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FID/CR Matters

It was with surprise and great regret that I received the news that Ms. Stelle KEENAN would retire from the position as Secretary General of FID at the end of December 1988. On your behalf, I conveyed our regrets and best wishes to her early in January. She has served FID with devotion, energy, and effectiveness during her 5 years in the position of Secretary-General and she will be greatly missed by members of FID in general and of FID/CR in particular.

At an Ad hoc Meeting of former participants at International Study Conferences and others with a primary interest in classification research, held in Albany, NY, USA, on Nov.18, 1988, planning was begun on a probable *5th International Study Conference on Classification Research* to be held in Toronto, Canada, in June 1990. The group present was formed into a Planning Committee. This Committee identified additional persons who will be invited to serve on an Advisory Committee for the Conference. A time table for action was established and it was determined that the theme of the study conference will be "Knowledge Representation and Organization in Classification Research". Further details and a call for papers will be issued sometime near the end of March 1989.

Classification in the Computer Age

This first major conference on classification to be held in North America in some years, took place in Albany, NY, November 18-19, 1988. Sponsored by the School of Information Science and Policy, the University at Albany, State University of New York and Forest Press, the conference was attended by approximately 100 participants. At the opening session delegates were welcomed to the conference by Richard HALSEY, Dean of the School for Information Science and Policy and Peter PAULSON, Executive Director of Forest Press. Greetings from FID/CR were conveyed by its Chairperson Nancy WILLIAMSON.

The programme included invited papers presented by 9 experts in the field of classification, broadly defined to include taxonomy, numerical classification and natural language processing was well as library classification. The conference was organized under three themes and each paper -- the topic of which had been determined by the organizers – was followed by a brief period for questions and discussion.

Under the theme *Research in Classification,* four papers were presented. Two of these papers focussed on the broader issues of classification theory and two discussed research and future research which might lead to new classification systems and new methods of handling and maintaining classification in the computer age.

The first speaker, Robert SOKAL, Department of Ecology and Evolution, State University of New York at Stony Brook, helped set a general tone for the conference with a paper on *Numerical Classification: Lessons from the Biological Sciences.* In general, Sokal was concerned with the nature of change in biological systems and the effects on the state of knowledge. He recognized three periods in the development of natural systems – (1) the system of Linnaeus, (2) Darwin's theory of evolution which resulted in hierarchical systems, and (3) the period from 1950-1960 which brought computers and a need for the re-examination of the principles of taxonomy and the development of numerical classification. Within this context, Sokal concerned himself with the approaches needed to cope with the continuous state of change in knowledge systems– the need for loose structures to overcome the innate bias in hierarchical systems and to provide for an evolutionary approach. Classification systems must be responsive to new states of knowledge, varying characteristics, and a changing order of priorities. He saw the purposes of taxonomy as providing a general reference system, upon which laws could be based, and the laws, in turn, could be used as bench marks against which to test environment changes. In conclusion, Sokal indicated that taxonomy in the biological sciences was not without its problems, but that the principles involved might well be looked at in terms of the organisation of knowledge in other fields.

In the second paper of the session, Ingetraut DAHLBERG, Editor of INTERNATIONAL CLASSIFICATION, continued the focus on the theoretical foundations of classification in her paper on *Concept and Definition Theory.* She started by stressing that in our field, 'classification' must be looked at as a synonym of 'knowledge organisation'. For this it is necessary to know, how knowledge is generated and how it is made manifest in concepts – understood to be 'knowledge units' comprising knowledge elements, the well-known characteristics. Relationships between concepts depend on their elements and can be distinguished in a fourfold way according to formal and material criteria. As the knowledge about conceptual relationships plays the crucial role in constructing classification systems she paid special attention to the problem of identifying kinds of characteristics. They can be correlated to the kinds of material concept relationships mentioned and subsequently be called: generic, partitive, opposition and functional characteristics. The paper treats also the different kinds of concept systems generated by these relationships and characteristics as well as the corresponding kinds of concept structures and definitions. Dahlberg summarized the advantages of this concept theory and expressed her hopes that – based on such insights – new, conceptual classification systems could be built, apt to comply with contemporary knowledge about both classification methodology and subject knowledge of experts in their fields.

