

IC

CLASSIFICATION

INTERNATIONAL

Devoted to Concept Theory  
Systematic Terminology &  
Organization of Knowledge

An Essay on the Prehistory of  
General Categories (IS): T. Jefferson

New Approaches in  
Thesaurus Application

Conceptual Information Retrieval  
by Knowledge-Based  
Programming Techniques

The Training of Librarians in  
Content Analysis

INDEKS - Verlag, Frankfurt  
ISSN 0340-0050 Int. Class.  
Vol. 18 (1991) No. 3

# Contents

## Editorial

Knowledge Organization, Thesauri, and Terminology ..... 133

## Articles

- Perreault, J.M.: An essay on the prehistory of general categories (I):  
T.Jefferson (Dedicated to Eric de Grolier on his 80th birthday) ..... 134
- Schmitz-Esser, W.: New approaches in thesaurus application ..... 143
- Ohly, H.P.: Conceptual information retrieval by knowledge-based  
programming techniques ..... 148
- Nohr, H.: The training of librarians in content analysis.  
Some thoughts on future necessities ..... 153

## Reports and Communications

A future for the UDC (158) - ASIS/SIG/CR Program '91 (158) - CRG  
Meetings 280 and 281 (159) - IFLA Section on Classification and Indexing  
(159) - 12th International SCCAC Meeting (160) - Classification in Psych-  
iatry and Psychology (161) - 81st German Library Convention, Topical Area  
XI: Subject Analysis (G.Greiner) (161) - Symbolic-Numeric Data Analysis  
and Learning (161) - Data, Expert Knowledge, and Decisions (161) -  
Datentechnik und Wissensrepräsentation in den Sozial- und Geisteswissen-  
schaften (161) - Multidimensional Data Analysis (161) - Deutscher Doku-  
mentartag, Ulm (162) - Data Analysis and Numerical Classification, Chem-  
nitz (162) - Conference on Information Science, Oberhof/Thüringen (162)  
- 16th Annual Meeting, Gesellschaft für Klassifikation (162) - The Society of  
Indexers (162) - COLING-92 (163) - Nalimov's Books in English (163) - As-  
sociation for Terminology and Knowledge Transfer (163) - International Or-  
ganization for Unification of Terminological Neologisms (IOUTN) (163) -  
ISO/TC37 "Terminology", Meetings, Oct.1991 (163) - International Sym-  
posium on Terminology and Documentation in Specialized Communication  
(164) - Third Infoterm Symposium: "Terminology Work in Subject Fields"  
(164) - The Austrian Standards Terminology Data Bank (164)

## Obituary

In Memoriam: Geoffrey Arthur LLOYD (Eric Coates) ..... 166

## ISKO News 6

- ISKO Brochure No.1 - NISKO'91 at Bratislava ..... 167
- ISCCR'91, 5th International Study Conference on  
Classification Research - Wissensorganisation'91 ..... 168
- Further Events in the Fall of 1991 - Forthcoming Publication ..... 169

## Book Reviews

- Eric de Grolier's "Big Book" on Classification (B.C.Vickery) ..... 170
- Kumar, Krishan: Theory of Classification. 4th rev.ed.  
(M.P.Satija) ..... 170
- Hohnhold, I.: Übersetzungsorientierte Terminologearbeit  
(Translation-oriented terminology work) (H.Eisele) ..... 171
- Arntz, R., Picht, H.: Einführung in die Terminologearbeit  
(Introduction into terminology work) (in German) (H.Bühler) ..... 172

Classification Literature 18(1991)No.2 ..... 174

## INTERNATIONAL CLASSIFICATION

Devoted to Concept Theory, Systematic Terminology, and  
Organization of Knowledge

The journal is the organ of the INTERNATIONAL  
SOCIETY FOR KNOWLEDGE ORGANIZATION  
(General Secretariat: Woogstr. 36a, D-6000 Frankfurt 50)

### Editors

Dr.Ingetraut DAHLBERG (Editor-in-Chief),  
Woogstr.36a, D-6000 Frankfurt 50

Dr.Robert FUGMANN, Alte Poststr.13, D-6270 Idstein

Prof.Jean M.PERREAU, The Library, Univ.of Alaba-  
ma at Huntsville, P.O.Box 2600, Huntsville, AL 35807, USA

### Consulting Editors

Mr.Kenneth BAKEWELL, Liverpool Polytechnic, School  
of Inform.Sci.& Technol., 79 Tithebarn Street, Liverpool,  
L2 2ER, U.K.

