STATUS 1987 OF ISPRS-DICTIONARY

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1. Introduction

This report covers the period after the ISPRS Congress 1984 in Rio de Janeiro. It must be viewed in conjunction with the WG Report /1/ submitted to the 1982 Symposium of Comm. VI in Mainz = "Mainz Paper" and with the WG Report /2/ presented to the 1984 Congress in Rio = "Rio Paper" and is intended to update both these reports according to experiences gained in the last five years.

The value and necessity of the

Multilingual Dictionary

for

Photogrammetry and Remote Sensing

(as the complete title is abbreviated for daily use to "ISPRS-Dictionary") need not be stressed further. But the deadlines indicated in the foregoing papers /1/, /2/ with respect to the completion of any phase of the work were too optimistic and could not be kept. It seems clear that such a major task needs time, especially with regard to the desired degree of reliability. The tremendous advantage of the conception presented in /1/ and /2/ allows slower or faster growth, depending on the resources available including support and goodwill. The dictionary is not travelling "in convoy" where the slowest one dictates the speed, but rather in a "rally".

2. Status of work

2.1 History 1980 - 1987

At the 1980 Hamburg Congress, Wolf /3/ published a preliminary glossary of about 3.000 English Terms (Entries and Definitions) for which he asked for translation into French and German. However, nearly two useless years had passed under discouraging circumstances before the author expressed his readiness, at the 1982 Mainz Symposium, to take over the chairmanship of WG VI-3 "Terminologie" and a preliminary conception could be proposed and accepted /1/. Its updated "Fundamental Principles" are repeated in Par. 3. At the same time a chief editor for the English Language Group (ELG) could finally be found in addition to the French one who had been active for some years already.

In 1984 the American Society of Photogrammetry published (without giving notice sufficiently in advance) its

Multilingual Dictionary

of

Remote Sensing and Photogrammetry

in short: ASP-Dictionary with 1700 Terms and Definitions in English including not very satisfying equivalents in French, German, Italian, Portuguese, Spanish and Russian. In 1985 the ASP was so kind as to send to each of the existing Language Groups one copy of its Dictionary.

Besides the Chairman of WG VI-3 who reported on the status of the ISPRS -Dictionary only a representative of the French Language Group was present at the 1986 Badagry Symposium.

2.2 Present membership of WG VI-3

During the past years the number of WG-Members has steadily increased. Up to 1986, 16 Language Groups (LG) were created, as shows Annex 1. Besides some minor ones, all major languages are represented, which are spoken each by more than 50 million people. Excepted are Italian, Indonesian and Korean. These countries are cordially invited to join the WG activities.
Some different points of view as to history, customs, status of ISPRS, population represented etc. made it advisable to subdivide the LGs into five categories (CAT):

I.	One (two) Guide Language(s):	English, (French)
II.	Three Official Languages:	English, French, German
III.	Some Primary Languages:	with their own Glossary production
IV.	Some Secondary Languages:	with translation from other Glossaries
V.	Remaining languages:	inactive up to now.

The CAT II Languages belong a priori to CAT III, while the others may decide freely on the category they want to join.

2.3 Activities of Language Groups hitherto:

Due to various circumstances and difficulties work is progressing at varying rates. Via questionnaires, distributed in Dec. 83, June 85, May 86 and Sep. 87 respectively, the chairman tried to get a general survey of the status as follows:

.1 Arabic: ArLG confirmed the beginning of work with five members in 1984, but meanwhile no further reaction has been received. At the Badagry Symposium in 1986, Jordan offered to take over the responsibility for this LG but an invitation letter remained without reply as yet.

.2 Chinese: CLG confirmed the beginning of work in 1982 with six members who completed 3000 Entries by Dec. 1983. Upon a request received in 1984, the German LG sent its Entry-List with 4500 Entries to China. The representative of Taiwan notified the Chairman in 1986 that he had been replaced by Mr. Ta-NIN LIAO.

.3 German: DLG started work in 1982 with 25 members (Advisors) who had 4500 Entries at their disposal. Meanwhile, these have been revised and reduced to about 4000 items ready to be distributed upon request. By the end of 1987, the German Glossary has been completely entered in computer files including the final Definitions and preliminary Equivalents in English (100 %) and French (75 %). DLG is now waiting for the relevant Glossaries. Lists can be mailed upon request.

