REPORTS AND COMMUNICATIONS

DRTC Annual Seminar (15)

The 15th Annual Seminar of the Documentation Research and Training Centre, Bangalore, 5–9 December 1977, was focussed on the two topics:

Area 1: Classification and Indexing for Social Sciences;

Area 2: Information for Development.

Eighty delegates from all over India participated in the Seminar, which had twenty-one papers (8 in Area 1 and 13 in Area 2). It was conducted in 8 plenary sessions and 8 group meetings. Six groups of participants discussed and helped in formulating the recommendations over 8 propositions, which were finalised in the plenary session. The final outcome of these discussions were presented in the form of proposals to indicate the trends of thinking and discussion at the Seminar. Following are the recommendations out of the deliberations of the Seminar sessions.

Area 1

Recommendation 1:

"In view of the growing emphasis on the problem-centred developmental research in social sciences; and taking note of the resulting formations of interdisciplinary and trans-disciplinary subjects in social sciences; and

having taken into consideration that such formations may be ad hoc and of transient nature,

it is recommended

the main structure of general classification schemes be discipline-oriented, with adequate built-in mechanisms, which are resilient enough to accomodate the problem-centred, entity-centred, or any other non-disciplinary approach".

Recommendation 2:

In view of the fact there is need for adaptation of classification and indexing systems to the users of library and information system, which may need applied and developmental work,

it is recommended that

the existing facilities available in DRTC and other similar organisations may be coordinated into a national research and development organisation for India in the field of classification and indexing to provide necessary guidance/training, which will enable the individual classifiers/classificationists to design and adapt suitable classification indexing for use in libraries and information systems.

Recommendation 3:

In view of the growing need for the development of thesauri for information retrieval in the subjects in social sciences; and

in view of the enormous amount of repetitive manipulative operations involved in developing such thesauri,

it is recommended that

the computer-based semi-automatic construction methodology using the facet-analysed subject-strings, generated as surrogates for documents as well as for user queries, developed by the DRTC, may be adopted for generating information retrieval thesauri in the field of social sciences.

Recommendation 4:

In view of the growing interrelation among concepts, it is helpful in an index to present/display each Lead/Index term and its incidental contexts in a manner that facilities prediction and selection of information, and for this purpose,

it is recommended that

the semi-automatic methodology for context specifying index, such as POPSI, may be adopted for bibliographic control of information in social sciences.

Area 2

Recommendation 5:

In order to develop a framework for the input/output for a development information system, the main users of development information may be identified as follows:

a) Policy makers dealing with economic and social development at government and non-government levels – local, national, regional, and international;
b) Planners of socio-economic development projects, including those responsible for forecasting and surveying economic conditions and for assessing and evaluating the progress of programmes and projects;
c) Managers of development programmes and projects in the field and at headquarters of the organisations;
d) Researchers, teachers, students of development subjects;
e) Financial authorities who provide resources for development projects;
f) Communicators, who are involved in the dissemination of information about development to those who are directly affected by it;
g) Beneficiaries of the development planning and processes; and
h) Those providing information support services to the above groups.

Recommendation 6:

In order to comprehensively cover the various types of information generated during the development process, the following stages/phases of development process may be recognised:

a) Finding facts;
b) Assessing trends;
c) Identifying needs;
d) Diagnosing problems;
e) Fixing priorities;
f) Prescribing solutions;
g) Establishing policies;
h) Defining plans;
i) Devising programmes and projects;
j) Implementing programmes and policies;
k) Assessing the impact of action;
l) Evaluating success or failure.

Recommendation 7:

In view of the development process being a multisectoral and multi-phase operation,

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it is recommended that
for harmonization and acceleration of development process in a society, it is helpful to

1) develop sectorwiese institutional facilities for generating, collecting, and disseminating information and data;
2) arrange for a continuous monitoring/assessment of the utility of information activity; and
3) set up mechanisms and tools for continuous inflow and outflow of information.

Recommendation 8:

In order to meet effectively the information needs of development planners and other development scientists; and
in view of the projected institution of DEVSIS at the international level,
it is recommended that
a National Coordinating Body to network the institutional facilities available in various sectors be evolved,

a) so as to constitute the national information system for development sciences; and
b) to act as a national focal point for the input/output of information for the international network for DEVSIS, under an appropriate national authority such as the Planning Commission.

M. A. Gopinath

Technical Languages and the Common Language

This year's annual convention of the German Language Institute ("Institut für Deutsche Sprache", or IDS), which was attended by some 250 Germanists, linguists and some practitioners (lawyers, doctors, technicians) from Germany and abroad (especially Scandinavia), was devoted to the general subject "Fachsprachen und Gemeinsprache" (Technical Languages and the Common Language), a rewarding title for an inexhaustible topic for discussions. It took place at Mannheim, 14–17 March 1978.

1. The revolutionary developments of the 19th and 20th centuries in the field of science and technology have caused the diversification, number and importance of technical fields to acquire a wholly new dimension. Using a fine-meshed classification (providing for e.g. subfields of medicine alone) one will arrive at a number of scientific disciplines and technologically oriented professional fields (technical fields) in the order of some 4000 by now! As a result of this development, more and more fields of life and knowledge are in need of adequate linguistic coverage. In other words: the evolution of technical fields goes hand in hand with an explosion-like diversification of technical language. As the technical fields make themselves independent they acquire more and more influence on social life and on the social conditions under which we live. The mutual relationship of both fields is still open to question, and the same can be said of the relationship between the common language and the indeterminable number of technical languages in their differentiation from one another. While in the 19th century such words as "Fach" (profession), "Fachmann" (professional man, expert) or "Fachsprache" (technical language) were still used in an emotionally neutral if not even in a positive sense, today expressions like "Fachidiot" (one-track specialist), "Fachchinesisch" (technical gibberish) or "Fachjargon" (technical jargon), etc. reflect profound discomfort in the face of the latent communication breakdowns and conflicts between the common language and technical languages, a situation finding expression in such German slogans as "Verwaltete Welt" (world in the grip of bureaucracy) and "Verwissenschaftlichung der Sprache" (language put through the mill of science, or 'scientification' of language).

Accordingly, the main problem with which all papers presented at the convention were concerned consisted in the communication and interaction difficulties separating the specialists from the so-called mature citizen and exemplarily presented in three papers for the fields of law, medicine and advertising respectively. The topic "Technical Languages and the Common Language" with its innumerable aspects can be approached in a wide variety of ways and keeps presenting new problems. Therefore, the present report on the two days (and seven papers) devoted to this subject during the five-day conference must be restricted to a few selected aspects; the full text of the papers and discussions will be presented in the IDS Yearbook for 1978.

2. The concern for the technical languages appears to be in the process of replacing the grammatical synthesis/analysis/transfer boom that chracterized the linguistics of the past decade, a development which the man of the practice can only welcome. However, this is a field on which only very vague numerical data is available. Merely estimating the size of specialized medical terminology produces answers varying between 170 000 and 500 000 terms. A speaker at the convention who estimated the vocabulary of electrical engineering and electronics at some 60 000 terms was informed then and there that far more terms than that are listed in the technical dictionaries of these disciplines alone. Reliable statistics are not available, however. The only undisputed figure was that for the number of terms in organic chemistry: 3.5 million.

Likewise undisputed was the fact that nouns predominate in technical languages – but not because of a reduced use of verbs in technical contexts compared with ordinary ones. Verbs characteristic of a given field are frequently lacking, since the construction "noun plus *vornehmen* (perform) or *machen* (do, make) or *durchführen* (implement)" predominates. Passive constructions are scarce, a fact put to good use by TITUS. Whether there are prepositions characteristic of specific fields, e.g. *kraft* (by virtue of), *qua, versus,* remained controversial.

All technical languages originate in and have come forth from the common language. Whereas the concepts and terms of the common language are coarse-meshed, general, comprehensive and emotional, in the technical languages they are refined, objectified, condensed, clearly specified, and demythologized (e.g. freedom, tolerance, pure). They can generally be reduced to their original meaning.

A technical language is not necessarily an indication of a high level of civilization. Among primitive peoples, too, fully developed technical languages can be encountered, e.g. in fishery or hunting. Possibly, however, it would be appropriate to differentiate already at

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this stage between technical language and specialized language. It is estimated that some 11% of the words of colloquial language are pure technical language. (As a result of many years of discussions in the media on nuclear energy, "Geiger counter" is becoming just as much a part of the common language as "thermometer".) Everyday language has been found to be interspersed with mining terms in the Ruhr area and with chemical terms in the Rhine/Main/Neckar area.

The proposal by one speaker (a designer) to use synthetic languages, abbreviations, numerical combinations, etc. for greater technical precision was unanimously rejected by the Germanists, who insisted that even a technical language should furnish meaningful contents and semantic references, and that communication on a larger scale, i.e. with persons outside the given field, is not conceivable without semantic imagery. Projects of this nature were headed in the wrong direction. The only possible way was the one back from technical language to common language and thus to a "democratization of language". A law-abiding state presupposed, among other things, that the citizen can understand the language of law. This would still be the case, however, if e.g. "night's rest", "person", "traffic custom" had a different specific word contents in legal language. Even without knowing the precise legal definitions, every citizen was employing words like "law" or "true" correctly, due to his practical experience in applying the rules of contextual use (pragmatically standardized expressions).

The logical discrepancies between the common language and technical languages of course did not go unmentioned. Thus, legal language knows of an "arrested object", although normally only persons can be arrested. In mathematics there exist an "empty class" and a "class of only 1 element", whereas in ordinary language a class always consists of several things. Such a thing as a "potenzbeschränktes Linksideal" (exponentially limited left-hand ideal) is likewise hardly conceivable or classifiable in ordinary language, (where the term might conceivably be interpreted at first sight as something in the nature of a "leftist ideal of limited potency". Translator's note).

The language of public administration and government, so-called officialese or bureaucratese, externally applied in addressing the citizen, is not a technical language as the term is understood by the Germanists – who dismissed it as a "flatulent language". What the philologist does find interesting, on the other hand, is the *internal* technical language, divided into a theoretical area (scientific language) and a practical area (technician's language). Synthetic languages (e.g. programming languages, logical notations) and special languages (e.g. the language of whores and pimps) are not technical languages in the strict sense of the word.

Another approach toward ordering the vast field distinguishes between technical languages in the following fields: science (scientific language), production (technician's language), marketing (advertising language), and consumption (technical language as part of everyday language). A parallel to this is offered by the following stratification: scientific language, common language within a given field, language among fields (internal technical language), and propagation language (external technical language).

A host of problems and aspects became visible. Hence the plenum's urgent recommendation to the Federal German Ministry of Research and Technology to institute a new field of research "Technical Languages" at the German Language Institute (Institut für Deutsche Sprache), there existing nothing of the kind so far in Germany (in contrast with e.g. Sweden). Linguistics and Germanistics thus seem to have selected a new favorite child – a situation to be warmly welcomed, especially if empiricism and practice are on a level with theory, which was not quite the case in Mannheim. As a first measure, large-scale statistical investigations are required so that somewhat more precise figures may be obtained.

H. J. Schuck

Cooperation in Classification

Report on the 2nd Conference of the "Gesellschaft für Klassifikation" (Society for Classification), held in Frankfurt-Höchst, West Germany, 6–7 April, 1978.

Uniting nearly 140 participants from 14 countries, the 2nd conference of the one-year old "Gesellschaft für Klassifikation"[1] was able to register a wide response. Theoreticians and practicians from numerous areas of science, public administration, industry, and from professional and general fields, took a lively interest in the overall program, which was divided over six sections, each devoted to a different principal theme. This enthusiastic "audience participation" was one of the factors contributing to the success of this meeting.

