ProCom'98

Sektion 3
„Terminologiewissenschaft und Plansprachen"

Beiträge der Internationalen Konferenz
PROFESSIONAL COMMUNICATION
AND KNOWLEDGE TRANSFER
(Wien, 24 – 26 August 1998)
Infoterm * TermNet

Redaktion: Detlev Blanke

Berlin
2003

Die GIL konzentriert ihre wissenschaftliche Arbeit vor allem auf Probleme
der *internationalen sprachlichen Kommunikation*,
der *Plansprachenwissenschaft* und
der *Esperantologie*.

Die Gesellschaft gibt das Bulletin „Interlinguistische Informationen" (ISSN
1430-2888) heraus und informiert darin über die international und in Deutschland
wichtigsten interlinguistischen/esperantologischen Aktivitäten und Neuerschei-
nungen.

Im Rahmen ihrer Jahreshauptversammlungen führt sie Fachveranstaltungen zu
interlinguistischen Problemen durch und veröffentlicht die Akten und andere
Materialien.

Vorstand der GIL

1. Vorsitzender:	Dr. sc. Detlev Blanke
2. Vorsitzende:	Dr. habil. Sabine Fiedler
Schatzmeister:	Dipl.-Ing. Horst Jasmann
Mitglied:	Dr. Werner Bormann
Mitglied:	Prof. Dr. Ronald Lötzsch

ProCom'98

Sektion 3
„Terminologiewissenschaft und Plansprachen"

**Beiträge der Internationalen Konferenz
PROFESSIONAL COMMUNICATION
AND KNOWLEDGE TRANSFER
(Wien, 24 – 26 August 1998)**
Infoterm * TermNet

Redaktion: Detlev Blanke

**Berlin
2003**

Inhalt

Beiträge der Sektion 3 „Terminologiewissenschaft und Plansprachen"

Vorbemerkung

Die vorliegenden Akten sind aus mancherlei Sicht ungewöhnlich.

Es handelt sich um Texte zu Vorträgen, die auf einer Doppel-Konferenz gehalten wurden, die vor nunmehr fünf Jahren, vom 24.-28. August 1998, in Wien stattgefunden hat, anläßlich des 100. Geburtstags von Eugen Wüster (1998-1977), dem Begründer der Terminologiewissenschaft. Die Abkürzung ProCom steht für „**Professinal Communication**". Mit dieser Konferenz gekoppelt war das 4. Infoterm-Symposium zum Thema „Terminology Work and Knowledge Transfer".

Da im Werk Wüsters die Plansprachen eine bedeutende Rolle spielen, waren auch interlinguistische Themen präsent.
Einige Interlinguisten, darunter auch Mitglieder der GIL, haben sich nicht nur an der Vorbereitung beteiligt, sondern auch zum Fachprogramm beigetragen. So wurden interlinguistische Themen in einem der einführenden Hauptvorträge und in sieben Vorträgen im Rahmen der *Sektion 3* „Terminologiewissenschaft und Plansprachen" behandelt.

Ungewöhnlich und sehr zu kritisieren ist, daß diese Akten in Wien nicht, wie geplant, längst veröffentlicht wurden. Von den geplanten (und z.T. von den Tagungsgteilnehmern bestellten und auch bezahlten) drei Bänden sind bisher nur die Bände I und II erschienen:

Oeser, Erhard / Galinski, Christian (1998): Eugen Wüster (1898-1977). Leben und Werk – Ein österreichischer Pionier der Informationsgesellschaft. His Life and Work – An Austrian Pioneer of the Information Society. (Proceedings of the Inernational Conference on Professional Communication and Knowledge Transfer, Vienna, 24-26 August 1998), Volume I. Wien: International Information Centre for Terminology (Infoterm), 324 S.

Munteanu, Aranca (1998): 4th Infoterm Symposium. Terminology Work and Knowledge Transfer. Best Practice in Terminology Management and Terminography (Proceedings of the Inernational Conference on Professional Communication and Knowledge Transfer, Vienna, 24-26 August 1998), Volume II. Wien: International Information Centre for Terminology (Infoterm), 456 S.

Der dritte Band, der u.a. die Beiträge der interlinguistischen Sektion enthalten müßte, steht aus. Es ist nicht abzusehen, wann er denn (und ob überhaupt noch) erscheinen wird.
Die GIL erhielt daher von Herrn Christian Galinski, Direktor von Infoterm[1], die freundliche Genehmigung, die Beiträge der *Sektion 3* zu veröffentlichen.

---

[1] Herr Galinski hat die Verzögerung nicht zu verantworten.

Damit das vorliegende Heft eine Vorstellung von der Konferenz vermitteln kann, insbesondere über ihre interlinguistische Komponente, wird auch der bereits veröffentlichte Plenarvortrag wieder abgedruckt, der dem plansprachlichen Werk Eugen Wüsters gewidmet ist. Er ist bereits im erwähnten Band I der Akten erschienen.

Die Beiträge sind Anfang 1998 enstanden und wurden bewußt nicht überarbeitet oder aktualisiert, damit sie den Charakter authentischer Akten behalten.

Immerhin kann die GIL somit eine Veröffentlichung zum 105. Geburtstag von Eugen Wüster vorlegen.

Berlin, im Novemer 2003   Detlev Blanke
                                                          (1. Vors. der GIL)

Detlev Blanke

Terminology Science and Planned Languages[1]

Introduction

1. Planned languages

2. Esperanto

3. The role of planned languages in the work of Eugen Wüster

4. Terminology work in the planned language today

5. Literature

Zusammenfassung

Der Begründer der Terminologiewissenschaft, Eugen Wüster, war auch ein bedeutender Interlinguist und Mitbegründer der Esperantologie. Seine profunde Beschäftigung mit Plansprachen hatte erheblichen Einfluß auf die Entwicklung seiner terminologiewissenschaftlichen Auffassungen. Der Beitrag skizziert die fachsprachliche Rolle von Plansprachen ([künstliche] Welthilfssprachen), insbesondere des Esperanto, und die Beziehungen zwischen Plansprachen und Terminologiewissenschaft in einigen Bereichen von Wüsters Werk (das Enzyklopädische Wörterbuch Esperanto-Deutsch, die Dissertation "Internationale Sprachnormung", das internationale elektrotechnische Wörterbuch und das Projekt eines internationalen Terminologieschlüssels). Zum Schluß folgen Informationen über gegenwärtige Bemühungen um eine Terminologiearbeit in Esperanto.

Resumo

La fondinto de la terminologio-scienco, Eugen Wüster, ankaŭ estis grava interlingvisto kaj kunfondinto de la esperantologio. Lia profunda okupiĝo pri planlingvoj konsiderinde influis la evoluon de liaj terminologio-sciencaj konceptoj. La kontribuo skizas la faklingvan rolon de

---

[1] See in german: Language Problems & Laguage Problems 22(1998) 3: 267-279

planlingvoj ([artefaritaj] mondhelplingvoj), aparte de Esperanto, kaj la rilatojn inter planlingvoj kaj terminologio-scienco en kelkaj partoj de la verko de Wüster (la Enciklopedia Vortaro Esperanto-Germana, la disertacio "Internacia lingvo-normigo en la tekniko", la internacia elektroteknika vortaro kaj la projekto de internacia terminologia kodo). Fine sekvas informoj pri la aktualaj klopodoj pri terminologia agado en Esperanto

Introduction

The reader is certainly familiar with the basic issues of terminology science and the main problems of terminological activities. However, what exactly are "planned languages" and what relation do they have to terminology science? What role did the founder of terminology science, *Eugen Wüster*, play in this connection?[2]

The term "planned language" itself (de Plansprache, fr langue planifiée, ru planovy yazyk, eo planlingvo) was coined by Wüster who used it for the first time in his doctoral dissertation (Wüster 1931)[3]. It means a language that was created with the aim to facilitate international linguistic communication. Today this term is common in specialist interlinguistic literature (see Blanke 1997). Outside this subject area the terms "international auxiliary language", "world auxiliary language", "artificial world language", "universal language"[4] etc. are more common.

The terminologist and the adept of a planned language are connected in their effort to rationalize a linguistic message and to make it more effective.

The terminologist strives for the exact description of a technical term which should be characterized by, e.g., a well-balanced relation of comfort and accuracy of language, and contribute to precise and stable specialist communication, especially after standardization has

---

[2] This question is of particular interest for us because this text was written in commemoration of the 100th Anniversary of the birth of Eugen Wüster in 1998.

