

Knowledge Organization

International Journal

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

Archiv
Vol. 33, issue 3, 2006

ERGON-VERLAG
ISSN 0943-7444 Knowl.Org.

KNOWLEDGE ORGANIZATION

KO

Official Quarterly Journal of the International Society for Knowledge Organization

ISSN 0943 – 7444

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

Contents

Information Access For The Global Community:

An International Seminar On The Universal
Decimal Classification 137

Articles

Claudio Gnoli.
Phylogenetic classification 138

Mela Bosch.
Ontologies, Different Reasoning Strategies,
Different Logics, Different Kinds of Knowledge
Representation: Working Together 153

Wang Zhonghong, Abdus Sattar Chaudhry, and
Christopher Khoo.
Potential and Prospects of Taxonomies for
Content Organization 160

Andrei I. Kaptelev.
Governing the Professional and Intellectual
Potential of a Modern Organization: Sociologic
Approach 170

Knowledge Organization Literature

33 (2006) No.3 176

Personal Author Index

33 (2006) No.3 184

Official Quarterly Journal of the International Society for Knowledge Organization

ISSN 0943 – 7444

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

Contents page

Claudio Gnoli. **Phylogenetic classification.** *Knowledge Organization*, 33(3) 138-152. 83 references.

ABSTRACT: One general principle in the construction of classification schemes is that of grouping phenomena to be classified according to their shared origin in evolution or history (*phylogensis*). In general schemes, this idea has been applied by several classificationists in identifying a series of integrative levels, each originated from the previous ones, and using them as the main classes. In special schemes, common origin is a key principle in many domains: examples are given from the classification of climates, of organisms, and of musical instruments. Experience from these domains, however, suggests that using common origin alone, as done in cladistic taxonomy, can produce weird results, like having birds as a subclass of reptiles; while the most satisfying classifications use a well balanced mix of common origin and similarity. It is discussed how this could be applied to the development of a general classification of phenomena in an emergentist perspective, and how the resulting classification tree could be structured. Charles Bennett's notion of logical depth appears to be a promising conceptual tool for this purpose.

Mela Bosch. **Ontologies, Different Reasoning Strategies, Different Logics, Different Kinds of Knowledge Representation: Working Together.** *Knowledge Organization*, 33(3) 153-159. 13 references.

ABSTRACT: The recent experiences in the building, maintenance and reuse of ontologies has shown that the most efficient approach is the collaborative one. However, communication between collaborators such as IT professionals, librarians, web designers and subject matter experts is difficult and time consuming. This is because there are different reasoning strategies, different logics and different kinds of knowledge representation in the applications of Semantic Web. This article intends to be a reference scheme. It uses concise and simple explanations that can be used in common by specialists of different backgrounds working together in an application of Semantic Web.

Wang Zhonghong, Abdus Sattar Chaudhry, and Christopher Khoo. **Potential and Prospects of Taxonomies for**

Content Organization. *Knowledge Organization*, 33(3) 160-169. 30 references.

ABSTRACT: While taxonomies are being increasingly discussed in published and grey literature, the term taxonomy still seems to be stated quite loosely and obscurely. This paper aims at explaining and clarifying the concept of taxonomy in the context of information organization. To this end, the salient features of taxonomies are identified and their scope, nature, and role are further elaborated based on an extensive literature review. In the meantime, the connection and distinctions between taxonomies and classification schemes and thesauri are also identified, and the rationale that taxonomies are chosen as a viable knowledge organization system used in organization-wide websites to support browsing and aid navigation is clarified.

Andrei I. Kaptelev. **Governing the Professional and Intellectual Potential of a Modern Organization: Socio-logic Approach.** *Knowledge Organization*, 33(3) 170-175. 22 references.

ABSTRACT: Governing the professional and intellectual potential is an interdisciplinary field of scientific research using a systematic process of developing innovation technologies for transforming individual knowledge and specialists' experience in such a way that would apply the knowledge and experience to the processes, services and products offered by an organization to reach its strategic goals. From the technological standpoint, governing the professional and intellectual potential represents modeling, forming, using and developing the corporate system of governing the professional and intellectual potential. We consider structuring knowledge using this model rather valuable during the stage of forming the governance system of professional and intellectual potential. Understanding, i.e., explicit definition of these factors, would allow for constant observation of the behavioral trends and for organizing the activity in a way conducive for influencing the favorable change of these factors. In addition, the presence of the critical management factor (CMF) system enables one to check the significance of any activity (i.e., any processes within a company) against these factors.

