
Reports and Communications

Second International Congress on Terminology and Knowledge Engineering - Applications, Trier, 2-4 Oct.1990

Given the highly acclaimed results of the First Congress on Terminology and Knowledge Engineering in Trier in 1987 interest in the second event on this subject was to be expected. Actual participation of some 300 experts from all corners of the world by far exceeded the expectations of the organizers of this Second Congress, viz. Infoterm, the Association for Terminology and Knowledge Transfer (GWT), the University and City of Trier, as well as a large number of international, regional and national organizations supporting the Congress which was dedicated to the various aspects of "Applications".

Compared to the 1987 event, the range of topics had been broadened considerably, requiring two volumes of the preconference proceedings which had come off the press just in time for the Congress (available from Indeks Verlag, Frankfurt). The statistical evaluation of the some 100 contributions resulted in the following distribution by country: USSR 20%, Germany 19%, USA 6%, France 6%, Japan 5%, Austria 5%, Canada 3%, India 3%, Denmark 2%, China 2%. One contribution each came from Argentina, Belgium, Brazil, Chile, Greece, the Netherlands, Hungary, Israel, Italy, Korea, Sweden, Switzerland, the United Kingdom, and Yugoslavia. It was a great pity, however, that many of the often very substantial Soviet contributions could not be presented by the authors personally due to the lack of financial means for participation in the Congress.

There is no doubt that this Congress can be considered a landmark in the development of terminology research in its various applications and extensions. The organizers did their best to offer an interesting programme covering subject fields such as applied linguistics, computer science, artificial intelligence, information science, etc. The papers were presented in eight sessions, some of which had to be rearranged on the spot because not all scheduled speakers had been able to participate. Thus, it is quite difficult to provide a complete picture of the Congress. As a consequence, the proceedings do not completely reflect the actual programme of the event.

When taking a closer look at the papers presented, it becomes evident that their overall quality is much higher than it was at the first TKE-Congress in 1987, both on theoretical and practical levels. Whereas the Congress in 1987 was one of the first events designed to bring together terminology and knowledge engineering, the second TKE-Congress clearly reflects the rapid

developments of the past three years. A number of projects have been initiated focussing on the application of terminological methods in setting up expert systems and vice versa and on the use of methods elaborated by artificial intelligence research in the construction of terminological data bases. Prof.Czap expressed this development in his closing speech by interpreting the word "and" in the title of the Congress as a process of integration between terminology and knowledge engineering and not as linking separate parallel activities. In these three years the gap (i.e. communicative and methodological barriers) between terminologists (mostly translators, technical writers, linguistics, etc.) and knowledge engineers (i.e. computer scientists, AI-experts, etc) has become much smaller. Both groups have learned from each other, although we have to admit that many theoretical and practical problems still remain to be solved, hopefully by the time of the next TKE-Congress.

At the end of the Congress, the participants passed the following resolution:

With a view to the importance of terminological methods and data for knowledge transfer, information management and subject communication, and considering the fact that various types of terminological activities are constantly increasing, the participants of TKE'90 resolve that the organizations/institutions concerned with terminological activities at international level, such as Infoterm, TermNet, the Association for Terminology and Knowledge Transfer (GTW), the International Institute for Terminology Research (IITF) and ISO/TC37 "Terminology (principles and co-ordination)", approach international organizations of the United Nations system as well as European and other regional institutions to draw their attention to the importance of the availability of reliable terminological data and of terminological methods, and to formulate a recommendation to the governments of the member states of these organizations as well as to regional governments to promote terminological activities.

(from Infoterm Newsletter 58, Dec.1990)

(NB: the preliminary program of TKE'90 had been included in Int.Classif. 90-2, p.100)

Reports on the Workshops preceding TKE'90, Oct.1, 1990

Workshop 1 "*Large Terminology Data Banks*" and Workshop 7 "*Meeting of Managers of Large Terminology Data Banks*" were organized by the Official Languages and Translation (OLT) of the Department of the Secretary of State of Canada with the assistance of Infoterm in continuation of previous meetings of TDB managers in 1980 (organized by Infoterm) and 1985 (organized by the then called Terminology and Documentation Branch of the Department of the Secretary of State of Canada). The workshops, chaired by Mr.M. WILLIAMS, elicited quite some interest and gave TDB managers again a

chance to review the development of their terminology systems and departments in historical dimensions with due considerations to future perspectives.

