ISPRS MULTILINGUAL DICTIONARY
GENERAL STATUS AND
PROGRESS OF GERMAN LANGUAGE GROUP

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ABSTRACT

The concept of the "Multilingual Dictionary for Photogrammetry and Remote Sensing" was presented in 1982 (Mainz) and revised in 1984, 1988 and 1992. The dictionary will comprise of (independent) Glossaries from each of the participating (now 16) Language Groups. The Glossaries have to be interrelated by Index-Numbers. Since the progress in the participating countries is rather different, the German Language Group is going to publish its Glossary as preliminary version including proposed equivalents in English and French.

RESUMÉ

Le concept pour le "Dictionnaire Multilinguel en Photogrammétrie et Télédétection" était présenté en 1982 (Mainz) et revisé en 1984, 1988 et 1992. Le dictionnaire se composera de Glossaires (indépendants) de chaque Groupe Linguistique participant (à présent 16). Il faut que les Glossaires soient raccordés par Numéros d'Index. Parce que le progrès de travail des pays participants est très différent, le Groupe Linguistique Allemand publiera son Glossaire en forme provisoire avec des équivalents en anglais et francais.

ZUSAMMENFASSUNG

Das Konzept für das "Mehrsprachige Wörterbuch für Photogrammetrie und Fernerkundung" wurde 1982 (Mainz) vorgestellt und 1984, 1988 und 1992 revidiert. Das Wörterbuch wird aus (unabhängigen) Glossaren, die über Indexnummern miteinander verbunden werden, von jeder teilnehmenden Sprachengruppe bestehen. Da der Arbeitsfortschritt in den teilnehmenden Ländern sehr verschieden ist, wird die Deutsche Sprachengruppe ihr Glossar als vorläufige Ausgabe mit englischen und französischen Äquivalenten veröffentlichen.

KEY WORDS: Terminology, Dictionary, Multilingual.

1. INTRODUCTION

"Multilingual Dictionary for Photogrammetry and Remote Sensing" as the complete title is (for daily use abbreviated to "ISPRS-Dictionary") shall be presented again by this report.

It covers the period after the ISPRS Congress 1988 in Kyoto and must be seen in connection with the WG Report (Lindig, 1982) submitted to the 1982 Symposium of Comm. VI in Mainz outlining the "Basic Concept", and together with WG Reports (Lindig, 1984 and 1988) presented to the Congresses in Rio de Janeiro and Kyoto updating these reports according to experiences gained with the current work.

2. STATUS OF WORK

2.1 History 1980-1992

At the 1980 Congress in Hamburg Wolf (1980) published a preliminary glossary of about 1200 English Terms (Entries and Definitions) for which he asked for translation into French and German reducing it so to a "Trilingual Dictionary". At the 1982 Mainz Symposium the new chairman of WG VI-3 was nominated and his preliminary concept of a Multilingual Dictionary extensible at any time was accepted (Lindig, 1982). An English and a French

colleague agreed to cooperate as Chief Editors for their Language Groups.

In 1984 the American Society of Photogrammetry published its "ASP-Dictionary" (Rabchevsky, 1984) with 1700 Terms and Definitions in English basing on Wolf's paper (Wolf, 1980). It includes not very satisfying Equivalents in French, German, Italian, Portuguese, Spanish and Russian. In 1985 ASP was so kind as to present one copy of its Dictionary to each of the existing Language Groups.

At the Symposia in Badagry 1986 and Rhodos 1990 the Chairman of WG VI-3 gave an oral report about the state of the ISPRS-Dictionary.

2.2 Present membership of WG VI-3

At the Symposium in Mainz 11 Language Groups (LG) could spontaneously be created, increasing to 16 until 1986, as shows Annex 1. Nearly all major languages are represented, spoken each by more than 50 million people. Excepted are unfortunately Italian, Indonesian and Korean, which are cordially invited to join the WG activities.

It seemed advisable to subdivide the LGs according to its status of ISPRS, activities, population represented, etc. into three categories:

I.   Official Languages of ISPRS
English, French and German serving as three Guide Languages for interrelations between all LGs during dictionary work. These Glossaries should be available as soon as possible.

II. Languages with their own independent production of a Glossary.

III. Languages with direct translation from other Glossaries.

2.3 Activities of Language Groups hitherto:

Due to various circumstances and difficulties the work of the following LGs is progressing at very varying rates. From LGs not mentioned here no further information came to knowledge of WG VI-3 since 1987 (Lindig, 1988)

.1 Arabic: Saudi Arabia recently agreed to continue its activities by requesting a draft of the German Glossary.