In her paper on *Applications of Artificial Intelligence to Bibliographic Classification* Irene TRAVIS, Planning and Research Corporation, McLean, Virginia, discussed

knowledge-based systems and their possible application in the maintenance and handling of traditional classification systems. Assuming that the well-known universal systems will remain in use for the foresecable future, Travis proposed a marriage of the traditional schemes and modern technology of information handling. She began by describing the state-of- the-art in terms of research which has resulted in two expert systems being developed. In conjunction with BIOSIS, a database which provides access to the literature in the biological sciences, a knowledge-based system has been designed which makes possible the automatic preliminary assignment of documents to facet categories by matching titles against the BIOSIS thesaurus using a set of indexing rules. Subsequently, the machine indexing is revised and edited by human indexers. Based on an existing knowledge structure, this system is expected to become fully-operational in the near future. As her second example, Travis cited a commercial AI-based intermediary system developed at the University of London, by Alina Vickery and others. As originally designed, this system, called PLEXUS, aids end- users in developing search strategies. It employs facet principles and an enriched INSPEC Thesaurus, and performs automatic Boolean operations on terms in a query which are in different facets in the thesaurus. The system is now available commercially as software and a knowledge base would need to be created for each application. In the light of such systems, Travis proposed new research into the development of expert systems, which could assist classifiers in understanding the rules for using a classification scheme and applying it consistently. Such systems might also be applied to the manipulation of the tables of the Library of Congress Classification schedules, and to reclassification of new systems in cases where a simple matching process is insufficient. Another application could be in error-checking and synthesizing numbers in the process of classifying. Travis sees these applications as assisting classifiers, not replacing them.

Looking further into the future, Elaine SVENONIUS, University of California, Los Angeles, speculated on the requirements for an *Ideal Classification for a Full- Featured Online Catalog*. As a starting point for her presentation, Professor Svenonius posed the question: "What makes an automated catalogue different from a manual catalogue which would impact on the design of a classification system designed specifically for computer use?" Then, in the style of Ranganathan, Svenonius proposed five canons which might be applied to general classification systems designed specifically for computer use. These were canons of recall, precision, structure, notation, and compatibility. In doing so, she pointed out, among other things, that an ideal classification for the computer age should accomodate polyhierarchical as well as hierarchical relationships and that compatibility may have to be at a high level. Svenonius did not recommend either a fully-enumerative or a fully- faceted system but indicated that for the sake of versatility and flexibility there should be a balance between enumerative and synthetic characteristics. She does not pretend to have the final answer to the "perfect" system. As she concluded, "...it is relatively easy to express... (the idea) that a classification should be able to do this or that, it is not so easy to specify how to make it do this or that". While there are, as yet, many unanswered questions, this is the time in which research should begin.

Under the second theme of the conference, *The Computer Science Classification Synergism,* three papers were presented. Karen MARKEY, University of Michigan, described her research on *The Concept of Common Subject Headings and Online Subject Outline Searches.* This research builds on and draws from the results of Markey's earlier investigations in the Dewey Decimal Classification Online Project. In her current research she has been investigating a method for improving access to DDC class numbers using subject headings as search terms to locate class numbers which would retrieve documents relevant to the user's request. – The project analyzed the similarity among subject headings, DDC schedule captions and DDC relative index terms. The question addressed is, "could subject headings common to a group of documents with the same class number be substituted for the captions and/or relative index entries in order to enhance the search capabilities of a DDC online catalogue?" Markey concluded from her research thus far that to maximize its usefulness as a search tool in the online catalogue, DDC needs "to be enhanced with terminology understandable to online users". Further research is needed to establish a methodology for identifying the common subject headings, including headings connected to synthesized class numbers in DDC. Another problem identified by Markey is that it is not always possible to establish a common subject heading for some class numbers, particularly when the headings represent topics which are more specific than the topic under which the documents are classed. Finally, Markey predicts that efforts to develop this kind of search capability will require "considerable investment in systems design, implementation and fine tuning".

Following Markey's paper, Nancy WILLIAMSON, University of Toronto, described the research being carried out to bring *The Library of Congress into the Computer Age.* Using a MARC format for classification schedules, which is presently in the process of development, the Library of Congress Classification schedules would be converted to machine-readable form in order to provide for: 1) an editorial support system which would be used to update and maintain the classification system online at the Library of Congress; 2) a tool which would enable classifiers in any library to classify and shelflist online; 3) the production of the schedules in various physical formats; and 4) the enhancement of the search capabilities of online catalogues. Williamson described the methodology and preliminary findings of an intensive content analysis of the LC Classification Schedules designed to provide the data needed to aid LC in decisions concerning the final format of the US MARC record for classification and the editorial work needed to convert the schedules into machine-readable form in a manner suitable for online access and display.