Right at the outset of the conference, the greeting messages of the international or national institutions directly or indirectly concerned with the problem and action field "classification" – such as Unesco, FID (Fédération Internationale de Documentation), IFLA (= International Federation of Library Association), IGWT (= Internationale Gesellschaft für Warenkunde und Technologie, or International Society of Commodity Science and Technology), DIN (= Deutsches Institut für Normung, or German Standardization Institute), DBV (= Deutscher Bibliotheksverband, or German Federation of Libraries), DGD (= Deutsche Gesellschaft für Dokumentation, or German Documentation Society), and GI (= Gesellschaft für Informatik, or Society for Computer Science) – signalized that the young society's initiative is meeting with general sympathy and interest and that a development toward improved cooperation in classification is generally desired and hoped for.

Some excerpts from three of these greeting messages follow:

Prof. *A. Neelameghan,* Bangalore, India:

"... at the outset permit me to offer this young and vigorous Society and the participants in this conference warm greetings on behalf of the FID/CR, the UNESCO's General Information Programme Advisory Committee, the classification enthusiasts of India, particularly those of my institute – the Documentation Research and Training Centre in Bangalore – and last but not least, the Sarada Ranganathan Endowment for Library Science, a foundation that has as one of its major objectives the promotion of research and cooperation in research in library and information science. The Gesellschaft für Klassifikation, though young, has as its members internationally known scholars and experts in the field, and I envision a bright future for the Society ...

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Prof. Dr. *Helmut Arntz*, Bad Honnef, Germany, President of the FID:

"For a very special reason, the FID vividly acclaims the founding of the Society for Classification ... Over and beyond the UDC, the BSO (the new Broad System of Ordering) should make it plain to everyone, how intensely the FID remains concerned with all classification problems and how happy we are over the fact that the Gesellschaft für Klassifikation has succeeded in organizing such an impressive conference by which we will all greatly profit. Together with my special congratulations to the organizers I wish to express hereby the FID's very best wishes."

Prof. Dr. *Norbert Henrichs*, Düsseldorf, Germany:

"The Executive Board of the German Documentation Society has authorized me to convey its greetings to you and to congratulate you on – this we can say already now – the success of this conference ... The problem field "Classification" possesses ... aspects which do not fall, or at least have not fallen so far, into the DGD's sphere of responsibilities. From a certain comprehensive viewpoint, therefore, the Gesellschaft für Klassifikation deserves our gratitude for closing a major gap that so far had regrettably existed in classification research. It is therefore to be desired that the Gesellschaft für Klassifikation will be able to realize its objectives in the qualitatively best possible way ..."

In her keynote address, *I. Dahlberg* emphasized the fact that preparations for this meeting had been geared mainly to presenting an overall view of the entire "Classification" field, but that specific questions were to be examined in greater detail within the framework of the special interest groups now taking shape within the Society and to play a part at future conferences as well, for in the final analysis the Gesellschaft für Klassifikation hoped to succeed, through its contribution, in "making up for ... past omissions in the field of the classification of knowledge and in the dissemination of knowledge on that field" inasmuch as present-day man had more to gain from a "synthesizing, summarizing, universally-oriented view of the world of knowledge" than from "any form, no matter how brilliant, of intensified specialized knowledge, ending up, finally, in the illusion of knowing everything about the slightest thing". However, such a goal, namely of a "conscious synthesis of knowledge and a more universal view of the structures which this knowledge is capable of holding together", could only be attained through comprehensive cooperation among and assistance by all interested circles.

It was partly for this reason that the congress started out with a section devoted particularly to the logical-philosophical and linguistic foundations involved, followed by several sessions held in parallel and devoted to applications of various nature. These sessions converged in turn into a general program concerned with classification procedures and aids and cuhninating in a summarizing panel discussion. The following is a brief outline of the fundamentals of the various sections[2].

In Section 1 ("Philosophical and Linguistic Foundations of Classification") which *Ota Weinberger*, Graz, Austria, was kind enough to chair, *Gerhard Vollmer*, Hannover ("Epistemology and classification of knowledge") explained the central point of his approach as follows: epistemology was not to be pursued prior to and independent of all knowledge, but rather was closely interrelated with knowledge, in fact so closely as to form a control loop with it providing for correction possibilities. The prerequisite for present-day theory of science should be seen as lying in "hypothetical realism", which furnished an approach permitting the existence of different scientific disciplines (ontologically corresponding to the plurality of a multilayer structure of the world) to be used for deriving an epistemological model in the manner of a "system-theoretically defused reductionism". This reductionism, in turn, permitted the individual sciences within a reductionist system to be granted, after all, a relative autonomy, namely on the basis of the occurrence of new system properties whenever partial systems are united. In the ensuing discussion this approach did not go uncriticized from the part of the logicians – a fact suggesting that the questions involved are deserving of more attention by the philosophers.

Next, *Erhard Oeser*, Wien, read a paper entitled "Dynamics of Scientific Concept Forms" which was likewise based on an approach centering around the changeability of knowledge and its capability of development. Changes in the central concepts of a science were indicative of its progress, which was true not only of theoretical, system-relative, only partially interpretable concepts but also of empirical ones, as could be seen especially where a qualitative concept form was changing into a quantitative one. On the basis of these reflections, classification of knowledge also included considerations on rules and laws governing any changes in such classification.

Section 1 was concluded by a paper by *Alfred Hoppe*, Bonn, on "Classification of Semantic Complexes Within a Given Language", in which it was vividly shown with what classification means language itself operates and in what way linguistic multiformity can be condensed by means of basic structures of contents. It needed to be examined, however, to what extent these class concepts valid for a given language will prove useful for a classification of knowledge.

Section 2 on the subject "Cooperation in Improved National and International Accessibility of Information", chaired by *Wolfgang Zwirner*, Braunschweig, started out with a paper by *Helmut Arntz* on the "Unesco and FID Efforts for a Broad System of Ordering (BSO)". From his explanation of the function of the BSO as a coupling mechanism between classification systems as well as from the ensuing discussion, errors – and the causes thereof – of the currently developing system were already clearly foreshadowed.

In his paper "Cooperation in European Thesaurus Work", *Léon Rolling*, Luxemburg, showed that within the Commission of the European Community efforts are now centered on an efficient generation of multilingual thesauri and that at this moment it is of vital importance to create a suitable infrastructure for an optimum creation, maintenance and application of existing thesauri within the field of the bibliographiec data collections to be connected to Euronet.

Next, *Elfriede Herbig*, München, reported on the "International Patent Classification", a system which is being widely applied in more than 40 countries and whose importance is lying not so much in its structure, established as it had been through compromises, as in its user-oriented and already successfully applied instrumental character. Section 2 was concluded by the paper "On the Present Status of the Efforts to Improve the Accessibility of Information in the West German Information and Documentation Systems" by *Jutta Schön*, Frankfurt, who, starting out from a statistical analysis of the methods currently applied for describing the con-

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tents of documents (which revealed a remarkably large number of organizations applying systems of their own making), continued by examining questions concerning the effect of international cooperation on national standardization and by assessing the prospects of the progressive automatic-indexing methods currently being tested.

Simultaneously with Section 2, Section 3 devoted to "Applications of Numerical Taxonomy" convened under the chairmanship of *Peter Ihm. Gerard Salton*, Ithaca, N.Y., showed that and how an economically interesting clustering method is applied to large data collections and how correspondingly wide and narrow retrieval queries can be directed to the various classes. *Hermann Fangmeyer*, Ispra, Italy ("Evaluation and Comparison of Classification Results in Automatic Procedures"), was concerned with evaluation procedures designed to make it easier for the user to take a decision as to whether to accept or to reject a classification result, and *Ursula Schulze*, St. Augustin, Germany, reported on "Experience in the Application of Automatic Classification Procedures in the Analysis of the Contents of a Set of Documents", namely of 1000 rulings by the West German Federal Constitutional Court. *Peter Bollmann*, Berlin, presented a procedure for the comparison of classifications ("Application of Automatic Classification Procedures Using the FAKYR System"), which procedure was used in the automatic compilation of a bilingual term classification relative to the vocabulary of the journal ZENTRALBLATT FÜR MATHEMATIK. The paper "Importance and Limitations of Classification in International Information Systems:: by *Rolf Henzler*, Heidelberg, was concerned less with numerical taxonomy procedures than with the results of empirical-statistical investigations based on the CANCERNET system comprising a stock of nearly 100000 literature references and it emphasized the importance of classificatory methods as compared with automatic indexing procedures.

Section 4, chaired by *Paul Kaegbein*, Köln, and devoted to "Cooperation Among Libraries in Classification", started out with a paper by *Derek Austin* and *Jutta Soerensen* on "Cooperation in the Development and Use of PRECIS", i.e. the successful, sentence-oriented indexing procedure of the British National Bibliography, already adopted by a great many information systems, primarily in Great Britain but also in Scandinavia and Canada. In his paper "UDC Automation and Its Consequences", *J.-P. Sydler*, Zürich, emphasized the importance of a standardized classification for the introduction of homogeneous retrieval strategies and the generation of compatible thesauri. In her outstanding presentation and interpretation of the system pluralism in "Classificatory Procedures for Improved Accessibility of Information in German Libraries" *Gisela Heinrich*, Köln, devoted attention also to the present crisis of information analysis in libraries and to the possibilities of resolving this crisis. *Hans Gerhart Schön*, Bielefeld, in his paper on "Improved Uniformity of Systematic Description of Legal Literature in German Libraries and Documentation Centers", advocated mutually coordinated action by all concerned in the field of legal classification.

Section 5, chaired by *Josef Hölzl*, Wien, and devoted to "Cooperation in Commodity Classification", put in "Overtime" to be able to do justice to the five papers presented. In his introductory paper on "The Commodity – a Complex, Ubiquitous Phenomenon", *Karl Ostarhild*, Bonn-Bad Godesberg, already made it plain that commodities, by virtue of their "ubiquitous occurrence", can be systematized only with difficulty. *Günter Schnegelsberg*'s paper on "Science-theoretical Foundations of a Commodity Classification" bore out the importance of a proper collection of the inherent, derived and general characteristics of objects as well as the influence of the sequence of characteristics for the presentation of an object-related concept system. *Jürgen-Peter Schulze*, St. Augustin, Germany, presented "The Cataloguing System of the German Federal Administration as an Example for International Cooperation with a Uniform Commodity Classification" and reported on the commodity data bank maintained by the German Federal Material Cataloguing Center (BMatKatZ) and comprising some 1,2 million accounts for various commodities characterized by more than 2,5 million manufacturer and technical-standard identifications stored for this purpose. Mr. Ring (replacing *Jürgen Adams*, Germering, reported on the rationalizing influence exercized by this commodity classification in a specific industrial enterprise, namely the Dornier company in the application of its Dornier Article Identification System (DAIS). A similarly economizing effect would be exercised in another field – namely that of terminology – by a "Dictionary of German-Language Commodity Terms". *Otto Gekeler*'s compilation (from 15 designation systems) of 237 terms/names of the tool "hammer" and its varieties proved that, while an immense conceptual and terminological work would have to be accomplished here, a great many things are already available in usable form and need only be brought together in a meaningful way to be applied effectively.