.4 English: ELG confirmed the beginning of work in May 1986 with six members having at their disposal an unknown amount of Entries by Nov. 1987. The activities of the LG were heavily delayed due to the fact that the 1983 Chief Editor, Dr. Walker, had been replaced by Mr. Chisholm in 1984. A proposed meeting of the three CAT II-LGs to be held in 1987 with a view to settle the problems occured by then and probably to speed up work was refused by the ELG. It must be emphasized that our work depends to a large extent on the progress in this Guide Language. At least a preliminary Entry-List (though still without definitions) with final Reference-Indices should be published as soon as possible in order to enable other LGs to continue their work.

.5 French: FLG confirmed the beginning of work in 1985 with seven members having recourse to 3000 Entries by Sep.1987. France has been in the exceptionally good position of being provided with a governmental Office for Terminology for many years, which fact enabled the printed publication of a French Dictionary of Remote Sensing in 1984.
In 1986 a member of the FLG participating in the Badagry Symposium proposed that the meeting of the CAT II-LGs be held in 1987. At that time, the FLG reported that they had finished the collection of Definitions up to the letter N. In a paper to be presented at Kyoto in 1988 S. Paul proposes to declare French also a Guide Language. There are no objections.

.6 Greek: GLG reported no activities up to the present.

.7 Hindi: HiLG confirmed the beginning of work before 1985, with two members having elaborated 500 Definitions by June 1985. Beyond that, no further information has been received.

.8 Japanese: JLG confirmed only its participation in WG VI-3 as of March 1984, without any further notice.

.9 Portuguese: PtLG applied in 1983 for membership in WG VI-3 in a letter mailed to the chairman mentioning the existence of a Glossary on Photogrammetry and Cartography. No further activities have in the meantime been reported.

.10 Russian: RLG confirmed the beginning of work in 1984 with eight members and worked out 200 Entries with Definitions by July 1985, without any further notice since then.

.11 Spanish: SLG confirmed the beginning of work in 1982 by sending 400 Entries including Definitions and English Equivalents, designated as "Partial Sample Issue" in 1984. Except for some application letters from Argentina, Peru and Spain asking for participation in WG VI-3, no further news have been received so far.

.12 Thai: ThLG was invited to participate in the WG VI-3 on the recommendation of Prof. Gosh in 1983. Since unfortunately no reaction has been received as yet, it is to be feared that this LG must be cancelled.

.13 Bengali: BeLG confirmed in 1987 the beginning of work as early as 1985, with one member only having translated the 1716 Entries of the ASP-Dictionary completely by 1986. Although this "One-Man-LG" represented by the retired Mr. DAS has obviously been very busy, the results exist in handwritten form only. News about forthcoming supply of computers equipped with Bengali- as well as Hindi-characters need further confirmation. Meanwhile, the BeLG is waiting for the English Entry-List so that work can be continued.

.14 Turkish: TrLG confirmed in 1984 that work had begun before 1983 with 15 members by translating the 356 Terms of the FIG-Dictionary (Vol. 7). Unfortunately, no further activities have been reported.

.15 Polish: PlLG confirmed the beginning of work in 1984 with 20 members having 2055 Entries at hand, which were mainly translated from the ASP-Dictionary by 1987. A sample page of the Glossary showing Equivalents in English, French, German and Russian was sent to WG VI-3. PlLG asked for the German Glossary, which will be delivered in the near future.

.16 Malaysian: MaLG confirmed the beginning of work in 1985, with 30 members having established 1700 Entries (presumably translated from ASP-Dictionary) by 1987. Since all members speak English only besides Malaysian, but also Indonesian), MaLG can continue its work after publication of the English Glossary (or Entry-List at least).

3. Updated WG-Conception: "10 Fundamentals"

In the Mainz Paper /1/, which was revised in the Rio Paper /2/, 10 Fundamental Principles were postulated as guidelines for the WG activities. It seems useful - also with regard to newcomers - to repeat this important conception in an updated (perhaps final) form. (see Annex 2)

3.1 Entire technical field

On the one hand, all Entries 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 the nongeodetic applications, e.g. geology, forestry etc.
In order to split the work within a Language Group (LG) for the purpose of revision by specialists (Advisors), the (problematic) experiment had to be made of separating the whole field into some 30 Subfields, e.g. Photography, Cartography, Topography, etc. (Annex 3) which can also be used as preliminary "Domain" in the Cross References.

3.2 Separate language volumes

For each language to be included in the Dictionary, now and in the future, one separate Glossary (part 1) will 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 Reference Indices sorted sequentially according to the relevant language.
The great value of each Language Volume does not consist solely in its suitability as a tool for translation, it also represents a standard linguistic source for the Language Region's own professional purposes.