In the third paper, Dana SCOTT, Carnegie Mellon University, Pittsburgh, discussed user needs and require-

ments with respect to *Subject Classification and Natural Language Processing for Retrieval in Large Databases.* Recognizing the fact that large unstructured databases present searching problems, he posed some solutions to these problems through the use of subject classification.

The final segment of the conference had the theme *Implications for Theory and Practice* and was designed to encourage speculation on possible answers to the question "where do we go from here?" in research, in practice, and in library and information science education.

Francis MIKSA, University of Texas at Austin, in exploring implications for information access, 2011 A.D., discussed *Shifting Directions in Library Science Classification* - a look at where library classification has been and where it might go in the future. Miksa defined classification broadly as encompassing two processes – the partitioning of groups of objects for the purpose of obtaining ordered or unordered sets, and the identification of a particular object by assigning it to membership in a set of objects based on its characteristics. Within this context he addressed the questions "what is classification and how is it accomplished?" and "why is classification being pursued – that is, what are its purposes?". In addressing the first question, Miksa pointed out that in the design and use of information retrieval systems, efforts to partition documents into groups have shifted from the pre-search or classification/indexing stage to the at-time-of-search (or post-search) stage. He also notes a shift from formal concept identification to the acceptance of concepts as they appear in text. Yet, in spite of new methods, old ones continue to persist. Why? In responding to this question, Miksa concluded that it is a result of the belief in a "universe of knowledge" and its effects on the "intellectual advance of society". Intellectual growth, he states, cannot proceed without system and without process. As a result, information access and retrieval was perceived to be achieved most effectively when based on an order of subjects, preferably a systematic order. But this approach has not been without its problems, such as the lack of one order acceptable to all, and the inadequacy of the early knowledge structures. Miksa traced the shift in library classification from classification based on a universe of knowledge, through classification based on literary warrant to the efforts of Ranganathan and others to "recover logic and order in conceptual classificatory procedure" through a "universe of subjects". In his analysis, Miksa distinguished between documents and subjects as "objects" of classification, while recognizing that the two intersect, and that in the course of history the distinction has become confused. In the light of the analysis, he proposed a re-modelling of the information retrieval process, which would incorporate an "idea mapping for recorder and viewer", that is, a classification of concepts which would enable users to explore an information need free from the constraints of documents.

Carol MANDEL, Columbia University Libraries, addressed the future in terms of the *Implications for Information Processing* in libraries. Mandel described the state-of-the-art as a period of transition in which electronic storage is becoming common place, yet paper documents continue to proliferate and in which changes are being demanded, but where the old and the new can be expected to exist together, at least for some time to come. In a discussion of trends, Mandel identified the problem of the increasing size of databases, the continuing importance of the cataloguer's role and the need for tools to support that role. She also emphasized the importance of exploiting new techniques for indexing and the role of expert systems, the emergence of the scholar's/cataloguer's work station and the economics and politics of information processing. She recognized that the Dewey Decimal and Library of Congress Classification systems are not responsive to the changing situation, but that there is a need to make the best use of these systems we have while continuing to search for something better. While libraries may have resisted change in the past, Mandel felt that if the right classification system were designed for the computer age, libraries would be willing to change. Mandel's vision of such a system is one in which functionality would be important. To develop such a system she feels that we must have a better understanding of how users browse. Mandel also saw standards as a major priority for the future standards for the cataloguer's work station and reference tools, as well as MARC formats and display for classification.

In the final paper of the conference, Richard HALSEY examined the *Implications of Classification Theory in the Computer Age for Library and Information Science Educators.* He described the future of classification as being inevitable – "we will classify" – and perceived this as a challenge to the library and information science educator in the "benign neglect" of classification theory in the United States in general and in its library and information science education in particular. Halsey called upon educators to provide "breeding grounds" for professionals who whill study classification in its theoretical as well as its practical sense, recognizing it as an essential domain of expertise which is interdisciplinary in nature. Further, he saw as the greatest challenge to the educator and the theoretician the task of relating "the conceptual structure of texts, graphics, and data to the cognitive structure of users, as their perceptions change over time". In particular, he saw the need to meet the computer age with "invisible classification-guidance systems" which will enable information seekers to quickly and efficiently meet their needs and also to ensure the development of classification systems which take the best advantage of the technologies available. Halsey concluded that "classification is a panoramic and critically important subject of study".

