. The foundation of ISO/TC 37 is a proof of this fact. Although the World War II interrupted this development, the basic idea survived and after the war ISO/TC 37 continued its original work. Without being able within this context to go into details about the further development, it can be stated that the working range of TC 37 has expanded considerably. A simple comparison of the number and subjects of the first recommendations and standards in existence in 1972 with today's thematic array of standards and drafts at different levels of elaboration reveals the interest in and the necessity of standardising methodological issues of terminology on the one hand, and on the other the application of these standards in practice. In other words, standardisation has developed as a medium of LSP planning in standardisable fields of knowledge and embraces not only the corpus but also the status – using Einar Haugen's terminology.



All language planning and especially LSP planning has always had the bias of prescriptivism traditionally considered the opposite of descriptivism. This dichotomy, however, as many other dichotomies is a simplification; in any case it does not depict the reality in LSP planning. In order to get closer to the facts in LSP and terminology planning, the following model may illustrate on the one hand the proposal of the range of degrees between the extreme points of the dichotomy and on the other the important factors which influence any intervention in a language.

Figure 4: Degrees between description and prescription



(Picht 2004: 197)

The two vertical lines represent the synchrony–diachrony relation indicating that subsequent synchronic descriptions on a time axis form a diachrony. The left line indicates a gliding development, whereas the right one should be interpreted as intervals because a prescribed terminology is fixed for a certain time and the development becomes visible in small hops corresponding to Drezen’s concept of dynamic standardisation.

The horizontal line represents the transition from free language development to absolutely controlled language development and terminology. The seven degrees indicated are only examples, in between the poles there may be other degrees of prescription depending on the purpose of a given case of prescription.

In the middle of the model I have placed the three sociolinguistic factors and indicated their gliding influence on the different degrees of prescription.

Language planning in general is a rather old subject field, at least in the Nordic countries and several other Western countries with less used languages or language minorities, for example Norway and the Catalans. Many of the language planning theories have been rather fuzzy or ideologically influenced. However, during the last ten years one can observe an increasing interest and activity concerned with the preservation and development of the national language or mother tongue respectively, especially as a defence against the increasing English influence noticeable in the LSP of many domains and justified by internationalisation and globalisation. In order to consolidate the field of language planning – including LSPs – an increasing number of theoretical works has been presented (e.g. Laurén et al. 2008: 139–195).

## CONCLUSIONS

Taking into account the relatively short and often only fragmentary information and remarks about the historical evolution of the science of terminology I could offer in less than one hour – a thorough description would require at least a book – I am convinced that one today can state that:

- The advent of the science of terminology is the logical consequence of the recognition of serious deficits in professional communication.
- Science of terminology has developed from practical issues such as guidelines and recommendations in order to remedy communicational deficits passing phases of intensified theorisation and testing to become a complete science.
- Science of terminology today fulfils all the requirements of a science with regard to its theoretical foundations, a variety of applications, an active research community, well developed teaching and training activities at the academic and practical levels and extensive publishing activity.

- Science of terminology has meta-status among all other sciences since terminology is a precondition for all kinds of creation of knowledge and its communication, knowledge ordering, knowledge exchange and knowledge proliferation.
- Science of terminology is not limited to one particular science or group of sciences, but it serves all sciences, although some theoretical approaches have to be adapted to the nature of the different sciences.

Perhaps, you may think that this evaluation is too positive and that there is still much to do. That is absolutely true, there is still much to do, but that is common to all sciences, because theories, approaches and applications have their life cycle until new findings change or replace them. The case of the science of terminology is not different; there is a basic theoretical foundation which does not exclude variants and other opinions, but these variants and other opinions do not invalidate the recognition of terminology as a science in its own right – on the contrary.

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#### TERMINOLOGIJS MOKSLAS: ISTORIJA IR RAIDA

Straipsnis pradedamas istorinių terminologijos mokslo formavimosi aplinkybių apžvalga, kurioje aptariami *Wirtschaftslinguistik* judėjimas ir terminologijos pradininkų – E. Wüsterio, E. Drezeno ir D. Lotte's – darbai. Išskiriama keletas teorinių terminologijos mokslo pagrindų raidos etapų, kuriuos parodo L. Hoffmanno ir H. Kalverkämperio modeliai. Keliami klausimai, ar terminologija yra atskira disciplina ir ar galima kalbėti apie terminologijos mokyklas. Apžvelgiamos žinių sritys, turėjusios įtakos terminologijos teorijos raidai, t.y. objektas ir sąvoka, objektų ir sąvokų vaizdavimo formos, žinių tvarkyba ir terminografija. Kalbama apie terminologijos mokymą, terminijos standartizavimą, specialiosios kalbos ir terminologijos planavimą, aptariamas deskriptyvinis ir preskriptyvinis požiūris į terminologiją ir jos planavimą. Kaip išvados formuluojami penki teiginiai apie terminologijos teorijos bei jos taikymo raidą ir dabartinę padėtį.

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