3.3 Entry-lines with indices

For each Entry having been defined as Term or for its Synonyms at least one line will be stored and printed in alphabethical order, containing:

- Entry
- Gender (abbr.)
- Distinction for Homonyms
- Notes (e.g. 2nd gender, obsolete)
- Source Code
- Reference Index
- Subfield Number

For some purposes it may be useful to print Entry-Lists containing these lines only.

3.4 Term-paragraphs with definitions

Each Term-paragraph begins with "*" and ends with "." in the first column. It is headed by its Entry-line. In addition it contains:

- Further source codes
- Five Cross References (maximally): better: also:, see:, compare:, subfield:
- Definition
- (Equivalents known preliminarily (finally cancelled))
- (Reference Indices for all existing Equivalents of the Languages included (finally cancelled))

3.5 Reference Indices in steps of 10

After all Entries stored at a certain time have been sorted in alphabetical order, each is assigned a sequential number, which is called Reference-Index 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 (i.e. practically to an unlimited extent) without affecting many following ones.

3.6 Mother tongue and professionals

Each colleague engaged in the activities of WG VI-3 as Chairman, Chief-Editor, Member or Advisor must fulfill at least four essentials:

- He must have goodwill, time for cooperation and some support.
- He must be a professional expert in the technical field or at least in some subfields,
- Idiom of Language Group is his mother tongue,
- He has lived in the region and worked in the profession for the last 10 - 20 years.

The following requirements should be met in addition:

- He understands at least one official language of ISPRS (CAT II) as Coordination Language
- Some members (advisors) should live in different Language Regions (e.g. for DLG: Austria, Germany, Switzerland).

3.7 Foreign-to-native-language translation

Prevailing principle is the premise of the condition that the binding coordination of Equivalents is exclusively allowed from the foreign language to the respective mother tongue. If in the status nascendi anybody else gives Equivalents, these should be understood as preliminary proposals only and written between two interrogation marks (?) (even three, if they are very doubtful).

3.8 Modern computer technique

It is evident that all these principles can work only by extensive use of EDP for all operations of acquisition, 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 an efficient computer system with interactive text processing and man power.

3.9 Standard digits for Reference Indices

Each of the above-mentioned Reference Booklets (part 2) contains exclusively the Reference Indices printed in standard digits (0, 1, 2 .... 9) which can be used, understood and also delivered worldwide. Only the headings of the columns, each representing a language, show the ISO-standardized symbol for this language. So these booklets can be produced at any computer station in the world. Nevertheless, it is very easy to automatically produce for local purposes a booklet in local characters (part 3) upon request.

3.10 Characters for each language

The texts of the Glossaries not belonging to a language using common Latin characters are to be produced in the country where keyboards, displays and printers with a set of their special characters are available. No problems arise from transliteration, correction of printing errors and number of copies needed. Obviously, the demand for copies in E will be higher than for any other language.

The lack of funds will force us to produce the small editions by multiple computer prints or perhaps by xerosing. Only for the higher editions press printing could be considered, but surely not before final versions will exist. So even for these languages an easier way of producing reprints has to be considered, possibly by decentralisation via mag-tape-exchange.

4. Final remarks

Due to the experiences gained up to date with too optimistic time schedules, no further goal will be risked. Let the rally go on and we shall see to which end it comes. Attention shall be drawn to Pars. 4.3 and 4.4 of /2/ which are still valid.

Thanks go to the leaving President of Com. VI for her great support and it is to be hoped that the next one will back us similarly.

Bibliography:

/1/ Lindig, G.: Multilingual Dictionary for Photogrammetry and Remote Sensing. Int. Archive of Photogrammetry 24-VI, pp.98-108, Mainz 1982

/2/ Lindig, G.: Status of Multilingual Dictionary (ISPRS), Int. Archive of Photogrammetry and Remote Sensing 25-A6, pp. 199-208, Rio de Janeiro 1984.

/3/ Wolf, P.R.: Tri-lingual Glossary of Photogrammetry Terms, Int. Archive of Photogrammetry 23-B10, pp. 199-311, Hamburg 1980

/4/ Rabchevsky, G.: Multilingual Dictionary of Remote Sensing and Photogrammetry, The American Society of Photogrammetry, Falls Church, Virginia 1984

Language Groups — Annex 1

ISPRS Dictionary — (Status: Dec.1987)