The conference concluded with a brief *Synthesis and Summation.* Nancy WILLIAMSON observed that the deliberations of the delegates clearly indicated that classification is alive and well. However, to remain healthy it must respond to change and the needs of the future. Old systems must be utilized to the best advantage, while research and development is needed to ensure the creation of new and effective systems which respond to the computer age and ultimately replace them. Most importantly, it was clear that in the information world of the future the narrow focus on library classification must give way

to an understanding of classification and classification theory as an interdisciplinary field of knowledge. Finally, she cautioned that in the computer age, it will beessential that classification theory as well as classification practice be kept alive.

The full proceedings of this conference are in the process of preparation for publication. N.Williamson

IFLA Section on Classification and Indexing. Annual Report

Developments between Conferences

The Section's presentation at the 1987 Brighton Conference by John J. FINNI and Peter J.PAULSON, *The Dewey Decimal Classification Enters the Computer Era: Developing the DDC Database and Editorial Support System,* appeared in "International Cataloguing and Bibliographic Control" as did Robert P.HOLLEY's report on Section activities, *Developments and Progress in Classification and Indexing.* Nancy WILLIAMSON, Standing Committee member, was named chairperson of the Committee on Classification Research of the International Federation for Documentation. Her appointment will lead to increased cooperation between the two groups. The Lenin State Library of the USSR asked the Section to publicize their international comparative study on the teaching of cataloguing. The Section also distributed its annual *Newsletter* to the 65 Section and twelve Standing Committee members as well as to others with interests in classification and indexing.

Project Status Report

Nancy Williamson has completed the IFLA-funded portion of her project on the study of the role of classification and classificatory structure in all kinds of online retrieval systems. Her report on classification in online catalogs, whose abstract is given below, was part of the Section program. At the Standing Committee meeting, she reported on her recent investigations into the use of classification in data bases and will later submit a written report on this aspect of her research. To expand the scope of the Project beyond levels permitted by IFLA funding, she successfully obtained supplementary funding from several sources. The Section is also pleased that the Library of Congress chose her to study the feasibility of a MARC format for the Library of Congress Classification.

Working Group on "Guidelines for Subject Authority Files"

The Division of Bibliographic Control recommended approval for the Working Group on *Guidelines for Subject Authority Files* with the following terms of reference:

(1) To formulate guidelines for subject authority records and for their interrelationships within subject authority files.
(2) To evaluate the suitability of the UNIMARC authorities format for subject authority records.
(3) To consider possible relationships between subject authority records and classification.
(4) To publicize the guidelines and to identify additional areas for research.

Barbara KELM, Section Secretary/Treasurer, will chair the WG while Robert HOLLEY, Section Chairperson, will coordinate North American participation. The WG intends to expand the IFLA IBCIM publication, *Guidelines for authority and reference entries,* to include subject authorities, which were explicitly excluded from the 1984 edition. Several experts have already accepted the invitation to participate in the WG's activities. The Section intends to cooperate closely with the Core Programme for Universal Bibliographic Control and International MARC (UBCIM), with the Section on Information Technology, and with the proposed Working Group on Authority Files under the direction of the Section on Bibliography. Drawing upon a preliminary document by Barbara Kelm and Walther TRAISER, the WG hopes to complete the first draft of the expanded *Guidelines* by the 1989 IFLA Conference.

Meetings

The Section had one professional paper session and two meetings of the Standing Committee at the Sydney 1988 Annual Conference. In addition, Robert P.HOLLEY, Section Chairperson, presented a *Report and review of the work of the Section on Classification and Indexing* at the Division of Bibliographic Control Open Forum. At the open meeting on 1 September 1988, Elaine HALL, Sydney, Australia, delivered a paper on *Australian directions in subject access.* Nancy WILLIAMSON then followed with her presentation on *Classification online: present and future.* An estimated 90-100 delegates attended the program session.

At the first Standing Committee meeting on 29 August, the SC received the financial report and reviewed developments since the Brighton Conference. Since nine of the 12 Standing Committee members are not eligible for reappointment, all current members agreed to seek out qualified nominees for the 1989-1993 term. The Section Project and the Working Group occupied the remaining time.