Workshop 3 "*Multilingualism, Terminology Documentation and Language Mediation*" was organized jointly by the International Social Science Council (ISSC)/Vienna International Centre (VIC) and Infoterm and competently chaired by Mr. Jean-B.QUICHERON. The results will be published as a special focus in one of the forthcoming regular TermNet News issues. At this workshop it was decided to continue activities on this topic by organizing two projects on Guidelines for translation-oriented terminology documentation (Working Group 9) and Guidelines for interpretation-oriented terminology documentation (WG 10) of GTW.

On the basis of the experience of various expert groups working within the framework of the GTW, the IITF and Infoterm as well as of ISO/TC37, workshop 4 "*Multilingual Information and Knowledge Management*" was organized and chaired by Mr.M.SCHAAR. Although the workshop primarily dealt with terminological problems under linguistic aspects it was clearly pointed out that information and knowledge management have to be approached from a knowledge point of view duly taking into account multilingual aspects.

For Workshop 5 "*Terminology Standardization*", Mr.R.STREHLOW granted his long-standing experience as chairman of the Committee on Terminology of the American Society for Testing and Materials (ASTM/COT), which - as a standing committee - plays a prominent role in standardization within the ASTM framework. Mr.Strehlow had prepared a number of excellent transparencies and some material for practical exercises. He was, therefore, able to explain to the participants the various dimensions of terminology and terminology work especially with regard to standardization activities. (From Infoterm Newsletter 58, Dec.1990)

Workshop Intelligente Schnittstellen zu Informationssystemen, Darmstadt, 1-2 Nov.1990

Organized by the Technical University of Darmstadt, the University of Colorado, GMD-IPSI, and the Gesellschaft für Informatik (GI) the workshop took place at the Gesellschaft für Mathematik und Datenverarbeitung in Darmstadt and assembled some 85 participants who listened to and discussed the following 18 papers:

G.KNORZ: State-of-the-art and new trends in information retrieval. - B.R.VICKERY: Intelligent interfaces for information retrieval: Practical impact and perspectives. - A.M.PEJTERSEN: Design of information retrieval systems based on cognitive work analysis. - Ch.FREKSA, P.BRÄUNLING, K.ZIMMERMANN: The SPACEGARDEN interface for an interdisciplinary bibliography system. - K.AMMERSBACH: Entscheidungsunterstützung für Benutzer am Beispiel einer Faktendatenbankrecherche. - J.-U.MOELLER: Kom-

munikations- und handlungsorientierte Modellierung einer Fachdialogsteuerung.- U.THIEL: TWRM-TOPOGRAPHIC: Ein objektorientiertes Retrievalinterface. - K.A.HARRISON, J.C.MANLEY: Towards model-oriented programming. - J.CARBONELL: Adaptive intelligent interfaces to knowledge-based systems. W.WAHLSTER: WIP: The coordinated generation of multimodal presentations from a common representation. H.D.BÖCKER: Information retrieval as a new field of HCI research. - W.KINTSCH: Information retrieval and human memory: Analogous problems - analogous solutions? - A.C.LEMKE: FRAMER-HYPertext: An active issue-based hypertext system. - C.D.B.BOYLE: An intelligent navigation system for hypertext information systems. - P.SCHÄUBLE, U.GLAVITSCH: A probabilistic hypermedia retrieval model based on hidden Markov models. - L.TERVEEN, S.TIGHE, D.WROBLEWSKI: The HITS Knowledge Editor: a cooperative knowledge editing tool. - T.R.G.GREEN, D.J.GILMORE, R.WINDER: Towards a cognitive browser for OOPS: the program as a rich information structure.

