

STATUS OF MULTILINGUAL DICTIONARY (ISPRS)
 Gerhard Lindig
 Institut für Angewandte Geodäsie
 Federal Republic of Germany
 Commission IV (Chairman Working Group VI-3)

1. Introduction

This paper must be viewed in conjunction with the WG Report /1/ submitted to the 1982 Symposium of Comm. VI in Mainz = "Mainz Paper (MP)", updating it mainly with corrections, additions, revisions and explanations according to experiences gained from the preliminary work in the last two years. This central part is sandwiched between information about the work already done and the outlook for the future.

The value and necessity of a Multilingual Dictionary of Photogrammetry and Remote Sensing (ISPRS) abbreviated for daily use to

"ISPRS Dictionary"

need not be stressed further. Enough experts in the past and very recently two WG members from China /2/ and France /3/, /4/ have done so in papers for this congress.

The optimism demonstrated in the last line of the abstract to /1/: "The 1984 Congress in Rio de Janeiro should be the deadline for the provisional edition" was dampened greatly (but was not quenched) by circumstances, both internal and external outlined later. But such a major work with the desired degree of reliability should hold its own and cannot be slurred over. This needs time! The tremendous advantage of the conception presented allows for slower or faster growth depending on the resources available (materials, personnel, funds but also support and goodwill). We are not travelling in "convoy" where the slowest one dictates the speed but rather in a "rally".

2. Status of work

2.1 History 1980-1982

After the 1980 Hamburg Congress the President of Comm. VI started an international and national campaign to mobilize personnel and financial support for the WG "Multilingual Dictionary". Nearly two useless years had gone by without finding either chairmen or members; donors of funds, or psychological support. In these discouraging circumstances in 1982 the author and three other retired colleagues declared their readiness to retrieve the standing of the country with the presidency. At the 1982 Mainz-Symposium a preliminary conception was proposed and accepted. /1/

2.2 Present membership of WG VI-3

Before the symposium more or less concrete agreements to participate had been received from three Language Regions only. There, however, six more joined and a further five have followed up to date through personal recommendations. The dam was broken and 14 Language Groups (LG) have now been created.

Language Groups			Members		Coordination Languages				Work begin
No.	Abb.	CAT	LG	AG	E	F	D	other	year
1	Ar	IV	5						1984
2	C	III	6		6		2	2 R	1982
3	D	II	4	17	21	2	21	1 S	1982
4	E	I	1		1				1984
5	F	II	3	20	20	23	8	10 S	1977
6	Gr	V							
7	Hi	IV	3		3				1983
8	J	IV	1						1984
9	Pt	V							
10	R	V							
11	S	IV	2						1984
12	Th	V							
13	Be	IV	1						1984
14	Tr	IV	15		10		10		1984

Tab. 1

Some other, also very important languages are still not represented. They are cordially invited to participate in the WG activities.

2.3 Categories of Language Groups

Some different points of view as to history, customs, statutes of ISPRS, population represented etc. made it advisable to subdivide the LGs into 5 categories (CAT):

- I. One Guide Language: English
- II. Three Official Languages: English, French, German
- III. Some Primary Languages: with own Glossary production
- IV. Some Secondary Languages: with translation from other CATs, preferably CAT I
- V. Remaining languages: still or back in hibernation waiting for spring.

Except for CAT I and II which a priori belong to III, each LG decides freely on the category it wants. The distribution of LGs to CATs is now: III = 4; IV = 6; V = 4.

2.4 Activities of Language Groups hitherto

Due to various circumstances and difficulties (2.5) besides 2.1 work of the LGs is processing at varying rates. Via a questionnaire (as usual) distributed in Dec. 83, the chairman tried to get a general survey of the status. The results are compiled in Tab. 1, also showing tentatively the resulting categories. LGs which did not react to any letters were sentenced to Cat. V. Additional information from the questionnaires is not homogenous enough to be included in Tab. 1. Summarizing the trend seems to be that the four CAT III-LGs have now complete Entry Lists with up to 3,000 Entries and the collection or creation of definitions is continuing. The special situation of the ELG (No. 4,

English) which is greatly influencing the whole WG's activities is outlined in the following paragraph.