The SC meeting of 3 September 1988 completed planning for the Working Group and discussed future plans. If the French organizing committee has an available time slot, the Section will sponsor an all day workshop at the 1989 Paris Conference on the 20th edition of the Dewey Decimal Classification. The Section will work closely with Forest Press, publishers of the DDC, who will provide financial support. The morning sessions will focus on DDC as an international classification while the afternoon sessions will provide practical instruction for implementing the new edition as well as an opportunity for the participants to gather together by language or regional groups. For the open session, the Section will seek papers on subject access in France, effective use of the Library of Congress Subject Heading system, and PRECIS at the British Library. Looking further ahead to the 1990 Stockholm Conference, the SC considered the following topics: subject access in the Nordic countries, a report from the Section Working Group, a MARC format for classification, developments in the Third World, and the Bliss Classification. R.Holley

Abstracts of Papers

Elaine HALL: Australian directions in subject access.

The majority of Australian libraries base their subject cataloguing on Library of Congress Subject Headings (LCSH). To

assist with the application of LCSH, and to provide guidance on building subject access on the Australian Bibiographic Network database, the *Australian Subject Cataloguing Manual* was published in 1985. Aspects of the suitability for Australian libraries are covered. However, in an environment where there is much dissatisfaction with the quality of access being provided, a change of direction is proposed, involving a comprehensive evaluation of the appropriateness, effectiveness and efficiency of the subject access process.

Nancy J. WILLIAMSON: Classification online: present and future.

This third report from a project sponsored by the IFLA Section on Classification and Indexing focuses upon the Library of Congress Classification. With the Dewey Decimal Classification project as a partial model, Nancy Williamson, Project Director, received an invitation from the Library of Congress to study the online possibilities of LCC. A tentative MARC record format is possible, especially after rationalization of LCC by consistent edition. Two major decision areas will be the handling of hierarchies of terms and the treatment of tables. Small scale test suggest the possibility of extending this format to other major classification schemes with the eventual goal of an international MARC format for classification.

FR Germany: Conference on Intension and Extension

Organized by Prof.Rudolf WILLE, Mathematical Institute, Technical University of Darmstadt and Chairman of the Special Interest Group on Concept Analysis (SIG- BA) in the German Society for Classification, a meeting was convened from March 2-4, 1989 at Darmstadt to discuss problems of intension and extension from various points of view. Some 50 participants (of which some had just attended a special introductory course in Formal Concept Analysis in the two days ahead) discussed the following twelve papers (all of them in German): L.RÖSKA-HARDY: Intension and extension: an epistemological consideration. – J.SCHÄFER: Semantic relations and intensionality. – R.WILLE: What content is covered by Formal Concept Analysis? – P.BURMEISTER: The logic of attributes in cases of uncertain knowledge. – W.LENZEN: Algebra of concepts according to Leibniz. – R.UNGVARY: Attempt at an analytical determination of concept relationships. – Th.B.SEILER: Intension and extension of natural concepts. – A.CLAAR: Analysis of developmental procedures in psychology. – R.SEEBALD: Analyzing vague and dynamic sets of concepts utilizing many-valued bipolar, non-linear and fractal logics. – K.E.WOLFF: Application of conceptual scaling. – N.SPANGENBERG: On the interpretation of concept lattices from grid-investigations. – C.HOEDE: Knowledge graphs. – Seven of the papers provided insights into the problem field from the aspects of philosophy (Röska-Hardy, Lenzen), psychology (Seiler), linguistics and informatics (Schäfer), law (Seebald), information science (Ungvary), and artificial intelligence (Hoede). In five of the presentations the methods of Formal Concept Analysis with ther vizualisation method by line diagrams, a specialty of the Darmstadt group under R.Wille was used, namely in the papers by Wille and by Burmeister with respect to basic problems and in the papers by Claar, Wolff, and Spangenberg with respect to applications in psychology. This method is quite young, it has only been introduced in 1982. Among the first papers to be published was R.Wille: Line diagrams of hierarchical concept systems. In: Int.Classif. 11(1984)No.2, p.77-86. Since then the list of papers from this school of thought has amounted to 67 (Febr.1989). It is intended to publish some of the contributions of this year's meeting in forthcoming issues of Int.Classif. The next conference of SIG-BA will take place early in 1990.