The workshop was accompanied by 10 demonstrations of programs and systems. Abstracts have been provided with the conference folders, however a decision on the publication of the papers was not reached. For further information contact: GMD-IPSI, Dolivostr.15, D-6100 Darmstadt

1st European Conference on Hypertext, ECHI'90, Versailles, 27-30 Nov.1990

The conference purpose was "to set up a wide ranging scientific European event where researchers, developers, and users can meet around the theme of hypertext and hypermedia". The program of 24 papers (selected out of 130 submitted) included panel sessions, poster and video presentations as well as demonstrations of experimental research systems and commercial products (around 40 from all over the world). Eight tutorials for initiation, intermediate, and advanced level were held on Nov.27 by R.MINIO, P.D.KAHN, P.PAOLINI and R.SCHWARTZ, D.M.RUSSELL, M.BERNSTEIN, N.MEYROWITZ, J.WALKER, R.KUHLEN. There were 16 sessions featuring such topics as: Assessing the quality of hyperdocuments; Toolkits for hypermedia applications; Formal models and query languages; Databases, indices and normative knowledge; The advantages of hypertext for large information spaces: where are the big systems? Argumentation, design and knowledge acquisition; Turning text into hypertext; What is specific about user-interfaces for hypertext systems? Designing and reading hyperdocuments; Hypertext and information retrieval: What are the fundamental concepts? Navigation and browsing; Strategic issues in European Hypertext research and Development. - The Proceedings will be published by Cambridge University Press.- For further information turn to: SCOIR, 2ter, rue de Chantilly, F-75009 Paris.

15. Jahrestagung der Gesellschaft für Klassifikation

The 15th Annual Conference of the German Society for Classification, Salzburg, Febr.25-27, 1991, was organized by Hans GOEBL from the Institut für Romanistik, Universität Salzburg, Austria.

The preliminary program lists 104 papers to be presented in 33 sections and 9 plenarysessions. Most of the papers are devoted to topics in numerical taxonomy (mathematical and statistical procedures, cluster analysis), application areas such as linguistics, archeology, law, medicine, biology and geography have also been emphasized.

Under the heading "*Formal concept analysis: Contents-related and measurement-theoretical problems*" the following papers are listed: R.WILLE: Was an Inhalt erfaßt für formale Begriffsanalyse? - B.GANTER, G.HARTUNG, R.WILLE: Uniqueness in conceptual measurement. - S.STRAHRINGER, R.WILLE: Towards a structure theory for ordinal data.

Under the heading "*Information Systems and Databases*" the following papers are listed: J.ZELGER: Ein Verfahren zur Ganzheitlichen Bewältigung von Komplexität mit PC-Unterstützung (GABEK). - P.SCHEICH, C.WACHTER, F.VOGT, R.WILLE: A shell for conceptual files. - M.ZWICKWOLFF: Rule exploration: First order logic in formal concept theory. - R.J.FISCHER: Untersuchungen zur Selektivität formal erzeugter Deskriptoren bei der halbautomatischen Klassifizierung medizinischer Texte. - M.VOLK, T.BIEDASSEK, H.MITTERMAIER, SCHURIG: FIPRAN - halbautomatische Volltextanalyse. - B.VISCHER: Maschinelle Wortklassifizierung: Thesaurusaufbereitung über Zerlegung in Morpheme. - H.MÜLNER: Hypermedia-Enzyklopädien. - A.-W.SCHEER: Unternehmensmodellierung - Grundlage betrieblicher Informationsstrategien. - K.AMMERSBACH: Entscheidungsunterstützung für Benutzer am Beispiel einer Faktendatenbankrecherche. - R.KIEL: Ein Konzept zur Erweiterung der wissensbasierten Komponente des WIMDAS-Systems.

Under the heading: "*Library Science and Archives*" the following papers were to be presented: A.v.HEEDE: Das EDV-gestützte Informationssystem der UB Siegen. Ein Erfahrungsbericht. - J.W.MÜNCH: Planung und Aufbau eines Bibliotheks-PC-Netzes als Bestandteil eines universitären Kommunikationsnetzes. - W.BIES: Erfahrungen mit dem RSWK ("Regeln für den Schlagwortkatalog") in einem neuphilologischen Fachreferat: Sacherschließung in der Spannung zwischen "Form und Inhalt". - H.HAVEKOST: Auf der Drehscheibe ISBN: Mehrsprachiges elektronisches Universalwörterbuch zur automatischen Sacherschließung. - B.LORENZ: Sacherschließung von Literatur durch Stichwortsuche im OPAC? - H.NOHR: Klassifikation als Basis einer Sacherschließungskomponente im OPAC. Anforderungen an Elemente und Struktur.