[3] See Wüster 1955/76. The quote "1955/76" means that the first edition was published in 1955, with a reprint in 1976. The citations are taken from the reprint that is more easily accessible.

[4] de: Internationale Hilfssprache, Welthilfssprache, künstliche (Welt)Sprache, Universalsprache
fr: langue internationale auxiliaire, langue mondiale auxiliaire, langue (mondiale) artificielle, langue universelle; ru: meždunarodny vspomogatel'ny yazyk, mirovy vspomogatel'ny yazyk, iskustvenny (mirovy) yazyk, vseobščij/vsemirny yazyk.

been achieved. Wüster considered this balance of linguistic comfort and accuracy an important feature that shows the linguistic quality of an expression (Wüster 1931, 85).

The author of a planned language also attempts to reach the highest possible linguistic quality: in a way he looks for an ideal language for international communication, i.e. a fully grammatical system that should be easier to learn than ethnic languages, should permit more precise expressions, and it should furthermore – as a neutral means of communication - facilitate equality in international communication.

This idea includes the requirement that such a language should be suited to use as language for special purposes, which means its suitability for the development of terminology.

The relation of effort and result in communication is an issue for both the terminologist and the adept of a planned language.

In this respect I should state that relations between universal languages and technical systematic representations are no new phenomenon. The philosophical (a priori) universal languages which have been created since the 16th and 17th centuries - based on the classification of the knowledge available at the time - were constructed to facilitate "right thinking" and to give completely new insights into the fundamental principles of the "right philosophy" (Descartes). They influenced the development of nomenclature and classification systems (such as decimal classification), as well as concept systems used as basis for lexicographic works, e.g. in Roget's "Thesaurus of English Words and Phrases" of 1852 and in newer indices of concepts (see Hallig/Wartburg 1952)[5].

If we strive for rational and effective specialized communication, we need quality criteria for terms and terminologies both for ethnic and planned languages, as well as the standardization and planning of terminology and their effective practical organization.

In his work Wüster dealt with all these aspects, especially in the 1920s and 1930s[6]. It is not coincidental that his main work deals with national linguistic standar- dization and its generalization, i.e. *international linguistic standardization*, the "highest stage" of which would be the "introduction of a complete auxiliary language" (Wüster 1931, 411). Although he later

---

[5] See Slaughter 1982; Hüllen 1984.

[6] I wrote a study about Eugen Wüster's attitude to planned languages (in Esperanto) as an introduction to the microfiche edition of the Encyclopaedic Dictionary (see Blanke 1994).

regarded the possibilities of international acceptance of a planned language more sceptically, he never lost his links to this issue.

Much speaks for the assumption that Wüster's intensive treatment of planned languages contributed significantly to gradually developing the principles of his general theory of terminology science. This appears to have been the heuristic effect of the study of planned languages in Wüster's own work as well as that of other terminologists, an aspect that has not received the attention it deserves until today (however, see W. Blanke 1989; 1997).

In the following section, the phenomenon of "planned languages" shall be characterized first, especially planned languages in their role as special languages. Esperanto plays a distinctive role here. This is followed by a description of the role of planned languages in the development of Wüster's terminological thought, and then by some comments on current efforts to apply the findings of terminology science in the field of planned languages.

1 Planned languages

From the 16th century until the present there have been approx. 1,000 attempts to create international linguistic means of communication (Blanke 1985, pp. 66 ff.; Duličenko 1990, pp. 13 ff.). They belong to the subject of interlinguistics, a scientific discipline that - as some authors see it- deals only with planned languages ("special interlinguistics" or "interlinguistics in the narrower sense"). Others consider the main subject of this discipline to be international linguistic communication in all its forms and with all its means ("general interlinguistics"). For Wüster, interlinguistics was the science of planned languages (Wüster 1955/76)[7].

Phenomenologically, planned languages are a facet of the *human invention of languages* which at the graphemic level includes pasigraphics (universal sign systems), systems of stenography, secret sign languages (codes), international alphabets, and also sign languages.
As systems of communication that have a phonemic level instead of or in addition to the graphemic level, the area of invented human languages[8] can be considered to include invented

---

[7] Regarding the different views on the subject of interlinguistics see the surveys by Blanke 1977; 1998; Schubert 1989.

[8] See in particular the works by Bausani 1970; Blanke 1985, pp. 18 ff.; Albani/Buonarroti 1994; Mannewitz 1997.

children's languages, secret languages, magical and sacral languages, or also the imaginary languages of social utopias and modern science-fiction literature which partly exists in filmed versions, like recently the Klingon language from the series "Star Trek".

Planned languages can also be regarded as the product of language planning if this is understood as "the methodical activity of regulating and improving existing languages or creating new common regional, national or international languages" (Tauli 1968, 27).

If we examine the creation of planned languages, which has been going on for centuries and continues into the present[9], and if we wish to understand this phenomenon properly, we need to make a distinction between a project and a language. This, however, is very often not done in the linguistic literature. Numerous factors need to act in combination to lead a language from project stage to a functioning international language. Here a certain linguistic quality of the project is definitely a prerequisite, but this is not sufficient to explain a certain practical success. It is especially factors other than linguistic ones which lead to the acceptance of a project in practice and ensure that, in several stages, it becomes a language.

Only a few of the existing planned languages have played a role for any length of time and enabled a certain communication.

These are *Volapük, Esperanto, Latine sine flexione, Ido, Occidental-Interlingue, Basic English*, and *Interlingua*.

Volapük was relatively well-known until the turn of the century. Latino sine flexione (called "Interlingua" in the 1920s, but not to be confused with Interlingua-Gode) had adepts until World War II, especially in Europe. The same was true for Basic English. Occidental-Interlingue had a small speech community until the beginning of the 1980s and today is considered dead. Beside Esperanto, only Ido and Interlingua currently play a role. Ido still has several hundred adepts who arrange small international meetings. They are organized in a small association and publish 2-3 journals. Also Interlingua has several hundred adepts, in approx. 20 countries. They arrange international meetings (with 30-50 participants) and publish approx. 10-20 new titles in their language annually (see Bibliographia 1990-1998).

The planned languages mentioned above were used for certain special-language applications (see Blanke/W. Blanke 1998).

---

[9] Projects are constantly being created. Some of them are presented e.g. in the Internet (see Becker 1996).

In *Volapük*, (1879, Johann Martin Schleyer) a strictly agglutinative language with considerably changed morphems of Latin, Romance, and Germanic origin, there were modest attempts to develop commercial correspondence.

In *Latino sine flexione* (1903, Giuseppe Peano), which is based on Leibniz' idea of a simplified Latin for scientific purposes, some texts on mathematics and astronomy as well as on philological issues were published, especially in "Schola et Vita" (1926-1939).

In *Ido* (1907, Louis Couturat), a reformed Esperanto in terms of word formation and lexical stock, a few technical texts and dictionaries were published in biology, chemistry, commerce, photography, mechanical engineering, mathematics, radio technology, as well as texts dealing with philological, philosophical and religious issues.

Occidental (1922, Edgar v. Wahl, renamed "Interlingue" in 1949), a kind of New Romance with reduced inflections, has only a few special-language texts of mainly philosophical and philological content, to a lesser extent on politics, economics and pedagogy. Furthermore, there are a collection of mathematical texts and a mathematical dictionary.

Interlingua (1951, Alexander Gode/International Auxiliary Language Association) is also a planned language with a large proportion of Romance roots and a simplified inflection. Abstracts in several medical journals were published in the 1950s and 1960s and the two scientific journals "Spectroscopia Molecular" and "Scientia International" from 1952-1955 (Sexton 1993). The Interlingua Book Catalogue (Bibliographia 1998) contains publications on demography, art history, mathematics, philology, philosophy, phytopathology and theology. Also in *Basic English* (1929, Charles K. Ogden), a simplified English of 850 basic words which were chosen according to semantic aspects, texts were published on electrical engineering, geology and economics.

Except for Esperanto, all systems mentioned here have in common that in principle their linguistic structure makes them quite suitable for the expression of special issues and terminologies. However, even the few published special-language texts and dictionaries have not served real international communicative needs as the numbers of speakers were - and still are - too small.

For this reason there have been no organizations cultivating special-language application in any planned language with the exception of Esperanto.

2   Esperanto

Esperanto, founded in 1887 by Ludwig L. Zamenhof, developed from the rough outline of a project into a language with distinct communication achievements. Esperanto is an agglutinative language with predominantly Romance lexical stock and an efficient system of word formation. The broad practice of this planned language has been relatively well documented[10]. As already predicted by Ferdinand de Saussure (see 1967, 90), this planned language entered its "semeologic life" on the grounds of its practical usage and has been subject to the laws of language change (Philippe 1991).