The concluding Section 6 was again concerned with questions of general interest. While the start of the conference had been devoted to general foundations, it was now the Methodical Aids for Classification which were being discussed. Chaired by *Norbert Henrichs*, Düsseldorf, this Section was opened with the contribution of *Martin Scheele* (Schlitz) on "The Universal Facet Classification and its Possible Importance for General Education, Terminology Research, and Information Science". His address centered around basic requirements formulated in the manner of theses, to be imposed on a universal classification system. Proceeding from these requirements, Scheele outlined the steps and fundamental decisions via which he had come to construe his self-developed "universal facet classification". A novel feature of his approach is particularly the consistent application of any existing possibility of facet construction, combined with a notation whose simplicity is to permit a clear working arrangement. A further distinguishing and unusual characteristic of his work consists in the fact that the basis for the classification system is not formed by subjects nor by fields of knowledge, but rather by words of general importance, so that immediate realities are selected themselves to serve as basic pillars of the system. This novel idea seems to deserve a general analysis, even though opinions on the practical work done by Scheele may differ.

The ensuing paper by *Helmut Felber*, Wien, on the subject "Collection Schemes for Concept Documenta-

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tion" showed in a clearly arranged fashion what collection categories are used in some selected thesaurus and terminology card files. Rational cooperation of the growing national and international computer-assisted terminology will only be possible on the basis of uniform collection formats. With the aid of a carefully considered collection format, *Gerhard Wahrig*, Mainz, has produced, in the course of the work on his "DFG-Projekt Semstruktur" a dictionary usable as a data bank (and also available in book form as the "dtv Wörterbuch der deutschen Sprache", München 1978) which makes it possible in a manner unique so far, to conduct comprehensive language-analytical investigations and which, in the end, points out the way to the ultimate basic linguistic concepts of which language is constituted. His empirical approach by way of various successive stages on the basis of quantitatively large amounts of computerized material will at some future time have to be matched against the concepts of the basic phenomena characterizing Scheele's system. Next, *Helmut Mönke*, München, tackled the problem of a uniform collection of definitory forms in his paper on "The 'Definitory Matrix' – an Instrument for the Uniform Structuring of Definition Texts". Proceeding from the 78 (!) different designations for definition types occurring in the literature, Mönke outlined nine positions into which these types can be classified, in which connection he tried to determine their delimitations from one another. Even though the work done by Mönke did not produce a final clarification, it can nevertheless be said that his approach is most promising and that future work may profit by it.

In conclusion, basing himself on the example of a simple and well-functioning system for the collection of information within the framework of ecological planning ("Toward a Conceptual Framework for an International Classification of Land Use Planning Information"), *Albert Z. Guttenberg*, University of Illinois, demonstrated what use can be drawn for classification purposes from a small group of well-defined and clearly delineated conceptual basic categories, a fact which makes Scheele's and Wahrig's efforts appear so highly valuable and correct.

Lack of time prevented the final panel discussion from doing much more than reporting on the results achieved in the various sections. It became evident in this discussion that it will not only be necessary to stimulate increased cooperation in the various fields of classification but that it would also be desirable if within the various fields there would be increased interest in the problems with which the other fields have to wrestle. The fundamental questions existing are in need of further research; particularly the panel contribution by *Ota Weinberger* made clear that the epistemological foundations need to be explored more profoundly, which efforts might also have a fruitful effect on the integration of the various classificatory complexes.

Robert Fugmann's final remarks underlined in conclusion what had already found expression in the numerous peripheral comments voiced at the conference and in the discussions of the sections: that an orientation toward a bridging of the differences of opinion and toward a synthesis of the manifold efforts is the dictate of the hour and that the various contributions presented had underlined this fact, both where they had noted shortcomings and where they have been able to point to positive developments.

It seems permissible to strike the following overall balance of the conference: the meeting appears to have succeeded in outlining the classification complex on a broad basis and in mobilizing the interest of scholars both at home and abroad. It remains to be hoped that one will succeed in going more deeply into the questions raised without having to neglect the aspect of generality and universality that mirrored itself in the complex of subjects dealt with at this conference.

Wolfgang Dahlberg

1 Regarding a report on the First Conference please see Intern. Classificat. 4 (1977) No. 2, p. 103–104. See also the Proceedings of this Conference on Principles of Classification, Frankfurt: Gesellschaft für Klassifikation 1977.
2 The Proceedings of this conference will be available in the Fall of 1978 at the Secretariat of the Society, Woogstr. 36a, D-6000 Frankfurt 50.

First CCRG Conference, Melrose 1978

On May 5–7, 1978, at the Michaelite House, at Melrose outside of London, Ontario, members of the Canadian Classification Research Group (CCRG) met for their first formal conference. (Its annunciation see Intern. Classificat. 5 (1978) No. 1, p. 40.) This was the second conference held in Canada devoted entirely to the subject of classification, the first being the 1971 Ottawa Conference on the Conceptual Basis of Classification. Two years later as an indirect consequence of the Ottawa conference and under the direct stimulus of *G. Bhattacharyya*, the CCRG was formed. Affiliated with the International Federation of Documentation and with a Secretariat under the direction of *S. Neill* at the School of Library and Information Science, at the University of Western Ontario (SLIS, UWO), the CCRG until now has been only loosely connected by means of a newsletter which reports the activities of its members. Thus, the first formal meeting of these members, made possible in part by a grant from the Canada Council, marked an important occasion.

The immediate objective of the conference was to stimulate the interchange of ideas among Canadians interested in fundamental and applied classification research. Geographically the spread of the participants was broad, from Alberta to Montreal to Ottawa, Toronto and London. Two distinguished international visitors were present at the Conference: *Eric de Grolier*, Secretary General, National Institute of Technical Documentation, France, at present a visiting Professor at the Ecole de bibliothéconomie, Université de Montréal; and *Pauline Atherton*, Professor at the School of Information Studies at the University of Syracuse.

One paper only, that of *C. Watters* and *M. Shepherd* (Information Systems and Services, Inc., London, Ontario) dealt directly with problems of implementing a system of bibliographical control in an actual working situation. The situation was an awkward one characterized by a collection of ephemeral material and a force of inexperienced and occasional indexers. Though there

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was only one paper dealing with applications, it was interesting to note that among the Conference attendees, who contributed to the general discussion, were two persons in search of answers, persons whose everyday work is with the design and application of classification systems: *Gerard Coté* from Statistics Canada and *N. Chan* from the Translation Bureau of the Secretary of State.

Two papers had practical import though not directly concerned with an actual application. *Andre Nitecki* (Associate Professor, Faculty of Library Science, University of Alberta) in his paper dealt with various constraints that affect the design of practical library classifications. These constraints were discussed with respect to the bibliothecal, bibliographical and cognitive functions of a library classification and the question was raised whether these three functions could be achieved by one and the same classification. *D. Alley* (Research Associate Professor, Faculty of Engineering, Concordia University) in her paper addressed a question of significance for any practical application, as well as for future activities of the CCRG. This is the quite mammoth question of how to develop a uniquely Canadian bibliographic structure to suit a Canadian reality that is defined in terms of information transfer processes and thus, broadly, in term of Canada's social, political and cultural life.

The papers representing basic or fundamental research fell into five categories based on type of approach: mathematical, linguistic, historical, psychological and philosophical. Opening the conference was a paper by *J. Farradane* (SLIS, UWO, formerly Director, Centre for Information Science, City University London, England). Exemplifying a psychological approach, Farradane discussed principles of classification with a view to determining what an 'ideal' general classification would be like if its structure were modeled on the structure of human knowledge as thought processes operate.

The linguistic approach was represented by *Y. Courrier* (Directeur, Ecole de bibliothéconomie, Université de Montréal) and *B. Harris* (Directeur, Ecole de traducteurs et d'interprètes, Université d'Ottawa). Courrier reported experimental research undertaken to assess the applicability of case grammar to information retrieval. Case grammar was found wanting mainly because of the difficulties experimental subjects had in determining the cases of noun phrases and the case frames of verbs, especially when analyzing writing of an abstract or scientific nature. Harris brought insight from translation theory to bear on 1) the translation between two classification systems and 2) the translation of a classification scheme or thesaurus from one natural language to another. He noted that, in the latter case, the translator is almost obliged to translate not word for word (descriptor for descriptor) but rather concept for concept, where concepts are understood to be equivalence classes of words.

H. Schulte-Albert (Associate professor, SLIS, UWO) presented an historical paper dealing with the classificatory thinking of Kinner, Dalgarno and Wilkins (c. 1645 to 1668). Kinner designed a special classification for botany and then turned to the challenge of designing a universal calssificatory language. Influenced by him, Dalgarno produced a general conceptual classification scheme, based on Aristotelean categories and designed to organize "things and notions". Wilkins carried Dalgarno's ideas further and, in addition, constructed a thesaurus-like dictionary for the purpose of vocabulary control. *E. Svenonius* (Associate professor, SLIS, UWO) also contributed a historical paper in which she analyzed Kaiser's systematic indexing. Kaiser seems to have been the first to recognize indexing language as a language with grammatical categories and rules of syntax, and, as such, may be regarded as the precursor of faceted indexing. In his efforts, not entirely successful, to define systematically concrete and process facets he anticipated modern-day difficulties besetting faceted languages such as PRECIS.

By criterion of quantity, the mathematical approach was best represented at the conference. In all there were five papers that used mathematical techniques. *N. J. Williamson* (Associate professor, Faculty of Library Science, University of Toronto) reported the results of an experiment designed to discover whether document clusters obtained mechanically, as a function of number of key-words in common, could be identified as definable subject classes. The data used for the experiment were 101 bibliographic entries taken from the 1976 subject indexing section of *Library and Information Science Abstracts*. The results of the experiment supported the hypothesis that document clusters did indeed possess subject characteristics which made them definable subject classes. *W. G. Hoyle* (Information Science Section, Radio and Electrical Engineering Division, National Research Council of Canada) in his paper described the design of a mechanical document processing system which uses weighted vocabulary lists to define operationally subject categories. Documents coming into the system are automatically assigned to the different subject categories with certain error probabilities. On the basis of some sample data these error probabilities were computed and it was found that there was 80% agreement with humans in assigning documents to subject categories. *T. Craven* (Assistant professor, SLIS, UWO) gave a paper in the area of notation theory. Expressive notations tend to be uneconomical, resulting in imbalance in classificatory trees. Craven outlined a method of notation, called "salient node notation", which satisfies both the conditions of expressiveness and economy. *C. T. Yu* (Assistant professor, Department of Computing Science, University of Alberta) presented a paper, which was written with *W. S. Luk* and *M. K. Siu*, on design parameters of information retrieval processes. A probabilistic model was constructed to describe information retrieval processes. Then, using the model, mathematical manipulations were performed to derive analytical results. Finally, these results were compared with results obtained experimentally. Yu also discussed techniques for relaxing the independence assumption frequently characterizing retrieval models. *H. S. Heaps* (Department of Computer Science, Concordia University) described a procedure for computer simulation of document data bases. The purpose of the simulation is to study information retrieval processes. The simulated data bases, whose statistical properties are varied, represent a model which can be used to test the effect of various constraints on retrieval performance.

The last formal paper of the conference was given by

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J. Wojciechowski (Professor, Faculté de philosophie, Université d'Ottawa) and exemplified a philosophical approach. In an application of General Systems theory, Knowers, Culture and Nature were viewed as system elements related by complex feedback relationships. Wojciechowski stressed the importance of classification, beyond simply the library scene, in organizing the multiple products of man's rational activity. Calhoun's work, which analyzes and interrelates 17,000 concepts, was presented as an example of such an organization.

