Book Reviews

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Book Review Editor

Dynamism and stability in knowledge organization : Proceedings of the Sixth International ISKO Conference, 10-13 July, 2000, Toronto, Canada. Edited by Clare Beghtol, Lynne C. Howarth, and Nancy J. Williamson. Würzburg, Germany : Ergon , 2000. 424 p. ISBN 3-933563-60-7. (Advances in Knowledge Organization ; 7).

This volume contains the full text of 62 papers presented by scholars hailing from several countries at the 6th International Conference of the International Society for Knowledge Organization (ISKO). The overall theme of the 2000 Conference was *Dynamism and Stability in Knowledge Organization*; it was further subdivided into eight key issues which the speakers had been asked to address. As we shall see, most papers did indeed explore the dialectics of the relationship between dynamism and stability, pointing out ways of dealing with it, to better develop our research and practices.

Conference papers are grouped, as they were at the Conference, on the basis of the key issue that they addressed.

I. "Theories of Knowledge and Knowledge Organization."

Members of the panel which addressed theoretical issues explored one or more of three tendencies in knowledge organization theory. These tendencies are: a. the criticism of the classificatory principles underlying the theory, and arguments towards a new epistemology for knowledge organization based on pragmatism [Jacob (p. 16-22), Mai (p. 23-27)]; b. a revision of the main characteristics of classificatory principles such as mutual exclusivity, teleology and hierarchy [Olson (p. 3-9)], presenting alternative principles to give an account of the diversity of knowledge contributions. Breitenstein (p. 10-15) relates classification, cultural studies and individual experience as instances of knowledge discovery which, if observed in their dialectic relationship, could lead to a better understanding of the demands for stability and dynamism inside classification theory; c. claims for an actualization of the faceted classification. Neelameghan (p. 164-169) discusses the ability of the analytico-synthetic methodology to cope with a sum of knowledge increasing in quantity and diversity, as well as its capability to fit into the digital environment. La Barre (p. 157-163) argues for a reexamination of the success and failures of traditional faceted schemes, in search of solutions for today's knowledge organization problems. Priss (p. 170-175) proposes facet analysis as a methodological principle to evaluate classification schemes. Fallis and Mathiesen (p. 339-344) focus on consistency. Campbell (p. 345-351) talks about the use of classification systems in electronic environments, and claims the necessity of revisions, stressing that the design, structure, and manipulation of print documents are quite different from those of electronic ones.

II. "Culture, Language, and Communication in Knowledge Organization."

A few papers in this panel are concerned with the integration of diverse cultures through the implementation of means for knowledge transfer between east and west [Arsenault (p. 143-149), Shaoye (p. 150-156)]. Others focus on various methodologies for the improvement of knowledge organization, particularly on the Web. Ying and others (p. 28-34) present a methodology for keywords clustering in the Web. Hudon (p. 35-40) examines knowledge organization schemes used to organize the so-called virtual libraries on the Web, suggesting that more elaborate and theoretically-based thematic access to virtual libraries may in fact be more user-friendly than the supposedly intuitive structures. Clarke (p. 41-47) deals with knowledge organization in Intranets, presenting a methodology for automatic categorization of search results. Solomon (p. 254-260) argues that we must explore the "knowing" process, before establishing a definitive theory of knowledge organization. Solomon also stresses the necessity of being

aware of the actors and of the ecologies involved in the process of knowing. McIlwaine (p. 261-267) examines the impacts of interdisciplinarity on information retrieval in the Web, and explains how UDC is coping with problems.

III. "New Information Technologies for Knowledge Organization."

All papers in this stream touch on one or more aspects of the relationship between information technology and knowledge organization. Buckland and others (p. 48-54) argue that there is a considerable difference between discipline and sub-domain vocabularies, stressing that both are important for retrieval. While the subdomain vocabulary is the interface vocabulary for query formulation, the discipline vocabulary, arranged according to Library of Congress Classification (LCC) numbers will function as an instrument for search results presentation. Moya-Anegón and López-Huertas (p. 55-63) present a method for automatic updating of bibliographical classifications. Hocine and others (p. 64-70) introduce an approach in which the Web interrogation process is based on the logical and semantic structures of documents. Saggion and Lapalme (p. 176-181) focus on the automatic generation of summaries. Van der Walt (p. 182-188) shows the results of his survey of South African Web directories, portals and search engines. Garcia and others (p. 189-192), Davenport and Rosenbaum (p. 352-358), and Polanco and François (p. 359-365) are all concerned with organizing knowledge for institutional use. While the first authors focus on interface design, the second concentrate on a classificatory framework based on activities. Polanco and François introduce a text mining approach whose objective is to facilitate the process of knowledge analysis through text cluster mapping. Jurisica (p. 366-371) deals with knowledge organization in scientific domains, presenting a method for knowledge systematization through case-based reasoning for situations where theory is lacking.

