Shalini R. Urs and K.S. Raghavan are concerned with mark up languages and metadata. In "Organizing Web Resources : XML for Enhancing Retrieval Effectiveness", they examine the limitations of HTML "for web publishing in general and embedding metadata in particular". Also, they explore the usefulness of XML in the enhancement of search engines effectiveness. S.B. Viswakumar examines "Content Organization in Multimedia Databases". This author considers the organizing of multimedia to be "complex" but feels that for ease of the user it is an essential task".

B.A. Sharada recognizes the importance of language in databases and deals with the very special case of "Content Organization in Kannada Databases". Kannada is the major Dravidian language of Mysore, south India, and the study was carried out on the Kannada nighaNTu (dictionary) in eight volumes which was available in machine readable form. Entries and structure were examined, and a structure conforming to S.R. Ranganathan's facet structure (Personality, Matter, Energy, Space and Time (PMEST)) was recommended, to ensure consistency in analysis and organization. The methodology and data are described in detail.

Two final papers focus on education as it relates to content organization. M.A. Gopinath discusses "Training for Content Organization" using seven attributes that he considers necessary to deal with content organization for information retrieval: expertise, input skills, development process, intellectual skills, aesthetic skills, analytical skills and holistic skills. As a follow up, G. Bhattacharyya provides "Musings on Curriculum Design for Library and Information Science in the IT Environment with Special Reference to Content Organization". Under this topic the author discusses the purpose and value of a curriculum, methodology, and a common/general reference framework. In conclusion, he states that "the intention of this presentation ... is to specify the essential factors to be taken into consideration in developing a curriculum for a 'professional discipline' with reference to a common or general frame work". Bhattacharyya further asserts that this framework "is believed to be effectively applicable to any 'professional discipline' including Library and Information Science".

Content Organization in the New Millennium provides an introduction and general overview of major issues related to content organization in various types of information systems. The depth of analysis and discussion, however, is uneven across the contributions. Some of the papers have substantive content, while others appear to be based on notes used in the presentation. In particular, the paper on internet-based information services falls into the latter category. Discussion of topics and sub-topics is frequently very brief – one or two sentences only. The treatment of most topics is very general in nature. Five of the papers have no bibliographical references but those that do reflect a good knowledge of the work done by well known researchers in the field. There are illustrations, some of which suffer from the poor quality of paper used for this publication.

Three of the authors are well known internationally. One is currently a visiting professor in the United States, and all three have taught in library and information science programmes in various parts of the world.

All of the topics are of major interest in library and information science today. This fact alone confers value to the work. Its major purpose appears to be to provide a record of the material presented at the seminar. To that extent, the work achieves its goal. Its most immediate audience will be academics and researchers in the field of library and information science working in India. However, *Content Organization in the New Millennium* will also be useful to academics and researchers in other parts of the world who are looking for different perspectives on these major issues and wish to open lines of communication with others in the field.

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OLSON, Hope A., and John L. BOLL. **Subject Analysis in Online Catalogs**. 2nd ed. Englewood, Colo. : Libraries Unlimited, 2001. xv, 333 p. ISBN 1-56308-800-2 (pb).

This is the revised and expanded edition of the original work written by Aluri, Kemp and Boll that was published ten years ago. The topic, purpose and scope of the work, now under the direction of Hope A. Olson and John L. Boll, remain largely unchanged,

though the content has been thoroughly updated and adjusted to the current context, now discussing web-related issues for example. As already noted by Hans H. Wellisch in his review of the first edition[1], the work is not served well by its title because its scope is much broader than the title suggests. This same criticism holds true for the 2nd edition. Furthermore, the inclusion of a Venn diagram in the preface to illustrate the subject coverage seems rather pointless. In today's environment, there is little relevancy to delimiting the topic of subject analysis in online catalogs, since, as noted by the authors themselves, "[t]he boundaries of online catalogs are no longer clear [... and ...] the principles of subject access in library catalogs [...] can also be applied to any of these [i.e., bibliographic] databases" (p. 1–2). Nonetheless, the new edition does provide an excellent and comprehensive review of the literature of the field of subject analysis and retrieval, although the survey could have been more up-to-date as too few references go beyond 1998. The work has been written and advertised as an introductory level text, but the treatment of the topic is sophisticated enough to be of interest to a more erudite audience. On the whole, this edition is more enriching than the first, as it includes recent reports of ongoing research.

The work is divided into twelve chapters following a short preface. The index, which was a weak element in the first edition[2], has been improved and expanded. Following a short introductory chapter, the authors use Chapter 2 to describe the basic components of bibliographic databases, centring their attention on `the structure of the various files and indexes that comprise such databases. The authors also briefly introduce the MARC bibliographic and authority formats with a deliberate emphasis on subject-rich fields. Chapters 3 and 4 are complementary chapters that touch upon linguistics issues and information retrieval languages respectively. It is unclear why these topics, amalgamated in a single chapter in the first edition, are now split into two separate ones. Nonetheless, these two chapters form a strong foundation upon which the following four focal chapters are based.

In Chapter 5, covering indexing processes and policies, the authors examine the various interrelated issues of accuracy, exhaustivity, specicifity and consistency. Chapter 6 presents subject heading and descriptor systems, discussing terminology, structure and rules of application. In this chapter, Olson and Boll also take a closer look at the Library of Congress Subject Headings (LCSH) and at the National Library of Medicine's Medical Subject Headings (MeSH), and analyze the appropriateness of these two systems for subject retrieval in online environments, a testimony to the wealth of research that was carried out in that area in the past decade or so.

