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Seminar on Knowledge Organization in Information and Documentation Systems, Spain

A seminar on knowledge organization was held in Zaragoza, Spain, February 17-18 2000 with the aim of studying the differences among several approaches in content analysis and indexing languages and their possibilities of integration in a common theoretical frame.

The different approaches were classified in two classes: those regarding the specific treatment required by different materials (textual publications, archival materials, audio-visual documents, electronic resources); and those related to several distinct methodologies that can be applied to these materials (terminological analysis, diplomatic approach, discourse analysis, etc.).

Francisco **Javier García Marco**, University of Zaragoza, delivered the opening paper on knowledge organization, in which he considered it from a faceted perspective: the challenge, concept, term and prospective definition of KO, and some of the problems, utopias, contexts, metaphors and referents associated with the discipline. **Emilia Currras**, honorary president of ISKO-Spain, considered Ranganathan's theory of classification from the perspective of systems theory. **José Luis Bonal Bazo**, University of Extremadura, and **Pilar Gay** and **Esperanza Velasco**, University of Zaragoza, studied the problem of normalisation in archival content analysis and its implications for information retrieval in automated environments. **Jorge Caldera**, University of Extremadura, considered the problem of the representation of images in television archives. **José Augusto Chaves**, UNESP (Sao Paulo, Marilia, Brasil), presented the contributions of diplomatic analysis to content analysis, representation and communication. **Mario Barité**, University of Montevideo, delivered a paper on the impact of terminology on vocabulary control. **Manuel José Pedraza**, University of Zaragoza, presented the standards and problematics of the description of electronic resources. Finally, **José Luis Otal** delivered the closing paper on discourse structures and abstract cognitive models. The seminar also offered panels of discussion on the problems of documentary analysis in the different information services and centres and on Linguistics and Knowledge Organization. The papers presented to the conference will be published in

Spanish in volume 6, number 1 of the journal *CEScire: representación y organización del conocimiento*.

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The 10th ASIS SIG/CR Workshop

The 10th SIG/CR Classification Research Workshop was held on October 31, 1999, in conjunction with the 62nd Annual Meeting of the American Society for Information Science [ASIS] in Washington, DC. Eight papers were presented by participants representing Canada, Denmark, Romania, Scotland and the United States.

The challenge of harmonizing the classificatory structure of the Universal Decimal Classification [UDC] with a controlled vocabulary was the topic of the presentation by **Victoria Frâncu**. As she had detailed in her paper entitled "A Universal Classification System Going Through Changes", Frâncu described the growing need to control the dispersion of subject content that had occurred after uncontrolled keyword indexing was introduced to support online searching in a public access catalog. The task of developing a multilingual (English, French and Romanian) thesaurus based on the UDC was facilitated by two significant features of the scheme: the UDC is an aspect classification that subordinates an actual phenomenon to the aspect (or class) within which it occurs, allowing for disambiguation of homonyms through identification of the class within which each instance of a term appears; and, because the UDC is a hierarchical classification generated by the application of principles of logical division, the notation can be used to support retrieval of all subordinates of a specific class. After providing examples of how the UDC can be used in indexing, Frâncu addressed the problems of compatibility involved in the development of a multilingual thesaurus, including not only issues of representation of objects and concepts, but also language-specific hierarchical and non-hierarchical relationships. She discussed the need for specific methodological principles to supplement current international standards for thesaurus development; and she concluded with a review of problems of equivalence that plague translation across languages.

In the presentation of their paper "Application of Faceted Classification Structures in Electronic Knowledge Resources," **Elin Jacob** and **Uta Priss** argued that modification of conventional practices can lead to the development of alternative design frameworks that are better able to respond to the dynamic nature of the electronic environment. They investi-

gated the objectives and practical application of three fundamental classificatory principles: controlled vocabulary, collocation and fixed citation order; and they suggested that implementation of a faceted vocabulary in conjunction with a flexible citation order can provide for a dynamic re-ordering of faceted representations. Jacob and Priss concluded that, in conjunction with mapping of natural language terms within a system of well-defined concepts and relationships, this approach would allow electronic resources to respond to the needs of a heterogeneous mix of users.

In a similar vein, **Hope A. Olson** investigated fundamental characteristics of traditional classification schemes developed by Western cultures. Olson's presentation of her paper entitled "Cultural Discourses of Classification: Indigenous Alternatives to the Tradition of Aristotle, Durkheim and Foucault" looked to the works of Aristotle, Durkheim and Foucault to identify these characteristics and, using discourse analysis, pointed up the cultural specificity of classificatory structures. She then compared the characteristics of Western classification schemes to the indigenous knowledge structures of non-Western cultures. Olson concluded that classification research must acknowledge that these knowledge structures are cultural constructions and must adopt unconventional approaches to the investigation of classification in order to identify alternatives to traditional practices.

In the presentation of their paper entitled "Wittgenstein and Indexing Theory," **Jack Andersen** and **Frank Christensen** argued that there is need for a theory of indexing to support and guide practice. They observed that indexing is a communicative process that supports the exchange of meaning; and, because this process involves the linguistic representation of meaning, a theory of indexing must be grounded in an understanding of how words are actually used. Andersen and Christensen drew on the philosophy of language set forth by Ludwig Wittgenstein in the *Philosophical Investigations*. Wittgenstein held that language and meaning are publicly constituted: that the meaning of a word is its use to promote understanding within a particular *language game* which is itself associated with a particular situation or activity. After providing an overview of earlier research that applied Wittgenstein's philosophy to the field of LIS, Andersen and Sejer Christensen investigated the relationship between indexing theory and four central themes in the writing of the later Wittgenstein: language games; family resemblance; rule-following; and private language. They concluded that, because language is a social phenomenon, Wittgenstein's philosophy shifts the focus of indexing from the document itself to the language game that constitutes the

document and the conditions under which meaning is produced.