E. de Grolier brought the Conference to a close with summary remarks. These remarks took the form of placing the Conference, historically, both in the general movement toward the institutionalization of classification research and in various theoretical streams of thought. De Grolier then spoke of trends and future prospects, in particular of the possibility of a new classification theory, one that was emancipated from traditional methods. To deepen the movement toward fundamental and applied classification research in Canada, and the movement toward the institutionalization of classification research, the task now of the CCRG is to delineate a Program of Research and to present it to concerned persons.

E. Svenonius

Data Structure Analysis and Applications

The Classification Society, European Branch and the British Pattern Recognition Association held a joint meeting on "Data structure analysis and applications", April 7, 1978 at the Royal Society of Medicine in London.

The program showed the following papers:

Whishart, D.: Estimating the modes of a multivariate sample density.

Keenay, G. A.: Development of job classification schemes.

Ross, G. J. S.: Appplications of cluster analysis.

Devijver, P. A.: Learning methods in pattern recognition.

Kittler, J.: Statistical feature selection and extraction.

Deighton, P. D.: A statistical approach to alphanumeric pattern classification.

Hanka, R.: Differential diagnosis of Wilson's disease.

Paton, K.: Classification of radiographs for pneumoconiosis.

Hand, D. J.: Classification of vectors with missing components.

A report on the meeting will be published in The Classification Society Bulletin.

The 1978 Classification Society Meeting, USA

The North American Branch of The Classification Society held its 9th Annual Meeting on May 21–23, 1978 at Clemson University, Clemson, South Carolina. The following 35 papers were announced to be presented in 9 sections. A panel discussion on "Present and future directions in classification" was moderated by R. F. Ling (from Clemson U.) with the panelists: H. Friedman, IBM; J. B. Kruskal, Bell Labs.; F. J. Rohlf and R. R. Sokal, SUNY at Stony Brook; J. S. Strauss, Yale University.

1. Clustering graphics

Hartigan, J. A.: The use of clustering in graphics and use of graphics in clustering.

Rohlf, F. J.: Representing clusters as solid objects in 3-space.

Snygg, Ch.: Plotting high dimensional data.

Turner, D. W., Tidmore, F. E.: Clustering with Chernoff-type faces.

2. Clustering validation

Blashfield, R. K., Aldenderfer, M.: Cluster analysis literature on validation.

Kettenring, J. R.: Graphical and descriptive procedures for assessing clusters.

Huizinga, D.: Measures of cluster compactness and partition adequacy.

Golden, R.: Measures of internal validity and their applications in psychiatry.

3. Clustering softwere

Blashfield, R. K.: An overview of clustering software.

Rohlf, F. J., Ling, R. F.: Presentation of up-to-date information and documentation on clustering software and packages.

4. Clustering algorithms and methods

Kruskal, J. B.: Some investigations of a clustering method called CONCOR.

McQuitty, L. L.: Matrix classification.

Salter, P. B.: Transaction flows and the assignment problem.

Hamer, R.: Choosing a proximity measure for hierarchical cluster analysis.

Pinchbeck, B. R., Carmichael, J. W.: Taxometric maps.

5. Statistical models and methods in classification

Wishart, D.: The treatment of missing values in data analysis.

Symons, M. J.: Bayes modification of some clustering criteria.

Enslein, K., Craig, P. N.: A toxicity estimation model.

Begovich, C. L., Kane, V. E.: A probabilistic method for grouping data.

Rousseau, P.: Maximum likelihood clustering of binary data sets.

6. Multidimensional scaling

Green, P. E.: Some new developments in the application of multiattribute choice models.

Carroll, J. D., Pruzansky, S.: Applications and extensions of CANDELING models.

7. Classification applications

Dean, R.: Comparison of BC-TRY with hierarchical clustering methods for developing typologies from psychological self-report data.

Thompson, T.: Clustering the journals of science.

Bailey, T.: The validity of proximity clusters.

Kingsley, S.: Comparing multidimensional configurations.

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Gupta, A. K., Lindle, S. G.: Multinomial distribution and ascertainment models.
Fuller, V.: Ways of classifying knowledge.

8. Applications in medicine and psychiatry

Starma, F., Lee, K. L.: Prognostic stratification and experience-based problem-solving in chronic illness.
Strauss, J. S., Mezzich, J., Docherty, M.: Combined cross sectional and longitudinal diagnosis: methodologies.
Skinner, H. A.: A vector model for psychiatric classification.

9. Applications in business and marketing

Katz, R.: Cluster analysis in the study of organization behavior.
Roberts, R.: Consumer segmentation and product needs-benefit.
Wallace, W.: Applications of clustering to everyday market problems.

For further information contact the program chairman: Robert F. Ling, Dept. Math. Sciences, Clemson University, Clemson, SC 29631, USA.

First Conference of the French Classification Society

On the occasion of the *Journées de Statistiques* of the Association des Statisticiens Universitaires, the Société de Statistique de Paris, and the Société Française de Biométrie, the recently created French Classification Society held its first conference in Nice, from 24–26 May, 1978. The following papers were announced in the program to be presented in four sections:

Section 1: Formal or algorithmic aspects

Monjardet, B.: Contribution de la théorie des graphes à la taxonomie mathématique.
Leclerc, B.: Arbres valués et ultramétriques.
Barthelemy, J.P.: Sur les types de partitions.
Chandon, J.L., Lemaire, J., Pouget, J.: Algorithme de branchement pour la détermination de l'ultramétrique la plus proche au sens de moindres carrés d'une dissimilarité.
Chandon, J., L.: Construction d'un ultramétrique la plus proche au sens des moindres carrés. Approximation et optimisation.
Lehert, P., Hansen, P.: Classification de grands ensembles de données par la méthode single link.

Section 2: Data and methods

Fromentin, G., Mergui, G., Nefussi, J.: Typologie technologique d'une ensemble d'établissements fabricant des biens alimentaires.
Cochet, C.: Une méthodologie de classification: l'analyse par critères ordination sur un ensemble muni d'une relation de proximité.
Gras, R.: Analyse classificatoire d'un test scolaire.
Tallur, B.: Etude de l'Agriculture Régionale Française par une méthode de classification automatique.
Fevre, P.P.: Données quantitatives incomplètes et classification.
Rousseau, P.: Classification de maximum de vraisemblance de données binaires.
Fages, R.: La notion de dispersion en classification automatique.

Section 3: On pattern recognition

Leredde, H.: La méthode des pôles d'agrégation.
Fages, R.: Sélection et discrétisation optimales en vue d'un problème de reconnaissance des formes.
Lafaye, J.Y.: Présentation d'une méthode simple de discrétisation de variable continues.
Desnos, J.F., Fages, R.: Analyse et classification de spirales obtenues a partir de documents archéologiques.
Charles, S., Lechevallier, Y.: Reconnaissance des formes par une méthode d'approximation polynomiale à nœuds variables.
Lechevallier, Y., Suen, C.Y.: Sélection d'un jeu de caractères par une méthode de classification automatique.

Section 4: Convergence of classification and other data analysis methods

Lerman, I.C.: Les présentations factorielles de la classification.
Brossier, G.: La Bi-Classification.
Diday, E.: Analyse canonique du point de vue de la classification.
Lemoine, Y.: Classification et discrimination: analyse discriminante typologique.
Celeux, S., Lemoine, Y.: Application de l'analyse discriminante typologique à la reconnaissance automatique de spectres de machines tournantes.
Lebart, L., Roche, C.: Classification visualisée de grands ensembles sous double contrainte.

The French Classification Society is located at IRIA (Institut de Recherche d'Informatique et d'Automatique), Rocquencourt. Its address: Mme Cornelis, IRIA, Domaine de Voluceau, B.P. 105, F 78 150 Le Chesnay.

Classification and Terminology of Commodities

The "Internationale Gesellschaft für Warenkunde und Technologie" (= International Society for Commodity Science and Technology) will hold its first international symposium at the Vienna Institute of Economics from 5 to 8 July 1978 on the topic "International and National Aspects and Objectives of Commodity Science and Technology". Some 40 papers have been handed in so far from the following twelve countries: Austria, Switzerland, Italy, Belgium, West Germany, East Germany, Finland, Poland, Hungary, USSR, Israel and Japan. The symposium will start out with a group of papers devoted to problems of ordering systems and terminology of commodities. Regarding these the program lists the following ten speakers and their German-language papers:

Ostarhild, K.: On some open questions of commodity classification in industrialized countries.
Hölzl, J.: Attempts at constructing general and special thesauri for commodities.
Schnegelsberg, G.: On the science-theoretical foundations of a commodity classification.
Dahlberg, I.: Universal organization of knowledge and commodity classification.
Heydrich, H.: On the significance of subject information on commodities for practical industrial work.

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Mehnen, H.: Approaches toward intercompany rationalization of commodity numbering.
Felber, H.: Foundations of the general theory of terminology and the standardization of terms.
Gasthuber, H.: Foundations of a commodity terminology. Attempt at a general compilation.
Ketzler, E.: Questions of systematics in compiling a terminology for packing.
Gekeler, O.: Thoughts on a general dictionary of German-language commodity names.

It is intended to publish these papers in a proceedings volume. For further information please contact Dr. Helge Gasthuber, Institut für Technologie und Warenwirtschaftslehre, Wirtschaftsuniversität Wien, Franz-Klein-Gasse 1, A-1190 Wien.

Progress in Launching INTERCONCEPT

At its first meeting, held in Hattenheim/Rhein, West-Germany, from May 30 to June 1, 1978, the Advisory Committee of Unesco's INTERCONCEPT Project announced substantial progress on the pilot project designed to pave the way for launching the full INTERCONCEPT system. The idea of the INTERCONCEPT Project, whose aim is the establishment of an international concept information system in the social sciences, was formulated and adopted as an objective at the Meeting of Experts organized by Unesco at Valescure (France) in June 1974. The project was initiated by the Division for the International Development of Social Sciences of Unesco. The general plans for this system and the pilot project were formulated by a Meeting of Experts which took place in Paris in May 1977 (s. a. Intern. Classificat. 4 (1977) No.2, p. 108). In a background paper prepared for this meeting by Prof. F. W. Riggs, Mr. E. Vajda and Mr. P. Vásárhelyi in Dec. 1976 it was stated that "the final aim of INTERCONCEPT is to promote international understanding by the means of conceptual control and analysis in the fields of social sciences. It is supposed to provide information about the concepts attached to key social science terms, to describe and explain a concept and its significance to various schools of thought and disciplines as well as the changes which the ideas underwent in time and space. The problem from which the demand for an international information system on concepts arose is the 'softness' of the current social science terminology". By defining concepts explicitly rather than relying on inferences concerning the meaning of terms, it is expected that INTERCONCEPT will become an important tool to help social scientists reduce the high level of ambiguity which is often found in contemporary social science literature.

In order to test the validity of these premises and to determine the feasibility of the proposed system, the pilot project recommended as early as May 1977 has now been launched and preliminary results were reported and evaluated at the Hattenheim Meeting. This pilot project has involved the collecting of definitions for concepts relating to 'development' and 'urbanism'. As suspected the scholars using these terms have imbued them with a wide variety of overlapping and vague meanings. Careful analysis of the definitions and contexts reveals a set of different concepts which can be clearly distinguished from one another, thus minimizing their present ambiguity. A report on the outcome of the pilot project will be presented by the chairman of the Advisory Committee, Prof. F. Riggs, at the 9th World Congress of Sociology, to be held in Uppsala, Sweden, from August 14–19, 1978.