.2 Chinese: In 1986 WG VI-3 received a copy "Deutsch-Chinesisches Wörterbuch für Vermessungswesen" (German-Chinese Dictionary for Surveying) edited by Ji, Zenjue; Gao, Shilin and Hu, Mingcheng at Beijing 1985. It contains some 30 000 German Entries in alphabetical order with Chinese Equivalents but without Index-Numbers (Par. 3.5), which are necessary prerequisites for the ISPRS-Dictionary.

.3 English: It was a great handicap for the progress of the WG that since 1982 two Chief-Editors of the ELG gave up. In 1991 WG VI-3 was happy to welcome a new Chief-Editor, who starts the work by a personal visit in Frankfurt for oral introduction into the WG-work. He received English-Entry-Lists extracted from the draft of the German Glossary containing about 4100 entries (marked with Subfield-Numbers).

.4 French: In 1990 FLG reported the completion of its Glossary with 2700 Entries including Definitions, Cross-References, Index-Numbers and English Equivalents. It is not known, after a negative correspondence about financial support by ISPRS, whether its publication meanwhile has been done .

.5 German: The German Glossary is completed now with about 4150 Entries including Definitions, Cross-References, Index-Numbers as well as English and French preliminary Equivalents. It will be published in 1992 by governmental support. (Par. 4)

.6 Greek: In 1989 GLG got a new Chief-Editor who asked for the German Glossary after its completion.

.7 Japanese: In 1990 JLG reported about the publication of the following relevant dictionaries with English Equivalents:
a) Remote Sensing Dictionary
   by Japan Association of Remote Sensing,1989
b) Surveying Dictionary
   by Japan Federation of Surveyors, 1990
c) Dictionary of Civil Engineering
   by Japan Society of Civil Engineering
d) Dictionary of Cartography.
   by Japan Society of Cartography.
It is not known which of them has usable Index-Numbers (Par. 3.5) for incorporation into the ISPRS-Dictionary.

.8 Portuguese: Since two years a discussion is going on about new members and a Chief-Editor in the PLG. Apart from a demand for the German Glossary no other information was received.

.9 Russian: Although RLG gave no further information, the publication of the Russian "Glossary of Terms on Earth Remote Sensing" by Dr. Sipos Sándor, Budapest 1985 was received. It has 900 Entries with Russian Definitions and Equivalents in English, Bulgarian, Hungarian, German, Polish, French and Czech.

.10 Spanish: With regret WG VI-3 got knowledge that one of the Chief-Editors passed away. Nevertheless the work is going on resulting 1990 in a draft of a Glossary with 1500 Entries.

.11 Bengali: The activities of the BeLG culminated in 1991 to the publication of the "Multilingual Dictionary of Remote Sensing and Photogrammetry" by G.B. Das, Geographical Society of India, Calcutta 700 019. It is the translation of the 1716 Entries of ASP-Dictionary (Rabchevsky, 1984) to Bengali in English alphabetical order including French Equivalents. It can be regarded as an encouraging beginning. But Index-Numbers have no steps of 10 (Par. 3.5) for extensions and an alphabetical list of Bengali-Entries is still missing.

.12 Turkish: In 1990 TrLG reported the availability of 1000 Entries without giving further explanations.

.13 Polish: Good progress is reported from the PlLG, which has published in 1988 "Slownik terminologiczny z zakresu fotogrametrii i teledeeteheji (Five Lingual Dictionary of Photogrammetry and Remote Sensing)" by Z. Sitek, Wydawnictwo, Krakow with 2053 Entries and English, French, German and Russian Equivalents. It fulfills largely the conditions of the ISPRS-Dictionary having Index-Numbers in steps of 10 and alphabetical Entry-Lists for each language.

3. UPDATED WG-CONCEPT

In the former papers (Lindig, 1982, 84 and 88) 10 Fundamental Principles were postulated as guidelines for the WG activities. But according to recent experiences and reactions from WG-members, it seems to be important to mention that all individual activities and publications which have Index-Numbers in steps of 10 as a Minimum-Condition (Par. 3.5) are welcome as a valuable contribution to the ISPRS-Dictionary.

Nevertheless the WG would appreciate if the guidelines are largely fulfilled. Therefore it seems useful to repeat them in final version.

3.1 Entire technical field

On the one hand, all terms used in theory and practice of the whole field of Photogrammetry and Remote Sensing including its geodetic applications, e.g. cadastre, architecture, etc. with relevant surveying of ground control must be compiled. On the other hand the range of work has to be limited, in order to avoid boundless growth to some of the main terms of nongeodetic applications, e.g. geology etc.