Prof.Pauline A.COCHRANE, c/o U.S.A.I.D., USA Em-  
bassy, 210, Galle Road, Colombo 3, Sri Lanka

Mme.Nathalie DUSOULIER, Inst.de l'Inform.Science et  
Techn., Chateau de Montet, F-54500 Vandoeuvre, Nancy,  
France

Mr.Douglas FOSKETT, 1, Dale Side, Gerrards Cross,  
Bucks. SL97JF, U.K.

Mr.Jens B.FRIIS-HANSEN, Hoesterkoevej 7, DK-2970  
Hoersholm, Denmark

Mr.Alan GILCHRIST, 38 Ship Street, Brighton BN1 1AB,  
U.K.

Prof.Wilfried GÖDERT, FHBD, Claudiusstr.1, D-5000  
Köln

Dr.M.A.GOPINATH, DRTC, Indian Statistical Inst., 8th  
Mile, Mysore Road, R.V.College P.O., Bangalore-560059,  
India

Prof.Eric de GROLIER, ISSC, 1, rue Miollis, F-75015  
Paris, France

Prof.Dr.Josef HÖLZL, Inst.f.Techn.u.Warenwirtschaft.,  
Wirtschaftsuniv., Franz-Klein-Gasse 1, A-1190 Wien

Prof.Krishan KUMAR, Dept.of Libr.& Inform.Sci.,  
Univ.of Delhi, Delhi-110 007, India

Prof.Yukio NAKAMURA, 14-8, Nisikata-1, Bunkyo-ku,  
Tokyo 113, Japan

Mr.Peter PAULSON, Forest Press OCLC, 85 Watervliet  
Ave., Albany, NY, 12206, USA

Drs.Gerhard J.A.RIESTHUIS, Universiteitsbibliotheek,  
Singel 425, NL-1012 WP Amsterdam, Netherlands

Mr.Loll ROLLING, CEC, Dir.XIII, Jean-Monnet Centre,  
Kirchberg, LU-Luxembourg

Dr.Winfried SCHMITZ-ESSER, Oderfelderstr.13, D-  
2000 Hamburg 13

Prof.Dr.Eugeniusz SCIBOR, IINTE, Broniewskiego 83-  
157, PL-01-876 Warszawa, Poland

Dr.Otto SECHSER, In der Ey 37, CH-8047 Zürich, Swit-  
zerland

Prof.Dr.Dagobert SOERGEL, College of Libr.&  
Inform.Serv., University of Maryland, College Park, MD,  
20742, USA

Dr.Edouard SUKIASYAN, Lenin State Library of the  
USSR, Pr.Kalinina 3, Moskva 10100, USSR

Prof.Nancy WILLIAMSON, Fac.of Libr.& Inform.Sci.,  
140 St.George Str., Toronto M5S 1A1, Canada



UDC 025.4 + 168 + 001.4(05)

## INTERNATIONAL CLASSIFICATION

Devoted to Concept Theory, Systematic Terminology, and Organization of Knowledge

**Editors:** Dr.I.Dahlberg, Frankfurt; Dr.R.Fugmann, Idstein, Prof.J.M.Perreault, Huntsville, AL, USA.

**Editorial Office:** c/o Dr.I.Dahlberg, Woogstr. 36a, D-6000 Frankfurt 50, Tel.069-52 36 90, FAX: 059-52 05 66

**Issue frequency:** 4x/ann. **Annual subscription rates:** Institutions per volume DM 94.-; Individuals per volume 20% less, if directly ordered from INDEKS Verlag. Single Issues: DM 28.- Back issues available, ask for special offer. Subscription included in membership fee for members of the International Society for Knowledge Organization (ISKO). MwSt (domestic only) and postage are not included; for Air Mail delivery an additional DM 4.- per issue is required.

**Advertising rates:** Advertising rate card No.2. Advertising fact sheet with details of mechanical requirements and closing date available upon request.

**Publisher:** INDEKS Verlag, Woogstr.36a, D-6000 Frankfurt 50, Tel.069-52 36 90; FAX 069-52 05 66.

Bank Account Nos: INDEKS Verlag, Postgiro-Konto Frankfurt No.151208-608 (BLZ 500 100 60). Frankfurter Sparkasse No. 852082 (BLZ 500 502 01)

All Rights reserved. Printed in the Federal Republic of Germany 1991 by Druckerei H.Guntrum II KG, PF 180, D-6408 Schlitz/Hessen.

# Contents page

Vol.18(1991)No.3

**Perreault, J.M.: An essay on the prehistory of general categories (I): T. Jefferson**

Int.Classif. 18(1991)No.3, p. 134-142, 5 refs.