2.5 Difficulties

At the 1980 Hamburg Congress, Wolf /5/ published a preliminary glossary of about 3,000 English Terms (Entries and Definitions) asking, according to his "Proposals for 1980-1984" and Resolution T VI 13, for translation into French and German. Since by the end of 1982 a chief editor for the ELG had finally been found, with this valuable material available initially the work could start. Only a few months later the bombshell went off with the announcement by ASP to WG VI-3 of the imminent publication of the (abbreviated) "ASP Dictionary" /6/, unfortunately not issued up to now (March 84). Doubtless there are compelling reasons and nobody wants to criticize. One reason could be working with the "convoy" method? As this indispensable and valuable source cannot be neglected, most activities of nearly all LGs (except some in CAT. III, comp. Tab. 1) were slowing to a halt. A useful alibi! The low flame which the highly important ELG is working over at present may burst into a blaze after "D-Day" (= publication of the ASP Dictionary).

3 Updating of the WG Conception /1/

- 3.1 Experiences of German Language Group (DLG) /1/ Annex 3
 In so far as not mentioned in other paragraphs (spec. 3.2) some remarks are necessary here because the chairman of WG VI-3 is also the chief editor of the DLG. Besides the binding rules (3.2, /1/ item 2) the experiences of the DLG can serve as a sort of model proposal for the other LGs, but with variations depending on local conditions. The "Preliminary Exposé" /1/ Annex 3 had to be revised. This "2nd (revised) Exposé" is enclosed as Annex 2. Some comments which are of interest for the WG members only are presented in Annex 3.
- 3.2 Revision of "Fundamental Principles" /1/ Item 2.
 As they have proved suitable as fundamental guidelines no major changes ought to be necessary. In fact more explanations than corrections are following below using the sequence numbers of /1/.
- .1 Entire technical field
 There are some remarks relevant only to the 2nd par. of this item. In /1/ Annex 2 the subdivision in Main- and Subfields for practical work turned out not to be necessary. We only need Subfields numbered without a decimal point (e.g. not 4.1 but 41). The required increase in efforts for this was smaller than expected.
- .2 Separate language volumes
 The great value of the individual Glossaries for each language does not lie solely in serving as a tool for translations, they also represent a standard linguistic source for the Language Region's own professional purposes.
- .3 Entry lines with indices
 In order to avoid misunderstandings the codes in columns 55

to 60 were created for DLG purposes only. The idea was while extracting the Entries to retain all information of the source for later use. These columns are free for the individual LGs.

Replace here and in /1/ 2.5 "Index" by the correct term "Reference Index (RI)". Compare: "Cross references" referring to the contents of one individual Glossary and "Reference Index" for Glossaries of different languages in the Reference booklets.

.4 Term paragraphs with definitions

It is open for discussion to keep all source information for the final Output File as well.

- replace: "but without Index" by "provisionally with Indices"
- replace: "(maximum of four cross references ..." by
 "(six cross references: see:, better:, also:, comp:,
 obsol:, ref:"
- replace: "spaced or printed separately" by "on line with
 ref: printed separately"
- add: "Input of existing translation between two'?"
 (see /1/2.7)

.5 Indices in steps of 10

- replace: "Indices" by "Reference Indices"

The normal spacing of 10 will be extended in all cases of cancelled multiple punchings.

.6 Mother tongue and professionals

Not two but four essentials plus two requested additional conditions are asked for:

- goodwill and time for cooperation
- professional experts in at least some of our technical fields
- LG idiom is mother tongue
- has lived in the region and worked in the profession for
 the last 10 - 20 years

also preferably in addition:

- understands at least one official language of ISPRS (CAT II)
 as Coordination Language
- some members should live in the different Language Regions
 (e.g. Austria, Germany, Switzerland)

.7 Foreign - to native - language translation.

Add at the end of this par.: These approved Equivalents will be replaced temporarily by their resp. Reference Indices.

.8 Modern computer technique

.9 Standard digits for Reference Indices (RI)

.10 Characters for each languages

Since no contradicting experiences came up regarding these three paragraphs there are no comments so far.