The sources, structure, functions, development, and communication capacity in and also the speech community of this language are the subject of *esperantology*. This science is the only philological-linguistic discipline dealing with a single planned language to have developed and boasts a comprehensive specialist literature (see Blanke 1996).

The term 'Esperantology' (eo: esperantologio) was introduced in 1921 by Wüster, who – in contrast to the understanding sketched above – saw in it only the linguistics of Esperanto (Wüster 1955/76).

The special-language usage of Esperanto started at a relatively early stage. For example, short popular science texts (in astronomy, biology, mathematics, medicine, and other fields) were included in one of the first collections of model texts that contributed to set standards (1903: "Fundamenta Krestomatio"). In 1904 the first scientific journal was launched ("Internacia Scienca Revuo"), and in 1906 the first scientific association was founded ("Internacia Scienca Asocio Esperantista", ISAE).

Today there is no doubt about the suitability of Esperanto as a language for special purposes. The most recent catalogue of the Universala Esperanto-Asocio (1994) lists publications in monographs and anthologies on the following topics:

---

[10] See, among others, Kökény/Bleier 1933/1979; Lapenna/Lins/Carlevaro 1974.

archaeology, astronomy, biology, biochemistry, botany, chemistry, computer science, ecology, economy, energetics, ethnography, genetics, geology, information technology-cybernetics, interlinguistics/esperantology, law, linguistics, mathematics, medicine, meteorology , pedagogy, physics, psychology, sociology, telecommunications, theology (and various religious philosophies), transport, zoology (see UEA 1994). 30-40 specialized titles are added to the catalogue every year.

A considerable volume of material in special language can also be found in journals and bulletins.

Some specialist journals in ethnic languages occasionally contain contributions or abstracts in the planned language, e.g. the journal "Language Problems & Language Planning" (since 1977) and the cybernetically-pedagogically oriented "Grundlagenstudien aus Kybernetik und Geisteswissenschaft/ Humankybernetik" ("Basic Studies in Cybernetics and the Arts/Human Cybernetics") also since 1977.

The specialized vocabularies of Esperanto are indexed in approx. 300 special dictionaries for more than 80 areas, which differ greatly in volume and quality (Ockey 1982; Haupenthal 1991). The following areas should be emphasized: botany, chemistry, computer science, electrical engineering, engineering, forestry, geology, mathematics, medicine, radio technology, railroads, religion(s), trade [11]. Also the largest monolingual dictionary for Esperanto definitions contains relevant terms from various subject fields (Waringhien 1970, pp. XIX ff.).

The international specialized communication in the planned language is realized especially within the framework of various specialist organizations and other bodies.

Academic institutions like the "Akademio Internacia de Sciencoj", founded in 1985 (see Frank 1993, pp. 910 ff.), and "Internacia Scienca Akademio Comenius", founded in 1986 (see Neergaard/Kiselman 1992, pp. III ff.), promote interdisciplinary exchange in Esperanto. Also bibliographies of scientists who publish in Esperanto or are active in other respects serve this purpose (Darbellay 1981; T. Frank 1996).

These and other scientifically-oriented organizations, institutions and groups usually arrange their meetings within the world congresses that are held annually (with 2,000-6,000 Esperanto speakers from 50-70 countries). However, they organize their own international scientific

---

[11] See also the contributions by Heinz Hoffmann on railroad terminology and Karl-Hermann

meetings, conferences and seminars as well. Examples of these are the Summer Courses at the University in Liège/B held from 1972-1980 with more than 30 collections of lecture notes in anatomy, biology, chemistry, comparative literature, linguistics, mathematics, pharmacology, psychology, sociology, and zoology (Blanke 1986, 82), and the series of lectures "Apliko de Esperanto en Scienco kaj Tekniko" held in Czechoslovakia (1978-1989). The total of 156 contributions was published in six volumes. A similar series of lectures started in China in 1987.

Esperanto has been accepted as conference language also at some non-Esperanto expert meetings, e.g. since the 1980s at the cybernetics' conferences in Namur, and since 1968 at the geologists' conferences which has produced 8 conference volumes up to now. The international scientific meeting "Interkomputo" (Budapest 1982) that was purely held in Esperanto, brought together 200 computer experts from 19 countries whose 100 seminar papers were published in six volumes.

As Wüster (1931, pp. 294 ff.) already outlined in his standard work, Esperanto is a suitable means of scientific communication due to its unique properties of its linguistic structure.
The most significant properties are e.g. that morphemes can be combined very easily (because of the convenient morpho-phonological syllabic structure, the lack of allomorphs, etc.), an efficient affix system, and the very productive rules for word formation (Blanke 1982; Schubert 1993). Furthermore, these properties enable the language to adapt to new needs in communication and make it suitable for the needs of automatic technical documentation. A slightly modified Esperanto serves as intermediate language in the semiautomatic translation system DLT (Distributed Language Translation). This system reached prototype stage (Sadler 1991).

The methods for coining new terms in Esperanto include the usage of words from common language (funkci/o - function), the usage of words found in other languages (softvar/o - software, sputnik/o - Sputnik), loan-translations (dur/disk/o – hard disk), metaphorical constructions (elektr/a kamp/o - electrical field), etc.
The two main methods used for the forming of neologisms are the use of morphological neologisms and the borrowing of basic words that may be transformed (e.g. rul/ŝtup/ar/o vs

---

Simon about the Lexicon silvestre, published in the conference proceedings of ProCom `98.

eskalator/o for escalator). Besides komput/il/o, the words komputer/o and komputor/o are still some competition for "computer".

Requirements for the term in a planned language (Dehler 1985, pp. 83 ff.), which can – from case to case – complement or exclude one another, are the same criteria that apply to ethnic languages as well: relation to the subject, relation to the system, (and as the case may be) precision, unambiguity, self-explanatoriness, conciseness, etc. Additional requirements specific to Esperanto are the internationality of an expression and loyalty to the established structure (= corresponding to the basic norm of Esperanto, the "Fundamento de Esperanto", standardized and codified in 1905).

Terms in Esperanto almost always originate from individual suggestions presented in texts and dictionaries that are discussed, examined in practice, and eventually incorporated into the lexical stock.

Among others, the computer-aided terminological indexing and discussion work "Pekoteko" (= perkomputora terminkolekto, Eichholz 1992) serves indexing purposes and international discussion.

In archives for planned languages (see Gjivoje 1980; Veuthey 1993, pp. 82 ff.), among others in the Austrian National Library (Collection of planned languages) and in the "Centre de documentation et d' étude sur la langue internationale" in La-Chaux-de-Fonds (Switzerland), as well as in special libraries (Blanke 1985, pp. 302 ff.) the hitherto practice of planned languages (also their use for special-language communication) is being documented and researched.

3   The role of planned languages in the work of Eugen Wüster

In 1913 the 15-year old Eugen Wüster became acquainted with Ludwig Zamenhof's language. He taught it to himself and progressed so quickly to such a high level that just two years later he began to translate intensively from his native German into Esperanto. He even ventured into poetry and translated parts of Dante's "Divine Comedy" in 1918. However, his main interest was increasingly aimed at the specialist use of the planned language and related problems. Part 8 of his bibliography, "Planned languages – Esperanto", contains 128 entries in total, of which 82 are in Esperanto (see Lang/Lang/Reiter 1979).

Four works in particular are suitable to show the close interconnection between planned languages on the one hand and the emergence of terminology science on the other hand:

the encyclopaedic dictionary,

his doctoral dissertation,

the international electrotechnical vocabulary

the international key to terminology

3.1 The encyclopaedic dictionary

Wüster's most significant works for the development of esperantology are in the fields of lexicology and lexicography[12].

These works are closely connected with his main lexicographic work, the "Enzyklopädisches Wörterbuch Esperanto-Deutsch" (EV, Wüster 1923-1929)[13] which was of preparatory significance for his later works. It was based on Zamenhof' idea of a 'Provisional Comprehensive Dictionary' that indexes the current lexical material of Esperanto as exactly and comprehensively as possible, serving as basis for an 'Official Comprehensive Dictionary'. Young Wüster adopted this idea and announced in 1921 – at the age of 23 – that after three years' work he had created a manuscript that might serve as basis for such a dictionary (Wüster 1921).

This dictionary was planned to be published in 7 parts. However, only 4 of them appeared (1923, 1925, 1926, and 1929). The last published part ends at page 576 with the word "korn-o" (horn). Until 1932 work was done at the fifth part, but it was never printed.