Predictable subarrangement of entries within a lowest-order class, or of canonically arranged (alphabetical, chronological,...) subclasses within a broader class, produce operational results similar to those aimed at by general-category theory. Most histories of classification ignore such detail. But such subarrangement may be visible (even though not discussed thematically) in older general classifications.

Discovery of a volume belonging to Thomas Jefferson led to examination of Jefferson's recently published catalogue "in his own order", in the hope of seeing in it the manifestation of awareness of the need for such subarrangement. Subclasses analyzed are "Africa", and "Asia" in his Chapter 29: "Geography". The results are at best mixed. Bibliographical details of the discovered Jefferson volume are given: two of the 14 items in it are unique, one of them of unknown authorship. Analysis of items within the mentioned subclasses was hampered by the loss (due to a fire at the Library of Congress in 1851) of many of them, and because of the inexactness of Jefferson's bibliographical descriptions (in some cases the only remaining trace of the works' existence). (Author)

**Schmitz-Esser, W.: New approaches in thesaurus application.**

Int.Classif.18(1991)No.3, p. 143-147, 9 refs.

To show the difference and explain the move to a new kind of thesauri in the information science area, some of the main characteristics of conventional thesauri are pointed out as well as their side-effects. The new approaches for thesauri application are seen to exist in (1) expert systems, (2) interface systems, (3) object-oriented design and programming, (4) hypertext systems, (5) machine translation, and (6) machine abstracting. These areas are shortly described including also the new problems which they might create. A discussion of the limitations of the new thesaurus application areas finishes the article which challenges, finally, an awareness to meet the new possibilities of a thesaurus revival. (I.C.)

**Ohly, P: Conceptual information retrieval by knowledge-based programming techniques.**

Int.Classif. 18(1991)No.3, p. 148-152, 29 refs.

Information retrieval operates on the assumption that concepts can be recognized. This is only poorly supported by traditional document processing because documents are treated as separate units. Sophisticated retrieval techniques, such as bibliographic coupling or probabilistic retrieval, use statistical analyses of the context to improve retrieval results. However, extensive meta-analysis or control of the retrieval process requires knowledge-based programming techniques. The project AKCESS, which is discussed, aims to determine informants on social science topics, examining the relationships between documents, authors, institutions, and concepts, i.e. characteristics of a scientific community. (Author)

**Nohr, H.: The training of librarians in content analysis. Some thoughts on future necessities.**

Int.Classif.18(1991)No.3, p. 153-157, 12 refs.

The training of librarians in content analysis undergoes influences resulting both from the realities existing in the various application fields and from technological innovations. The present contribution attempts to identify components of such training that are necessary for a future-oriented instruction, and it stresses the importance of furnishing a sound theoretical basis, especially in the light of technological developments. Purpose of the training is to provide the foundation for 'action competence' on the part of the students. (Author)

**Beilagenhinweis:** Für die deutschen Empfänger der Zeitschrift liegt eine Einladung zur Teilnahme am DGD-KTF-Workshop "Thesauri in der Sprachtechnologie. Stand- Projekte - Perspektiven", Weilburg, 15.Okt.1991, bei.

This contents page may be reproduced without charge.

## Scope

The more scientific data are generated in the impetuous present times, the more ordering energy needs to be expended to control these data in a retrievable fashion. With the abundance of knowledge now available the questions of new solutions to the ordering problem and thus of improved classification systems, methods and procedures have acquired unforeseen significance. For many years now they have been in the focus of interest of information scientists the world over.

Until recently, the special literature relevant to classification was published in piecemeal fashion, scattered over the numerous technical journals serving the experts of the various fields, such as

philosophy and science of science  
science policy and science organization  
mathematics, statistics, and computer science  
library and information science  
archivistics and museology  
journalism and communication science  
industrial products and commodity science  
terminology, lexicography and linguistics

Beginning 1974, INTERNATIONAL CLASSIFICATION has been serving as a common platform for the discussion of both theoretical background questions and practical application problems in many areas of concern. In each issue experts from many countries comment on questions of an adequate structuring and construction of ordering systems and on the problems of their use in opening the information contents of new literature, of data collections and survey, of tabular works and of other objects of scientific interest. Their contributions have been concerned with

- (1) clarifying the theoretical foundations (general ordering theory, science theoretical bases of classification, data analysis and reduction)
- (2) describing practical operations connected with numerical taxonomy/classification, as well as applications of classification systems and thesauri, manual and machine indexing
- (3) tracing the history of classification knowledge and methodology
- (4) discussing questions of education and training in classification
- (5) concerning themselves with the problems of terminology in general and with respect to special fields.