As a result of the pilot project various uses of the proposed INTERCONCEPT data base can now be anticipated more clearly. These include not only searches by keywords but also by sets of terms used in selected subject fields, by sets of definitions in which the same characteristics have been identified, by synonymous terms in different languages (e.g. in order to provide assistance to translators), as well as retrieval by classification notations, thus making the system useful to information scientists and users of information systems.

Some useful ideas of handling INTERCONCEPT data became apparent during a visit by members of the Advisory Committee to the databanks of Prof. G. Wahrig's DFG "Semstruktur" Projekt in Frankfurt (at the Zentralstelle für Maschinelle Dokumentation, or ZMD) and Mainz (University of Mainz, Rechenzentrum). Whereas at the ZMD a databank-oriented search of the files of G. Wahrig's new dictionary of the German language (dtv-Wörterbuch der deutschen Sprache, München 1978) could be demonstrated, a so-called program-oriented search, permitting a more direct retrieval of special kinds of words of the ordinary German language, was shown at the Mainz Rechenzentrum. It was of particular interest for the Committee to see the results of a search for the definitions and occurrences of "entwickeln/Entwicklung" as a keyword, a word in a context, in a definition, and as a related term, or a part of a term. The connection to a computerized dictionary with definitions of the words of ordinary language should be most helpful for a field of study as e.g. the social sciences with their numerous cases of ordinary language expression of special facts.

INTERCONCEPT is, however, not only planned to become a database; it should also become an interactive information system for the scientific community of social science scholars, and its effectiveness in the future will depend upon close cooperation with international groups in selected fields of knowledge. Preliminary investigation of the interest of research groups will be carried out by the Committee on Conceptual and Terminological Analysis (COCTA) on behalf of INTERCONCEPT during the 1978 World Congress of the International Sociological Association (ISA) in Uppsala and during the 1979 Congress of the International Political Science Association (IPSA) in Moscow.

I. Dahlberg

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Die Forschungstätigkeit der MERU – ihre Relevanz für die Klassifikationsforschung. (The research activity of MERU – its relevance for classification research)

1. Allgemeines

Die seit 1975 in der Schweiz etablierte Forschungsuniversität MERU – Maharishi European Research University – hat sich zum Ziel gesetzt, die höheren Bewußtseinszustände des Menschen systematisch zu erforschen. Ausgelöst wurde diese Tätigkeit durch neuere neurophysiologische Ergebnisse, welche seit 1970 in den Vereinigten Staaten in Zusammenhang mit der Lehrtätigkeit Maharishi Mahesh Yogis offensichtlich wurden[1]. Eine große Zahl von empirischen Untersuchungen hat die Relevanz dieser ersten Arbeiten für ein genaueres und umfassenderes Verstehen der menschlichen Geistestätigkeit erhärtet[2]. Wissenschaftler aus allen Fachrichtungen haben Interesse an diesen Bemühungen um ein klareres Bild vom menschlichen Erkenntnisvermögen gezeigt. Durch Unterstützung von öffentlicher Seite kam es 1971 zur Gründung der MIU – Maharishi International University – mit Sitz in Fairfield, Iowa, mit dem Ziel einer verstärkten interdisziplinären Schulung und der Integration von Wissensbereichen unter ganzheitlichen Gesichtspunkten. Im Verlauf der wissenschaftlichen Arbeit wurde jedoch offenbar, daß die mit Hilfe der von Maharishi Mahesh Yogi vermittelten Methoden der Bewußtseinsförderung erreichten Ergebnisse nicht nur integrativ zur Entwicklung der Wissenschaften beitragen könnten, sondern selber Zielpunkt wissenschaftlicher Erörterung sein mußten. So kam es zur Einrichtung der Maharishi European Research University, die die bereits unternommene Forschung qualitativ und quantitativ zu erweitern suchte.

Die grundsätzlichen Fragen und Perspektiven, die in diesem Zusammenhang auftreten, erlauben es, mit einem breiten Spektrum von Standpunkten an sie heranzutreten: vom physikalisch-mechanistischen[3], biologisch-evolutionistischen[4], medizinisch-psychologischen[5], sozio-politischen[6], sowie einer Vielzahl anderer, bis hin zu kulturhistorischen und philosophisch-metaphysischen[7,8,9] könnte die eingeleitete Entwicklung betrachtet werden. Ziel der vorliegenden Arbeit ist jedoch mehr der wissenschaftstheoretische Aspekt und die Bedeutung der bisher erarbeiteten Resultate für die Wissenschaftstheorie und Klassifikationswissenschaft. Daher sei es erlaubt, die *formale* Seite des Unterfangens „Erforschung höherer Bewußtseinszustände" einer Erörterung zu unterziehen.

2. Methodik der Forschung

Die angewandte Methodik hat zwei Hauptanteile, die in historisch differenzierter Weise erwuchsen. Es sind vorhanden eine subjektive Komponente, welche direktes Resultat der über Maharishi Mahesh Yogi vermittelten Ergebnisse weit älterer Forschungsbemühungen in diesem Bereich sind, und eine objektive Komponente, welche Resultat der Bemühungen von seiten moderner neurophysiologischer, sozialwissenschaftlicher, psychologischer Fachrichtungen um eine Objektivierung, Verifizierung und letztlich theoretische Klärung der praktischen Beobachtungen und Erfahrungen ist. Beide Bereiche sind in ihrer Struktur umfangreich; einer großen Zahl von in ihrer Wirkungsweise quantitativ differierender praktischer Methoden subjektiver Art stehen eine ebenfalls große mögliche Anzahl qualitativ unterschiedene objektivierende bzw. theoretisch fundierende Methoden bzw. Beschreibungsapparate gegenüber. Die im Augenblick in der Literatur am besten beschriebene Methodik des subjektiven Zweigs ist die Transzendentale Meditation, eine Benennung, die gleichermaßen zutreffend wie irreführend zu sein scheint für einen Vorgang, der im Folgenden kurz skizziert wird, die bislang weitest angewandte und best beschriebene objektive Methodik: Messung von neurophysiologischen Parametern mittels EEG, EKG etc.

Die erwähnte Transzendentale Meditation ist insofern transzendental, als daß sie, in korrekter Form angewendet, den Geist über seine Beschränkungen begrifflicher, psycho-somatischer und neurologischer Art hinausführt, jedoch nicht Meditation in dem im allgemeinen Sprachgebrauch verstandenen Sinne eines Nachsinnens, Kontemplierens über einen Gedanken und dgl., vielmehr Ausnutzung eines Mechanismus', welcher ohne zusätzliches Bemühen von seiten des Experimentators, die Aufmerksamkeit desselben auf systematische Weise von einem Bereich größerer geistiger Aktivität zu einem solchen geringerer leitet, bei beibehaltenem Wachheitsgrad und Fähigkeit zur Selbstbeobachtung.

Die hierdurch entwickelte Schulung

a) in der Klärung und Ruhigstellung des Geistes
b) in der kommentarlosen Selbstbeobachtung während dieses Prozesses

kann in der Folge dazu verwendet werden, während dieses Prozesses durch die Art der Selbstbeobachtung und als Resultat der Klärung und Ruhigstellung des Geistes im Anschluß an diesen Prozeß ein *Element der Objektivität* in den Bereich des Subjektiven mithineinzunehmen. Objektivität sei hier: Grad der Gleichförmigkeit in der bei Wiederholung unter gleichen Bedingungen gemachten Beobachtung. Mit anderenWorten: die Differenz zwischen Subjektivität und Objektivität wird formal auf eine Differenz zwischen Beobachtungsbereichen und -methoden reduziert. Vorweg sei hier schon angemerkt, daß damit ein Tor geöffnet wird, welches es erlaubt, die Eigenart des Subjektiven, die in seiner direkten Wahrnehmbarkeit liegt, mit der des Objektiven, die in seiner Verläßlichkeit und Nachprüfbarkeit liegt, dergestalt zu vermitteln, daß die positiven Züge des einen auf das andere übertragen werden und umgekehrt. Hierzu wird im Weiteren noch einiges zu sagen sein.

3. Stufenfolge in der Entwicklung der Methodik

Aufgrund des Gesagten läßt sich folgende Entwicklung ablesen bzw. voraussagen:

1) Experiment *im* subjektiven Bereich mit Ergebnissen hoher intersubjektiver Korrelation, hieraus erwächst
2) Experiment *am* Subjektiven mit Gewinnung objektiver Parameter für diese Korrelation,
3) Experiment mit Hilfe wechselnder objektiver Vergleichsparameter, um eine Basis zur Beschreibung der im Subjektiven gemachten Beobachtungen zu erhalten.

Dies ist der Stand der Forschung bis zur Etablierung der MERU. Hinzu kommt nun ein Ansatz für eine mögliche hochinteressante Weiterentwicklung der Methodik aufgrund der Eigenart des Forschungsobjektes, nämlich *Erkenntnisvermögen selbst.* Da das Erkenntnis*objekt* gleichzeitig Erkenntnis*subjekt* ist, da die Methoden zur Ermittlung von Erkenntnisdaten ebenfalls solche subjek-

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tiver Natur und solche objektiver Art sind, erlauben es die bisher ermittelten Forschungsergebnisse (siehe hierzu Punkt 4. dieser Arbeit) die Verschränkung von objektiver und subjektiver Methodik weiter fortzusetzen.

Aufgrund der Wiederholbarkeit subjektiver Erfahrungen und ihrer eindeutigen Beziehbarkeit auf objektive Parameter, sowie die durch vielerlei objektive Vergleichsparameter abgesicherte Beschreibungsgrundlage des im Subjektiven Erfahrenen und ihrer Übereinstimmung mit dem vom Subjekt in erster Linie Erfahrenen erhält das so erprobte Subjekt einen gewissen Charakter der Objektivität. Dies kann im weiteren Verlauf

4) zu Experimenten mit Hilfe wechselnder subjektiver (quasi-objektiver) Vergleichsparameter zur Beschreibung objektiver Instanzen (etwa Naturphänomenen u. dgl.), mit der Folge
5) Experimenten am Objektiven durch Gewinnung subjektiver Parameter für Bereiche des Objektiven und letztlich
6) Experiment im Objektiven durch Aufdecken eventueller neuer, bislang unentdeckter interobjektiver Korrelationen durch kontrollierte Anwendung der aus 5) gewonnenen Erkenntnisse führen.

Wohlgemerkt hat die MERU seit ihrer Etablierung bisher nur weitere Anstrengungen zur Erhärtung der Punkte 1)–3) – wenigstens von ihren bis dato erschienenen Publikationen zu diesen Fragen abgelesen – unternommen; sicherlich aus dem Grunde, daß gerade der Übergang von 3) zu 4) eine wohl definierte und abgesicherte Grundlage verlangt. Andererseits liegt es in der Natur der Sache, daß die skizzierten Punkte avisiert werden, ein Faktum, welches in der Folge für die gesamte wissenschaftliche Entwicklung von Bedeutung sein kann. Denn nicht nur von inhaltlicher Seite – etwa im Aufdecken bisher unbeobachtbar gebliebener Realitätsbereiche –, sondern auch rein formal ergeben sich völlig neue Perspektiven – indem Phänomene von subjektiver und objektiver Seite her beschrieben werden können, wobei sich diese Beschreibungsformen durch ihren integrativen Charakter gegenseitig stützen und es in der Folge zu einer wesentlich verbreiterten und vertieften Basis wissenschaftlichen Erkenntnisniveaus kommen kann. Um aber zu verstehen, weshalb sich diese Perspektiven ergeben und warum ein solcher Enthusiasmus nur allzu berechtigt ist, seien nun kurz die wesentlichen Forschungsergebnisse skizziert.

