

Contents

Editorial

Richard P. Smiraglia.
ISKO 11's Diverse Bookshelf: An Editorial..... 179

Articles

Mauricio Almeida, Renato Souza,
and Fred Fonseca.
Semantics in the Semantic Web:
A Critical Evaluation 187

Olha Buchel and Kamran Sedig.
Extending Map-Based Visualizations
to Support Visual Tasks:
The Role of Ontological Properties..... 204

Koraljka Golub.
Automated Subject Classification
of Textual Documents in the Context
of Web-Based Hierarchical Browsing.....230

Margaret E.I. Kipp.
Tagging of Biomedical Articles on CiteULike:
A Comparison of User, Author
and Professional Indexing245

Stephen Paling.
Developing a Metadata Element Set
for Organizing Literary Works:
A Survey of the American Literary Community.....262

Abstracts

Almeida, Mauricio, Souza, Renato, and Fonseca, Fred. **Semantics in the Semantic Web: A Critical Evaluation.** *Knowledge Organization*, 38(3), 187-203. 44 references.

ABSTRACT: In recent years, the term “semantics” has been widely used in various fields of research and particularly in areas related to information technology. One of the motivators of such an appropriation is the vision of the Semantic Web, a set of developments underway, which might allow one to obtain better results when querying on the web. However, it is worth asking what kind of semantics we can find in the Semantic Web, considering that studying the subject is a complex and controversial endeavor. Working within this context, we present an account of semantics, relying on the main linguist approaches, in order to then analyze what semantics is within the scope of information technology. We critically evaluate a spectrum, which proposes the ordination of instruments (models, languages, taxonomic structures, to mention but a few) according to a semantic scale. In addition to proposing a new extended spectrum, we suggest alternative interpretations with the aim of clarifying the use of the term “semantics” in different contexts. Finally, we offer our conclusions regarding the semantic in the Semantic Web and mention future directions and complementary works.

Buchel, Olha and Sedig, Kamran. **Extending Map-Based Visualizations to Support Visual Tasks: The Role of Ontological Properties.** *Knowledge Organization*, 38(3), 204-229. 117 references.

ABSTRACT: Map-based visualizations of document collections have become popular in recent times. However, most of these visualizations emphasize only geospatial properties of objects, leaving out other ontological properties. In this paper we propose to extend these visualizations to include non-geospatial properties of documents to support users with elementary and synoptic visual tasks. More specifically, additional suitable representations are discussed. To demonstrate the utility of the proposed solution, we have developed a prototype map-based visualization system using Google Maps (GM), which demonstrates how additional representations can be beneficial.

Golub, Koraljka. **Automated Subject Classification of Textual Documents in the Context of Web-Based Hierarchical Browsing.** *Knowledge Organization*, 38(3), 230-244. 35 references.

ABSTRACT: While automated methods for information organization have been around for several decades now, exponential growth of the World Wide Web has put them into the forefront of research in different communities, within which several approaches can be identified: 1) machine learning (algorithms that allow computers to improve their performance based on learning from pre-existing data); 2) document clustering (algorithms for unsupervised document organization and automated topic extraction); and 3) string matching (algorithms that match given strings within larger text). Here the aim was to automatically organize textual documents into hierarchical structures for subject browsing. The string-matching approach was tested using a controlled vocabulary (containing pre-selected and pre-defined authorized terms, each corresponding to only one concept). The results imply that an appropriate controlled vocabulary, with a sufficient number of entry terms designating classes, could in itself be a solution for automated classification. Then, if the same controlled vocabulary had an appropriate hierarchical structure, it would at the same time provide a good browsing structure for the collection of automatically classified documents.

Kipp, Margaret E. I. **Tagging of Biomedical Articles on CiteULike: A Comparison of User, Author and Professional Indexing.** *Knowledge Organization*, 38(3), 245-261. 32 references.