## Instructions for Authors

*Manuscripts* may be submitted in either English, German or French to the editor-in-chief in two sets (the original and one copy) typed in double space, comprising between 1500 to 3000 words. They should be accompanied by an English indicative abstract of 100-200 words. The contributions are refereed.

*Criteria for acceptance* will be appropriateness to the field of the journal (see Scope and Aims) taking into account the merit of the content and its presentation. Papers are accepted with the understanding that they have not been published, submitted or accepted for publication elsewhere and that, if the work received official sponsorship, it has been duly released for publication. Authors will usually be notified within 6 to 10 weeks. Unless specifically requested, manuscripts or illustrations will not be returned.

*The text of the contributions* should be structured by subheadings; it should contain (a) an introduction, stating the purpose, (b) a description of materials and methods in sufficient detail, (c) information on results or systems developed, and (d) a conclusion on and/or summarization.

*References* should be listed at the end of the paper with the numbers in brackets referring to such numbers in brackets within the text part.

*Additional notes* should be indicated in the text by lifted single numbers behind a word and equally collected with their texts at the end of the paper under the heading *Notes*.

*Journal References* should contain the names and initials of all authors, full titles of the publication, abbreviation of the

## Aims

Thus, INTERNATIONAL CLASSIFICATION is meant to be a programme for the improvement of classification methods and processes, a forum for discussion for all those interested in the organization of knowledge on a universal or a subject-field scale, using concept analytical and/or concept-synthetical approaches as well as numerical procedures and comprising also the intellectual and automatic compilation and use of classification systems and thesauri in all fields of knowledge, with special attention being given to the problems of terminology.

INTERNATIONAL CLASSIFICATION publishes original articles, reports on conferences and similar communications, the Newsletters of the International Society for Knowledge Organization (ISKO News) and the Committee on Classification Research of the International Federation for Information and Documentation (FID/CR News) as well as book reviews, letters to the editor, and an extensive annotated bibliography of recent classification and indexing literature, covering now some 500 items in each issue.

INTERNATIONAL CLASSIFICATION should therefore be available at every university and research library of every country, at every information center, at colleges and schools of library and information science, in the hands of everybody interested in the fields mentioned above and thus also at every office for updating information on any topic related to the problems of order in our information-flooded times.

INTERNATIONAL CLASSIFICATION was founded in 1973 by an international group of scholars with a consulting board of editors representing the world's regions, the special classification fields, and the subject areas involved. From 1974-1980 IC was published by K.G. Saur Verlag, München. Back issues of 1978-1990 are available from INDEKS Verlag, too. (The 10 volumes of 1978-1987 are offered now at the highly reduced price of DM 350.-).

As of 1989, INTERNATIONAL CLASSIFICATION has become the official organ of the INTERNATIONAL SOCIETY FOR KNOWLEDGE ORGANIZATION (ISKO) and is included for every ISKO-member, personal or institutional in the membership fee (DM 50.-/DM 100.-).

*Rates:* From 1990 on for 4 issues/ann. (including indexes) DM 94.- + postage (DM 6.-). For air mail delivery add DM 4.- per issue. Membership rates see above. - INDEKS Verlag, Woogstr. 36a, D-6000 Frankfurt 50.

journal according to the ISO Standard 4, volume number, year of publication in brackets, issue number and first and last page numbers. *Monograph References* should give the name(s) of the author(s), full title, edition, place of publication, publisher, year and the number of pages.

*Examples:* Mater, E.: Human intelligence as a precondition for the machine processing of knowledge. *Int. Classif.* 15(1988) No. 3, p. 125-132

Hunter, E.J.: Classification made simple. Aldershot, GB: Gower 1988. 115p.

*Illustrations* should be restricted to the necessary minimum. *Graphs and diagrams* should be supplied as black and white drawings suitable to reproduction. *Half-tone illustrations* should be sharp, well-contrasted glossy prints. Illustrations should be numbered lightly with a soft pencil on the back. Numbered legends should be attached on a separate sheet.

*Tables* should be typed double-spaced on a separate sheet, contain a number and a title at the top and be cited in the text. Each column should have a heading.

Authors shall receive 25 reprints of their papers free of charge. Additional reprints may be ordered.

*Corrections in galley proof* exceeding 10% of the typesetting costs will be charged to the author.

*Contributions on micro flexible discs* are welcome if delivered in DOS compatible standard software such as Word (DOS or Windows), WordStar, Word Perfect, Euroscript, Multimate, In\*vision, DCA/RFT-files or plain ASCII code - our standard is Word (Windows) and Pagemaker.