This contents page may be reproduced without charge.

KNOWLEDGE ORGANIZATION

KO

Official Quarterly Journal of the International Society for Knowledge Organization

ISSN 0943 – 7444

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

KNOWLEDGE ORGANIZATION

This journal is the organ of the INTERNATIONAL SOCIETY FOR KNOWLEDGE ORGANIZATION (General Secretariat: H. Peter OHLY, Social Science Information Center, Lennestr. 30, D-53113 Bonn, Germany.

Editors

Dr. Richard P. SMIRAGLIA (Editor-in-Chief), Palmer School of Library and Information Science, Long Island University, 720 Northern Blvd., Brookville NY 11548 USA.
Email: Richard.Smiraglia@liu.edu

Dr. Clément ARSENAULT (Book Review Editor), École de bibliothéconomie et des sciences de l'information, Université de Montréal, C.P. 6128, succ. Centre-ville, Montréal (QC) H3C 3J7, Canada. Email: clement.arsenault@umontreal.ca

Dr. Gerhard RIESTHUIS (Literature Editor), Voorsterbeeklaan 136, 3521 DG Utrecht, The Netherlands.

Dr. Nancy WILLIAMSON (Classification Research News Editor), Faculty of Information Studies, University of Toronto, 140 St. George Street, Toronto, Ontario M5S 3G6 Canada.
Email: william@fis.utoronto.ca

Hanne ALBRECHTSEN, Institute of Knowledge Sharing, Buerauet, Slotsgade 2, 2nd floor DK-2200 Copenhagen N Denmark.
Email: hanne.albrechtsen@knowshare.dk

Christine MARCHESE (Editorial Assistant), Palmer School of Library and Information Science, Long Island University.

Consulting Editors

Prof. Clare BEGHTOL, Faculty of Information Studies, University of Toronto, 140 St. George Street, Toronto, Ontario M5S 3G6, Canada. Email: clare.beghtol@utoronto.ca

Dr. Gerhard BUDIN, Dept. of Philosophy of Science, University of Vienna, Sensengasse 8, A-1090 Wien, Austria.
Email: gerhard.budin@univie.ac.at

Prof. Jesús GASCÓN GARCÍA, Facultat de Biblioteconomia i Documentació, Universitat de Barcelona, C. Melcior de Palau, 140, 08014 Barcelona, Spain. Email: gascon@ub.edu

Claudio GNOLI, University of Pavia, Mathematics Department Library, via Ferrata 1, I-27100 Pavia, Italy. Email: gnoli@ab.it

Dr. Rebecca GREEN, College of Information Studies, Hornbake Bldg. (So. Wing), Room 4105, University of Maryland, College Park, MD 20742-4345 USA. Email: rgreen@umd.edu

Dr. Birger HJØRLAND, Royal School of Library and Information Science, Copenhagen Denmark. Email: bh@db.dk

Dr. Barbara H. KWASNIK, Professor, School of Information Studies, Syracuse University, Syracuse, NY 13244 USA, (315) 443-4547 voice, (315) 443-4506 fax. Email: bkwasnik@syr.edu

Dr. Jens-Erik MAI, Faculty of Information Studies, University of Toronto, 140 St. George Street, Toronto, Ontario M5S 3G6, Canada. Email: je.mai@utoronto.ca

Dr. Ia MCILWAINE, Research Fellow. School of Library, Archive & Information Studies, University College London, Gower Street, London WC1E 6BT U.K. Email: i.mcilwaine@ucl.ac.uk

Ms. Joan S. MITCHELL, Editor in Chief, Dewey Decimal Classification, OCLC Online Computer Library Center, Inc., 6565 Frantz Road, Dublin, OH 43017-3395 USA.
Email: joan_mitchell@oclc.org

Dr. Widad MUSTAFA el HADI, URF IDIST, Université Charles de Gaulle Lille 3, BP 149, 59653 Villeneuve D'Ascq, France