Two lengthy chapters on bibliographic classification follow. In Chapter 7, while presenting the general components and principles of classification, the authors explain the conceptual differences among various types of classification systems, and provide an overview of their applicability in online searching. This last theme is further explored in Chapter 8 where the authors unveil the underestimated potential of the Dewey Decimal and the Library of Congress Classification Schemes (DDC and LCC respectively) for information retrieval. The strengths and weaknesses of both systems are explicated and compared through the analysis of their system and notational structures. The authors also give an interesting, but alas too brief, account of the promising use of the new MARC 21 format for classification data.

The last section of the work covers users and user needs in Chapter 9, interfaces in Chapter 10, and evaluation techniques in Chapter 11. A brief conclusion summarizes the challenges of the future.

The look and feel of the book, although not unpleasant, is of the typical mediocre quality of the books published by Libraries Unlimited. The choice of heading style is sometimes unfortunate and leads to confusion. The MARC records examples especially need reformatting. The short "Conclusion" paragraphs ending most of the chapters should be renamed "Summary" since this is what they really are. There are few typos, albeit a regrettable "wildcat [sic] characters" on page 55, probably the unfortunate victim of an "intelligent" spellchecker. A few inaccuracies appear here and there. Among those noted by this reviewer: "$x Fiction" instead of "$v Fiction" on page 93, since we are talking about form subheadings, and on page 242, on the LCC: "Each class, except *E*, *F*, and *Z*, is divided by a second, and sometimes also by a third letter into subclasses", although subclass ZA was introduced more than six years ago in 1995[3]. On page 226, the DDC is said to be "hospitable", although, as noted by Chan among others, the scheme is far from being so, as the base-10 notation "restrict[s] the capacity for accommodating subjects on the same level of a hierarchy to nine divisions"[4].

The text is well written and the style is clear although serious overuse of text set in parentheses is exasperating at times. A few editorial checks would have

been useful to harmonize the styles and to avoid little irritating quirks such as repeating *ad nauseam* that "bibliographic records" are "surrogates" and vice-versa.

Overall, this is an excellent work, on an ever increasingly pertinent topic. This long-awaited second edition provides a thorough and comprehensive update of an already important text. I very highly recommend it to professionals and academics alike ; both neophytes and veterans will find it valuable. It is a fundamental work that cannot be ignored in the field of subject analysis and retrieval for all bibliographic systems, including online catalogs.

Notes

1 Hans H. Wellisch. Review of "Subject analysis in online catalogs." *Library Resources and Technical Services* 35(4) 1991, p. 479.
2 *Op. Cit.* p. 480.
3 Lois Mai Chan. *A guide to the Library of Congress Classification*. 5th ed. Englewood, Colo. : Libraries Unlimited, 1999, p. 429.
4 Lois Mai Chan. *Cataloging and Classification : An introduction*. 2nd ed. New York : McGraw-Hill, 1994, p. 281.

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Relationships in the organization of knowledge. Edited by Carol A. Bean and Rebecca Green. Dordrecht ; Boston : Kluwer Academic Publishers, c2001. ix, 232 p. (Information and knowledge management; v. 2). ISBN 0-7923-6813-4.

With fourteen contributions grouped in two sections, "Theoretical background" and "Systems", this work discusses the most common relationships used in the organization of recorded knowledge to facilitate information retrieval: the relationships between bibliographic entities, intra- and intertextual relationships, relevance relationships, and subject relationships in thesauri and other classificatory structures. The editors' goal is to "spur further interest, debate, research, and development".

A first chapter by Rebecca Green serves as an overview whose principal merit is to introduce the basic types of relationships and to list their properties. Stella G. Dextre Clarke, in "Thesaural Relationships", describes how standards and other texts present the well-known equivalence, associative and hierarchical relationships. Jessica L. Milstead's contribution, "Standards for Relationships between Subject Indexing Terms", reflects her long-standing commitment to standardization efforts. Her description of the process of preparing and adapting a standard in the United States and her comparison of provisions of the ISO and ANSI/NISO standards and of different editions of the same standard applicable to thesauri and indexes are enlightening. Milstead's contribution shows great concern for the users and their retrieval problems. Both Dextre Clarke and Milstead believe in the necessity for more rigorous distinctions between types of relationships, for a greater diversity of relationships in information organization and retrieval systems, and for a wider range of vocabulary control in automated contexts.

Michèle Hudon, in "Relationships in Multilingual Thesauri", examines two questions: 1) Are all types of thesaural relations transferable from one language to another? 2) Are the two members of a valid relation in a source language always the same in the target language(s)? Not satisfied with the provisions of standards for the development of multilingual thesauri, she reaffirms the importance of equal status for each language in multilingual thesauri. Numerous examples illustrate problems encountered with cross-lingual and interlinguistic relationships due to political, economical, philosophical, religious and cultural differences, and several possible solutions are proposed. Even if research in anthropology and intercultural psychology has shown that several types of relationships are indeed universal, this does not mean that semantic structures in different languages are equivalent.

We note a similar preoccupation with intercultural differences in Clare Begthol's contribution, "Relationships in Classificatory Structure and Meaning". Taking for granted that a classificatory structure is a theoretical and cultural construct imposed on reality, Beghtol raises several research questions. Implicit relationships in classification systems, besides explicit