

## Book Reviews

STANCIKOVA, Pavla; DAHLBERG, Ingetraut (Eds.): **Environmental Knowledge Organization and Information Management**. Proceedings of the First European ISKO Conference, 14-16 Sept. 1994, Bratislava, Slovakia. Frankfurt/Main: INDEKS Verlag 1994. 2 vols. 216+88p. ISBN3-88672-600-2 and -601-0. Knowledge Organization in Subject Areas 1).

The volumes contain the proceedings of the First European ISKO Conference held in Slovakia in September 1994. The significance of the conference, as stated in the preface, is that it represents a new commitment of ISKO to tackle knowledge organization problems in a subject-oriented field. The publication also conveys a wish of the ISKO that this new series "Knowledge Organization in Subject Areas" will provide for similar further activities in other areas of knowledge in accordance with the need felt by their representatives.

Environmental sciences as a unique subject field was selected as the first one in such a series because of its challenging and unique features. Papers were presented in the proceedings under 12 topics: Inter- and Transdisciplinary Aspects, Catalogs of Data Sources, National Environmental Information Systems, Classification Systems and Thesauri in the Environmental Sciences, Standardization and Legal Provisions, Conceptual Bases of Environmental Knowledge Organization, Glossaries and Databases in Special Fields, Knowledge Organization in Special Fields, Software and Multilingual Tools, Environmental Education Programs, Environmental Networking on an International and National Scale, and Approaches to Harmonize Environmental Information.

Papers included in the proceedings explored the multidisciplinary character of the subject area, the special problems of concept relationships and the need to link these concepts to those from other fields of knowledge. In his keynote address "*Spherical configuration of categories to reflect systemic patterns of environmental checks and balances*", Anthony Judge of the Union of International Associations of Brussels presented his effort of identifying "strategic dilemmas" underlying debates on environment/development issues with the assumption that a set of issue-specific long-term dilemmas may offer clues to new patterns of inter-sectoral strategies and bargains. His work was illustrated by a group of impressive figures representing inter-sectoral strategic dilemmas of sustainable development, issue arenas on icosadodecahedral net, patterns of sustainability from two-dimensional to three-dimensional, and spherical representation of icosadodecahedral network. Following this direction were papers "Modeling knowledge for sustainable environmental balance", "Basic concepts in the organization of environmental problem solving (cognitive information processing)", "Visual access and assimilation strategies

for prestructuring bodies of environmental knowledge", etc. Prof. Unger, President of the European Academy of Sciences and Arts, envisaged in his paper "*Global environmental challenges: an approach towards a new integrative science*" the necessity of changes of our mental attitude towards all efforts in the environmental field and the possibility to consider this field as a true and also a new integrative science.

This rather new subject field, having been formed to deal with many complex, dynamic and unique issues, has been challenged by the problem of representing concepts and terminology in a consistent manner. Knowing that the majority of the concepts in this area are to be "borrowed" from other fields of knowledge and integrated into a consistent framework, Dr. Dahlberg outlined the theoretical foundations of concepts and concept systems in her paper "*Environment-related conceptual systematization*". A revised Survey of Subject Groups of the *Information Coding Classification* (ICC), a new universal classification, was explained in her paper and the application of ICC in ecology and environment were demonstrated. Contributions to the conceptual bases of environmental knowledge organization also came from Nacke and Krull's "*Structures of truth*" with the support of "*Some scientometric data about ecological journal publications*". Adrian Manu of INFOTERM's "*Terminology standardization in the field of the environmental sciences*" gave a very good overview on pertinent standards by country and by standards organizations. Along with two other papers, databases containing standardized terminology were discussed. Glossaries in special fields such as water, wind energy, and health and environment were discussed in several other papers.

Being a young and mostly problem/issue-driven subject area, this field requires a different approach to organizing knowledge from many other science areas such as biology which follows a whole set of rules for building a classification and describing taxonomic units like species, kinds, and families. Such a conventional content-driven model, as defined by Taylor<sup>1</sup>, was derived from the traditional classifications of knowledge, together with the elaborate schemata that have grown around them over the past 25 centuries. They have established disciplined ways of perceiving knowledge and its applications, for example, the formation of academic departments, the taxonomy of living phenomena, the periodical table of chemical elements, and the identification and structure of researchable problems. Environmental sciences' interdisciplinary and problem/ issue-driven nature prevents the adoption of a content-driven model in building tools for knowledge organization. In these proceedings, a great number of papers illustrated their experiences in dealing with specific requests in organizing environmental data sources, catalogs, and information systems. There was rich and valuable information about these classification systems, thesauri, categories and facets, as well as their application in different cases. Reports were from a number of countries, mostly European, and several international agencies. A very interesting thing for this reviewer was to compare among the category outlines of individual classifi-

cation/thesauri found in these proceedings on the one hand, and matching them to those in other databases, resource guides, and WWW virtual libraries on the other hand. Multilingual issues were again heavily addressed, representing a special feature of European conferences. In addition to the topics of classification, terminology, thesauri, software, and other tools, particular attention was given to environmental education programs and environmental networking on an international scale such as CEDAR (Central European Environmental Data Request Facility).