H. Peter OHLY, IZ Sozialwissenschaften, Lennestr. 30, 53113 Bonn Germany. Email: oh@iz-soz.de

Dr. Hope A. OLSON, School of Information Studies, 522 Bolton Hall, University of Wisconsin-Milwaukee, Milwaukee, WI 53201 USA. Email: holson@uwm.edu

Ms. Annelise Mark PEJTERSEN, Systems Analysis Dept., Risø National Laboratory, P.O. Box 49, DK-4000 Roskilde, Denmark

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

Prof. Dr. J.F. (Jos) SCHREINEMAKERS, School of Sciences, Department of Mathematics and Computer Science, Section Business Informatics / Informatiekunder, Vrije Universiteit Amsterdam, De Boelelaan 1081a, U3.56, 1081 HV Amsterdam, Netherlands. Email: jos@cs.vu.nl

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

Dr. Windfried SCHMITZ-ESSER, Salvatorgasse 23, 6060 Hall, Tirol, Austria.

Dr. Dagobert SOERGEL, College of Information Studies, Hornbake Bldg. (So. Wing), Room 4105, University of Maryland, College Park, MD 20742

Dr. Eduard R. SUKIASYAN, Vozdvizhenka 3, RU-101000, Moscow, Russia.

Dr. Joseph A. TENNIS, School of Library, Archival and Information Studies, University of British Columbia, 301 - 6190 Agronomy Road, Vancouver, BC V6T 1Z3, Canada. Email: jtannis@interchange.ubc.ca

Dr. Martin van der WALT, Department of Information Science, University of Stellenbosch, Private Bag X1, Stellenbosch 7602, South Africa. Email: msvdw@sun.ac.za

Prof. Dr. Harald ZIMMERMANN, Softex, Schmollerstrasse 31, D-66111 Saarbrücken, Germany

Founded under the title *International Classification* in 1974 by Dr. Ingetraut Dahlberg, the founding president of ISKO. Dr. Dahlberg served as the journal's editor from 1974 to 1997, and as its publisher (Indeks Verlag of Frankfurt) from 1981 to 1997.

Official Quarterly Journal of the International Society for Knowledge Organization

ISSN 0943 – 7444

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

Publisher

ERGON-Verlag, Grombühlstr. 7, GER-97080 Würzburg
Phone: +49 (931) 280084; FAX +49 (931) 282872
E-mail: service@ergon-verlag.de; <http://www.ergon-verlag.de>

Editor-in-chief (Editorial office)

Dr. Richard P. SMIRAGLIA (Editor-in-Chief), Palmer School of Library and Information Science, Long Island University, 720 Northern Blvd., Brookville NY 11548 USA.
Email: Richard.Smiraglia@liu.edu

Instructions for Authors

Manuscripts should be submitted electronically (in Word, WordPerfect, or RTF format) in English only to the editor-in-chief and should be accompanied by an indicative abstract of 100 or 200 words. Submissions via email are preferred; submissions will also be accepted via post provided that submissions are accompanied by a 3.5" diskette encoded in Word, WordPerfect, or RTF format.

A separate title page should include the article title and the author's name, postal address, and E-mail address, if available. Only the title of the article should appear on the first page of the text. To protect anonymity, the author's name *should not* appear on the manuscript, and all references in the body of the text and in footnotes that might identify the author to the reviewer should be removed and cited on a separate page. Articles that do not conform to these specifications will be returned to authors.

Criteria for acceptance will be appropriateness to the field of the journal (see Scope and Aims), taking into account the merit of the contents and presentation. The manuscript should be concise and should conform as much as possible to professional standards of English usage and grammar. Manuscripts are received with the understanding that they have not been previously published, are not being submitted for publication elsewhere, and that if the work received official sponsorship, it has been duly released for publication. Submissions are refereed, and authors will usually be notified within 6 to 10 weeks. Unless specifically requested, manuscripts and illustrations will not be returned.

The text should be structured by numbered subheadings. It should contain an *Introduction*, giving an overview and stating the purpose, a *main body*, describing in sufficient detail the materials or methods used and the results or systems developed, and a *conclusion or summary*.