13th Annual Conference, Gesellschaft für Klassifikation eV

The program of this conference, entitled *Conceptual and Numerical Analysis of Data* to take place from April 10-12, 1989 at Augsburg, FRG, comprises 67 papers to be presented in 20 Sessions running in parallel in 4 Sections. A proceedings volume is foreseen – to be published totally in English – of a selection of the papers. The following survey of the presentations starting with the opening lecture by H.J.SCHEK: "On the processing of data, objects, knowledge: Research trends from the aspect of databases", lists the papers in the sequence: Section 2, 1, 3, and 4

Section 2: Social Sciences and Humanities: THALLER, M.: Do large databases have an analytic significance for the social sciences and the humanities? – LECLERCQ, H.: New concepts and terms during the French revolution: A classification of the neologisms according to their origin. – BINDER, G., HERFURTH, M.: Quantitative analysis of bibliographic databases: A new procedure of knowledge production. – SCHNELLING, H.: On the analysis of literature data. – UNGVARY, R.: Attempt at determining the concept of "generalization" and "most general concepts".

On Knowledge Structures: MIHRAM, D., MIHRAM, G.A.: Reflexions on the scientific method: Implications for the conceptual and numerical analysis of data. – BAUER, G.: Knowledge structures to promote problem-solutions: Possibilities of a graphical thesaural representation of knowledge. – DAHLBERG, I.: Systematization of knowledge fields. -

Library Science: LORENZ, B.: Some language problems in elaborating a classification system and its indexes. – SCHULZ, U.: The online catalogue of the integrated library system URICA at the University Library of Oldenburg. – MEINK, P.: The UDC on a PC: A multilingual approach with HyperTalk.

Multidisciplinary applications: GLASHOFF, H.: Qualitative and numerical data in a three-dimensional system: Data management in interdisciplinary research of decay mechanisms of mediaeval wall paintings.

On Terminology: ZOLLER, P.: Priority-based classification of available information – an important aspect of future user interfaces. – NEDOBITY, W.: Methods of data analysis for the International Network for Terminology.

– *BUDIN, G.: Problems of terminological analysis of concept descriptions.* – *KRESIC, J.M.: Standard terminology networks facilitated by a thesaurus in a cube- lattice form.*

– *On Archives:* SCHMITZ-ESSER, W.: Data analysis and structuring for the media and in archives.

– *On thesauri construction in economics:* UNGVARY, R.: Classification and thesaurus machine elements for an EAN database.

Section 1: Data analysis: Herden, G.: A uniquely determined goodness criterion for qualitative data. – TÜSHAUS, U.: On the interpretation of central relationships.

– *Cluster analysis:* BOCK, H.H.: Probabilistic aspects of clustering methods. KRAUTH, J.: A new modification of the Rand Index for comparing partitions. – OPITZ, O., WIEDEMANN, R.: Nondisjunct classes. – DEGENS, P.O., WOLF, K.: On properties of additive tree algorithms. – VACH, W.: Least squares approximation of additive tree metrics. – TITTEL, M., DEGENS, P.O.: Isotonic regression – for a monotone index on a hierarchy.

– *Data analysis II:* MATHAR, R.: Multidimensional scaling: problem structure, solution approaches and applications. – DIDAY, E.: Symbolic data analysis.

– *Statistical methods:* FAHRMEIR, L.: Analysis of nonnormal longitudinal data with dynamic generalized linear models. – KAUFMANN, H.: On testing for and against inequality restrictions. – BALDERJAHN, I.: Robustness of estimation methods against small sample sizes, model characteristics and nonnormality in confirmatory factor analysis models. – MÜLLER, P.: Numerical classification of biased estimators. – MEYER, R.: Extensions to correspondence analysis for statistical exploration of multidimensional contingency tables.

– *Concept Analysis:* GANTER, B.: Conceptual analysis of qualitative data. – WILLE, R.: Geometric representation of concept lattices. – SKORSKY, M.: Drawing concept lattices within n-dimensional grids. – KOLLEWE, W.: Evaluation of a questionnaire response by the methods of formal concept analysis: An example. – SPANGENBERG, N., WOLFF, K.E.: Comparison of component analysis and formal concept analysis using repertory-grid-tests.