4. Considerations for future work

4.1 Further members of WG VI-3

The invitation for further participation in par. 2.2 may be formalized at this point, especially to our Italian colleagues. Under the six foreign languages represented in the ASP Dictionary, Italian is the only one not participating in WG VI-3. Avanti!

4.2 Outline of time schedule

As recent experiences have shown the difficulty of scheduling is well known. Nevertheless our starting position is now much better than four years ago. If the newest publication date for the ASP Dictionary at the end of April 1984 is met then no more obstacles stand in the way of steady progress in our work. The following time table is being proposed for the CAT III-LGs but it is open to discussion, bargaining and changes:

- Entry lists = PE file completed end 1984
- Term lists with definitions = PEC file - mid 1985
- Interchange of Term Lists and return with Reference Indices mid 1986
- First Reference booklets to Comm. VI Symposium 1986
- All CAT III-LGs and a part of CAT IV-LGs ready for presentation to congress 1988

Where work is not dependant on other LGs the DLG intends to be 6 months beforehand with their schedule at least.

4.3 Financial problems

The chairman of WG VI-3 is a scientist and technician but not a businessman. Nevertheless some questions came to his hearing; others he can see coming up, so it is up to him to put forward some proposals or at least to outline the problems but not to settle them.

The ISPRS Dictionary is the product and should be the visiting-card of ISPRS and is not the merely hobby of a few keen linguists. On the contrary, there are colleagues who are ready to spend their own time, most of them are backed by a more or less influential organisation whose facilities can be used (hopefully free of charge) and they are sometimes also supported by the respective national members societies. In the past work was carried out without any monetary investment. But some of our colleagues are retired officials paying out of their own pocket while others are having problems in finding computers to use without payment for materials etc. Each LG needs several volumes at least of the ASP Dictionary. A practicable solution must be found! Can the ISPRS or the member societies help?

4.4 Relations between LGs and ISPRS

Up to now nobody has thought about considering the inter-relationship of the various LGs to each other, to the other member societies and to the ISPRS. Who holds the copyright for the glossaries produced? In order to avoid complications later a suitable agreement should be decided on, not by the chairman who is not a lawyer either but rather by ISPRS. A possible model could be that LGs surrender their copyright to ISPRS and as compensation for their efforts they receive the volumes of the other LGs free of charge, while non-participating member societies should pay a small sum. Non-members of ISPRS could be charged more. The incoming money can be seen as a refund for expenses advanced to the LGs.

5 Concluding remarks

It was not easy for the author to formulate the problems of 4.3 and 4.4 but it seems to him to be worthwhile having intensive discussions so as to find practicable solutions. As for the technical side of work on the ISPRS Dictionary the conception presented should be agreeable and not present great problems. But everybody is invited for discussions if they have better proposals. In no case are they acceptable, if they need more funds as e.g. mentioned in /3/ the procedure used by the World Energy Conference having LGs' meetings twice a year. We have more time than funds!

My thanks go to the retiring President of Comm. VI for his great support and I hope 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/ Li Daoyi, Wen Xiangbei, Xue Shungui:
The recent status of compiling work of Chinese Glossary of surveying and mapping descriptors for ISPRS Multilingual Dictionary.
Presented paper to XV ISPRS Congress.
Rio de Janeiro, 1984
- /3/ Moreau, M.; Bonneval, H., Latarache, C.H.:
Etude de la faisibilité de la version française du dictionnaire multilingue de photogrammetrie et teledetection. Presented paper to XV ISPRS Congress Rio de Janeiro, 1984
- /4/ Paul, S.; Depecker, L.: Contribution de la France au vocabulaire de la télédetection aérospatiale: Structuration du lexique et exploration en banque de données plurilingue
Presented paper to XV ISPRS Congress
Rio de Janeiro, 1984
- /5/ Wolf, P.R.: Tri-lingual glossary of photogrammetry terms
Int. Archive of Photogrammetry 23-1310,
pp. 199-311, Hamburg 1980
- /6/ Rabchevsky, G.: Multilingual dictionary of remote sensing and photogrammetry.
The American Society of Photogrammetry
Falls Church, Virginia. 1983?
- /7/ Eggert, O.; Reibenschuh, E.: Mehrsprachiges Wörterbuch für Photogrammetrie (D,E,F,I,S)
Deutsche Gesellschaft für Photogrammetrie,
IV ISP Congress Paris, Bad Liebenwerda 1934.