4. Ergebnisse der Forschung

Aufgrund der weiten Verbreitung der unter 2. beschriebenen Methodik des subjektiven Bereichs (die Zahl der Praktizierenden geht in die Millionen) ist es nun zum ersten Mal in der Geschichte der Wissenschaft überhaupt möglich, eine derartige Hineinbeziehung der Subjektivität in die wissenschaftliche Arbeit mit Aussicht auf Erfolg zu beginnen; denn aus der Vielzahl von Experimentatoren ergibt sich eine Selektion von einigen Tausend sehr weit Fortgeschrittenen, an denen die zur Objektivierung notwendigen Parameter mit der hinreichenden Genauigkeit abgelesen werden können. Konnten die ersten Arbeiten zu diesem Thema nur Hinweise geben und Richtungen aufzeigen, so können inzwischen greifbare Ergebnisse vorgewiesen werden. Aus den Beobachtungen in Zusammenhang mit dem skizzierten Vorgang einer systematischen Ruhigstellung und Klärung des subjektiven Erkenntnisapparats hat man einen Grenzvorgang etablieren können, bei dem *jegliche* Aktivität des denkenden Geistes zur Ruhe kommt, *ohne* daß dieser seine Wachheit verliert; was in diesem Zustande auf subjektiver Seite verbleibt, ist als „ruhevolle Wachheit" charakterisiert worden. Dieser Bewußtseinszustand ist auch als Bewußtsein seiner selbst oder *reines Bewußtsein* beschrieben worden. Objektive Beschreibungsparameter sind außer sehr bemerkenswerten physiologischen Daten (absolute Ruhe, vor allem hinsichtlich Atmung u. dgl.) das Faktum derart hoher Gehirnwellenkohärenz, daß man versucht sein könnte, von totaler Gehirnwellenkohärenz zu sprechen, mithin Integration der unterschiedlichen Funktionsbereiche des Gehirns. Die Auswirkungen dieses Zustands sind mannigfach, uns interessiert hier vor allem der erkenntnistheoretische Wert, daher seien Interessierte auf die Quellen verwiesen.

Die Signifikanz dieses Bewußtseinszustandes bzw. der Realität dieses Bewußtseinsbereichs wird offenkundig, wenn man sich vor Augen hält, daß sich seine Realität bzw. seine direkte Erfahrung durch völlige UNTERSCHIEDSLOSIGKEIT auszeichnet. Mit anderen Worten: dieser Bewußtseinsbereich ist nicht nur für das erkennende Subjekt immer derselbe, unwandelbar, stets gleichförmig, sondern er ist es mit Notwendigkeit auch im intersubjektiven Bereich: Jedes Subjekt ist in der Lage, dieses Bewußtsein in exakt der gleichen Weise zu „haben" (wobei man sich im Klaren sei, daß dies unscharfe Ausdrucksweise ist, da es sich nicht um ein Bewußtsein *von* etwas, sondern um dieses Bewußtsein selbst in seiner reinen Form handelt). Mithin bedeutet dies, daß es innerhalb der Subjektivität einen Bereich *absoluter Objektivität* gibt.

Bedeutsam ist ferner, daß dieser Bewußtseinszustand offenbar die Möglichkeit besitzt, sich mit den bekannten anderen zu verbinden (Wachen, Träumen, Schlafen), in der Weise, daß er sich ihnen gewissermaßen überlagert. Der experimentelle Nachweis dieser Eigenart ist in vielen Fällen bereits mit einiger Sicherheit erfolgt, weiteres Material hierzu steht in Aussicht. Folge dieser Eigenart des oben beschriebenen unterschiedslosen, absolut stillen, absolut klaren Bewußtseins, welches auch als Transzendentales Bewußtsein bezeichnet wird, – womit sich eine Analogie zu Kant aufdrängt, obwohl dieser den Begriff des Transzendentalen auch noch in anderem Sinne verwendet–, Konsequenz der Eigenschaft dieses Transzendentalen Bewußtseins ist, daß es in dem Maße, in dem der Bekanntschaftsgrad des Subjektes mit diesem wächst, den Charakter gewinnt, nicht mehr verloren zu werden. Mit anderen Worten: die Eigenschaft der Unterschiedslosigkeit, der Homogenität, der Charakter der Objektivität verankert sich im Zuge der wiederholten Erfahrung Transzendentalen Bewußtseins im erkennenden Subjekt.

Man hat die zu erwartenden Folgen im Verhalten der untersuchten Personen nachgewiesen, wenn auch der Mechanismus dieses Überlagerns noch nicht hinreichend neurophysiologisch geklärt worden ist. Es wurde nämlich beobachtet, daß der Übergang von temporal vorhandenem Transzendentalem Bewußtsein zu permanentem in Wellen erfolgt, d.h. es bilden sich Phasen der Vorwegnahme eines Zustandes, der sich erst allmählich stabilisiert. Entsprechend sind auch Bewußtseinszustände erreicht worden, die über das Gesagte weit hinausgehen, die aber aufgrund ihres temporären Vorhandenseins noch nicht genügend experimentell definiert werden

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konnten. Die Schwierigkeit liegt darin, daß man rein instrumentell an der Grenze dessen angelangt ist, was mit herkömmlichen Methoden meßbar ist; so hat man bei einigen untersuchten weit fortgeschrittenen Versuchspersonen im Zustande Transzendentalen Bewußtseins keine Atmung mehr feststellen können, obwohl man vermuten muß, daß es sich um ein sehr kurzperiodisches Oszillieren der Atmung mit minimaler Amplitude handelt. So arbeitet man nun mit neuen, speziell angefertigten Untersuchungsapparaten, um ein klareres Bild gerade von den Bewußtseinsbereichen zu erhalten, die über das Gesagte noch hinaus zu gehen scheinen.

Hier meine ich, sollte eine erkenntnistheoretisch fundierte Erweiterung der Methodik sich als nützlich erweisen. Akzeptiert man die als gesichert zu geltende Erkenntnis, daß es im Subjektiven Objektivität gibt, geben kann, und diese in ihrem Vorhandensein wachsen kann, so steht dem Schritt, das Subjekt selbst (also intrasubjektiv) als Meßapparat, Sammelstelle und Austauschplattform für Daten zu verwenden, nichts mehr im Wege. Möglich wird dies allerdings nur unter der Voraussetzung, daß von einer hinreichend großen Anzahl von Subjekten, über deren Qualifikation für diese Form wissenschaftlichen Arbeitens kein Zweifel besteht (Nachweis durch Experiment), in geeigneter Weise und für Außenstehende zumindest einsehbar, intrasubjektiv erfahrene Daten im intersubjektiven Austausch verifiziert werden können.

5. Bedeutung für die Klassifikationsforschung

Ist es das Anliegen der Wissenschaft, objektive Erkenntnisse zu erhalten, so ist es Anliegen der Klassifikationswissenschaft, die sich als produktives Organ der Wissenschaftswissenschaft verstehen kann, diesen Anspruch zu verdichten und zu radikalisieren. Wie das Wort *radix* anmeldet, kann dies aber nur geschehen, wenn jeder Wissensaspekt in seiner formalen Struktur auf die Wurzel, Quelle objektiver Erkenntnis überhaupt ausgerichtet wird. Die Wurzel objektiver Erkenntnis aber ist die Objektivität selbst. Der Zusammenhang zum vorher Gesagten wird nun unmittelbar einhellig.

An dieser Stelle soll also dazu angeregt werden, daß eine kritische Auseinandersetzung auf wissenschaftlichster und praktischster Ebene mit dem Gesagten erfolgt. Welche Vorteile sind hierin zu sehen? Grundlage wissenschaftlichen Arbeitens überhaupt ist ja die intersubjektive Kommunikation. Seit jeher aber hat Unklarheit und Überflüssiges den wissenschaftlichen Fortschritt aufgehalten. Begriffliche Verwirrung, ausgelöst durch Verschiedenartigkeit des theoretischen Ansatzes und terminologischer Differenz bei im Grunde begrifflicher Übereinstimmung, waren die Folge. Entscheidend ist aber in dieserm Zusammenhang nicht nur die beschriebene Schulung des Geistes, welche mit Begriffen wie „Vermehrung von Klarheit", „Gleichförmigkeit in der Haltung" etc. umrissen wurde, sondern die Tatsache, daß eine Instanz von so zentraler Bedeutung wie es ein Bereich völliger intersubjektiver Objektivität ist (man denke nur an das Wahrheitspostulat), nicht nur theoretisch definiert, sondern jederzeit unter den entsprechenden Versuchsbedingungen erfahren und realisiert werden kann. Der Verbreitung dieser Erkenntnis steht nichts im Wege, da sich ein jeder Forscher von der Richtigkeit des Behaupteten im direkten Experiment an sich selbst überzeugen kann (die beschriebene Methodik wird überall gelehrt und ist ohne Mühe sofort erlernbar). Dies ist eine allgemeine Perspektive, welche für die Wissenschaft als Ganze gilt.

Die Klassifikationswissenschaft im besonderen aber wird hieraus Gewinn ziehen können. Versteht man Klassifikation im weiteren Sinne des Wortes, etwa wie es die Gesellschaft für Klassifikation e.V. mit ihrem Motto „Ordnung des Wissens" anmeldet, so wird sofort einhellig, daß das gesamte Unterfangen Klassifikation, insbesondere Universalklassifikation ohne eine Grundlegung im Subjektiven nur bruchstückhaft sein kann. Das zentrale Moment in diesem Argument wäre ein Begriff der Ordnung wie folgt (sehr allgemein): „Einhellige Gleichförmigkeit in einem Bereich von Mannigfaltigkeit". Es ist klar, daß überhaupt einmal feststehen muß, welches die einhellige Gleichförmigkeit im Bereich *allen* Mannigfaltigen ist, sei es, daß man dies nun im Denken ansetzt oder ontologisiert, bevor man daran gehen kann, Klassifikation mit dem Anspruch von Erkenntnisgewinnung zu betreiben. Auch für weniger universal angelegte klassifikatorische Bemühungen gilt dies; denn: mit Klassifikation ist in der Tat etwas angesprochen, das so universal wie Wissen überhaupt ist. In jedem Wissenselement, -segment, -sektor, -bereich existiert dieses strukturale Element, welches die inhaltliche Quantität materialer Erkenntnisdaten zu formal-qualitativen Überblicken zu synthetisieren sucht. Jenes Element der Strukturiertheit, Geordnetheit, des Auf-etwas-hinzugeordnet-Seins, jenes Element *systemimmanenter Transparenz*, Stimmigkeit, ist das Anliegen klassifikatorischen Bemühens. Diese transparente Stimmigkeit ist aber nur durch äußerste Gleichförmigkeit der formalen Mittel zu erreichen, mithin durch ein Höchstmaß an Objektivität.