Section 3: Market Research: BAUSCH, Th.: Sample techniques used in marketing research. – DECKER, R., GAUL, W.: A classification of models to represent buyers' attitudes.

– *Decision supporting systems:* BUZZI, R.: The use of the logical programming language PROLOG as a classification method. – DUMER; J., HANRATTY, T., TAYLOR, M.: Nonparametric data analysis (Expert) consultation system. – MATTERN, V., SCHADER, M.: Rule based decision support in data analysis: A comparison of inference strategies. – LOCAREK, H.: Object-oriented programming for statistical expert systems.

– *PC-Software:* FISCHER, E.: IBM-PS/2– A survey on software.

– *Psychology:* SCHWEIZER, K.: Agglomerative cluster formation by elimination of the aggregation effect. – SEDLMEIER, P., IGERENZER, G.: "Confirming" the null hypothesis with low power: Illustrations and implications. – ECKES, Th.: Knowledge structures and knowledge representation: psychological models of conceptual order. – KROLAK-SCHWERDT, S., KOHLER, A.: Equivalence relations between models of a three-modal data analysis.

– *Decision theory:* MISSLER-BEHR, M., OPITZ, O.: Identification of decisions for multiple purposes.

– *Market Research II:* AMBROSI, K.: Computer supported and quantitative methods in market research. – BÖCKENHOLT, I., GAUL, W.: Generalized latent class analysis: A new approach for market structuring.

– *Socio- and macro-economics:* KOHLSCHE, A.J.: Assessment of migration models – a survey. – RONNING; G.: Discrete choice analysis of foreign travel demand. – GEBAUER, R.H.: Design of a socio-economic grouping scheme for agriculture households using a partitioning classification procedure. – HAUKE, W., OPITZ, O., PAULY, R.: Macro-economic applications.

Section 4: "Phylogenesis": AX, P.: Phylogenesis and system; Reproducing phylogenetic order in nature. – ERDELEN, W.: The classification of organisms – some inherent problems. - HAESELER, A.v.: Limitations of reconstructability of phylogenetic trees exemplified by 5S rRNA sequences. – LAUSEN, B.: Exploring homologuous tRNA sequence data: Positional mutation rates and geneticdistance.– HOFMANN, H., KÜHN, K.: Aggregation studies of collagen-like molecules based on the analysis of their sequences.

– *Informatics/Computer science:* Kupka, I.: The concept of information viewed from the aspect of informatics. – ADORF, H.-M., MURTAGH, F.: Unsupervised classification with a discrete, stochastic, "neural" network. – OSTERMANN, R., HOFMANN, L., MÜNCH, J.W.: Analysis of throughput measurements on a computer-network. – ROOS, B., DEGENS, P.O.: Description of the work area of a memory-chip with the aid of its AC-parameters.

Sequence analysis: LUDWIG, W., SCHLEIFER, K.H.: Nucleotid sequence analysis of conserved genes from bacteria. – For further information contact: Prof.Dr.Otto Opitz, Lehrstuhl für Mathematische Methoden der Wirtschaftswissenschaften. Universität Augsburg. Memminger Str. 14, D-8900 Augsburg. Tel.: (0821) 598-385.

DIN-Courses and Seminars

The DIN Deutsches Institut für Normung eV (German Standardization Institute) informed on courses for the application of its standards in a mailing of Jan.1989. Two subjects seem to be of relevance: "Sachmerkmal- System in der Anwendung – DIN 4000" (Special Subject Characteristics in Application Areas), courses to be held from 17-18 April and 25-26 Sept.1989 at Hannover; "On the UDC", course held by P.Meink and H.-J.Hermes, from 23-24 Oct.1989 at Münster. For further information contact: DIN Tagungsleitung, Burggrafenstr. 6, D- 1000 Berlin 30.

Turkey

From Mr. Bülent AGAOGLU, Istanbul/Fatih a "Turkish Indexing and Thesaurus- Bibliography" was received, dated March 23, 1988. It comprises 23 titles by 15 different authors. The titles are only in Turkish and relate to the years 1970-1987.