In addition to the lexical material, the EV contains a foreword in which Wüster presents his ideas on language politics and discusses his principles on esperantology.

---

[12] These include the
- Maŝinfaka Esperanto-Vortaro prielementa (Esperanto Dictionary on Machine Elements, 1923)
- La Oficiala Radikaro (a collection of Esperanto word roots officially recognized by the Language
  Academy of Esperanto, 1923)
- Die Verhältniswörter des Esperanto (1924)
- Zamenhof-radikaro (word roots used by Ludwig Zamenhof, 1927).

[13] On the EV see Plehn 1985; Blanke 1994; 1997b; 1998.

The dictionary was not conceived of solely for native speakers of German. It was meant to serve as a source of material and an example for Esperanto dictionaries of other ethnic languages. The published part contains approx. 35,000 entries. Had the dictionary been published in its entirety, it would presumably have contained 70,000-80,000 entries and would thus have come close to the so-called academic dictionaries[14].

In comparison with other dictionaries we can state that Wüster in the 1920s indexed much more lexical material of Esperanto then in use than has later been possible for authors of current dictionaries, even if we consider that since then the language has developed and changed considerably. His source of material was his exceptionally rich library which contained the complete relevant Esperanto writings of his time, which he analyzed and catalogued lexicologically with the aid of collaborators at home (Austria) and abroad[15].

The second part of the EV – 2,161 pages of manuscript (to Zz) - was published as a microfilm edition by the Austrian National Library and thus was made accessible to esperantologists. As a special feature it contains the reproduction of a part of the fifth part that Hans-Joachim Plehn (Wieselburg, Austria) prepared as typed document on the basis of the original manuscript for "korn/o – Ludovik/in-o" (Wüster 1994).

The EV shows how in a short time a planned language project developed into a planned language. Alfred Schmitt emphasizes this fact in "Indogermanische Forschungen":

"Any evaluation on the significance of such a project depends, of course, on how the individual evaluates Esperanto or the issue of a planned language in general ... I shall ... restrict myself to saying ... that the said work is significant to the scholar of linguistics even if he rejects planned languages or doubts their purpose. Because here we find all the lexical material of Esperanto that has been elaborated to date; it has been collected with amazing diligence, and organized and presented very elegantly. With these properties, Wüster's book offers – if we may say so

---

[14] See also the contributions by Otto Back, Sabine Fiedler and Wim de Smet in the conference proceedings of Pro Com `98.

[15] This comprehensive card index containing more than 100,000 cards is kept today in the Department for Planned Languages in the Austrian National Library (International Esperanto Museum).

– a detailed record of an experiment conducted for 50 years with much effort and astuteness. Such a protocol retains its value even if the experiment in question fails or does not find practical use. Therefore, we can only strongly encourage the publication of the missing parts in order to avoid the danger of the book remaining a torso for all times" (Schmitt 1936).

3.2 The dissertation

The lexicological and lexicographical works by Wüster in the EV which raised problems and opened new perspectives in research can be regarded as the groundwork for his doctoral dissertation (Wüster 1931) which in turn is considered a standard work of terminology science. This is explained by a glance into the introductory chapter of the EV, called "Esperantological Principles"[16]. Here we find the first treatment of concepts that are of central significance for terminological standardization.

The chapters A "Correctness and Quality of a Term", B "Centripetal and Centrifugal Development of Language", and C "The Linguo-Economic Principle of Lexical Material" discuss, for example, the concepts of "correct and erroneous naming", "linguistic quality" (degree of quality, quality factor), "quality of the system" ("functional quality of system"), requirements of a "good term" (conciseness, exactness, comfort), questions of "linguistic economy" and "economy of lexical material", as well as "Problems of Transcription" in chapter D. Sector E "On the Names of Animals and Plants " contains rules for the assimilation of zoological and botanical expressions in Esperanto. Chapters A-C are written bilingual. Wüster also describes the stages from the coining of a term by individuals until its registration (from initiative, registration of proposals, decision, to registration of the decision). It is true that the principles relate to Esperanto and are illustrated with examples from the planned language, however Wüster also considers them fundamentally applicable to ethnic languages. Much of this is to be found in adapted and further developed form in Wüster's dissertation, and later in recommendations and standards of the committee ISA 37 "Terminology" (after World War II ISO/TC 37 "Terminology [Principles and Co-ordination "]).

---

[16] Written in 1923, bilingual (German and Esperanto). In: Wüster 1923-1929: [26]-[66]. The Esperanto version was reprinted in Wüster 1978: 71-115.

A third of his dissertation[17] is devoted to the chapter "Fully grammatical international systems of terminology (international language)". His analysis is not restricted to Esperanto but also includes other systems such as Volapük, Ido, Occidental, Latino sine flexione and Novial.

It was the best and most comprehensive scientific work on the issue of planned languages at this time[18].

The book was translated into Russian on recommendation of the leading Soviet interlinguist and esperantologist Ernest K. Drezen. Drezen was not only pioneering interlinguistics[19] but with his works also contributed significantly to language standardization and terminology science in the USSR.

In 1992, an international scientific conference on terminology was devoted to him and his cooperation with Wüster in the 1930s (see Draskau/Picht 1994).

In his dissertation, Wüster describes the technical language ("Zwecksprache" [language for special purposes) seen from the perspective of the engineer and technician:

"He examines the present state of the tool of linguistic communication and contemplates the desired stage. He thus gives a scientific basis to technical language standardization" (Felber/Lang 1979, 21).

The interlinguist, looking through the book, finds his opinion confirmed: Wüster's analysis of the present stage of a specialist language and his thoughts about the desired stage clearly bear the mark of his experiences with planned languages. The rationality of planned languages – as a basis for comparison – is an important part of his research.

In a letter to me on 18th October 1971 Wüster confirmed this impression and replied to my question regarding possible examples for a comparative linguistic study on word formation I was planning:

"I do not recall if there are already similar works ... If you want it to gain the attention of people who are not interested in Esperanto itself, you should present and use Esperanto as a

---

[17] There is an abridged version both in German (Wüster 1934) and in Esperanto (Wüster 1936a).

[18] This book was my first encounter with the scientific aspects of the issue of planned languages.

[19] His main work on interlinguistics "Historio de la Mondolingvo" was published in its fourth edition in 1991. It was edited and annotated by Sergej N. Kuznecov (Drezen 1931/91).

grammatical model language in a similar way to what I did in my book 'Internationale Sprachnormung' ".

3.3 The international electrotechnical vocabulary

After World War I there was a constant growth in interest in the idea of an international planned language. The terminological usage of the language had already developed a solid footing before the war and continued to develop positively afterwards. Scientific texts and special dictionaries appeared in various areas. Prominent members of intellectual life, including leading figures from the field of science and technology, expressed their sympathy for the idea of an auxiliary language. They trusted that Esperanto would play an appropriate role and called for it to be promoted. This was particularly true of the field of electrical engineering which boasted adepts and active speakers of Esperanto in several European countries (especially in France), but also in the USA, Japan, and China, who called for it to be promoted in their specialist field. One of these in Germany was Georg Klingenberg, managing director of AEG (Allgemeine Elektrizitäts-Gesellschaft) and active adept of Esperanto, to whom Wüster dedicated his dissertation. Also the two international professional organizations, the *Société Internationale des Électriciens* (founded in 1886) and the *International Electrotechnical Commission* (IEC, founded in 1906) had a positive attitude toward Esperanto. Both organizations maintained active relations with the *Internacia Scienca Asocio Esperantista* (ISAE, also founded in 1906). From the beginning the IEC considered special-language standardization one of its most important tasks. The aims of the ISAE seemed to the IEC to be similar to their own. Especially in radio broadcasting Esperanto played a certain role in the 1920s. Between 1922-1927 there were at times 150 radio stations broadcasting programmes in Esperanto. From 1924-1926 9 specialized dictionaries on radio broadcasting were published in Esperanto. Wüster precisely gives numerous facts and figures of this kind in his dissertation (Wüster 1931, 371-381)[20].

He thus saw a chance to introduce Esperanto in the area of electrical engineering, an important area of technology. At the World Electricity Congress in Paris in 1932, he gave a report on the issue of terminology, which triggered a vivid discussion that proved to be positive for

---

[20] There are the following subchapters: General electrical engineering and power engineering, lighting engineering, general electrical telecommunications, telegraphy, telephony, radio.

