



KNOWLEDGE ORGANIZATION

INTERNATIONAL CLASSIFICATION

formerly

INTERNATIONAL JOURNAL
Devoted to Concept Theory,
Classification, Indexing,
and Knowledge Representation

**UDC Centenary: The Present State
and Future Prospects**

**Thematic Mapping on Bibliographic Databases by
Cluster Analysis
A Description of the SDOC Environment with SOLIS**

**TOSCANA – A Graphical Tool
for Analyzing and Exploring Data**

**Transdisciplinarity
through Structured Dialogue**

INDEKS Verlag, Frankfurt
ISSN 0943 - 7444 Knowl.Org.
Vol. 22 (1995) No. 2

Contents

Editorial

100 Years of UDC 63

Articles

McIlwaine, I.: UDC Centenary: the present state and future prospects . 64

Grivel, L., Mutschke, P., Polanco, X.: Thematic mapping on bibliographic databases by cluster analysis 70

Vogt, F., Wille, R.: TOSCANA - A graphical tool for analyzing and exploring data 78

Reports and Communications

Judge, A.J.N.: Transdisciplinarity through structured dialogue 82

IFLA Section on Classification and Indexing (88) - U.K.CRG 300 (89)

- Work of ISO TC 37: Terminology (89) - Text Analysis and Computers

(89) - Forthcoming Events (90)

ISKO News 21

4th International ISKO Conference, Washington, DC, 1996 (91) -

Research Seminar on Compatibility and Integration of Order Systems

(91) - ISKO on the INTERNET (91) - Classification Systems in the

Internet (91) SCIRE. Representacion y Organizacion del Conocimiento

(94) - Personal News (94)

McIlwaine, I.C.: 2nd Russian ISKO Conference, Moscow,

May 15-18, 1995 92

Book Reviews

Matheis, Richard: Leadership Revolution (Hellmut Löckenhoff) 95

Chan, Lois Mai: Cataloguing and Classification: an introduction (M.P.Satija) 96

Fischer, Rolf-Peter, Bundschuh, Manfred: Practice of decision making (in German) (H.Löckenhoff - in English) 97

Koeder, Kurt W.: Study methodology. Self-management for study beginners (in German) (H.Löckenhoff - in English) 98

Fisher, Douglas H. et al: Concept formation: Knowledge and experience in unsupervised learning (Peter Jaenecke) 99

Wille, Rudolf, Zickwolff, Monika (Eds.): Conceptual knowledge processing (in German) (Gerd Bauer - in English) 101

Ingenerf, Josef: User-adaptable semantic language analysis and concept representation for medical documentation (in German) (Peter Hucklenbroich - in English) 102

Knowledge Organization Literature 22(1995)No.2 104

KNOWLEDGE ORGANIZATION

Devoted to Concept Theory, Classification, Indexing, and Knowledge Representation

The journal is the organ of the INTERNATIONAL SOCIETY FOR KNOWLEDGE ORGANIZATION (General Secretariat: Woogstr. 36a, D-60431 Frankfurt)

Editors

Dr.Ingetraut DAHLBERG (Editor-in-Chief), Woogstr.36a, D-60431 Frankfurt

Dr.Robert FUGMANN, Alte Poststr.13, D-65510 Idstein

Prof.Jean M.PERREAULT, The Library, Univ. of Alabama at Huntsville, P.O.Box 2600, Huntsville, AL 35899, USA

Dr.M.P. SATIJA (Book Review Editor), Guru Nanak Dev University, School of Library and Information Science, Amritsar-143 005, India

Consulting Editors

Prof.Kenneth G.B.BAKEWELL, 9, Greenacre Road, Liverpool, L25 0LD, U.K.

Prof.Pauline A.COCHRANE, GSLIS, University of Illinois, 410 David Kinley Hall, 1407 West Gregory Drive, Urbana, IL 61801-3680, USA

Prof.Dr. Emilia CURRAS, Universidad Autonoma de Madrid, Dept. de Doc. Cient. Fac. de Ciencias, Canto Blanco, Madrid 34, Spain

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

Mr. Christian GALINSKI, INFOTERM, Heinestr.38, A-1021 Vienna

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

Prof.Wilfried GÖDERT, FHBD, Claudiusstr.1, D-50678 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.Roland HJERPPE, Linköping University, Dept. of Computer and Information Science, S-58183 Linköping

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

Ms.Joan MITCHEL, Editor DDC, Library of Congress, Decimal Clasification Division, Washington, DC 20540-4330, USA

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

Dr.Giliola NEGRINI, Consiglio Nazionale delle Ricerche, ISRDS, Via Cesare de Lollis 12, I-00185 Roma, Italy

Prof.Dr.Roy RADA, Dept. of Computer Science, University of Liverpool, Liverpool L69 3BX, U.K.