In order to split the work within a LG for the

purpose of contributions and revisions by specialised Advisors, the whole field should be separated into some subfields, e.g. Photography, Cartography, Topography, etc. which should appear in the final edition as "Domains" in the Cross-References for easier use of the Dictionary.

3.2 Separate language volumes

For each language to be included in the ISPRS-Dictionary, now and in the future, one separate Glossary (Part 1) should be produced. An unlimited extension to all languages needed or even dialects can be guaranteed.
In addition to this, a special Reference Booklet (Part 2) has to be created which will contain only the Index-Numbers sorted sequentially according to the relevant language. Each published Dictionary can serve as a preliminary language volume of the ISPRS-Dictionary.

3.3 Entry-lines with Index-Numbers

For each Entry having been defined as Term or its synonyms will be stored in alphabetical order, containing at least according to relevant grammar:
- Entry
- Gender or Type
- Distinction for Homonyms
- Notes (e.g. 2nd gender, Language Region, obsolete)
- Index-Number
Optionally can be added in the production phase
- Source Code(s)
- Subfield Number

These Entry-lines printed alone deliver the Entry-List serving as useful list of contents etc.

3.4 Term-paragraphs with definitions

Each Term-paragraph begins with "*" and ends with "." in the first column for computer usable structure. It is headed by its
- Entry-line   followed by:
- Cross-References (maximally five): "better:", "also:", "see:", "compare:", "subfield:"
- Definition
- Equivalents (preliminarily known, but can be finally cancelled if a Reference-Booklet exists)

3.5 Index-Numbers in steps of 10 (Minimum-Condition)

After all Entries stored at a certain time have been sorted in alphabetical order, each is assigned a sequential number with a 0 (zero) in the last position, meaning in steps of 10. It is obviously the easiest way to insert new Entries at any later time without affecting the indexing. Therefore this is the Minimum-Condition of Dictionary-Work.

3.6 Mother tongue and professionals

Each colleague engaged in the activities of WG VI-3 as Chairman, Chief-Editor, Member or Advisor should fulfill at least two essentials:
- Professional expert in the technical field or at least in some subfields,
- Idiom of Language Group is his mother tongue.
Three further requirements are desirable:
- Understanding of at least one of the Official Language of ISPRS as Coordination Language,
- Some Advisors living in different language regions (e.g. Austria, Germany, Switzerland) for considering regional synonyms.

3.7 Foreign-to-native-language translation

For the reliability and quality of the Dictionary it is indispensible to coordinate the definitive Equivalents exclusively from the foreign language to the respective mother tongue. If, in the opposite, in the working phase anybody else has to introduce foreign terms, these should be understood as proposed Preliminary Equivalents only with an interrogation mark (?) (even two, if they are very doubtful).

3.8 Modern computer technique

It is evident that these principles can work only by extensive use of EDP for all compilation operations as aquisition, storage, sorting, coordination, correction and fair output of information. So it may quasi be a further essential that each Language Group has or makes available at least a Personal Computer with an efficient text processing program (editor), a minimum of 10 mbytes hard disk and floppy disk input/output.

3.9 Standard digits for Index-Numbers

The Index-Numbers appearing anywhere in the Glossary and the Reference-Booklet have to be printed exclusively in standard digits (0, 1, 2, ...9), which can be used, understood and produced worldwide. Additionally in the Reference-Booklet the headings of the columns - each representing a language - have to be printed as Language-Symbols according to ISO-Standard (Par. 4.6).

3.10 Characters for each language

The texts of the Glossaries not belonging to a language using Roman characters are to be produced in a country where key boards, displays and printers with a set of their special characters are available. Then no problems will arise from orthography, reading and correction of printing errors and possibly from transliteration.

By this decentralisation of the work each LG decides itself on the number of copies needed.

4. PUBLICATION OF THE GERMAN GLOSSARY

Since the work on the German Glossary as part of the ISPRS-Dictionary came to a preliminary end,the German Language Group decided to publish it in the present form in order to fulfill the urgent demand out of the professional circles and although other relevant Glossaries are not yet available. It has up to date about 4150 Entries with relevant Cross-References, Definitions and preliminary English and French Equivalents on about 600 A4 computer printed pages. These are to be printed after a 75% reduction in two volumes: (A-K and L-Z). A third volume (a precursor of the Reference-Booklet) contains three Entry-Lists in German, English and French in alphabetical order including relevant Index-Numbers. A sample page of the German Glossary is attached as Annex 2 .