Esperanto. Furthermore, after the congress prominent electrical engineers from various countries gave their support, especially from Austria, France, Germany, Spain, Holland, and the Soviet Union. The president of IEC was eventually willing to include Esperanto terms into the *Vocabulaire electrotechnique international*, which was in preparation.

In the end, the first edition of the IEC dictionary (1938) contained definitions and terms in French and English, and their equivalents in German, Italian, Spanish and Esperanto, which were listed in six corresponding indexes at the end of the book. Wüster elaborated the Esperanto equivalents, which was not stated in the dictionary but is obvious from his correspondence. In 1950 an unabridged reprint appeared[21]. In the second, considerably extended edition published from 1954-1970 in single issues, Esperanto is not included.

3.4   The international key to terminology
3.4.1 From the idea to the project

In his dissertation Wüster considered neither English nor Latin suitable as a fully grammatical system for international specialist communication. He was rather of the opinion that

"the only neutral solution is .... to select standardized terms for international exchange from the national languages and to combine them in a fully grammatical system of its own. The new standardized word constructions are to be formed from word elements that should – if possible – be known to all technicians of all nations; the method of word combination has to be standardized. These word combinations will then possess – in contrast to the old, etymologically combined foreign words – their own inherent mnemonic device... After standardization of comparatively few word elements, technology is capable of standardizing terms and their meanings purely as needs require and of expressing terms in the simplest possible phonetic form. Then international technical standardization is more a standardization of script forms than of sound forms. We need to distinguish between two steps in the construction of such a planned language[22]: firstly, all concepts need to be named that have

---

[21] Commission Electrotechnique Internationale. International Electrotechnical Commission: Vocabulaire electrotechnique international. Prémiere Edition (1938). (Reproduite en 1950). International Electrotechnical Vocabulary. First Edition (1938) (Reprinted in 1950). Genève.

[22] As far as I know, Wüster used the expression "Plansprache" (planned language) in the

names in national languages; in a second step the newly emerged concepts need to be named in the auxiliary language and in the national language. The task of the first step can be solved in the following way: for basic concepts, word elements (sound elements) with the largest possible degree of internationality are standardized. The concepts expressed by connection or application of these word elements should also be internationally recognizable. The word elements and a large part of the terms are thus chosen according to the degree of their international mnemonic effect" (Wüster 1931, pp. 294 ff.).

If international terms are lacking, they should be made by process of word formation. Here the idea of an "international key to terminology", although not yet termed as such, was suggested for the first time. Furthermore, Wüster pleaded for a complete international auxiliary language for technical communication and found Esperanto to be most suitable for this task. Also this idea was taken up in the Soviet Union[23].

Impressed by the translation into Russian[24] of Wüster's dissertation (Wüster 1935), the Soviet Commitee for Standardization applied to the *International Federation of National Standardizing Associations* (ISA) in 1934 for the appointment of a commission on terminology to look into the development of an "international terminological code"[25]. The Soviet side also gave a first report on possible concrete steps which was elaborated by Ernest Drezen[26]. As a result, the ISA instructed the Soviet Committee for Standardization to present a concrete project, which was tabled in 1935. The draft was mainly based on Esperanto word roots and was discussed vigorously within the ISA, in particular with the background of the critique by proponents of Occidental who pleaded that, if possible, natural Romance word forms should be given preference for inclusion in the code. In this respect they criticized Esperanto roots and

---

German text for the first time.

[23] See the report on the history of the first draft in Wüster 1936b.

[24] Ernest K. Drezen, leading Soviet esperantist, terminologist, and interlinguist, supervised its completion (see Kuznecov 1991 on E. K. Drezen).

[25] Different names were used in the relevant discussion: " Internationaler technisch-wissenschaftlicher Schrift- und Lautcode" (international technical-scientific script and sound code), "ISA-Code", "Terminologie-Code" (terminology code), "Wortstammschlüssel" (key of word roots), "Terminologieschlüssel" (key of terminology), "Weltwörterschlüssel" (key of world words) (see Schremser-Seipelt 1990, pp. 22 ff.).

[26] This report is translated into Esperanto (Drezen 1935/83).

word formation. In 1938, the code draft in its present form was rejected after repeated discussion. Wüster continued intensive work on this project but modified his attitude towards Esperanto in the course of time and increasingly included naturalist planned languages in his considerations. He was increasingly inclined to the "more natural" Romance forms. The reasons he stated for this were that, with its Romance roots, the Romance derivative system was much more regular than he had previously supposed, and that it would result in the development of a "sub-language of foreign words" (Wüster 1970, pp. 421 ff.), which could be taught and studied. Another factor - which, however, he never mentioned - was presumably that the situation in Germany and the German sphere of influence became increasingly unfavourable for Esperanto after the take over by Hitler in the 1930s. Eventually, in 1936, all activities for the language were completely prohibited (see Lins 1988). At this time, German engineers held leading positions at the ISA. An additional fact is that Drezen, the motor of the code project, fell victim to Stalin's "purges" in 1937. Thus there was no support left from the Soviet side. Wüster's intensive study of the planned language Occidental, his collaboration in the *International Auxiliary Language Association* (IALA), and his knowledge of its later product, Interlingua (since 1951), made this more "naturalist" type of planned language seem to him more suitable for a code than Esperanto (see Wüster 1970, pp. 421 ff.)[27].

For the key of terminology, he elaborated in several stages various word root lists (Radicarium) and affix lists (Affixarium) of different length in the 1930s and after World War II[28].

---

[27] Planned languages of the naturalist type are aimed at people with a prior knowledge of Romance languages. They are based on the efforts of their founders to create a planned language using the Romance word stock found in the European languages without changing it much. This language was to look as `natural` as one of its Romance source languages. This property can be bought at the price of lesser autonomy in word formation because it has to follow its Romance examples to a great extent (or exclusively, e.g. in Interlingua). Esperanto (and also Ido) are planned languages of the `schematic` or `autonomous` type. They use predominantly Romance word material but are not necessarily restricted to this source. Additionally, they have a system of word formation that is predominantly regular (`schematic`) and independent of its source languages (`autonomous`) (see Blanke 1985, pp. 157 ff. on these two main groups of planned languages). Word constructions are therefore not easily decoded. In his various drafts Eugen Wüster offers numerous examples for word roots, affixes and derivatives, which illustrate this issue: e.g. Esperanto: *eduk/i – eduk/o – eduk/a – eduk/ist/o*; Occidental and Interlingua: *educa/r – educa/t/ion – educa/t/ion/al (educa/t/iv[e]) – educa/t/or.*

[28] See the manuscript "Dezimal-Radikarium (Stamm-Wörterbuch, nach Dezimalklassifikation geordnet) der europäisch-naturalistischen Mittelformen und des Esperanto, ergänzt durch die Sprachen Französisch, Italienisch, Spanisch, Englisch, Deutsch und Russisch. Ableitungen:

Both in ISA 37 and in its successor, Technical Committee 37 (TC 37)of the *International Organization for Standardization (ISO)* the project met with interest and was discussed and revised. Its essential ideas found their way into the international recommendation ISO-R 860-1968 "International unification of concepts and terms". In his supplementary report to the first edition of his dissertation of 1966 entitled "35 years later", Wüster clearly outlined the planned structure of the terminological code:

"(1) The code consists of two parts. One part comprises the word roots, and the other one the derivative elements (affixes).

(2) Each of the two parts is ordered firstly in concepts, and secondly in alphabetical order.

(3) When forming the part that is ordered in concept groups, the commonness of word elements needs to be considered and made transparent. With that, synonyms may be assessed. That means that a selective application of the code is possible. Only this way the terminological code may be teachable, and teachable step by step.

(4) The word elements are spelled the same way as Latin is today. This spelling has remained most complete in French and English.

(5) Suffixes and word endings are spelled in a normal form that does not show any national peculiarities. The so-called Romance "prototype form"[29] has proved suitable for this purpose.

(6) The internationalized terminologies consist of word roots of the terminological code and their combinations (mostly derivatives, less often word compounds).

621.8 Maschinenelemente und 621.9 mechanische Bearbeitung (Werkzeuge, Werkzeugmaschinen). Dem Technischen Komitee ISA 37 eingereicht von ÖNA im Mai 1938 als eine der Entscheidungsunterlagen für den Code, zugleich als Entwurf eines etymologischen Stamm-Wörterbuches für diesen." The manuscript includes a collection of affixes and various appendixes. In this material Wüster specifically refers to the authors of planned languages Julius Lott (author of the project "Mundolingue" 1899), Woldemar Rosenberger (Idiom Neutral 1912), and `especially von Wahl' (i.e. Edgar von Wahl, Occidental 1922). See also word lists in the appendix of Schremser-Seipelt 1990.