The program includes also a number of Software Presentations and the announcements of courses given

throughout the conference. For further information, please turn to: Prof.Dr.Hans Goebel, Institut für Romanistik der Universität Salzburg, A-5020 Salzburg, Akademiestr. 24.

Meeting on Data and Concepts, Darmstadt, Febr.21-23, 1991

The meeting, announced already in IC 90-3/4, p.165, was organized by Prof.Rudolf WILLE at the Technical University of Darmstadt. The program contained 12 papers presented to and discussed in four sessions with some 60 colleagues participating.

All papers, except for one were in German: E.ROSKAM (Nijmegen): Zur Definition und Messung subjektiver Begriffe in der Psychologie. - E.TEGTMEIER (Mannheim): Kritik der Meßtheorie. - D.White (Irvine): Discrete structures and orderings in social systems: The elementary structures of kin avoidance. - M.LUXENBURGER (Darmstadt): Partielle Implikationen zwischen Merkmalen. S.STRAHRINGER (Darmstadt): Eine Strukturtheorie ordinaler Daten. - B.STÖHR (Darmstadt): Formale Begriffsanalyse von Daten mit Toleranzen. - B.SEILER/B.KOBÖCK (Darmstadt): Daten und Begriffe in der entwicklungspsychologischen Begriffsforschung: Probleme und Ergebnisse. - K.MUDERSBACH (Heidelberg): Fachterme als Vermittler zwischen Daten und Fachtexten. - N.MEDER (Köln): Begriffliches Programmieren mit Smalltalk. - H.-G.BARTEL (Berlin): Versuche zur graphentheoretischen Auswertung formal-begriffsanalytischer Resultate. - K.E.WOLFF (Darmstadt): Begriffsanalytische Deutung struktureller Nullen in Kontingenztafeln. - R.WILLE: Daten und Begriffe - Zur Grundlegung der mathematischen Datenanalyse und Statistik.

For further information contact: Prof.R.Wille, Technische Hochschule Darmstadt, Fachbereich Mathematik, Schloßgartenstr.7, D-6100 Darmstadt.

Terminologie als Qualitätsfaktor, Köln, 12-13 April 1991

The Deutscher Terminologietag e.V. invites to a symposium on the above topic, at which 9 speakers, moderated by Prof.Dr.Reiner ARNTZ (Hildesheim), will be treating: Terminology and product - Terminology and product liability - New developments in computer-supported terminology work - New guidelines and recommendations for mono- and multilingual terminologywork - News releases from the Deutscher Terminologietag e.V. - Registrations should be sent to Frau Ursula Reisen, Deutscher Terminologietag e.V., An der alten Post 18, 5000 Köln 40.

International Federation of Classification Societies

Recently the Federation issued its first number of an *ifcs Newsletter* (No.1, Oct.1990). Its editor is Fionn MURTAGH from ESA/ST-ECF, ESO, Garching bei

MURTAGH from ESA/ST-ECF, ESO, Garching bei München, Germany. The first number gives a survey on the different classification societies and groups, their composition and work, belonging to this Federation, viz.: the Dutch-Belgian Classification Society, VOC; the British Classification Society; the Classification Society of North America; the Japanese Classification Society; the Italian IFCS Group, and the German Classification Society. The diary at the end of the newsletter lists 10 conferences sponsored by these societies during the present year including the 3rd IFCS Conference from Aug.6-9, 1991 at the Heriot-Watt University, Edinburgh, Scotland. Anybody interested in this latter event should please contact: Prof.David J.Hand, Faculty of Mathematics, The Open University, Walton Hall, Milton Keynes MK7 6AA, England. - President of the IFCS is at present: John C.Gower, from the Fakgroep Datatheorie, Rijksuniversiteit te Leiden, The Netherlands.