6. Ausblicke

Der Fortschritt der Wissenschaft ist der Fortschritt ihrer Methoden zur Erkenntnisgewinnung. Der Fortschritt der Wissenschaft ist auch der Fortschritt der Wissenschaft Betreibenden. Der Grund, aus dem in der Vergangenheit Ideen etwa eines Francis Bacon hinsichtlich einer intensiven integralen Wissenschaftsgemeinde, Ideen eines Leibniz bezüglich einer zu schaffenden Universalwissenschaft u. dgl. unrealistisch waren, lag darin, daß sie von einer bloß theoretischen Basis aus dies forderten. Aus dem gleichen Grunde ist die Philosophie in Mißkredit geraten bzw. konnte sie nicht dem systemüberspannenden Anspruch gerecht werden, den sie an sich stellte. Der Unterschied aber des hier besprochenen Ansatzes liegt darin, daß er von der praktischen Seite her operiert, ohne Umschweife zum Wesentlichen führt und aufgrund seiner allgemeinen Anwendbarkeit zu breit fundierten Ergebnissen führen kann. Wissenschaftler, die für sich eine hinreichende Objektivität erkämpft haben, werden sich dieser Mittel unvoreingenommen bedienen und zu einer verbesserten Arbeitsgrundlage und intensiveren intersubjektiven Kontroll- und Austauschmöglichkeiten kommen. Dies kann den Fortschritt der Wissenschaft gewissermaßen an der Basis vorantreiben helfen.

Für den Klassifikationswissenschaftler entsteht die Aufgabe – da er um eine Integration und letztlich eine Ganzheit des Wissens bemüht ist –, das Wissen um diese Möglichkeiten zu verbreiten, damit er in Zusammenarbeit mit den Fachkollegen aus allen anderen Wissens-

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bereichen zu einer fruchtbaren und den Sachfragen entsprechenden Synthesis der Wissenskomplexe gelangen kann. Denn – dies wird mit dem Wort „Synthesis" angemeldet – versteht sich der Klassifikationswissenschaftler in dem Sinne, wie er oben charakterisiert worden ist, so ist er *Generalist* (gegenüber den Spezialisten, die nur bestimmte Wissensbereiche untersuchen), zumindest in dem Maße, in dem er das Wissen der anderen Wissenschaften rezipiert, und er muß ein vitales Interesse an allen Fragen und Möglichkeiten haben, die die Erkenntniswelt als Ganzes betreffen.

Man wird also gespannt sein dürfen, inwieweit die wissenschaftliche Welt und insbesondere die klassifikationswissenschaftliche Welt von den skizzierten Möglichkeiten Gebrauch macht und welche weiteren Ergebnisse MERU uns in Zukunft präsentiert.

Wolfgang Dahlberg

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INFOTERM NEWS

(compiled from Infoterm Newsletter 9)

1. Terminological Symposia 1967–1977

The countries are arranged in accordance with the Universal Decimal Classification (UDC).
The language symbols indicate the language(s) admitted at the symposium concerned.

UDC

(100) International
(4) Europe
(430.1) Federal Republic of Germany
(430.2) German Democratic Republic
(437) Czechoslovakia
(47+57) USSR

Languages

Cs = Czech
D = German
E = English
F = French
R = Russian
Sk = Slovakian

Symbols used

● = papers published already
org. = organizer
* = partly terminological
○ = papers to be published

(100) *International*

● F 1972 Baie Saint-Paul, Québec, 2 and 3 October:
Colloque international de terminologie. Les données terminologiques [International symposium on terminology. Terminological data]
org.: Office de la langue française

● F 1973 Lac Delage, Québec, 16 to 19 October:
Colloque international de terminologie. La normalisation linguistique [International symposium on terminology. Standardization of language]
org.: Office de la langue française

● F 1974 Levis, Québec, 29 September to 2 October:
Colloque international de terminologie. L'amenagement de la neologie [International symposium on terminology. Preparation of neology]
org.: Régie de la langue française

● EF 1975 Vienna, 9 to 11 April:
International co-operation in terminology / Coopération internationale en terminologie
org.: International Information Centre for Terminology (Infoterm)

● F 1975 Lac Delage, Québec, 5 to 8 October:
Colloque international de terminologie. Essai de definition de la terminologie [International symposium on terminology. Attempt to define terminology]
org.: Régie de la langue française

● F 1976 Paris, 15 to 18 June:
Colloque international de terminologie – Terminologies 76 [International symposium on terminology – Terminologies 76]
org.: Association française de terminologie
Régie de la langue française

* EFD 1977 Vienna, 26 to 28 August:
First European Symposium on language for special purposes (LSP)
org.: Wirtschaftsuniversität Wien
International Association for Applied Linguistics
Unesco ALSED LSP Network

*● EFD 1977 Vienna, 30 and 31 August:
XIIth International Congress of Linguists. Working Group: Lexicology, Lexicography and Terminology

○ F 1977 Pointe au Pic, Québec, 2 to 7 October:
Colloque international de terminologie [International symposium on terminology]
Groupe I: Terminologie et linguistique. Terminology, sciences et techniques
Groupe II: Terminologie et traduction. Terminologie, informatique et documentation
[Group I: Terminology and linguistics. Terminology, sciences and technology
Group II: Terminology and translation. Terminology, information and documentation]
org.: Office de la langue française

(4) *Europe*

EFD 1977 Luxembourg, 13 and 14 January:
Workshop "Qualitative evaluation of Thesauri"
org.: Information Management-Commission of European Communities (CEC)

*● EFD 1977 Luxembourg, 3 to 6 May:
Third Congress on documentation systems and networks – Overcoming language barriers
org.: Information Management-Commission of European Communities (CEC)

(430.1) *Federal Republic of Germany*

● D 1968 Germersheim, 21 to 24 October:
Kolloquium über offene terminologische Fragen [Symposium on open terminological questions]
org.: Bundesverband der Dolmetscher und Übersetzer und FNA ‚Terminologie (Grundsätze und Koordination)' des DNA

● D 1974 Frankfurt, 23 to 25 October:
Fachseminar Terminologie und Lexikographie [Technical seminar "Terminology and Lexikography"]
org.: Landesverband Hessen des Bundesverbandes der Dolmetscher und Übersetzer (BDÜ)

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• D 1976 Frankfurt, 30 September and 1 October:
Fachtagung „Sprache im Dienst des Ingenieurs und Technikers – Probleme der Terminologiearbeit" [Meeting – Language for engineers and technicians – Problems of terminology work]
org.: Deutsche Gesellschaft für Dokumentation (DGD)
Verein Deutscher Ingenieure (VDI)
DIN Deutsches Institut für Normung

(430.2) *German Democratic Republic*

• D 1971 Dresden, 6 to 8 January:
Angewandte Sprachwissenschaft und fachsprachliche Ausbildung [Applied linguistics and training in specialized languages]
org.: Technische Universität Dresden

• D 1975 Dresden, 5 to 7 February:
Rechnerunterstützte fachsprachliche Lexikographie [Computer aided terminological lexicography]
org.: Technische Universität Dresden

(437) *Czechoslovakia*

DSkR 1967 Bratislava, 20 to 22 April:
Sympózium o technicky terminologii [Symposium on technical terminology]
org.: ČS VTS, Bratislava

• CsD 1969 Prague, October:
Kolloquium über terminologische Fragen [Symposium on terminological questions]
org.: Institute for non-slavic languages at the Agricultural College, Prague

• CsD 1971 Prague, November:
Kolloquium „Fachwort als Gegenstand der Terminologielehre" [Symposium 'The term as object of the theory of terminology']
org.: Institute for non-slavic languages at the Agricultural College, Prague

(47+57) *USSR*

• R 1967 Leningrad, 30 May to 2 June:
Lingvističeskie problemy naučno-techničeskoj terminologii [Linguistic problems of scientific and technical terminology]
org.: Academy of Sciences of the USSR

• R 1969 Moscow, 24 to 27 December:
Naučny simpozium. Mesto terminologii v sisteme sovremennyh nauk [Scientific Symposium. The position of terminology in the systems of contemporary sciences]
org.: Moscow State University

• R 1971 Moscow, December:
Naučny simpozium "semiotičeskie problemy jazykov nauki, terminologii i informatiki" [Scientific symposium 'semiotic problems of the languages of science, of terminology and of information science']
org.: Moscow State University

(485) *Sweden*

• Sv 1976 Stockholm, 22 and 23 April:
Seminarium NORDTERM 1976. Terminologiskt samarbete i Norden [Seminar NORDTERM 1976. Terminological Co-operation in the North]
org.: Centralen for teknisk terminologi, Finland
Rådet for teknisk terminologi, Norway
Tekniska nomenklaturcentralen, Sweden
Terminologigruppen, Danmark

2. Network of terminology information and documentation (TermNet)

Following a decision taken by an evaluation panel on the development of a terminology network (TermNet) (see Infoterm Newsletter 8, item 2 and Newsletter 4, item 1.1) a questionnaire (together with a number of documents) was sent out by Infoterm in March 1978 to some 200 organizations and individuals, respectively. Further steps will be taken concerning establishment of such a network on the basis of the results of this inquiry.

3. "World Transindex"

The International Translations Centre (formerly European Translation Centre) in Delft/Netherlands, together with the Commission of European Communities in Luxembourg and the Centre national de la recherche scientifique (CNRS) in Paris/France have combined their efforts with respect to information on scientific and technical translations. In January 1978 they started a monthly bulletin entitled "World Transindex" providing detailed information on some 32.000 translations annually from East Asian and East European languages into West European languages. The World Transindex is produced via the PASCAL system with data stored at a central data base. A microfiche edition of the World Transindex is also being envisaged. Further details about this new service may be obtained from:

International Translations Centre,
101 Doelenstraat,
DELFT, Netherlands

4. Future Meetings

August 29–31, 1978 Dresden, GDR:
2. Internationales Kolloquium „Rechnerunterstützte Fachsprachen und Lexikologie"
This meeting is convened by the Institute of Applied Linguistics and the Computer Centre of the Technical University Dresden.

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THE TERMDOK BULLETIN

(Editor's Note: Under the terms of an agreement between the editors of this journal and the editor of The TERMDOK Bulletin, Mr. Erik Sundström, Stockholm, we herewith inaugurate the publication of this monthly newsletter put out by the Swedish Centre of Technical Terminology, TNC. Up to May 1977 this newsletter appeared monthly in a Swedish edition only, while from then on (i.e. as of issue No. 28) it has been appearing in English. The newsletter consists always of one single page, a fact allowing us to reprint three of the issues released so far in each issue of our own journal. It is intended that from 1979 on The TERMDOK Bulletin will be published exclusively in International Classification. The following is a reprint of The TERMDOK Bulletin Nos. 28, 29 and 40, the latter being the most recent issue. For information on the TNC, please see Mr. Erik Sundström's article "Introducing TNC and the TERMDOK System" in this issue.)

No. 28

Since December 1974, the Swedish Centre of Technical Terminology, the TNC, has been issuing a monthly newsletter (the "Termdokbulletinen") on computer methods in terminological work. Centering upon policy rather than technicalities, the newsletter has been distributed to some 60 cooperating bodies in Sweden.

A number of copies have, however, found readers from outside Sweden. With this 28th issue, the newsletter goes international under the slightly anglicized name of The TERMDOK Bulletin. TERMDOK® is the designation of methods in current use at the TNC, comprising rationalization of terminological work and aiming at ultimate integration of its various stages, viz. the collection, storing, processing and distribution of information on technical terms. A description of this work can be ordered free from the TNC ("The TERMDOK System").

Expectations

A definite set of expectations is connected with this endeavour to involve a widening circle of terminologists in the whys and hows of the TERMDOK system.

1 providing vital information on each crucial stage in the development will stimulate criticism and thus give the TNC a fair chance to reach better decisions
2 dispersing a non-technical description of the system will provoke actual exchange of terminological data (glossaries etc.) in machine-readable form
3 formulating the ultimate goals of the system will promote contacts with similar activities amid the medley of terminological work in a wide sense.