[29] Here he means more or less the form that can be seen in Interlingua.

(7) The individual prototype elements shall get an internationally standardized pronunciation to facilitate the learning of the terminological code and exercise with it.

(8) International words that are not Romance are allowed into the code as "foreign words". Their pronunciation is the same as in their original language.

(9) Only a minor addition to the terminological code is needed in order to create a complete "terminological language" (Wüster 1970, pp. 424 ff.).

This addition consists of rules which would largely coincide with those of Interlingua.

Wüster devoted himself to the development of the terminological code until the end of his life. As late as September 1976 he presented a report on the code at a discussion of the ISO/TC 37 secretariat in Moscow (see Nedobity 1982).

A few months later Wüster passed away. In further documents of ISO/TC 37 the essential ideas of the terminological code were increasingly abandoned, and currently this project is not a subject of discussion. Schremser-Seipelt (1990, pp. 82 ff.) in her doctoral dissertation gives various reasons for the growing opposition against the project of a terminological code. She names, among others,

- nationalist and purist tendencies regarding language in several countries,
- developing countries striving for more equality and independence in
- international scientific-technological exchange,
- critique of the eurocentrist fundament of the code,
- problems with the choice of a suitable system of concepts,
- linguistically-motivated doubts.

The material on the terminological code that was elaborated by Wüster in several stages and differing degrees of detail can be found in the "Wüster archive" of Infoterm and has yet to be further evaluated and used[30].

---

[30] Also as microfiche edition available by Infoterm.

3.4.2 The key and Esperanto

With regard to English and Esperanto in their role as auxiliary languages in relation to the terminological code, Wüster repeatedly emphasized their different tasks:

"There cannot be the question 'Terminological or auxiliary language?', because the terminological code is an end in itself. It serves as a basis for understanding and is necessary for the extension of the Romance sub-language within all complete languages, most particularly with regard to Esperanto and English" (Wüster 1970, 430).

Concerning Esperanto, he explains in another place:

"Esperanto as an oral and written means of communication between people who have studied it is much more effective than naturalist systems of planned languages and the language of terminology. An exception to this might be special-language purposes in subject fields that have Romance nomenclature. Given these limitations, Esperanto is even incomparably more effective than English, if this is not the partner's native language ... Esperanto is full of life ... The terminological language in contrast cannot be anything else than austere ... Unfortunately, in comparison with the terminological language Esperanto has a decisive disadvantage: because of its autonomous system of derivatives it is understood only by the people who have studied it, and this is only a very small fraction of humanity" (Wüster 1970, 432). Wüster is pessimistic as to the chances for a further spreading of Esperanto. An important reason for the relatively modest acceptance Esperanto is to be found, in his view, in "some properties of the external form of the language, which do not affect the practical usability of the language in any way but in most cases repel speakers of European languages" (Wüster 1970, 433)[31].

---

[31] Also after World War II Wüster never broke his relations with Esperanto. For example, he published contributions in "Scienca Revuo", had an extensive correspondence with esperantologists from all over the world, was honorary member of the Universala Esperanto Asocio (UEA), and chaired the 23rd Session of the Esperanto "Internacia Somera Universitato" within the 55th World Esperanto Congress 1970 in Vienna. (His opening address in Esperanto was titled "Internacia terminologio en la servo de la informatiko" (see Wüster 1971). Additionally, he maintained contacts with adepts of Interlingua. He bequeathed his comprehensive special library on planned languages to the International Esperanto Museum/Collection of planned languages (IEMW) in Vienna, a department of the Austrian National Library. See the contribution by Herbert Mayer in the conference proceedings of ProCom '98.

In his critique of the external form of Esperanto – which is more often heard in Europe than in Asia, for example, – Wüster bases his arguments on eurocentrist positions. In reality, however, hardly any subject field and terminological activities were to be observed in the area of naturalist systems. These activities have basically been limited to Esperanto.

4   Terminology work in the planned language today[1]

It was already in 1911 that Esperanto speaking scientists elaborated terminological principles for the first time (Verax 1911/12; Rollet de l'Isle 1911). From the 1950s, the joint terminology centre of ISAE and the "Akademio de Esperanto" – the Esperanto Language Academy – tried to structure and develop their terminology work on the basis of the results of terminology science. In this period, continual contact was maintained with Wüster. Since 1982 a terminology Esperanto-centre[32] (see W. Blanke 1988) has made an effort to continue this tradition. Later it established contacts to Infoterm and TermNet (Vienna). These contacts stimulated the organization of conferences[33], training seminars, and the elaboration of teaching materials. Several recommendations of the ISO were first translated into Esperanto in the 1970s for internal use and are revised and adapted to current developments (see also Eichholz 1986). An important basis for future terminology work is the translation into Esperanto of the "Guide to Terminology" by Heidi Suonuuti (see Suonuuti 1997; 1998). And last but not least it is thanks to the efforts of TEC/UEA that Eugen Wüster's terminological and interlinguistic-esperantological work has recently found more attention in the Esperanto language community and that there is also significant new impetus being given to terminological activities.

5   Literatur

ALBANI, Paolo / BUONARROTI, Berlinghiero (1994): Aga magéra difúra. Dizionario delle lingue immaginarie. Torino: Zanichelli, 478 p.

---

[32] Since 1987 Terminologia Esperanto-Centro de Universala Esperanto-Asocio. Rotterdam (Nieuwe Binnenweg 176, NL-3015 BJ Rotterdam).

[33] For example, Gerhard Budin spoke about problems of international co-operation in the area of terminological planning at the TEC Conference within the 77th World Esperanto Congress 1992 in Vienna (see Galinski/Budin/Krommer-Benz/Manu 1997).

BAUSANI, Alessandro (1970): Geheim- und Universalsprachen. Stuttgart: Kohlhammer, 175 p.

BECKER, Ulrich (1996): Interlinguistik im Internet. In: Interlinguistische Informationen, 5, Nr. 21 (3): 2-13

BECKER, Ulrich (1997, Red.): Terminologiewissenschaftliche Aspekte der Interlinguistik. Beiträge gehalten auf der 6. Jahrestagung der Gesellschaft für Interlinguistik, 15.-17.November 1996 in Berlin. Interlinguistische Informationen. Beiheft 2. Berlin: GIL, 54 p.

BIBLIOGRAPHIA de Interlingua. Catalogo de publicationes in e pro Interlingua, Nr.17 (1990)- Nr. 25(1998). Beekbergen/NL: Servicio de libros de Union Mundial pro Interlingua

BLANKE, Detlev (1977): Interlinguistik und interlinguistische Forschungen. In: Zeitschrift für Phonetik, Sprachwissenschaft und Kommunikationsforschung, 30(1977)6: 389-398

BLANKE, Detlev (1982): Plansprache und Nationalsprache. Einige Probleme der Wortbildung des Esperanto und des Deutschen in konfrontativer Darstellung. Linguistische Studien, A, Nr. 85. Berlin: Akademie der Wiss. Der DDR, Zentralinstitut für Sprachwiss., 161 p.

BLANKE, Detlev (1985): Internationale Plansprachen. Eine Einführung. Berlin: Akademie-Verlag, 408 p.

BLANKE,Detlev (1986): Esperanto und Wissenschaft (Zur Plansprachenproblematik) Berlin: Kulturbund der DDR, 90 p.