Call for Papers: TSST'91

The International Conference on Terminology, Standardization and Technology Transfer is to be held from 2-6 July 1991 at Beijing, China. It is organized by the China National Technical Committee on Terminology for Standardization under the auspices of Infoterm with the support of a number of other organizations. Six topical areas have been identified, there will also be 3 Workshops and an Exhibition. Working languages are Chinese and English with interpretation from Chinese to English. The conference fee is US\$100.- per person. Submission of papers title or its topic section until March 30, 1991. For further details: Conference Secretariat, Mr. Yi Changhui, Chairman CNTCTS, 18 Dahuisi, P.O.Box 2433-50, Beijing 100081, China.

Call for Papers: SIGIR'91

The Association for Computing Machinery (ACM) Special Interest Group on Information Retrieval will hold its 14th International Conference on Research and Development in Information Retrieval (CILS) in Chicago, IL, Oct.13-16, 1991. Original research papers and panel proposals are solicited on topics including, but not limited to the following: Information Retrieval Theory, Artificial Intelligence Applications, Natural Language Processing, Interface Issues, Hypertext and Multimedia Systems - Implementation Issues. Conference chair: Prof.Abraham Bookstein, 1100 E 57th, CILS, University of Chicago, Chicago, IL 60647, USA.

ISI'91 im Thüringer Wald

Gemeinsam mit dem neugegründeten Hochschulverband für Informationswissenschaft (HI) e.V., Konstanz veranstaltet das Institut für Informationswissenschaft der TH Ilmenau/Thür. vom 4.-7.November 1991 das 2.Internationale Symposium für Informationswissenschaft ISI'91. Das Symposium findet in Verbindung mit dem 17.Internationalen Kolloquium für Informa-

tion und Dokumentation statt, unter der Leitung von Prof.Dr.Harald KILLENBERG und Prof.Dr.Hans Jürgen MANECKE. Die Vorträge und Diskussionen werden sich mit informationswissenschaftlicher Grundlagenforschung (z.B. Wissensrepräsentation, auch von multimedialen Objekten; Wissensakquisition; Retrieval-, Hypertext- und wissensbasierte Informationssysteme) sowie Fragen der informationswissenschaftlichen Ausbildung beschäftigen. Daneben ist ein zweiter, eher auf die Informationspraxis ausgerichteter Themenkreis neuen Wegen in der Unternehmens-Information gewidmet. Einen Schwerpunkt bilden dabei neben technologischen, methodischen und organisatorischen Fragen des Informationsmanagement auch die Aspekte des europäischen Informationsmarktes. Konferenzsprachen sind Deutsch und Englisch. Ein Faltblatt zum Call for Papers und weitere Auskünfte sind erhältlich bei: TH Ilmenau, Inst.f.Informationswissenschaft, z.Hd.Fr.E.Schmidt, Unterpörlitzer Str.38, PSF 327, O-6300 Ilmenau und beim Hochschulverband für Informationswissenschaft e.V., Universität Konstanz, PF 5560 (Prof.Kuhlen) D-7750 Konstanz.

The Proceedings of the first International Symposium (of the *University Federation for Information Science*) at Konstanz, 17-19 Oct.1990, have been published: Josef HERGET, Rainer KUHLEN (Eds.): *Pragmatische Aspekte beim Entwurf und Betrieb von Informationssystemen*. Konstanz: Universitätsverlag 1990. 573 p., DM 128.- Their contents has been included in the *Classification Literature* section of this issue.

Study on the Functions of Terminology Database Systems

INS Corporation has recently been commissioned by the Database Promotion Center, Japan (DPC) to study the functions of terminology database systems in Japan and Western Europe. This study follows the DPC-commissioned INS survey last year, which revealed that Japan was significantly behind USA and Western Europe in the availability and use of terminology databases.

INS is conducting this study in close cooperation with the Japan Terminology Association (JTA) and the International Network for Terminology (TermNet) in Vienna. The study will identify the functions of existing terminology database systems in both Japan and Western Europe, and the usage that can be expected of such systems in the future. Information will also be gathered on the application of knowledge engineering principles to database building, and the standardization that is necessary for better data exchange.

A report on the results of this study, which will include a suitable model for a terminology database and possible related software products, will be available from DPC in May 1991.

For more information, contact Kuniomi Kanemore at the following address: INS Corporation, 7-4-6 Nishigotanda, Shinagawa-ku, Tokyo 141, Japan.