Language			Chief Editors	
N°	Abb.	Name	Name	Address
1	Ar	Arabic	N.AL-HOMAID	Research Institute, University of Petroleum and Minerals Dhahran, Saudi Arabia
2	C	Chinese	LI DAOYI	Research Institut of Surveying and Mapping 7 Yongdinly, Beijing, PR China
3	D	German	G. LINDIG	Institut für Angewandte Geodäsie Richard-Strauss-Allee 11 D-6000 Frankfurt 70, FR Germany
4	E	English	N. CHISHOLM	Dep. of Geogr. Univ. of Wales Llandinam Building Panglais Aberystwyth, Dyfed SY23 3DB, UK
5	F	French	S. PAUL	3 rue Alexandre Fleming F-92260 Fontenay a.R., France
6	G	Greek	J. BADEKAS	Photogrammetric Lab. National Technical University GR-Athens, Greece
7	Hi	Hindi	S. DUBEY	41, Nashvilla Road Dehra Dun 248001,UP,India
8	J	Japanese	T. OSHIMA	College of Eng. Hosei University Kajinocho, Koganei Tokyo, Japan-184
9	Pt	Portuguese	P. FAGUNDES	Rua Prof. R. Coutinho, 48-Ramos Rio de Janeiro-RJ, Brazil
10	R	Russian	A. LOBANOV	MIIGAIK Gorohovski Pereulok 4 Moscow K-64, USSR
11	S	Spanish	D. DEAGOSTINI H. COMESANA	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 Pargaras 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 Kraków, Poland
16	Ma	Malaysian	A.H. TAHIR	University Teknologi Malaysia Locked Bag 791 80990 Johor Bharu, Malaysia

3rd (revised) Exposé
ISPRS Dictionary
(preferable for CAT III-Language Groups)

No.	Operations
1	Creation of LGs and Advisor Groups (AG)
2	Collect existing dictionaries etc. (Sources = S) (/1/ Annex 1)
3	Set up lists for Source Codes (SC) including language symbols and Subfield Codes (FC) (Annex 3)
4	In No.2 mark all PRS-Entries (PE) by setting FC (3-4000 PE)
5	Punch PE and FC from No. 4, duplicate SC
6	Sort No. 4 including multiple punchings (from other S): 6.1 by machine, 6.2 by hand
7	Index No. 6 in steps of 10 (preliminary)
8	Make Master Lists or Field Lists of No. 7 for check by advisors
9	Distribute No. 8 to advisors
10	Checking of Field Lists by advisors (Phase I)
11	Return of No. 10
12	Check No. 10 for existing sources
13	Punch or draw cards of No. 12 due to No. 10
14	List complete 13 and distribute to all advisors
15	Final check of 13 by all advisors (Phase II)
16	Store corrected No. 15 in PE file
17	Prepare from No. 16 an Expanded PE file = EPE file (/2/ Annex 3,No.17)
18	Input of existing Definitions and Equivalents into No.17 from No.4
19	Check existing Definitions and set cross-references
20	Fill up missing definitions for all terms and set cross-references
21	Store all term info on a copy of EPE file yielding PEC file for corrections (e.g. PECD = German PEC)
22	List preliminary PEC and FC-selected PE
23	Distribute No. 22 to FC-selected advisors for checking
24	Return No. 22 with corrections
25	Agreement by WG of No. 24
26	Upon request meeting with advisors to clear doubtful cases
27	Correction of PEC for agreed comments
28	List No. 27 (up to here PECD is finished)
29	Distribute No. 28 to foreign WG members (e.g. ELG = E Language Group)
30	Check existing and fill up missing Reference Indices (RI) in No. 28
31	Return of No. 28
32	Store or correct RI in the definite PEC file
33	Extract from No. 32 and sort Reference File (RF) (e.g. RFD = German)
34	Resort No. 33 yielding foreign language RF (e.g. RFE = English)
35	Exchange of mag-tapes with PEC file and/or at least with RF file
36	Cross-check automatically RF files from different origins
37	Clear and correct PEC and RF files yielding PEO, RFO for output
38	List and copy or reduce and print and stitch or bind PEO and RFO files yielding preliminary edition

Subdivision of Photogrammetry and Remote Sensing into Subfields
(Preliminarily adopted for the German Glossary)

FC	Subfields	FC	Subfields	FC	Subfields
01	General photogrammetry	02	Nongeod. applications	03	
11	Mathematics	12	Theory of errors	13	Adjustment computation
21	Ground contr. surv.	22	Cadastre	23	Land consolidation
31	Imaging techniques	32	Optics	33	Flight operations
41	Photography	42	Photolab	43	Analog image processing
51	Compilation techn.	52	Field check	53	Cartography
61	Topography	62	Map revision	63	
71	Terr. photogrammetry	72	Close range photogr.	73	Special applications
81	Digital image proc.	82	EDP	83	Automation
91	Remote sensing	92	Interpretation	93	Physics