BLANKE, Detlev (1994): Eugen Wüster, la planlingvoj kaj la Enciklopedia Vortaro. Enkonduko al la filmigita manuskripto de la Enciklopedia Vortaro Esperanta-Germana de Eugen Wüster, dua parto korno-Z. (= Introduction to Wüster 1994)

BLANKE, Detlev (1996): Wege zur interlinguistischen und esperantologischen Fachliteratur. In: Language Problems & Language Planning 20 (1996)2:168-181

BLANKE, Detlev (1997a): Zur Plansprache Esperanto und zur Esperantologie im Werk von Eugen Wüster. In: EICHNER / ERNST /KATSIKAS 1997:315-334

BLANKE, Detlev (1997b): The Term "Planned Language". In: TONKIN, Humphrey (Ed.): Esperanto, Interlinguistics, and Planned Languages (Papers on the Center for Research and Documentation on Worls Langauge Problems 5). Lanham-New York- Oxford: University Press of America/Rotterdam: Center for Research and Documentation on Worls Language Problems, p.1-20

BLANKE,Detlev (1998a): La Enciklopedia Vortaro de Eugen Wüster. In: Literatura Foiro 29, Nr. 171:21-31

BLANKE,Detlev (1998b): Pri la aktuala stato de interlingvistiko. Kelkaj teoriaj kaj sciencorganizaj problemoj. In: CARLEVARO, Tazio (Ed.): Domaine de la recerce en linguistique appliquée. Deuxième Colloque d'Interlinguistique: CDELI, La Chaux-de-Fonds. Contributions. Bellinzona: Hans Dubois, p. 6-88

BLANKE,Detlev / BLANKE,Wera (1998): Plansprachen als Fachsprachen. In: HOFFMANN, Lothar/ KALVERKÄMPER, Hartwig/ WIEGAND, Herbert Ernst (Eds.):Fachsprachen. Languages for Special Purposes. 1. Halbband. Berlin-New York: de Gruyter, p. 875-880

BLANKE, Wera (1988): Terminologia Esperanto-Centro. Efforts for Terminological Standardization in the Planned Language. In: MAXWELL, Dan / SCHUBERT, Klaus / WITKAM, Toon (eds. 1988): New Directions in Machine Translation. Conference Proceedings, Budapest 18-19 August 1988. Dodrecht-Providence:Foris, p. 183-194.

BLANKE, Wera (1989): Terminological standardization - its roots and fruits in planned languages. In: SCHUBERT 1989a: 277-292

BLANKE, Wera (1997): Über den Beitrag von Interlinguisten zur Organization internationaler Terminologiearbeit. In: BECKER 1997:4-12

DARBELLAY, Christian (1981): Kiu estas kiu en scienco kaj tekniko. Neuss: Author, 275 p.

DEHLER, Wera (1985): Terminologiaj principoj de Esperanto. In: der esperantist 21, Nr. 132(4):83-89

DRASKAU, Jennifer Kewley/PICHT, Heribert (eds. 1994):International Conference on Terminology Science and Terminology Planning. In Commemoration of E. Drezen (1892-1992). Riga 17-19 August 1992 and International IITF Workshop Theoretical Issues of Terminology Science, Riga 19-21 August 1992. Wien: TermNet, 282 p.

DREZEN, Ernest K. (1935/83): Pri problemo de internaciigo de science-teknika terminaro. Kun postparolo de Alfred Warner(1983). Nachdruck der Ausgabe Moskvo-Amsterdam:EKRELO, 1935), Saarbrücken: Iltis, 93 p.

DREZEN, Ernest K. (1931/91): Historio de la Mondolingvo. 4-a Esperanto-eldono redaktita kaj komentita de Sergej N. KUZNECOV, Moskva: Progreso, 452 p.

DULIČENKO, Aleksandr D. (1990): Meždunarodnye vspomogatel'nye jazyki.Tallin: Valgus, 445 p.

EICHHOLZ, Rüdiger (1986): Terminologia Vortaro. Provtraduko de la Rekomendo R 1087 de ISO. Bailieboro: Esperanto Press, 50 p.

EICHHOLZ, Rüdiger (1992): Per-komputora termino-kolekto (Pekoteko). Plena Kolekto 85-90. Vol.I (S 1-640), Vol. II (S. 643-1280), Vol. III (1282-1816),Bailieboro: esperanto press

EICHNER, Heiner / ERNST ,Peter / KATSIKAS, Sergios(1997):Sprachnormung und Sprach-planung.Festschrift für Otto Back zum 70. Geburtstag. Wien: Edition Praesens(2. Ed.), 511 p.

FELBER, Helmut / LANG, Friedrich / WERSIG, Gernot (1979, Red.): Terminologie als angewandte Sprachwissenschaft. Gedenkschrift für Univ.-Prof. Dr. Eugen Wüster. München: Saur, 272 p.

FELBER, Helmut / LANG, Friedrich Hans (1979): Würdigung der Person und des Wissenschaftlers. In: FELBER/LANG/WERSIG 1979, p. 15-28

FRANK, Helmar (1993): Die Internationale Akademie der Wissenschaften (AIS) San Marino. In: BARANDOVSKÁ-FRANK, Věra (Hrsg.): Kybernetische Pädagogik. Klerigkibernetiko. Schriften 1973-1992 von Helmar Frank und Mitarbeitern. Band 6. Bratislava:Esprima/San Marino: AIEP, p. 911-916

FRANK, Tilo (1996): Internacia Sciencista Dokumentaro 1996-1999. Registro de la internacilingvaj sciencistoj konataj al Akademio Internacia de la Sciencoj San Marino. Tria eldono. Paderborn: Institut für Kybernetik, 202 p.

GALINSKI, Christian/BUDIN, Gerhard/KROMMER-BENZ, Magdalena/ MANU, Adrian (1994): Internacia kunlaboro en la terminologio-planado. In: Scienca Revuo 45, Nr. 1(164), p. 18-27

GJIVOJE, Marinko (1980): Konsultlibro pri Esperantaj bibliotekoj kaj muzeoj. Zagreb: Autor, 55 p.

HALLIG, Rudolf / v.WARTBURG, Walter (1952): Begriffssystem als Grundlage für die Lexikographie. In: Abhandlungen der Deutschen Akademie der Wissenschaften. Berlin, Klasse Sprache und Literatur, Kunst. Vol. 1952, Nr. 4,

HAUPENTHAL, Reinhard (1976,Hrsg.): Plansprachen. Beiträge zurInterlinguistik. Darmstadt: Wiss. Buchgesellschaft, 365 p.

HAUPENTHAL, Reinhard (1991): Lexikographie der Plansprachen.In: Wörterbücher. Dictionaries. Dictionaires. Ein internationales Handbuch zur Lexikologie. An International Encyclopedia of Lexicography. Encyclopédie internationale de lexicographie. Hrsg. v. Franz Josef HAUSMANN, Oskar REICHMANN, Herbert WIEGAND, Ladislav ZGUSTA. III. Band, Berlin-New York: de Gruyter, p. 3120-3137.

HÜLLEN, Werner (1984): Bischof John Wilkins und die Fachsprachen unserer Zeit. In: Special Language/Fachsprache 6, Nr. 3-4:115-122

KÖKÉNY,Lajos/ BLEIER, Vilmos (1933/79, Red.): Enciklopedio de Esperanto, Budapest: Hungara Esperanto-Asocio, 600 p.

KUZNECOV, Sergej N. (1991): Drezen, lia verko, lia epoko. In: DREZEN 1931/91: 3-40

LANG, Anneliese / LANG, Friedrich H. / REITER, Rosa (1979): Bibliographie der Arbeiten Wüsters auf den Gebieten der Terminologie, Dokumentation, Klassifikation, Normung und Sprachwissenschaft. In: FELBER / LANG / WERSIG 1979: 29-57

LAPENNA, Ivo / LINS, Ulrich / CARLEVARO, Tazio (1974): Esperanto en perspektivo. Faktoj kaj analizoj pri la Internacia Lingvo. Rotterdam: Universala Esperanto-Asocio, 843 p.

LINS, Ulrich (1988): Die gefährliche Sprache. Die Verfolgung der Esperantisten unter Hitler und Stalin. Gerlingen: Bleicher, 326 p.

MANNEWITZ, Cornelia(1997): Zur Rolle von Kunstsprachen in Gesellschaftsutopien. In: BECKER 1997:35-43

NEDOBITY, Wolfgang (1982): Key to international terminology. In: NEDOBITY, Wolfgang (Ed.): Terminologies for the Eighties. With a special section: 10 years of Infoterm. Infoterm Series 7, München:Saur, p. 306-313

NEERGAARD, Paul / KISELMAN, Christer (1992): Aktoj de Internacia Scienca Akademio Comenius. Vol. I. pekino: †ina Esperanto-Eldonejo, 118 p.

OCKEY, Edward (1982): A Bibliography of Esperanto Dictionaries. Bibliografio de Vortaroj. Banstead: la aŭtoro, 238 p.
PHILIPPE, Benoît (1991): Sprachwandel bei einer Plansprache am Beispiel des Esperanto. Konstanz: Hartung-Gorre, 326 p.

PLEHN, Hans-Joachim (1985): Biografio de duona vortaro aŭ- Kial Esperantujo perdis sian gvidantan Esperantologon. Saarbrücken: Iltis, 11 p.

ROGET, P.M./ BROWNING, D.C. (1966): Everyman's Thesaurus of English Words and Phrases. London-New York

ROLLET de l'ISLE, Maurice (1911): Konsilaro por la farado de sciencaj kaj teknikaj vortoj. Kötzschenbroda-Dresden: H.F.Adolf Thalwitzer, 78 p.