Dr.Winfried SCHMITZ-ESSER, Oderfelderstr.13, D-20149 Hamburg

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

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

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

Dr.Edouard SUKIASYAN, Russian State Library, Vozdvizhenka, 3, Moskva 10100, Russia

Dipl.Ing.rudolf FUNGVARY, N yul u. 14, H-1026 Budapest, Hungary

UDC 025.4+168+001.4(05)

KNOWLEDGE ORGANIZATION

International Journal devoted to Concept Theory, Classification, Indexing and Knowledge Representation

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-60431 Frankfurt. Tel.069-52 36 90, FAX: 069-52 05 66

Issue frequency: 4x/ann. *Annual subscription rates:* Institutions per volume DM 128.-, Individuals per volume 20% less, if directly ordered from INDEKS Verlag. Single issues: DM 32.- Back issues available, ask for special offer. Subscription included in membership fee for members of the International Society for Knowledge Organization (ISKO). MwSt and postage are included; no Air Mail delivery possible. *Advertising rates:* Advertising rate card No.3. Advertising fact sheet with details of mechanical requirements and closing date available upon request.

Publisher: INDEKS Verlag, Woogstr.36a, D-60431 Frankfurt, 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 1995 by Druckerei H.Guntrum II KG. PF 180, D-36110 Schlitz/Hessen.

Contents page

Vol.22(1995)No.2

Mdlwaine, I.C.: UDC Centenary: The present state and future prospects.

Knowl.Org. 22(1995)No.2, p.64-69, 6 refs.

Survey on the activities going on to develop the UDC into a fully faceted classification system according to the Recommendations of the UDC Management Board. A Master Reference File (MRF) has been created from which any publisher or institution may develop its own versions according to the requests of its clientele. The UDC Technical Director at the FID Headquarters in The Hague maintains this File. An Editorial Board and an Editor in Chief was appointed. Extensions and Corrections are being published. Examples are given on ongoing revision work in the classes for Astronomy, Linguistics and Philology as well as in Medicine. Cooperation with the Editors of the Bliss Classification and the Dewey Decimal Classification exists.

KO

Vogt, Frank; Wille, Rudolf: TOSCANA – A Graphical Tool for Analyzing and Exploring Data

Knowl.Org. 22(1995)No.2, p.78-81, 11 refs.

TOSCANA is a computer program which allows an online interaction with larger data bases to analyse and explore data conceptually. It uses labelled line diagrams of concept lattices to communicate knowledge coded in given data. The basic problem to create online presentations of concept lattices is solved by composing prepared diagrams to nested line diagrams. A larger number of applications in different areas have already shown that TOSCANA is a useful tool for many purposes.

(Authors)

Grivel, L., Mutsdike, P., Polanco, X.: Thematic mapping on bibliographic databases by cluster analysis: A description of the SDOC Environment with SOLIS.

Knowl.Org. 22(1995)No.2, p. 70-77, 13 refs.

The paper presents a cword-analysis-based system called SDOC which is able to support the intellectual work of an end-user who is searching for information in a bibliographic data base. This is done by presenting its thematical structure as a map of keyword clusters (themes) on a graphical user interface. These mapping facilities are demonstrated on the basis of the research field Social History given by a set of documents from the social science literature database SOLIS. Besides the traditional way of analysing a cword map as a strategic diagram, the notion of cluster relationships analysis is introduced which provides an adequate interpretation of links between themes.

(Authors)

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, KNOWLEDGE ORGANIZATION (formerly 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.

Aims

Thus, KNOWLEDGE ORGANIZATION 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-synthetic 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.

KNOWLEDGE ORGANIZATION 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.

KNOWLEDGE ORGANIZATION 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.

KNOWLEDGE ORGANIZATION 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 14 volumes of 1978-1991 are offered now at the highly reduced price of DM 400.-).

As of 1989, KNOWLEDGE ORGANIZATION 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 60.-/DM120.-).

Rates: From 1990 on for 4 issues/ann. (including indexes) DM 120.-. No air mail delivery any longer. Membership rates see above. - INDEKS Verlag, Woogstr.36a, D-60431 Frankfurt.

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 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: Brandhorst, J.P.J.: Quantifiability in iconography. *Knowl.Org* 20(1993)No.1, p.12-19, 11 refs.

Hunter, E.J.: Classification made simple. Aldershot, GB: Gowar 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, WordPerfect, Euroscript, Multimate, In*vision, DC A/RFT-files or plain ASCII code - our standard is Word/DOS (Word/Windows 2.0/6.0) and PageMaker 5.