Classification Issues

Categories, Contexts and Relations in Knowledge Organization The 12th International ISKO Conference, Mysore, India

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Under the broad title *Categories, Contexts and Relations in Knowledge Organization,* 54 papers were presented in 12 categories. This analysis is based on the published volume. It also contains abstracts for 10 poster sessions but these will not be analysed here.

The keynote address set the context for the programme. In his paper on "Universes, Dimensions, Domains. Intensions and extensions" Richard Smiraglia provides a domain analysis of knowledge organization as a means of visualizing the emergence and coherence of our domain, and as a way of dominating the parameters of the universe (or universes) in which our domain operates, as well as the dimensions of the operational paradigms at work. As the basis for going forward he gave the conference a picture of the major research and publication from the last twenty years of the 20th century. As the basis for his data he uses the four journals which predominate–*Cataloging & Classification Quarterly, Library Resources and Technical Services, Library Quarterly, and Knowledge Organization.* Data gathered covered 4 aspects of the literature–works of prior domain-analytical studies of KO from 1931 through 2010; the extension (topics) and intension (aspects) of the topics; most cited authors in KO in three conference, 2007, 2008 and 2010 and the themes from the 2011 Regional ISKO conferences. The results of the analysis indicated trends in the nature of the KO domain.

Six papers addressed broadly the **Domain of Knowledge Organization.** Birger Hjorland (Denmark) addressed the question "Is knowledge organization = Information organization?" His concern is the relationship among the terms knowledge organization information organization, organization of information and information architecture. For example, what difference does it make whether we use the term *knowledge* or the term *information* in LIS or KO? He analyzes the varying views and demonstrates how bibliometrics accompanied by a study of contents of the most cited works may be used to determine how concepts are used in different fields. Peter Ohly (Germany) examined "Mission, Programs, and Challenges of Knowledge Organization." He notes the difference between the traditional single access and the multi approach in web-based systems. He defines knowledge organization and identifies the challenges, finding that the users of knowledge as well as the indexers, have very fluid notions of knowledge and its use.

In the pre-digital world the experts dictated the values to users, whereas in the digital world the public and skilled users set the norms for the experts. In the light of this situation Ohly considers the theoretical foundations of knowledge organization. There has to be a "new" knowledge organization to accommodate the semantic web. It has to turn back to formal semantic approaches and enable reasoning for a number of sources and has to be logically more precise. There are still a number of questions to be answered.

Rick Szostak (Canada) presented a proposed new classification "The Basic Concepts Classification." He describes the justification for the possible structure, gives a brief outline, provides an example and describes the benefits of such a system. Three authors from Brazil–José Augusto Chaves Guimarães, Ely Tannuri de Oliveira and Maria Clàudia Cabrini Gracio discussed "Theoretical Referents in

Knowledge Organization" using a domain analysis of the *Knowledge Organization* journal. Taking the most productive authors, they analyzed the dialogue among citing and cited authors. Working with 310 articles published between 1993 and 2011 by 360 authors, the analysis confirmed cohesion and coherence in the production of the journal and to visualize and confirm KO as a catalyzing agent of international theoretical constuction. José Augusto Chaves Guimaràes (Brazil) and Joseph T. Tennis (United States) examined "Constant Pioneers: the Citation Frontiers of Indexing Theory in the ISKO International Proceedings." They carried out a citation analysis in which three areas of citing and cited authors surfaced corresponding to a geographic distribution - a subject cataloguing tradition which has its base in North America; indexing based on the work of the Society of indexers; and analyse documentaire from the French tradition explained and based in logic procedures. "What is clear from the study is that indexing theorists are constant pioneers constantly charting new territory by incorporating new literature into the field of indexing and maneuvering in a particular tradition (p. 42)." Finally, Aline Elis Arboit and three other authors (Brazil) addressed "The Relationship between Authors and Main Thematic Categories in the Field of Knowledge Organization." Taking a bibliometric approach to the last five ISKO Conferences from 2002 to 2010. The aim was to map the domain. The most productive authors were identified and the relationships among those authors identified the major areas of research. Each paper used a different of research process to define the domain. Taken together they provide an interesting view of the discipline.