SADLER, Victor (1991): Machine Translation Project Reaches Watershed. In: Language Problems & Language Planning 15, 1:78-83

SAUSSURE de, Ferdinand(1967): Grundfragen der allgemeinen Sprachwissenschaft. Hrsg. von Charles Bally und Albert Sechehaye.(Übers. v. Hermann Lommel), 2.Aufl., Berlin: de Gruyter, 294 p.

SCHMITT, Alfred (1936): Rez. zu: Eugen Wüster, Enzyklopädisches Wörterbuch Esperanto-Deutsch. In: Indogermanische Forschungen, LIV (1936), p. 294-295

SCHREMSER-SEIPELT, Ulrike (1990): Das Projekt "internationaler Terminologieschlüssel" von Eugen Wüster, doctoral diss., Wien: Universität, Geisteswiss. Fakultät,289 p. + appendix

SCHUBERT, Klaus (1988): Ausdruckskraft und Regelmäßigkeit: Was Esperanto für automatische Übersetzungen geeignet macht. In: Language Problems & Language Planning 12, 2:130-147

SCHUBERT, Klaus (1989a, Ed.): Interlinguistics. Aspects of the Science of Planned Languages (Trends in Linguistics. Studies and Monographs 42). Berlin-New York: Mouton de Gruyter,
348 p.

SCHUBERT, Klaus (1989b):Interlinguistics - its aims, its achievements, and its place in language science. In: Schubert 1989a :7-44

SCHUBERT, Klaus (1993): Semantic composity: Esperanto word formation for language technology. In: Linguistics 31: 311-365

SEXTON, Brian C. (1993): Kio estas Interlingua? Sheffield: British Interlingua Society, 93 p.

SLAUGHTER, Mary M. (1982): Universal languages and scientific taxonomy in the seventeenth century. Cambridge et al.:Cambridge University Press, 277 p.

SUONUUTI, Heide(1997): Guide to Terminology. Nordterm 8. Helsinki:Tekniikan sanastokeskus ry / Nordterm, 36 p.

SUONUUTI, Heide(1998): Terminologia gvidilo. (El la angla tradukis Sabine Fiedler. Redaktis Wera Blanke). Rotterdam: TEC. Terminologia Centro de Universala Esperanto-Asocio, 38 p.

TAULI, Valter (1968): Introduction to a theory of language planning. Uppsala: Almquist & Wiksells, 227 p.

UEA 1994 = Libroservo de Universala Esperanto-Asocio. Esperanto-Katalogo. Libroj kaj aliaj eldonaĵoj. Rotterdam: UEA, 160 p.

VEUTHEY, Francisko (1997, Red.): Universala Esperanto-Asocio. Jarlibro 1997. Rotterdam: UEA, 296 p.

VERAX, Charles (1911/1912): propono pri Terminologiaj Fundamentaj Principoj por la scienca lingvo en Esperanto. In: Oficiala gazeto esperantista, IV, junio 1911 - majo 1912, p. 378-382

WARINGHIEN, Gaston (1970, Red.): Plena Ilustrita Vortaro de Esperanto. Paris: SAT, 1300 p.

WERNER, Jan (1986): Terminologia Kurso. Roudnice n.L.:Ĉeĥa Esperanto-Asocio/Sdružený Klub ROH, 88 p.

WÜSTER, Eugen (1921): Esperanto-Deutsch, ein Versuch zum synthetischen Esperanto-Wörterbuch. In: Esperanto-Praktiko 3(1921) 6: 99-100

WÜSTER, Eugen (1923-29): Enzyklopädisches Wörterbuch Esperanto-Deutsch. Mit besonderer Aufweisung des Zamenhof'schen Sprachgebrauchs. Versuch auf dem Wege zum internationalen synthetischen Esperanto-Wörterbuch. Enciklopedia Vortaro Esperanta-Germana. Kun speciala elmontro de la Zamenhofa lingvuzo. Provo sur la vojo al la internacia sinteza vortaro de Esperanto. Leipzig: Hirt & Sohn, 567 p. (A-korno) (4 Teile 1923, 1925, 1926 und 1929).

WÜSTER, Eugen (1931): Internationale Sprachnormung in der Technik. Besonders in der Elektrotechnik (Die nationale Sprachnormung und ihre Verallgemeinerung). Berlin: VDI 1931, 431 p. [3. ergänzter Nachdruck: 1970, Bonn: Bouvier]

WÜSTER, Eugen (1934): Grundzüge der Sprachnormung, Berlin: VDI, 92 p.

WÜSTER,Eugen (1935): Meždunarodnaja standardizacija jazyka v technike. Moskva: Standartgiz, 302 p.

WÜSTER, Eugen (1936a): Konturoj de la lingvonormigo en la tekniko. (Trad. el la germana E. Pfeffer), Budapest: Literatura Mondo, 123 p. (Reprinted 1975: Aabyhøj, Dansk Esperanto-Forlag)

WÜSTER, Eugen (1936b): Über das Projekt eines ISA-Codes. Bericht für die Besprechung im ÖNA am 12. Dezember 1935. In: Sparwirtschaft 14, Nr. 1:10-16

WÜSTER 1970 = 3. reprint of WÜSTER 1931, with supplementary report "Fünfunddreißig Jahre später" (35 years later).

WÜSTER, Eugen (1955/76): Die Benennungen "Esperantologie" und "Interlinguistik". In: Haupenthal 1976:271-277

WÜSTER, Eugen (1971): Internacia terminologio en la servo de la informatiko.(Inaŭgura parolado por la Internacia Somera Universitato, Vieno 1970). In: Scienca Revuo 22(1971)1(87), p.3-10.

WÜSTER Eugen (1978): Esperantologiaj studoj. Memorkolekto, editorita de Reinhard Haupenthal. Antverpeno. La Laguna: Stafeto TK, 254 p.

WÜSTER, Eugen (1994): Enciklopedia Vortaro Esperanto-Germana. Korno-Z (Enzyklopädisches Wörterbuch Esperanto-Deutsch. Korno-Z. Manuskript. Mit einer Einführung von Detlev Blanke (with an introduction by Detlev Blanke). Darin enthalten (included): PLEHN, Hans-J.: Enciklopedia Vortaro Esperanto-Germana. Korno-L. Bearbeitung des Manuskripts von Eugen Wüster. Mikrofilm. Wien: Österreichische Nationalbibliothek/IEMW (32 Mikrofiches).

Autoren

Otto Back (Laudongasse 20/1, A-1080 Wien), Dr. phil., Honorarprofessor für Graphematik und Orthographieforschung an der Universität Wien.

Detlev Blanke (Otto-Nagel-Str. 110, 12683 Berlin, dblanke.gil@snafu.de), Dr.sc.phil., Lehrbeauftragter f. Interlinguistik a.d. Humboldt-Univ. Berlin, Vors. der Gesellschaft f. Interlinguistik.

Wera Blanke (Otto-Nagel-Str. 110, 12683 Berlin, wera.blanke@snafu.de), Initiator des Terminologischen Zentrums von Universala Esperanto-Asocio (UEA).

Sabine Fiedler (Am Zollamt 5, DE-04838 Gordemitz, sfiedler@rz.uni-leipzig.de), Dr. phil. habil., Linguistin, unterrichtet Übersetzen, englische Grammatik und Interlinguistik am Institut für Anglistik der Universität Leipzig, Stellvertr. Vorsitzende der Gesellschaft für Interlinguistik e.V.

Heinz Hoffmann (Finstere Gasse 2, DE-01445 Radebeul, IFEF.B90GR-mei@t-online.de),
Dr. Ing., Sekretär der Fachwörter-Sektion der Internationalen Eisenbahner-Esperanto-Föderation.

Herbert Mayer (IEM, Hofburg, Michaelerkuppel, A-1010 WIEN, herbert.mayer@onb.ac.at)
Leiter des Internationalen Esperanto-Museums (IEM) und der Sammlung für Plansprachen der Österreichischen Nationalbiblithek.

Karl-Hermann Simon (Carl v. Ossietzky-Str.21,16225 Eberswalde, khsimon@fh-eberswalde.de), Dr. rer.silv., Forstwissenschaftler und Lexikograph.

Wim M.A. de Smet, (Hertendreef 12, B-2920 Kalmthout), Dr.rer.nat., Biologe.

Ingward Ullrich (Am Feldrain 11/54-20, DE-98646 Hildburghausen), Dipl.-Forstingenieur.