Reference citations within the text should have the following form: (author year). For example, (Jones 1990). Specific page numbers are optional, but preferred when applicable, e.g. (Jones 1990, 100). A citation with two authors would read (Jones & Smith, 1990); three or more authors would be: (Jones et al., 1990). When the author is mentioned in the text, only the date and optional page number should appear in parenthesis – e.g. According to Jones (1990), ...

References should be listed alphabetically by author at the end of the article. Journal names should not be abbreviated. Multiple citations by the same author should be listed chronologically and should each spell out the author's name. Articles appearing in the same year should have the following format: Jones, Thomas 1990a ... , Jones, Thomas 1990b ...

Examples:

Dahlberg, I. 1978. A referent-oriented, analytical concept theory for INTERCONCEPT. *International Classification*, 5(3). 142-151.

Graesser, A., Person, N. & Huber, J. 1992. Mechanisms that generate questions. In T. W. Lauer, E. Peacock, & A. C. Graesser (Eds.). *Questions and Information Systems*. Hillsdale, NJ: Lawrence Erlbaum Associates. 167-187.

Sager, J.C. 1990. *A Practical Course in Terminology Processing*. Amsterdam: John Benjamins.

Sukiasyan, E. R. 1996. Change as a problem of classification system development. In R. Green (Ed.). *Knowledge Organization and Change: Proceedings of the 4th International ISKO Conference*. Frankfurt: Indeks Verlag. 119-122.

Footnotes should be kept to a minimum. They should be indicated in the text with numbered superscripts, and the corresponding notes should be collected at the end of the article, before the *references*, under the heading *Notes*.

Illustrations should be kept to a necessary minimum and should be submitted electronically when possible. Photographs (including color and half-tone) should be scanned with a minimum resolution of 600 dpi and saved as .tif files (Tagged Image File Format preferred). Tables and figures should be embedded within the document or, alternatively, saved as separate files with clear instructions indicating their placement in the text. Tables should contain a number and title at the top, and all columns and rows should have headings. All illustrations should be cited in the text as Figure 1, Figure 2, etc. or Table 1, Table 2, etc. Illustrations submitted in hard copy only should be marked to indicate their placement in the text.

Upon acceptance of a manuscript for publication, authors must provide a wallet-size photo and a one-paragraph biographical sketch. The photograph should be scanned with a minimum resolution of 600 dpi and saved as a .tif file (Tagged Image File Format).

Advertising

Responsible for advertising: Dr. H.-J. Dietrich, ERGON-Verlag, Grombühlstr. 7, 97080 Würzburg (Germany).

©2006 by ERGON-Verlag Dr. H.-J. Dietrich.

All Rights reserved.

Printed in the Federal Republic of Germany
by Offizin Hildburghausen GmbH Druckhaus.

KO is published quarterly by ERGON-Verlag.
The price is € 106,00/ann. including airmail delivery.

KNOWLEDGE ORGANIZATION

KO

Official Quarterly Journal of the International Society for Knowledge Organization

ISSN 0943 – 7444

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

Scope

The more scientific data is 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 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 in 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 indexing/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 a forum for all those interested in the organization of knowledge on a universal or a domain-specific scale, using concept-analytical or concept-synthetic approaches, as well as quantitative and qualitative methodologies. KNOWLEDGE ORGANIZATION also addresses 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, as well as book reviews, letters to the editor, and an extensive annotated bibliography of recent classification and indexing literature.

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 it was published by K.G. Saur Verlag, München. Back issues of 1978-1992 are available from ERGON-Verlag, too.

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 (US \$ 55/US \$ 110).

Rates: From 2004 on for 4 issues/ann. (including indexes) € 106,00 (forwarding costs included). Membership rates see above.

ERGON-Verlag, Grobühlstr. 7, GER-97080 Würzburg;
 Phone: +49 (931) 280084; FAX +49 (931) 282872; E-mail: service@ergon-verlag.de; <http://www.ergon-verlag.de>

The contents of this journal are indexed and abstracted in *Referativnyi Zhurnal Informatika* and in the following online databases: *Information Science Abstracts*, *INSPEC*, *Library and Information Science Abstracts (LISA)*, *Library Literature*, *PASCAL*, *Sociological Abstracts*, and *Web Science & Social Sciences Citation Index*.