The second area zeroed in on one precise area of KO. Three paper focused on **General Classification Schemes** Almila Akdag Salah (Netherlands) and four other authors wrote on "The Evolution of Classification Systems: Ontogeny of the UDC." Thus the paper deals with change over the entire life of UDC. In doing so, the authors demonstrate the stability of main classes. With major changes driven by 20th century scientific development, there is a vast increase in the complexity of auxiliaries. Changes over the main classes and the auxiliaries over time are revealed In another paper, Joe Tennis (United States) provided "Facts and Fugit Tempus: Considering Time's Effect on Faceted Classification Schemes." Two types of change were identified–ecological change and lexical change. Examples were taken from various editions of the Colon Classification. The problem and challenge are identified. The method of analysis is described and findings presented. Three levels of analysis were found. In the third paper, B.A. Sharada (India) spoke on "Rangathan's Colon Classification: Kanada-English Version *'dvibindu vargiikaraNa'*. The author looked at Kanada, a major Indian language and the uploading of a CC version on the web. The small number of presentation of on classification per se is representative of the change of research interest in knowledge organization in general and in ISKO in particular.

Six papers were presented under the heading **Knowledge Organization for the Digital Environment.** Carolyn Watters and Naureen Nizam (Canada) presented a paper on "Knowledge Organization on the Web: the Emergent Role of Social Classification." The authors focus on the difficulties of searching caused by the current structure of the web and its extremely diverse content "from blogs and photos to research articles and news videos." The focus in particular is on user driven tagging, in building knowledge of web content. Tag clouds are featured. The authors also make suggestions for future work. Included are a) an integration of two navigational tools (tag cloud and search) to allow users to search within a tag or select multiple tags within a tag cloud or to select multiple tags within a tag; b) by allowing users to select a tag from a list of recommended tags rather than always creating a new tag; and c) providing a tool guide navigations choices or recommendations from friends in the users social network. Cristina Pattuelli and Sara Rubinow (United States) discussed "Charting DBpedia: Towards a Cartography of a Major Linked Dataset." It provides an analysis of the dataset of the system named DBpedia. Two methods of extraction are described as is the sematic structure. The ontology and the knowledge representation tools of the system identified and described. The analysis revealed a new type of knowledge representation environment. "There is a constant state of flux where different descriptive and classification approaches are employed concurrently (p. 75)." They further state that this analysis opens up a new area of research to which the knowledge organization community can make a significant contribution. Christopher Khoo et al. approached "Subject Organization in Three Types of Information Resources." It is an exploratory study of books, (i.e. monographs), web directories and information web sites. Twelve subjects were selected in the areas of science, arts, humanities and social science. The top two levels were of hierarchical subject organization were harvested and analyzed. Previous studies are identified and the research method described. The sample studied is small and could not reveal generalizations but the results were "suggestive" (p. 88). A large-scale systematic study is needed. In the fourth paper in this section, Kalvi Mahesh and Pallavi Karanth (India) described "A Novel Knowledge Organization Scheme for the Web: Superlinks with Semantic Roles." The authors set out six principles of knowledge organization and analyze them in terms of the divergent needs of knowledge organization in traditional and web-based applications. In doing so they summarized the knowledge organization requirements of web-based e-commerce. Further work is needed to solve the challenges

of engineering large-scale solutions based on this framework. In a fifth paper Gercina Ángela Borém de Oliveira Lima (Brazil) described "Conceptual Modeling of Hypertexts: Methodological Proposal for the Management of Semantic Content in Digital Libraries." This paper focused on the continuation of the hypertext map prototype implementation–*MHTX* proposed by the author in 2004. It builds on that research. The paper describes the objectives and methodology and indicates the findings. There are three goals in the research. These were: a. to achieve simplification of information organization access and process in academic digital libraries; b. aims at contributing to the development of research on semantic organization of texts based on cognitive analysis and technological application and c. to encourage interdisciplinary research in the integration of information science with areas such as computer science, cognitive science, linguistics and education. The final paper in this group, "The Precision of Metaphor for Information Retrieval" by Evelyn Orrico, Vera Dodebei, and Miriam Gontijo (Brazil) is a "theoretical model for an information retrieval filter based on metaphors" (p. 103). It is based on principles set out by Grice (1975), Berrendonner (1989) and Lakoff and Johnson (1980) and Ranganathan's faceted system (1967). It is a case study using a group of researchers in the field of transport engineering together with an analysis of manifestos written by a group of contemporary artists. Background is provided, along with the objective in context, and the theoretical-methological framework and the case study. The authors conclude that their model is feasible but further study on other fields of knowledge is needed.