The following paragraphs are outlining the German written Introductions.

4.1 Sources

From the many available sources only seven were used which had already German Definitions and English and/or French Equivalents as a first draft. Further Entries were proposed by the members of the

Language Group still to be added by own Definitions and Equivalents. A Source-Code (3 digits) which is now shown on the German-Entry-List only made the references easier during compilation and correction work.

4.2 Members of LG-team

From Austria, Germany and Switzerland 25 experts in Photogrammetry and Remote Sensing or specialists in any Subfield working at universities, governmentals offices and private companies contributed their professional knowledge to the dictionary. An Advisor-Code (2 digits) is added to the abovementioned Source-Code.

4.3 Subfields

At the beginning of Dictionary-work 28 Subfields were created in order to split the efforts of the experts. (Lindig, 1988, Annex 3). Due to unavoidable overlappings it seemed to be advisable to reduce the Subfields to 11, included as "Domaines" (Sachgebiete) in the published Glossary.

4.4 Special characters

The German orthography has four special characters which are normally not on foreign tpye writers. In the abovementioned Entry-List (Volume 3) they are replaced as follows:
   ä = ae, ö = oe, ü = ue, ß = ss.
But in the Glossary the correct German characters are used as well as the numerous French ones. If data exchange via floppy-disk is intended precaution must be provided to handle these characters by the relevant computer.

4.5 Cross-References

Contrary to other dictionaries no symbols were used but only words which are understandable at any time. If it seemed necessary to include a term as Cross-Reference which cannot be found as Entry in the Glossary, it was put in parantheses ().

veraltet: = The term (mostly synonym but not
(obsolete)   related to a technical method) is
                 not used any more

besser: = Preference term of synonyms with
(better)   Definitions and Equivalents

auch: = Other synonyms without Definitions
(also)   and Equivalents

siehe: = This Cross-Reference has various
(see)   functions:
                 - to superior term including re-
                   ferenced term in its definition,
                 - to abbreviation (abb),
                 - in case of abbreviation to the
                   "long form",
                 - between noun (with definition),
                   verb and adjective

vergl: = To side - or subordinated terms
(compare)   but also to contrary terms se-
                 parated by ";"

/   = Behind terms in definitions which
                 can be found as Entry in the Ger-
                 man Glossary

4.6 Abbreviations

(Abk)   = The Entry is an abbreviation. Its
(abb)   "long-form" with definitions shows
                 "siehe (see)".

1, (1), 2 ... = Numbers for various homonyms

E? und F?   = Preliminary English and French
                 Equivalents as proposed by German
                 Advisors (with "?" if not confirmed
                 by a mother-tongue -expert).

D, E ,F ,C ,G ,I ,J ,R ,S ,Ar, Be, Bg, Hi, Pt,
Th, Pl, Ma   = Language-symbols for the Language
                 Groups (Annex 1) according to
                 ISO-Standard.

(A), (CH), (D), (DDR)
               = Indication for a term used in
                 Austria, Switzerland, Germany
                 and former German Democratic
                 Republic

(DIN)   = Formulation of definition
                 according to German Standards.

4.7 Editorial

Between 1982 and 1992 ISPRS Working Group VI-3 "Terminology" was chaired by G. Lindig, Frankfurt am Main and partly co-chaired by H.-P. Bähr, Karlsruhe and J. Sievers, Frankfurt am Main. Compilation of the German part of the ISPRS-Dictionary was only possible with the essential support of the Institut für Angewandte Geodäsie (IFAG), Frankfut am Main. The German Dictionary will be printed and published by IFAG as "Deutsches Fachwörterbuch Photogrammetrie und Fernerkundung".

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             23-B10, pp. 199-311, Hamburg 1980

Language Groups

ISPRS Dictionary

(Status: May 1991)