IV. "Cognitive and Linguistic Foundations."

Here are presented essays and results of experiments exploring linguistic and cognitive options for knowledge organization. Bowker (p. 71-76) focuses on medical terminology, investigating the motivations behind the choice of a term, as well as the trend to standardize multiple discourses in only one form of expression. Qin (p. 77-82) presents a study about knowledge structure detection through co-word analysis in scientific literature. Schmitz-Esser (p. 83-89) is concerned with the systematization of ontologies in multilingual contexts; Green (p. 193-199) reports on her research on clustering by means of a frame for the establishment of semantic relationships. Frâncu (p.200-205) presents the results of a project designed to develop an interdisciplinary and multilingual thesaurus based on the UDC logical structure. Broughton (p. 206-212) examines the mathematical nature of term relationships. Smiraglia (p. 295-300) argues that a work is not a thing to be described by its intrinsic properties only, but also in relation to the knowledge domain to which it contributes. Bean (p. 301-304) discusses cognitive processes in users who establish hierarchical relationships among terms. Christensen (p. 306-312) argues that anthropological as well as sociological conditions around text production can help to clarify some aspects of the relationship between knowledge organization and knowledge production. Beghtol (p. 313-319) claims the necessity of identifying culture-based as well as culture-independent concepts and cognitive processes. Culture-independent concepts are the universals that could be used as foundation elements in classification systems for any culture or domain.

V. "Information Systems: Concepts, Design and Implementation."

The following papers provide different visions of systems and their organization. Yu (p. 90-96) presents a history of knowledge organization techniques following the introduction of information technology. According to him, there are four generations of techniques: the first centers on the entity, the system itself; the second centers on the object, the information; the third one is goal-supportive; the fourth one is concerned with the agent, incorporating a social dimension. Pejtersen and Albrechtsen (p. 97-110) describe an approach to classification systems designed for knowledge sharing among actors with diverse expertise and professional backgrounds within and across organizations. Kent (p. 111-117) shows how the observation of the information flow among diverse communities of discourse can provide the basis for knowledge organization through ontologies. Bartolo and Trimble (p. 118-123) investigate the relationship between author assigned keywords and classification systems in order to improve retrieval. El Hadi (p. 124-130) speaks of linguistic techniques, such as machine translation and natural language processing, and of their role in cross-lingual information retrieval on the Web. Riesthuis (p. 131-135) expresses his concern with multilingual subject access and the failure of thesauri to deal with all the difficulties of multilingual retrieval. Carlyle and Summerlin (p. 320-326) describe a procedure for the visualization of search results for works of fiction, in which the

work itself as well as others produced about it are clustered automatically. Ihadjadene and others (p. 327-332) describe an experiment in which the categories of the Dewey Decimal Classification (DDC) are used to assist the users in filtering their search results. Hudon and others (p. 333-338) report on a study of the vocabularies used to organize moving images collections, with a view to designing a uniform vocabulary which could increase the efficiency of resource sharing.

VI. "Information Policies and Management of Knowledge Structures."

Three papers speculate on what lies behind knowledge organization choices. Craig (p. 213-218) analyses the British Treasury's Registry procedures between the two world wars. Huber and Gillaspy (p. 219-223), through an examination of medical vocabularies, classificatory structures and specialized information resources, try to define, analyze and document the relationship between the delivery of health care for homosexuals and knowledge organization in this area. Cardoso and others (p. 224-230) examine the applicability of contemporary theories of knowledge to study information in organizations.

VII. "Global Users and Uses of Knowledge and Knowledge Organization."

Ohly (p. 231-236) describes a bibliometric analysis of a knowledge field. Hildreth (p. 237-246) reports on his study of the retrieval performance of OPACs. Sigel (p. 247-253) argues for a user-based indexing procedure, in which user groups and their activities must be considered.

VIII. "Knowledge Organization of Universal and Special Systems."

The common characteristic shared by all papers in this stream is their focus on the adaptation of traditional knowledge organization tools to the new requirements of a digital environment. Williamson (p. 268-274) points out changes in databases in terms of information growth as well as technological innovations and the consequent implications of those for thesaurus design and development. Rademaker (p. 275-281) provides a description of the classification of ornamental designs in the US Patent Classification System. Mitchell and Vizine-Goetz (p. 282-287) describe the development of a Web-accessible server based on the DDC. Pollitt and Tinker (p. 288-294) introduce a methodology to deconstruct DDC class numbers so that they can be used in view-based OPAC searching. Kwasnik and Xiaoyong (p. 372-377), using the example of E-Bay.com, demonstrate the usefulness of a classification scheme in commercial Web-sites. Devadason and Wongjariya (p. 378-384) describe a prototype of faceted alphabetico-hierarchical object system having as its goal to provide organized access to networked resources. Ardö and others (p. 385-390) compare a universal with a special classification system as tools for browsing on the Web. Howarth (p. 391-397) reports on the development of an ontology for enhancing resource discovery in knowledge bases.

After a careful reading of all the papers, this reviewer, who unfortunately could not participate in the conference, feels that all the authors addressed the issues surrounding dynamism and stability in knowledge organization in a very interesting fashion, proposing creative and intelligent solutions as well as wealthy theoretical discussions. This book of proceedings is indeed worth reading to learn what has already been done, what we can expect to be done, and what should be done, in the field of knowledge organization.

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WALLERSTEIN, Immanuel, et al. **Open the Social Sciences : Report of the Gulbenkian Commission on the Restructuring of the Social Sciences**. Stanford, CA : Stanford University Press, 1996. 105 p. ISBN 0-8047-2727-9.

The book contains a foreword by the Calouste Gulbenkian Foundation, a list of the Members of the Commission, and four chapters.

Chapter I. "The Historical Construction of the Social Sciences, from the Eighteenth Century to 1945."

According to the authors, the existing disciplines of the social sciences appeared between 1850-1914, when the structure received formal recognition in universities. There were five main locales for social science activity during the 19th century: Great Britain, France, the Germanies, Italy, and the United States. Before that period, the great authors in the social sciences were not either economists, sociologists, political scientists, geographers, historians, etc., but many or all of those simultaneously. There existed a certain amount of specialization, but not the established division into different disciplines as we know it today.