Language Groups
ISPRS Dictionary
(Status: March 1984)

Annex 1

Language			Chief Editors	
N ^o	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	Chinese Society of Geodesy, Photogrammetry and Cartography Baiwanzhuang 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	S. WALKER	Dep. of Land Surveying, N.E. London Polytechnic, Forest Road GB-London E 17 4JB United Kingdom
5	F	French	H. BONNEVAL	35, Avenue du Rocher F-94100 Saint Maur, France
6	G	Greek	J. BADEKAS	Photogrammetric Lab. National Technical University GR-Athens, Greece
7	Hi	Hindi	S. DUBEY	41, Nashvilla Road Dehra Dun, 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	MIIGAİK Gorohovski Pereulok 4 Moscow, USSR
11	S	Spanish	D. DEAGOSINI 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 Parganas W. Bengal 743-178; India
14	Tr	Turkish	M. ALPEM	Universitesi Müh. Fak Jeofizik Bölümü Emirgan Hakkak Yümü Sok. 22/7 Istanbul, Turkey

2nd (revised) Exposé
ISPRS Dictionary
(preferable for CAT III-Language Groups)

Annex 2

- | No. | Operations |
|--|--|
| 1 | Creation of LGs and Advisor Groups (AG) |
| 2 | Collect existing dictionaries etc. (<u>Sources</u> = <u>S</u>) (/1/ Annex 1) |
| 3 | Set up lists for <u>Source Codes</u> (SC) including language symbols and <u>Subfield Codes</u> (FC) (/1/ Annex 2) |
| 4 | In no.2 mark all <u>PRS-Entries</u> (PE) by setting FC (2-5000 PE) |
| 5 | Punch PE and FC from no. 2, duplicate SC |
| 6 | Sort no .4 with marking of multiple punchings (from other S):
6.1 by program, 6.2 by hand |
| 7 | Index No. 6 in steps of 10 (preliminary) |
| 8 | Make Master Lists and Field Lists of no.7 for check by advisors |
| 9 | Distribute Field Lists 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 |
| 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 |
| 18 | Input of existing Definitions and Equivalentents into no. 17 |
| The following operations 19 to 38 are so far identical with 16 to 35 of /1/ Annex 3. | |
| 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 <u>PE</u> file yielding <u>PEC</u> file for corrections (e.g. PECD) |
| 22 | List preliminary <u>PEC</u> and <u>FC</u> -selected <u>PE</u> |
| 23 | Distribute no.22 to <u>FC</u> -selected advisors for checking |
| 24 | Return no.22 with stringent comments |
| 25 | Agreement by WG of no.24 |
| 26 | Upon request meeting with advisors to clear doubtful cases |
| 27 | Correction of <u>PEC</u> for agreed comments |
| 28 | List no. 27 |
| 29 | Distribute no.28 to foreign WG members (e.g. LGE = <u>Language Group E</u>) |
| 30 | Check existing and fill up missing <u>Reference Indices</u> (RI) in no. 28 |
| 31 | Return of no. 28 |
| 32 | Store or correct RI in the definite <u>PEC</u> file |
| 33 | Extract from no.32 and sort <u>Reference File</u> (RF) (e.g. RFD = <u>Deutsch</u>) |
| 34 | Resort no. 33 yielding foreign language <u>RF</u> (e.g. RFE) |
| 35 | Exchange of mag-tapes with <u>PEC</u> file and/or at least with <u>RF</u> file |
| 36 | Cross-check automatically <u>RF</u> files from different origins |
| 37 | Clear and correct <u>PEC</u> and <u>RF</u> files (= <u>PEO</u> , <u>RFO</u> for output) |
| 38 | List and copy or <u>reduce</u> and <u>print</u> and <u>stitch</u> or <u>bind</u> <u>PEO</u> and <u>RFO</u> files yielding preliminary edition. |

to 2nd Comments
(revised) Exposé

Annex 3
Page 1

The par.nos. refer to Annex 2 while the nos in parantheses refer to "Preliminary Exposé" (/1/Annex 3)

1.(-)

This par. has to be added, because of its very great importance. It is really necessary to do this at the very beginning due to the time-consuming negotiations needed to find qualified colleagues who fulfill the four essentials (3.2.6, /1/ 2.6)

The DLG was very successful in finding 17 advisors coming from: universities = 8, governmental offices = 7 and private firms = 2 (Tab. 1). So it was possible to cover each Technical Field (/1/, Annex 2) with exactly two advisors. (Two heads are better than one!)