Three papers were presented on **Knowledge Organization as a Navigation Tool.** Charles-Antoine Julien, John E. Leide and Catherine Guastavino (Canada) and Pierre Tirilly (United States) wrote on "Using the *LCSH* Hierarchy to Browse a Collection." They describe the difficulties of doing this and propose a different method to facilitate *LCSH* browsing as well as information retrieval. In doing so they briefly cite previous research and offer an automated method to reduce *LCSH* structure, verify the presence of *LCSH* structures, provide some mitigating solutions to these issues and confirm the presence of a power law distribution of information within *LCSH* structure. The structure is described as is the method used, including the data and extracting of the *LCSH* strings from bibliographic records, the matching with the authority and the matching of orphans. Based on the study they provide some guidelines for those wishing to develop an *LCSH*-based collection browsing tool. Continuing with hierarchies Pierre Tirilly (United States) and Charles-Antoine Julien (Canada) described "Random Walks for Subect Hierarchy Simplification." They present a new method to simplify subject hierarchies based on a distribution of documents in the collection of documents that it indexes, It simplifies the walk and provides better access for hierarchies of equal size. The final paper in this section is "Faceted Taxonomy as a Mechanism for Browsing and Accessing Digital Libraries of Theses and Dissertations" by Benildes Coura Moriera dos Santos Mavculan and Gercina Ángela Borém de Oliveria Lima (Brazil), a case study to prioritize user information needs in relation to digital libraries of these materials.In the development of the study Ranganathsan's facet analysis and content analysis and the application of the thematic categorical analysis technic was used.

In the fifth topic of the conference, **Ontology**, four papers were presented. Michael Shepherd and Tara Sampalli (Canada) used the multidisciplinary topic the delivery of health care to address "Ontology as Boundary Object" The ontology is referred to is called SNOMED and is used to provide a bridge of interoperability fill the gap between members of multidisciplinary health team caring for patients with chronic diseases. The paper describes the need for semantic interoperability in domain, describes SNOMED CT which was used to standardize terms. The ontology is outlined and applied. The results showed that "an ontology based on a controlled vocabulary, can effectively act as a boundary object among disciplines of health care." Over all there was agreement among clinicians that this was helpful. A long-term evaluation is planned. In their paper, Flàvio Codeço Coelho, Renato Rocha Souza, and Claudia Torres Codeço (Brazil) described "Towards an Ontology for Mathematical Modeling With Application to Epidemiology." They focused on mathematical models applied to the natural science and as a case study the field of mathematical epidemiology was chosen for the ontology. The paper provides background methodology and results. "The ontology presented in the paper aims to fill a void in the availability of a formal ontology for the classification of mathematical models on natural systems" (p. 142). T. Padmavathi and M. Krishnamurthy (India) wrote on "Ontological Representation of Knowledge for Developing Information Services in Food Science and Technology." This domain is very complex and the access to the databases is being challenged and this system is a framework for a large database on this subject. This paper is a lead-in to further work using the OWL-DL as the ontology as the development language and Protégé-OWL as the implementation tool. Sangeeta Deokattey, D.K. Dixit and K Bhanumurthy (India) addressed "Co-word and Facet Analysis as Tools for Conceptualization in Ontologies." It is a preliminary study of a micro-domain. A test blanket module, taken from material on thermonuclear reactors was used and downloaded from the INIS database for the study. The search history was described and results analysed.

In the sixth section, **Categories in Knowledge Organization,** there were three papers. L. Hajibayova and

E.K. Jacob (United States) described "A Theoretical Framework for Operationalizing Basic Level Categories in Knowledge Organization Research." In this paper the authors examined the work of authors, such as Rebecca Green, E. Rosch. Roger Brown and a number of others on the topic basic level categories. While A.Y. Asundi (India) analyzed the "Epistemological Basis of Some Common Categories" through "A Study of Space and Time as Common Concepts." Asundi indicated common categories in library classification have been extensively examined by both Eric de Grolier and Ranganathan both of whom have indicated that there is room for further comparative study. Hence "this paper presents some unified approaches to space and time categories and in this context seeks their epistemological basis" (p. 166). In a second paper in this category by Asundi (India) discusses "Domain Specific Categories and Relations and their Potential Applications." This is a "Case Study of Two Arrays of Agriculture Schedule of Colon Classification." In this case thematic relations both inside and outside the schedules are examined in a process similar to that used in the previous paper.