In fact, items 1 and 2 have already materialized in a most profitable manner. Item 3 may well be thought of as a more distant possibility but is deemed to be no less important than the others. It is hoped that contacts will eventually involve cooperation beyond the rationalization of the information system.

Terminology in its own rights

The last statement needs some explanation. Since its beginning in 1941, work at the TNC has been centered on the elaboration of a coherent conceptual framework, valid through-out the technical language. The chief instrument to accomplish this plan has always remained *clear-cut definitions*, expressed by means of a carefully *controlled vocabulary*.

This is not meant as an excuse for the pursuing of terminology as an end in itself. The conceptual framework is intended to provide communication in the field with adequate means of expression. Unlike the case with most terminology agencies known to the TNC, *emphasis is put more on the system* than on its constituents, *more on definitions than on terms* and their translations into various languages.

This fact has not failed to condition much of the information system which lies behind the operations of the TNC.

Cross-references

The following comments on one single feature of the TERMDOK system will, it is hoped, make the issue clear. Term records contain references to each other on a number of different levels.

1 terms recognized as synonyms, near-synonyms or deprecated variants provide an automatic reference to their main record
2 terms recognized as broader, narrower or related with respect to other terms can be separately accessed and inspected by the search system
3 terms with a more general connection to a main record are kept in a separate field for convenient reference

Naturally, the TERMDOK system will function even if these cross-reference mechanisms are not activated. However, they constitute a vital part in the elaboration and exploitation of what is here called a *conceptual framework* in technical language.

The point is that this and other features make exchange of methods and data more meaningful in the case of some partners than others simply because different organizations pursue different goals.

No. 29

A rough classification of records in a term bank can be made according to the fundamental attitude underlying their design. It would seem as if the term record either is word- or concept-oriented. This distinction, in its turn, would seem to reflect the basic use of the term bank, either for translation purposes or for terminological practice in the proper sense of the word.

Methodologically sound or not, this general picture of the situation has been taken for granted all through the history of the TERMDOK system. It has been commented upon at a few points in the development work, see for instance The TERMDOK Bulletin 14 on translation banks versus terminological banks. It is only now, on the verge of a massive input of terminological data, that the occasion has been found for a serious inquiry into the problem.

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The word record

Basic constituents of the term record in the word-oriented case are two terms in different languages and the relation between them, most commonly an equivalence in meaning. Whenever an exception is found to this one-to-one correspondence, a new record is established. Each record refers to one single meaning of the input word and gives access to an appropriate translation in the target language.

Obviously, the word record satisfies essential needs in a translation environment. The basic principle is implemented in several operational systems. It has been combined with information on source, context, reliability, subject classification etc.

The concept record

Fundamental to the concept-oriented term record is the position in a system of related records. This position can be expressed verbally, by menas of an explicit definition, or given by a code which refers to some predetermined scheme. In either case, the record is in practice monolingual as opposed to the bi-lingual word record.

The concept record can be made multi-lingual by appending translations into various languages. The term record of the TERMDOK system offers an example of this. It must be borne in mind, however, that this usage is equivalent to forcing terms of so many different languages into the conceptual system of the main entry language. Misfits can be assigned separate comments in the record or simply be left to treatment in the lexicon.

The ISO model

In an average specialized TNC glossary of several hundred terms only a few need such additional explanations concerning deficient matching. Admittedly, these terms were in most cases conceived from a mono-lingual standpoint. Foreign equivalents were mostly added at a late stage, as a mere service to the user. The situation has changed with the production of several TNC glossaries in cooperation with foreign expert groups. The distinction made above between word record and concept record appears unduly simplified, especially when viewed in conjunction with recent ISO recommendations.

Maybe the only really sound method, and this is the attitude taken by the ISO, is to elaborate separate conceptual hierarchies for each prospective language in the glossary. The different hierarchies are, in principle, kept apart up to the final stage of the work. The main standardization effort is the adjustment of the systems to each other.

Implications for the TERMDOK system

A shift in practice at the TNC, complying with this general procedure, will imply differences in acquisition and processing of terminological data. However, no change in the system is necessary. The term record layout allows for all changes involved and will secure compatibility between old and new term records. The method may be realized by keeping all information in *one* language pertaining to one concept in one record. Only after adjustment of the conceptual systems would a link be established by means of corresponding classification codes, with or without subsequent physical joining of all records belonging to the same concept.

No. 40

From time to time there is a need to raise the eyes from the display unit in TERMDOK and invite thoughts on how the system might function in a broader environment. One such occasion was the May 9th annual meeting of TNC. Those invited to provide the thoughts came from TERMDOK's closest circle of acquaintances. The following sketch of possible stages in the public availability of a term bank can be read as a comment to opinions put forward at that meeting. Any term bank, just like any widely disseminated printed source of terminological information, will influence the linguistic behaviour of its users. The conclusions differ a great deal. Some observers tend to emphasize the responsibility assumed by the term bank administrator over information available through the system. Others are prepared to regard the term bank primarily as a forum for free exchange of opinions and thus deny the duty or even right of the administrator to exert an influence on the information. Here, the possibility is investigated to establish a term bank with certain initial restrictions on the supplied information but successively approaching the desired free forum model.

The conservative stage

In the case of TERMDOK, the decision is easy during an initial stage. Only authoritative terminology will be considered. TNC sources and national standards add up to some 80000 term records. These and only these will constitute the first publicly available term bank. In defense of this admittedly conservative attitude, a few points must be made clear.

- obvious limitations in capacity prevail during the initial stage, due to technical restrictions as well as economical but above all for administrative reasons: operation rules, cost factors etc. have to be explored in a stable environment before further steps can be taken
- it is of prime importance to all users that the public term bank from its very beginning contains an exhaustive collection of term records on some clearly defined level: TNC and Swedish standard terms constitute such a level
- it is to proven advantage in the TERMDOC system, in terms both of security and economy, to let the development proceed in steps: TNC simply cannot afford a set-back due to premature massive input into the system

The liberal stage

Several active producers of terminology, covering a less comprehensive field than TNC and the Swedish Standards Institution, have announced a desire to connect their output to the public term bank. It is a delicate task to favour some of these and disregard others when the system is in a stage of cautious growth. Shall economic factors take precedence over considerations on a balanced content in the bank, or are there other more important issues? A liberal attitude is advocated here. TNC will offer its assistance in the preparation and revision of terminological information, but must not deny inclusion in the bank of external material for reasons of quality

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only. Naturally, the origin of all term records stored in the system will be explicitly stated.

The anarchical stage

It is expected that cost factors and ease of access will, sooner or later, make the term bank (or rather, the network of term banks) into the single most efficient and attractive instrument in terminological work at all levels in society. This refers both to passive search and active processing of terminological information. It is then more important than ever that the administrating institution will not use its machinery to exert any undue influence on the selection of material or its content.

It should be obvious that the stages described here do not constitute a deliberate choice made by TNC to suit its own purposes. They may rather be regarded as more or less necessary steps towards a goal which most observers probably will approve of. It is, however, not impossible that there is a preference in some quarters to make a permanent halt at some point in the scale. If such is the case, a discussion must be initiated. TNC is decidedly in favour of a procedure that will carry TERMDOK rapidly through the successive stages.

Conference Announcement and Call for Papers

After a first conference in Münster/Westfalia, on June 4, 1977, and a recent second one in Frankfurt-Höchst, April 6–7, 1978, the German Classification Society plans a third one concerning the topic

CLASSIFICATION AND COGNITION
The role of classification in the generation, presentation and mediation of knowledge
Königstein/Taunus, Haus der Begegnung,
5–7 April 1979.

The subtopics to be treated in panel discussions, lectures and workshops including consideration of the special aspects of certain application fields have been outlined as follows:

Generation of knowledge: concept analysis, concept typology (basic concepts, reference of concepts), theory of characteristics, theory of relationships, data analysis, data reduction, heuristics and order, etc.

Presentation of knowledge: formation of classes, class arrangement, seriation and ordination, user-oriented outline of classification systems, compatibility/correlation tables/intermediate thesauri, unified faceting, syntax of facet formulas, multilevel approach to classification systems, etc.

Mediation of knowledge: indexing rules, rules for subject cataloguing, systematization and user expectations, esp. regarding reference tools, shelf arrangement, user-oriented notations, computerized reclassification, classification and transdisciplinarity, etc.

Scientists and practitioners of the different fundamental and application-oriented fields of classification are cordially invited to submit proposals for papers in short form (length: one typed page) by Oct. 1, 1978, to the offices of the Gesellschaft für Klassifikation e.V. It is intended to furnish simultaneous translation (E-D, D-E) during the conference.

The papers will be published in proceedings volumes in the same way as was done for the first and the second conferences. The volumes for these conferences are available at the Secretariat of the Gesellschaft für Klassifikation e.V., Woogstr. 36a, D-6000 Frankfurt 50. (Proceedings 1977: DM 28,50, Proceedings 1978: to be published in autumn 1978.)

Colloque International sur l'Enseignement de la Terminologie

At the Université Laval in Québec, Canada, an international colloquy on the teaching of terminology will take place on 28–30 Aug. 1978. Conceived as a follow-up to the recommendations of the "First European Symposium on LSP and Terminology" (see Intern. Classificat.5 (1978) No.1, p.41), the colloquy is meant to serve the following aims: (1) to define the contents of educational programs for terminologists on different levels based on previous experiences in order to facilitate the launching of new programs, and (2) to constitute an international editorial board for the conception and realization of a basic introductory text (to serve as a manual or referbook) which should be available in the ISO languages (French, English and Russian).

Participation in this colloquy is by invitation only for professors of terminology in a recognized institute of technology or a university, or for expert authorities in the field of terminology.

DGD-Lehrgang 1979 (Documentation Training Course 1979 of the German Documentation Society)

Das Lehrinstitut für Dokumentation (LID) führt den Jahreslehrgang zur Ausbildung wissenschaftlicher Dokumentare 1979 weitgehend in der bisherigen Form in Frankfurt durch. Der Lehrgang umfaßt 12 Lehrgangs- und 2 Praktika-Wochen. Er beginnt am 15.1.1979 und endet mit den mündlichen Prüfungen vom 10.–12. Dezember 1979.

Zulassungsvoraussetzungen: Abgeschlossenes Hochschulstudium *und* Praxis im IuD-Gebiet (in der Regel mindestens 1 Jahr).

Der Lehrgang ist nach dem Blockprinzip aufgebaut. Die Lehrgangswochen entsprechen thematischen Einheiten:

Institutionelle und funktionelle Aufteilung des IuD-Bereichs
Beschaffung und formale Erfassung von Dokumenten und Daten
DV und Netzwerke
Ordnungsprinzipien und Dokumentationssprachen
Reprographie
Dokumentanalyse und -beschreibung
Information Retrieval
Informationsdienstleistungen
Planung, Organisation und Betrieb von IuD-Einrichtung und -systemen

Neben den (bislang 4) hauptamtlichen Dozenten des Lehrinstituts unterrichten ca. 30 nebenamtliche Dozenten aus Dokumentationseinrichtungen und Universitäten.

Teilnahmegebühr DM 900 + Prüfungsgebühr DM 100
Anmeldeschluß 20. Oktober 1978

Bewerbungsunterlagen und weitere Informationen (Lehrgangsheft etc.) anfordern bei LID/DGD, Westendstr. 19, 6000 Frankfurt/M.

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