ABSTRACT: This paper examines the context of online indexing from the viewpoint of three different groups: users, authors, and professional indexers. User tags, author keywords, and descriptors were collected from academic journal articles, which were both indexed in PubMed and tagged on CiteULike, and analysed. Descriptive statistics, informetric measures, and thesaural term comparison shows that there are important differences in the use of keywords among the three groups in addition to similarities, which can be used to enhance support for search and browse. While tags and author keywords were found that matched descriptors exactly, other terms which did not

match but provided important expansion to the indexing lexicon were found. These additional terms could be used to enhance support for searching and browsing in article databases as well as to provide invaluable data for entry vocabulary and emergent terminology for regular updates to indexing systems. Additionally, the study suggests that tags support organisation by association to task, projects, and subject while making important connections to traditional systems which classify into subject categories.

Paling, Stephen. **Developing a Metadata Element Set for Organizing Literary Works: A Survey of the American Literary Community.** *Knowledge Organization*, 38(3), 262-277. 25 references.

ABSTRACT: Various approaches have been taken to organizing literary works, but finding the most effective set of metadata elements remains an unfinished task. This paper

focuses on exploring five inductively built sets for organizing new literary works for discovery by members of the American literary community. The sets feature potential metadata elements drawn from a variety of sources, including present and proposed systems, as well as prior theoretical work. The paper describes a survey study that asked members of the American literary community for input about what potential metadata elements they would be likely to use to aid the process of discovering new literary work. The paper discusses the results for each set and discusses possibilities for a new set that combines the most desirable metadata elements from each of the separate sets.

KNOWLEDGE ORGANIZATION

KO

Official Bi-Monthly 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: Vivien PETRAS, Humboldt-Universität zu Berlin, Institut für Bibliotheks- und Informationswissenschaft, Unter den Linden 6, 10099 Berlin, Germany. E-mail: secr@isko.org.

Editors

Dr. Richard P. SMIRAGLIA (Editor-in-Chief), School of Information Studies, University of Wisconsin, Milwaukee, Bolton Hall 5th Floor, 3210 N. Maryland Ave., Milwaukee, WI 53211 USA. E-mail: smiragli@uwm.edu

Dr. Joseph T. TENNIS (Book Review Editor), The Information School of the University of Washington, Box 352840, Mary Gates Hall Ste 370, Seattle WA 98195-2840 USA. E-mail: jtennis@u.washington.edu

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

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 (ISKO News Editor), Institute of Knowledge Sharing, Bureauet, Slotsgade 2, 2nd floor DK-2200 Copenhagen N Denmark. Email: hanne.albrechtsen@knowshare.dk

David J. BLOOM (Editorial Assistant), School of Information Studies, University of Wisconsin, Milwaukee, Bolton Hall 5th Floor, 3210 N. Maryland Ave., Milwaukee, WI 53211 USA.

Melodie Joy FOX (Editorial Assistant), School of Information Studies, University of Wisconsin, Milwaukee, Bolton Hall 5th Floor, 3210 N. Maryland Ave., Milwaukee, WI 53211 USA.

Consulting Editors

Dr. 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@aib.it

Dr. Rebecca GREEN, Assistant Editor, Dewey Decimal Classification, Dewey Editorial Office, Library of Congress, Decimal Classification Division, 101 Independence Ave., S.E., Washington, DC 20540-4330, USA. Email: greenre@oclc.org

Dr. José Augusto Chaves GUIMARÃES, Departamento de Ciência da Informação, Universidade Estadual Paulista-UNESP, Av. Hygino Muzzi Filho 737, 17525-900 Marília SP Brazil. Email: guima@marilia.unesp.br

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

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

Dr. Marianne LYKKE, e-Learning Lab, Center for User-driven Innovation, Learning and Design, Department of Communication, Aalborg University, Kroghstraede 1, room 2.023 Denmark 9220 Aalborg OE. E-mail: mlykke@hum.aau.dk

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

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. E-mail: widad.mustafa@free.fr

H. Peter OHLY, GESIS – Leibniz Institute for the Social Sciences, Lennestr. 30, 53113 Bonn, Germany. Email: president@isko.org

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

Dr. M. P. SATIJA, Guru Nanak Dev University, School of Library and Information Science, Amritsar-143 005, India. E-mail: satija_mp@yahoo.com

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

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

Dr. Dagobert SOERGEL, Department of Library and Information Studies, Graduate School of Education, University at Buffalo, 534 Baldy Hall, Buffalo, NY 14260-1020. E-mail: dsoergel@buffalo.edu

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

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.