The seventh topic of the conference entitled **Relationships in Knowledge Organization** was one of the largest categories including seven papers. K.S. Raghavan and A Neelameghan (India) presented "Indic Cultures and Concepts: Implications for Knowledge Organization." It deals with the impact of culture, in particular indigenous cultures, on conceptualization and semantic relationships. Concepts in performing arts, mythology and humanities were examined. Eduardo Ismael Murguia and Rodrigo de Sales (Brazil) presented a paper on "CNPq's Knowledge Area Table as a Knowledge and Power Apparatus." (CNPq is the National Council for Scientific and Technological Development). Maja Žumer (Slovenia) Marcia Lei Zeng and Joan S. Mitchell (United States) addressed "FRBRizing KOS Relationships." That is, they discussed the application of the Functional Requirements for Bibliographic Records (FRBR) model to investigate the relationships in various versions of the *Dewey Decimal Classification*. In a case study the authors identified 6 questions regarding the relations and applied them to *DDC* versions (in particular the 22nd edition). The relationships focused on the term "work." As a complex system *DDC* presented numerous opportunities and challenges in the research. This is part of long-term research and there still are many questions to be answered. Building on the past, D. Grant Campbell (Canada) focused on "Farradane's Relational Indexing and Its Relationship to Hyperlinking in Alzheimer's Information." Using Farradane's indexing principles and web-based information the hyperlinks of three health information websites were examined to see how well the linking relationships mapped to Farradane's relational operators.as well as to the linking attributes in HTML 5. The author found that Farradane's matrix of relational indexing "is an unlikely candidate for encoding of relational attributes in hyperlinks and therefore unlikely to make any great difference to web design … as a means of analysis of Web practice, however, it has surprising relevance" (p. 200). Elizabeth Milonas (United States) presented a paper on "Classifying Web Term Relationships: An Examination of the Search Result Pages of Two Major Search Engines." Four separate single term searches were conducted in Yahoo and Google. Thus four search terms from two search engines were in the study. Two methods were used to organize the results—search result pages (or categories) and result page terms (RPTs). The terms were grouped by thesaural relationships—(equivalence, hierarchical and associative). One hundred terms were analysed using the *Merriam Webster Dictionary* definitions and their relationships identified on the basis of these definitions. Rosa San Sengundo and Daniel Martinez Avila (Spain) examined "New Conceptual Structures for the Digital Environment: From KOS to the Semantic Interconnection" This paper examines the various factors in the general nature of the digital environment and its components and interconnections. In the final presentation in this group, A. Neelameghan and K.S. Raghavan provided a discussion of the "Concept of 'Time,' Semantic Relationships and Cultural Frames." The authors state that "the objective of this paper is to briefly discuss the impact of culture on the formation of concepts about 'Time,' interrelationship among concepts and their representation in knowledge organization tools (KOTS) especially dealing with multilingual and muli-cultural knowledge resources" (p. 212). They describe their concept of time, followed by time in Indic cultures. From there they move to time representation in Space/Architecture and finally to the Sami concept of time. The latter is time as it is understood in Lapland. At the end of the paper they set out issues to be considered in designing Knowledge organization tools.

Six papers were presented each on **Knowledge Organization for a speciifc domain.** Laurence Favier and Widad Mustafa El Hadi (France) presented "From Text to Image: The Concept of Universality in Knowledge Organization System Designed by Paul Otlet and International Institute of Bibliography." It examines universalism as defended by Otlet as an aspect of his Universalist image documents They focus particularly on two elements of his theory—text and image documents. They compare Otlet's approach with the challenges of universal search of the internet age. Kathryn La Barre (United States) and Rosa Inés de Novais Cordeiro (IBrazil) presented "Unmasking 'That Obscure Object of Desire:' a Brief Report from the *Films and Facts Project."* This project project dealt with the use of facet analysis as an analytical tool for identifying salient access features of moving images. The findings of this project indicate that there is value in exploring ways to