Elizabeth Davenport addressed the notion of documentary genres and their function as macro-level categorizing devices not only to classify documents but also to represent and to order organizational activities. She pointed out that her use of the term "order" was intended to convey both the sense of "categorize" and "regulate" in that documentary genres function as a vehicle of social control (or regulation) through establishment of a categorization structure that supports and enhances the interests of the target group. In her paper entitled "Implicit Orders: Documentary Genres and Organizational Practice", Davenport explored three propositions that address the ordering function of genres and provided examples from the literature to support these propositions. Her first proposition stated that documentary genres are in fact ordering devices that indicate appropriate courses of action and modes of expression that articulate these actions. Her second proposition stated that, where organizational practices change, as with the introduction of new technologies into the workplace, new genres will emerge as practitioners establish new routines in their adaptation to the new circumstances. Her third and final proposition was more speculative in its claim that documentary genres could provide insight into organizational activity while stabilizing and making visible the workings of a virtual work environment. Davenport concluded with the presentation of a case study that would appear to support her first two propositions while pointing to the possibility that the third proposition would be supported with the implementation of an integrated electronic document management system.

Judith Weedman presented the results of a pilot study that examined aspects of image digitization projects and related these findings to the growth of professional knowledge. As she reported in her paper "Local Practice and the Growth of Knowledge: Decisions in Subject Access to Digitized Images," the study addressed a series of research questions that investigated the process of design and implementation in digitization projects. Analysis of questionnaires completed by 15 self-selected respondents covered a range of aspects including: size of both the source collection and the digitized collection; degree(s), job title and years in current position of the respondent; and the nature of subject access provided. Semi-structured interviews with eight of the respondents allowed more in-depth exploration of the central issues identified by Weedman: the immediate impetus behind the decision to undertake a digitization project; considerations affecting the decision about what to digitize; the nature of subject access provided; the point at

which the user was brought into the project; and the communication channels that contributed to the digitization project.

Development and training of machine learning methods for automatic text categorization was the topic of the presentation by **Miguel E. Ruiz** and **Padmini Srinivasan**. Drawing on their paper entitled "Combining Machine Learning and Hierarchical Indexing Structures for Text Categorization", Ruiz and Srinivasan described a method for training an automatic classifier that used a divide-and-conquer approach to exploit the hierarchical structures that are part of an indexing vocabulary. This methodology was evaluated by training a backpropagation neural network to assign MeSH subject headings to a subset of MEDLINE records. The approach described by Ruiz and Srinivasan adopted a modular approach that would break a large problem area into a series of smaller tasks. Comparison of this approach to other methods of automatic text categorization such as flat neural classifiers and the classical Rocchio classifier has indicated that the use of hierarchical structures can improve performance significantly.

Terrance A. Brooks reported recent research findings in the presentation of his paper entitled "Relevance Auras: Macro Patterns and Micro Scatter". Drawing on his previous work with the semantic distance model [SDM], Brooks investigated the relationship between verbal scatter and a searcher's relevance assessments. The *semantic distance effect* of the SDM predicts that relevance assessments will decline as the hierarchical distance between descriptors increases. The *semantic direction effect* of this model predicts that relevance assessments deteriorate more quickly when descriptors become increasingly more specific (move down the hierarchy) than when they become increasingly more general (move up the hierarchy). The subjects were 28 students from engineering and 28 students from library and information science. Brooks used bibliographic records from engineering and LIS, each of which consisted of a citation with abstract. With each bibliographic record presented to a subject, Brooks provided a set of 20 descriptors representing five levels in the representational hierarchy. Subjects were asked to indicate their assessment of relevance for each descriptor by moving a light bar over an unmarked scale. Brooks analyzed the aggregate data and found that, while assessments of non-relevance occurred after two semantic levels when descriptors moved down the hierarchy, descriptors were still assessed as relevant at the fourth semantic level when movement was up the hierarchy. He concluded that there was support for both the *semantic distance effect* and the *semantic direction effect* of the SDM.

The proceedings will be available from Information Today later this year.

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The Second ISKO-France Conference

The French chapter of ISKO held its second conference on the theme *L'indexation à l'ère d'internet* (Indexing in the era of Internet) on October 21-22, 1999, Lyon, France. The conference was organized by ENSSIB-Lyon and Université Lyon III and co-sponsored by MENRT.

Of the 120 papers submitted, the number of selected papers was limited to 20 full papers and 12 posters since there was no parallel session. Five sessions and a stand for posters were held during the conference. The sessions were as follows:

1. Access to information resources on Internet (*Accès aux ressources d'information sur Internet*)
2. Indexing and document space (*Indexation et espace documentaire*)
3. Indexing of movies, multilingual indexing (*Indexation de l'image animée, indexation multilingue*)
4. Semantic and discursive approaches (*Approches sémantiques et discursives*)
5. Indexing : tasks and methods (*Indexation : tâche et méthodes*)

Each session was opened by an invited speaker.

The discussions and debates that followed the sessions showed the interest of the participants in the presented topics.

The number and quality of submitted papers showed the important research activities in information processing using the Internet technology. On conceptual approaches, the papers treat normalized and heterogeneous documents. Results on the studies of information representation through document formats were also presented. Even in the area of document indexing, there was a clear orientation towards the integration of knowledge on the part of the end-users of an information system. Almost all the studies presented in the papers and posters were applied in the context of industrial applications.

Most of the papers are written in French. We present below the translation of the paper topics in each session.

1. Access to information resources on Internet

- Internet tools for the retrieval of electronic journals, **M. S. van der Walt**, University of Stellenbosch, South Africa