Terminologist-Typical Frustrations*

by Herbert EISELE, Paris

1. Introduction

1.1 If nevrosis is a vocational disease of interpreters and perpetual stress that of translators, little wonder that terminologists, who have tried to escape the professional distress of their colleagues, are left with typical frustrations, he or rather she is not necessarily aware of.

1.2 The purpose of my contribution is to underpin hereafter the terminologists vocational guidance with some cursory remarks.

2. Terminology and Knowledge Engineering

2.1 The final aim of terminology is factual information, i.e. access to knowledge in the widest sense (knowledge acquisition, knowledge engineering). Terminologists always activate themselves around the Apple tree! Indeed, terminology is an initiation.

2.2 This initiation may be unambitious to start with for lack of knowing better, but once he has started to hunt the dragon, he will no more get off the scent: the famous SNS formula, not scratch and smell, but smell and scratch! He surely will scratch and scabble for sense: what is it all about? Even nonsense must make sense in the end, when an overlook is reached, at least somehow. And his ambition will grow as the heads of the beheaded dragon. The heads will spit at him the fire of concepts, and concepts will engender terms, not always one for one. This is a first frustration, for terminologists like things clear-cut: generally accepted single meaning terms.

3. Terminology and the Quest for Truth

3.1 The more our terminologist clinches conceptual problems particularly with respect to taxonomy, the readier he becomes engaged as he already is on the ladder of concepts, to expand his knowledge up to the extreme:

Zwar weiß ich viel, doch möchte ich alles wissen”
(How ever many things I know, it's *all* I want to know)
here we have quite a frustration in store.

a) because you cannot get it all without changing your greedy nature;

b) because language is his business and language will hide the truth (which is that “all”)

since l'homme a la langue pour déguiser sa pensée.

3.2 On the other hand, it is true that in the beginning

**(English version of a paper presented in French at the Trier Congress “Terminology and Knowledge Engineering, TKE’90, 2-4 Oct. 1990 together with the discussion questions and remarks.)*

was the word, and the word was ALL. Hence this quest tends to go beyond the surface structure of language.

3.3 Knowledge about truth, will always remain an approximation on account of the respectable veil of Isis, whereas knowledge about things (referents other than the truth, i.e. Maya, the illusionary) is a rising tide.

4. Terminology a Craft

4.1. Man is crafty and his inventions multiply (which goes not always with prosperity!). These inventions call for publicity; that is why information is bound to grow like weeds. Now the terminologist is somehow called upon to stem this rising tide. If so, how?

4.2 The answer seems to lie in machines, i.e. mostly computers and software systems. But here the sage terminologist is compelled to leave his high-flown dragon-flies for brass tacks. What a frustration! Sensing that the machine wants a slave and knowing that it is whimsical and prone to leave him in the lurch, just when he is about to get clear, another frustration is in the offing. This may duplicate at the thought that the machine's memory, as long as it works, is hard to beat, even though it sometimes may be hard to get at.

4.3 This superiority of the machine is likely to render our terminologist rather meek by insight, if not by nature.

4.4 If he is disgruntled to the point of having become a machine operator, his daily chore will for sure have many a frustration in store for him. Fortunately, he operates in a team and can share his sour lot with his fellow slaves, if not with his supervisor.

5. Terminology and Documentation

5.1. Feeding the machine will reveal extravert qualities in him, he will have to shop around for experts (not systems) (but he may also fall back on systems for production, not for sources!) and talk shop with them (the expert is the terminologist's noblest conquest) and even dig for other source material. Our terminologist will get to know the ropes and how to disentangle them.

5.2 This interdisciplinary approach (terminologist serving as a honest broker) requires discipline on his part, creating again frustrations to overcome inertia inside and outside to master a subject, his surroundings, and his tool.

6. Terminotics

6.1 Terminotics is another source of frustration. What is terminotics? It can be defined as a combination of data processing, informatics and terminology.

6.2 Language has been hitherto the main concern of both terminologist feeders of banks and respective machine makers. Terminotics is the newer shoebox of the extenuated translator, a bit quicker, but not so handy, which entails another frustration. Concepts are processed by

securing definitions, notes, illustrations, sources.