continue augmenting controlled vocabulary, possibly by extension with subject terms from folksonomies. Hemalata Iyer and Amber D'Ambrosio (United States) reflected on "Archetypes, Idealized Cognitive Models and Prototype Effect: A Discussion of Images and Cognition in Categorization." It used illustrations from historical children's literature and considers the pitfalls and challenges inherent in selecting prototypes of images for use in web-based resources, children' catalogues and databases. The paper ends with a focus on the cautious approaches to be taken in the process. Joâo Batista Ernesto de Moraes wrote on "*Aboutness* in Fiction: Methodological Perspectives for Knowledge Organization." The author points out that the methodology applied to scientific texts is not suitable for fiction. He proposes the use of the Generative Trajectory of Meaning postulated by A.J. Greimas as a "contribution" in the identification of aboutness in narrative works of fiction Further studies on larger texts, such as romances, are needed. Shu-Jiun Chen and Hsueh-hua Chen (Taiwan) and Marcia Lei Zeng (United States) considered the "Alignment of Conceptual Structures in Controlled Vocabularies in the Domain of Chinese Art." It a discussion of issues and patterns. It is based on a sub-project entitled the Chinese ATT-Taiwan Project. The findings are related to semantic interoperability of multilingual KOS. Miriam Gontijo, Vera Dodebel and Evelyn Orrico (Brazil) discussed "Discourse Analysis as an Approach to Categorizing the Domain of Public Policy: The Case of Brazilian E-Government." The authors the theoretical foundations of the Critical Discourse Analysis (CDA) to justify the way an ontology is built to represent the area identified as a public policy. The objective was to contribute to the fields of information and computer science and to contribute to knowledge representation and organization through the construction of an ontology. Together these papers demonstrate knowledge organization from different angles.

A recent addition to the field is **Knowledge Organization For Archives** a category in which there were papers. Renato Rocha Sousa, Flàvio Codeço Coelho and Suemi Higuchi prepared a paper on "The CPDOC Semantic Portal Applying Semantic and Knowledge Organization Systems to the Brazilian Contemporary Domains." The project involves the use of semantic and visualization technologies and natural language processing techniques in order to allow enhanced methods for accessing CIDOC files. Natália Bolfarini Tognoli and José Augusto Chaves Guimarães (Brazil), addressed the "Challenges of Knowledge Representation in Contemporary Archival Science." Archival science is now rethinking its theoretical and methodological nineteenth century bases to be able to deal with contemporary archival knowledge production. This paper aims at a theoretical discussion of archival representation, specifically archival description in the face of changes to deal with changes and proposals faced by contemporary archival science in the context of production, organization, and representation. Thiago Henrique Bragato Barros and João Batista Ernesto de Moraes (Brazil) described "Archival Classification and Knowledge Organization: Theoretical Possibilities for the Archival Field." The purpose of this paper was to outline a possible relationship between archival classification and knowledge organization theory. In the process the authors construct a parallel comparing the classification concepts in both areas and analyzing these concepts. In the final paper of this section Pekka Henttonen (Finland) addressed "Diversity of Knowledge Organization in Records and Archives Management." The paper suggests that there are four salient differences: 1. what knowledge organization systems there are to achieve the goal of records and archives management; 2. what the moment is when the systems are applied to organize the information; 3. what is the granularity of the actions is that the KOS supports: and 4. how the KOS is combined with the work of organization of record processes. Each of these aspects is explored. These differences need to be considered in relation to the whole environment. The problem is that the current literature tends to deal a particular RAM (records and archives management). There is a need to be able to deal with the differences across borders.

Under the topic **Design and Development of Knowledge Organization Tools** there were 5 papers. Leonard Will (United Kingdom) reported on "The ISO 25964 Data Model for the Structure of an Information Retrieval Thesaurus." This discussion contains a data model for thesaurus structure. In the article the author describes the details of the concepts and relationships of the system. Weislaw Babik (Poland) described "A Faceted Classification Scheme of Cartographic Materials" and outlines the problems of its construction and use. In the paper he explains Ranganathan's ideas as they pertain to this particular tool and explains the construction of the system. In future the system will be adjusted to new capabilities offered by the Internet. Yuan Ming-Shu, Nan Fan-Hua and Lee Gou-Chi (Taiwan) carried out an empirical study on "Constructing Knowledge Classification Scheme in Industrial Technology *via* Domain Analysis." Three approaches were used in the study—special classifications, terminological studies and bibliometrics—to construct a classification scheme of the fishing industry. This resulted in suggestions for further study. B.L. Vinod Kumar and Khaiser Nikam (India) spoke on a "Sanskrit-English Bilingual Thesaurus for Yogic Sciences." It was a case study of problems and issues with terms of Non-Latin-origin. A thesaurus is being constructed using digital library software at a university in Bangalore. The features of the thesaurus are briefly listed and problems and issues identified. The design is briefly