The limitation of this publication is that it was restricted to the available papers submitted to the conference. It was, therefore, not able to cover experiences and opinions from many other important environmental information services such as several major commercial database producers and encyclopedia editors. Most of the papers came from the leading organizations and services at national and international levels, lacking representation of smaller and lower level participants. Coverage of environmental sources appearing on the Internet in recent years is also lacking. Taking an example of several very well organized and popular Web sites, it is obvious that they have become more and more important in scholarly communication and information transfer in the environmental research community. Certain questions have not been addressed, such as: how have these electronic sources been organized and how are the theories and tools of knowledge organization applied to these dynamic services? The reviewer would suggest that in the future this series "Knowledge Organization in Subject Areas" break through the restriction of available papers from conferences. At some point, it will be useful to organize additional contributions beyond the conferences. The proceedings also suffered from the time limits that the first volume could only include those papers delivered early enough. This resulted in the separation of some papers from their abstracts, the absence of abstracts in some papers, and the duplicate listing of titles in both volumes. In addition, the second volume which was published several month later did not follow the subject grouping pattern used by the first volume. In spite of these problems, the proceedings are very successful and valuable.

A very important component of the proceedings is in the last section of the second volume entitled "*Recommendations*" which was produced at a final conference chairpersons' meeting. Ten points were summarized by the editors. Environmental and knowledge organization specialists call for:

- more coordination in environmental knowledge organization
- more harmonization of approaches to classification and knowledge organization tools such as in the environmental fields
- more support for creating multilingual tools
- more initiatives involving East-European countries in the process of creating and maintaining multilingual tools and terminology
- fewer initiatives and more fruitful results
- more attention to standards and legal aspects
- more balance in global thinking and local action

- more attention to the end user of the knowledge organization tools
- more forums and space for exchange of experiences and more coordination/harmonization meetings
- more efficient environmental systems with not only rich data but also with rich, easily retrievable information.

The value of the publication is not merely its rich and informative contents on organizing knowledge and information in environmental sciences. It is valuable also because it demonstrates a systematic approach and comprehensive methodology in dealing with knowledge organization problems in a particular subject area. The papers covered many aspects of knowledge organization, ranging from the understanding of the nature of the subject area, the exploring of conceptual frameworks and terminology, to the forming of classification schemes and thesauri, and the application of these tools in databases, catalogs, and networks, in single or multiple languages, in local or international organizations. It is recommended by this reviewer that people who work in the areas of organizing information, developing classification and thesauri, and doing subject indexing and cataloging, and who conduct research in such areas as environmental sciences, knowledge organization, informatics, terminology, and lexicography should read these two volumes and should pay attention to the methodologies presented. It is also hoped that the recommendations made by this conference and included in these proceedings will be noted by everyone who cares about our environment and our efforts in knowledge organization.

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1 Taylor, R.S.: Value-added processes in information systems. Norwood, N.J.: Ablex Publ.Corp.1986.

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GARCIA MARCO, Francisco Javier (Ed.): **Organización del Conocimiento en Sistemas de Información y Documentación**. Proceedings of the First ISKO-Espagna Meeting, Madrid, 4-5 Nov.1993. Zaragoza: Ministerio de Educacion y Ciencia. Universidad de Zaragoza. Capítulo Espanol de ISKO 1995.

The first ISKO Conference held in Madrid, Spain, and co-sponsored by the International Society for Knowledge Organization, was attended by an important representation of university professors, professionals, researchers and advanced students in the field of information science, coming from all over the country. The main goals of the conference were two: the first one was to give the opportunity for the people interested in knowledge organization to meet and to offer for them a suitable ground to exchange ideas, research results, teaching experiences and practical approaches to different topics in the field. The second one was to create the Spanish Chapter of ISKO (ISKO-Espagna). For all of this, the meeting was an important event for the Spanish informa-