6.3 Final clarity is secured by illustration which could take the linguistic form of an example or the form of a graphic representation. Imagery has so far been badly missing in terminotics, which creates a major frustration. Try to identify a plant or a mushroom or tell a red finch from a blue finch without imagery!

6.4 An image tells more than a hundred words, goes a Chinese saying. This can be easily shown in LSP (Languages for Special Purposes) e.g. patent deposits, tool and machine part catalogues, maintenance and service plans cannot do without imagery.

6.5 Definitions make poor mental pictures. Linguistic information is patchy by nature on account of its abstraction. Language cannot but describe reality or give an inkling of it through evocation. In both cases it appeals to our imagination which has to eke out the paucity of data with schemes of its own making drawn from the stock of things understood, which we call memory (there is no memory outside from what has been understood, as Dante put it). DNA or DNR cannot be visualized from their purely linguistic description.

6.6 And even the image may not be all. Bertrand Russell used to say that you will not know what cheese is unless you have an extra-linguistic knowledge of it. This does not only apply to cheese but to all the rest, cheese being naturally a striking example. Try to sniff or sneeze with words or with your hands.

7. Terminology should be holistic

7.1 Man's knowledge is comprehensive only if it appeals to all his 5-6 senses, but specially the eye and the ear.

7.2 The melody of language conveys sound and sense to the brain. Orality is the oldest means of communication. Signs and symbols appealing to the eye are secondary by origin but have now become top first. The fastest organ, viz. the eye, has become abused by the fixest means of meaning, i.e. the written word of definitions, although light could instantly flash the complete information through the global vision of imagery. Light and sound are vibrations and partake of the spiritual nature of the world we know and in the end this knowledge, the apprehension of sense is also a spiritual exercise.

"I see" says the blind and he does so in his mind.

8. Conclusion

Let us not build a tower again (the Luxembourg European Community Language Service Headquarters are housed in what they call the Tower of Babel) but, maybe, pass a resolution asking the outside world executives to set us terminologists into the right light, so that we can serve not machines, not naked apes, but men, our neighbours, our brethren. Such a service will surely dispel whatever frustrations.

9. The ensuing discussion brought up three questions:

9.1 What about expert validation? One expert may be contradicted by a second one.

9.2 What links are relevant on the object-term level? I.e., should there be an overtness in any system to relate to or call up real objects?

9.3 There can be a different naming of the same object by different users: engineer, shop worker, designer, architect, customer, how to account for it?

Response 1:

Instructions for my terminology students in respect of source reliability show the following order:

Written sources:

- a) articles in professional periodicals
- b) textbooks
- c) professional association's relevant documentation (chambers of industry and commerce, guilds, syndicates, etc.)
- d) official sources, standards
- e) corporate sources (maintenance manuals, service instructions.
- f) encyclopedias
- g) glossaries, lexica with definitions.

Oral sources:

Experts, at least two,

in case of divergence consultation of a third "higher ranking" (if possible) expert, like in arbitration where party arbitrators may be overruled by a third arbitrator appointed by mutual consent of parties or their arbitrators.

Response 2:

I use to present to my students a multipurpose object (being a big dark blue heavy dice with a 2.5 inch hole on one side, dice dots on all other sides with rounded angles) asking them to define it. They come up with about twelve different definitions which all cover different purposes; this tends to show that reality is not easily apprehended by language, plus illustration, let alone the actual object, which is to be sliced up into knowledge layers to be deposited in the fund of manageable wisdom. It seems difficult to conceive of a system flexible enough to cater for the "thickness" of reality, although certain empirical needs may be looked after.

Response 3:

This is quite true and of paramount importance, viz. to specify for relevant terms which level of language and what quality of speaker is involved. I remember my broken down Citroen being inspected first by the receptionist technician and tagged as "break of the distributor", whereas the shop repairman said "elle s'est cassé la pipe", which was a play on words because 'la pipe' i.e. the piping was indeed part of the distributor, but the whole expression also means that the car is dead, finished. In this instance, the repairman may have been more specific or just jocular (a bad joke for the car owner!). In any case, terms should be marked by language level.