discussed and an example given. In the final paper in this group Emilena Josemary Lorenzon (and six other Brazilian authors) presented a brief paper on "Controlled Vocabulary used in Intelligence Information System for Shoes." This is a discussion of a controlled vocabulary developed for a system referred to as InfoSIC. The vocabulary used was originally categorized and based on divisions provided by the CRG (Classification Research Group).

A group of three papers dealt with **Information Mining: Automatic Indexing.** In past years this topic has drawn a somewhat larger group of papers. It seems that the topic now draws less interest. Flâvio Codeço Coelho (and three other Brazilian authors) presented a paper on "Information Mining and Visualization of Data from the Brazilian Supreme Court (STF)." This paper is joint research in the form of a case study prepared by a law school and an applied math school and deals with judicial activities in some Brazilian courts. The analysis is described and the paper is referred to by the authors as a "pioneering" piece of work on large scale analysis. The hope is that the richness of the data set is sufficient basis for further study. Carlos Alberto Corrêa and Nair Yumiko Kobashi (Brazil) made a presentation entitled "Automatic Indexing and Information Visualization" This paper is a study based on paraconsistent logic. This type of logic is explained by the authors as a logic that "attempts to deal with contradictions concerned with studying and developing inconsistency-tolerant systems of logic" (p. 326). Its flexibility goes beyond the dichotomies of yes and no and results better than traditional methods. The system is explained and applied. The research required interaction among different disciplines—information retrieval automatic indexing, nonclassical logic and information visualization. Further experiments need to be carried out to broaden the understanding of the detected effects. Nalini Raja (India) addressed the topic "Digitized Content and Index Pages as Alternative Subject Access Fields." This was a pilot study to test the benefits of digitized content and index pages of books and the content pages of journals to provide access to documents in a collection. A pilot study was carried out to test for documents on four subjects—leadership, women entrepreneurs, disinvestment and digital preservation - using information stored in MARC21 fields of bibliographic records.

The final group of 5 papers offered at the conference dealt with **Users and Context**. Carol L. Tilley and Kathryn A. La Barre (United States) raised the question "What if they build it and no one comes?" The authors discuss the problem of a chasm between information-seeking behaviour and the design of information systems "Balancing Full-Text and User Tasks" the state that prohibits an effective resolution of information seeking problems. Their paper discusses the task analysis findings from a research project entitled *Folktales and Facets* and endeavours to address this chasm. A task analysis is conducted on transcripts from interviews on 12 subjects and the findings are mapped to the *Functional Requirements for Bibliographic Records* (*FRBR*) in the context of user studies that seek to do the same. A paper by Sholeh Arastoopoor and Rahmatollah Fattahi (Iran) was entitled "Users' Perception of Aboutness and Ofness in Images" is an approach to subject indexing based on Ervin Panofsky's theory and users views. The theory and methodology are explained. Melodie J. Fox (United States) addressed "Communities of Practice, Gender and Social Tagging," in order to explore whether linguistic variations in tagging are influenced more by gender or context. The author analyses the quality of tags used in LibraryThing. This study seeks to dismantle stereotypical views of women's language use and to suggest a community of practice-based approach to analysing social tags. Gender was not shown to be an influential factor in how users tag. A community of practice framework is preferred. However further exploration and a larger sample size are needed to determine to what extent the community has linguistic variation in the online environment. In the final paper in this group Radia Bernaoui (Algeria) and Mohamed Hassoun (France) analysed "User Expectations, Reality and Delineation of Agricultural Information Systems in the Maghreb." An information system for agriculture is being developed in Algeria based on user needs. The system will use FAO's AGROVOC as its basis and will be multilingual. This paper outlines some of the search interface and vocabulary using a survey of potential end users.

The proceedings indicate that this was a truly interesting conference. Solid in-depth papers came from former ISKO members but there were participants from countries who had not previously participated in ISKO and who had much to offer. Some new and interesting approaches were presented. "Relationships" was a word frequently referred to throughout the conference.