	Language		Chief Editors	
N°	Abb	Name	Name	Address
1	Ar	Arabic	N.AL-HOMAID	Research Institute, University of Petroleum and Minerals Dharan, Saudi Arabia
2	C	Chinese	LI DAOYI	Research Institute of Surveying and Mapping 7 Yongdinly, Beijing, PR China
3	D	German	G. LINDIG	Richard-Strauss-Allee 11 D-6000 Frankfurt a.M. 70, Germany
4	E	English	D. PROCTOR	7 Grosvenor Close Ringwood, Hants, BH24 2HG, UK
5	F	French	S. PAUL	3, rue Alexandre Fleming F-92260 Fontenay a.R., France
6	G	Greek	D. ROKOS	National Technical University 9, Iroon Polytechnion GR-15773 Athens, Greece
7	Hi	Hindi	S. DUBEY	41, Nashvilla Raod Dehra Dun 248001, UP, India
8	J	Japanese	R. TATEISHI	Remote Sensing Centre 1-33 Yayoi-cho J-Chiha 260, Japan
9	Pt	Portuguese	J.J. SEIXAS	Univ. de Pernambuco Depart. de Cartografia 50 000 Recife-PE, Brazil
10	R	Russian	A. LOBANOV	MIIGAIK Gorchovski Pereulok 4 Moscow K-64, Russia
11	S	Spanish	D. DEAGOSTINI	Guayaqui 3212 Cas. de Corr. 1490 Montevideo, Uruguay
12	Th	Thai	W. JIWALAI	Chulalongkorn University Bangkok 10500, Thailand
13	Be	Bengali	G.B. DAS	MIG House 25; SODPUR, 24 Parganas W. Bengal 743-178, India
14	Tr	Turkish	M. ALPMEN	Universitesi Müh.Fak. Jeofizik Emirgan, Hakkak Yümnü Sok. 22/7 Istanbul, Turkey
15	Pl	Polish	Z. SITEK	Akademia Gomiczo-Hutnicza Al. Mickiewcza 30 30-059 Krakow, Poland
16	Ma	Malaysian	A.H. TAHIR	University Teknologi Malaysia Locked Bag 791 80990 Johor Bharu, Malaysia

Sample page of German Glossary

*
Abstandsgleichung f   790
    vergl.: NEWTONsche Abbildungsgleichung, optische Abstandsbedingung
    Sachgebiet: Analoge Bildverarbeitung
    Mathematische Formulierung der optischen/ Abstandsbedingung/. Sie hat
    die Form $1/d + 1/b = 1/f$, wobei d der dingseitige, b der bildseitige
    Abstand und f die Brennweite/ ist.
    E?distance equation?   F?équation de Newton?
.
*
Abstandregler m   800
    siehe: Aufnahmeabstand
    vergl: Überdeckungsregler, Intervallometer
    Sachgebiet: Aufnahmetechnik
    Vorrichtung für die Regelung des Zeit- und Wegabstands zwischen
    aufeinanderfolgenden Luftaufnahmen/.(DIN)
    E?distance regulator, -controller?
    F?régulateur de distance (entre prises de vue(s))?
.
*
Abstandstransformation f   810
    Sachgebiet: Digitale Bildverarbeitung
    Wandlung/ eines Rasters/ mit dem Ziel, die Grauwerte/ sämtlicher Pixel/
    durch ihre entsprechenden Werte/ des Abstands bezüglich Pixeln eines
    bestimmten Grauwertes /Situation/) zu ersetzen. Hierdurch werden
    Distanzmessungen/ ermöglicht.
    E?distance transformation??   F?transformation à distance??
.
*
abstandstreue Abbildung f   820
    auch: mittabstandstreue -, längentreue Abbildung (zu vermeiden)
    vergl: konforme -; flächentreue Abbildung
    Sachgebiet: Kartographie
    Kartographische/ Abbildung/, bei der die Abstände von einem Punkt
    (Kartenhauptpunkt) bzw. von einer ausgewählten Linie maßstäblich
    abgebildet sind.
    E?equidistant projection, oblong -?   F?projection équidistante?
.
*
abstecken   840
    siehe: Absteckung
    Sachgebiet: Terrestrische Vermessung
    E?to set out, to stake out?   F?jalonner, implanter?
.
*
Absteckung f   850
    siehe: abstecken
    Sachgebiet: Terrestrische Vermessung
    Übertragung von Punkten, Linien/, Richtungen/ oder Höhen/ in
    das Gelände/ zur Festlegung von Grenzen/ oder zur Vorbereitung
    bautechnischer Maßnahmen.
    E?setting out, staking out?   F?jalonnage, implantation (d'un tracé)?
.
*
Absteckungsfehler m   870
    vergl: (Aufnahmefehler)
    Sachgebiet: Terrestrische Vermessung
    Falsche Grenzziehung einer neuen Grenze/ infolge eines technischen
    Versehens bei der Absteckung/ mit der Folge, daß diese Grenze nicht
    dem nachweisbar erklärten Willen der Beteiligten entspricht.
    E?setting error?   F?erreur de délimitation, - - jalonnage?