U.K.: CRG 269

The 269th Meeting of the Classification Research Group took place on Dec.8, 1988 at University College London with 8 members present. Mr.MILLS had circulated a paper outlining a modification of his draft schedule for Communication and Information in the Bliss Classification, 2nd ed. together with notes to explain the thought underlying the new treatment. He had taken into consideration criticisms from Mr. LANGRIDGE and subsequently made this class a Prolegomena class in the beginning of the schedules. But not all of the concepts would go in there, only "those reflecting concepts arising from the handling of the field of knowledge itself. Generally characterized by their special role in organizing knowledge (their cxtra-disciplinary nature and by their pervasive role in qualifying the substantive disciplines and forms of knowledge in A/Z)" – as the members present advised to describe this class at the top of the schedule. Mills outlined also the alternatives that he had provided. The agenda of the next meeting on Febr.16: Continuation of discussion on the problems of the classification of Communica tion and Documentation.

U.S.A.

(See also the report on the Albany Conference at the beginning of FID/CR News.)

New Edition of Dewey Published

The 20th edition of the Dewey Decimal Classification system (DDC 20), used worldwide by some 200,000 libraries, has just been published (Jan.1989).

Peter J.PAULSON, Executive Director of Forest Press (publisher of Dewey) said, "The widespread changes in recorded knowledge during the last decade require a new edition. Computer science, civil rights, electronics, and substance abuse are among the hundreds of topics that needed change". "New features should make DDC 20 easier to use than previous editions", according to Paulson. For the first time Dewey includes a manual to guide the classifier. The new edition has more notes and a substantially revised index.

Classification specialists at the Library of Congress, through a contract with the publisher, have worked for ten years on the new edition. John P. Comaromi, Editor of DDC 20, said he and the Assistant Editors keep up with publications through their work of assigning Dewey numbers to more than 100,000 books received by the Library of Congress each year.

Content changes: Music completely revised. Data processing and computer science extensively revised and numbers expanded. Geographic table for British Columbia completely revised. Expanded numbers for Switzerland, Nigeria, Japan, and other countries. Important revisions in television, civil rights, Central American history, electronics, substance abuse, gymnastics, and other subjects.

New Features: Includes a manual to guide the classifier. More summaries make it easier and quicker to consult the main subdivisions of a lengthy schedule. More notes with helpful instructions. Substantially revised index, with nearly all "see references" replaced by direct entries.

The new edition is in four volumes, printed on permanent paper, and contains 3,388 pages. For more information contact Mr.P.J.Paulson, Forest Press, 85 Watervliet Avenue, Albany, NY 12206-2082, USA. For price and availability outside of the United States and Canada contact: OCLC International, c/o OCLC Europe, 2nd floor, Lloyds Bank Chambers, 75 Edmund Street, Birmingham B3 3HA, U.K. Forest Press is a division of the OCLC Online Computer Library Center.

Thesaurus Standard Being Revised

The American National Standard for Thesaurus Structure, Construction and Use (Z39.19) is now being revised by NISO Standards Committee PP chaired by Bella Weinberg of the Division of Library and Information Science, St.John's University, Jamaica, NY 11439. The members of the committee are: Ron Buchan, NASA; David M.Liston, Jr., Zenith Data Systems; Toni Petersen, Artand Architecture Thesaurus of the Getty Art History Information Program; Caroline Reyes, H.W.Wilson Co.; Peri Schuyler, National Library of Medicine; and Hans H.Wellisch, University of Maryland.

In preparing the revision, the Standards Committee is closely comparing the current American standard on thesaurus construction with the British and international standards on monolingual thesauri (BS5723:1987 and ISO 2788-1986).

Among the issues to be addressed by the Committee are scope of the standard, definitions of terms, hierarchical structure, and online display. Input is solicited from all sectors of the information community. Comments and questions should be sent to the Standards Committee PP chair (address above).

Natasha Stokolova passed away

On Jan.20, 1989, a wonderful member of our scholarly community in the field of knowledge organization passed away: Our beloved Natasha Vleduts-Stokolov, Philadelphia. She had been with BIOSIS for many years and was just the one who had done the most interesting research to which the paper by Irene Travis at the Albany conference in Nov.1988 (see the report by N.Williamson above) refers to. A description of this brilliant work was published under the title "Concept recognition in an automatic text- processing system for the life-sciences" (J.ASIS 38(1987)No.4, p.269-287). Natasha Vleduts-Stokolov had only been 56 and had had to struggle so much to establish again a reasonable professional and personal life with her husband George Vladutz, after they both had left VINITI at Moscow in 1975. Our feelings of sympathy are with her family. May she will find her way in the Beyond never that hard as on this earth!

I.D.