2.(1)

In /1/Annex 1, 15 sources are presented, but the oldest one (1934!) is missing /7/. It was discovered only recently. The authors are begged pardon! Only three were really used, namely no.8 = FIG-Dictionary, No.9 = Glossary of Remote Sensing and no.10 = Mult.Lingual Dictionary of Technical Terms in Cartography since they give (tentative) Definitions.

3.(2)

In /1/Annex 1a the SCs can be found. A heated discussion inside the DAG about the correct separation of the individual Subfields (already declared in /1/ item 2.1 to be "problematic") was pragmatically settled due to its floating boundaries by the agreement that it is nothing but an "organizational tool" for the division of labour.

4.(3)

About 3,000 Entries were marked within some 10 hours without any problems arising from the changes in par. 3.2

5.(4)

The punching of 3,000 cards was running over a relatively long period because personnel were only available erratically. The alternative possible input directly onto a disc (or mag-tape) via a terminal was not done in this phase for organisational reasons.

6.(8)

In this phase no marking was done, since the multiple punchings for a single Entry from different sources (up to 4! FIG-Dictionary has 18 volumes) have been kept to make later selection or combination of definitions easier.

7.(9)

This indexing was only preliminary because of later corrections (see: 16)

8.(10)

"Perhaps" in (10) has to be replaced by "preferable" following the experiences of the DLG. Therefore some sub-numbers of operations (9 to 15) must be inserted. Two kinds of lists were produced.

- Master Lists, containing all Entries from A to Z
- Field Lists, ordered according to Subfield Codes (FC)

10.(-)

Besides the checking for punching errors mainly additions and cancelations have to be proposed

Annex 3 (Page 2)

- 12.(-)
For all proposals of 10, existing SC were added and extended or replaced by the advisor's no. (e.g. FIG09 + advisor 7 = F0907)
- 15.(-)
All advisors were to decide whether to accept all additions and cancelations. The results were extremely contradictory depending on the subfields represented (no wonder!). Following the whole-heartedly (100 %) backed motto "better too many than too few", all cards of 13 were used. The most important by-product resulting from discussions during Phases I and II was majority decisions on some problems via a questionnaire. The answers partly concern specifically German matters but others are of general interest. These are listed below with the percentage of agreement:
- | | |
|---|-------|
| Quantity of approx. 3,000 Entries | 95 % |
| Obsolete Entries specially marked | 93 % |
| Subfield pattern agreed | 100 % |
| All Entries in the singular | 100 % |
| Sep. Entries for both verb and noun (even if identical) | 88 % |
| Generally used abbreviations | 94 % |
| Separate Entry for abbreviation | 52 % |
| Generally used foreign abbreviations | 73 % |
| Names of instruments specific to firms (partly with names of firms) | 83 % |
| Names of firms as proper names in capitals | 89 % |
| Proposed solution for completeness of Entries specific to firms (details later) | 69 % |
- 16.(11)
The preliminary indexing (see .7) was now replaced by the final one. The multiple punchings were indexed, too. The gaps in indexing resulting from their later cancellation are unimportant.
- 17.(12)
The propos(12) was replaced by a better solution. The production of the PEC file to be done later (see 21) was partly done in skeleton form by spacing PE file with 10 blank lines between each Entry (but not between multiple punchings) and by inserting the pre-printed heads of all cross references to be filled in later as far as relevant (sample page follows to LGs). A list of this expanded (spaced) PE file = EPE file can replace or (if necessary) be cut up into "filing cards".
- 18.(13)
Instead of copying, direct input of information into the EPE file via a terminal cuts out the operations (14), (15).
- 19.(16) to 38.(35)
These following operations still have to be done. Some modifications must be expected as before resulting from practical experience.