

facet concept. Broughton (p. 193–210) describes a rigorous approach to the application of facet analysis in the creation of a compatible thesaurus from the schedules of the 2nd edition of the Bliss Classification (BC2). This discussion of exemplary faceted thesauri, recent standards work, and difficulties encountered in the project will provide valuable guidance for future research in this area. Slavic (p. 257–271) provides a challenge to make faceted classification come ‘alive’ through promoting the use of machine-readable formats for use and exchange in applications such as Topic Maps and SKOS (Simple Knowledge Organization Systems), and as supported by the standard BS8723 (2005) *Structured Vocabulary for Information Retrieval*. She also urges designers of faceted classifications to get involved in standards work.

Cheti and Paradisi (p. 223–241) outline a basic approach to converting an existing subject indexing tool, the *Nuovo Soggetto*, into a faceted thesaurus through the use of facet analysis. This discussion, well grounded in the canonical literature, may well serve as a primer for future efforts. Also useful for those who wish to construct faceted thesauri is the article by Tudhope and Binding (p. 211–222). This contains an outline of basic elements to be found in exemplary faceted thesauri, and a discussion of project FACET (Faceted Access to Cultural heritage Terminology) with algorithmically-based semantic query expansion in a dataset composed of items from the National Museum of Science and Industry indexed with AAT (Art and Architecture Thesaurus). This paper looks to the future hybridization of ontologies and facets through standards developments such as SKOS because of the “lightweight semantics” inherent in facets.

Two of the papers revisit the interaction of facets with the theory of integrative levels, which posits that the organization of the natural world reflects increasingly interdependent complexity. This approach was tested as a basis for the creation of faceted classifications in the 1960s. These contemporary treatments of integrative levels are not discipline-driven as were the early approaches, but instead are ontological and phenomenological in focus. Dahlberg (p. 161–172) outlines the creation of the ICC (Information Coding System) and the application of the Systematifier in the generation of facets and the creation of a fully faceted classification. Gnoli (p. 177–192) proposes the use of fundamental categories as a way to redefine facets and fundamental categories in “more universal and level-independent ways” (p. 192).

Given that *Axiomathes* has a stated focus on “contemporary issues in cognition and ontology” and the

following thesis: “that real advances in contemporary science may depend upon a consideration of the origins and intellectual history of ideas at the forefront of current research,” this venue seems well suited for the implementation of the stated agenda, to illustrate complementary approaches and to stimulate research. As situated, this special issue may well serve as a bridge to a more interdisciplinary dialogue about facet analysis than has previously been the case.

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Wolfgang G. Stock and Mechthild Stock, *Wissensrepräsentation: Informationen auswerten und bereitstellen* [Knowledge Representation: Analyzing and Providing Information]. Munich: Oldenbourg Wissenschaftsverl., 2008. xviii, 441 p. ISBN 978-3-486-58439-4.

Wissensrepräsentation (i.e. Knowledge Representation) is the second volume in the “Introduction to Information Science” series from the Oldenbourg publishing house. It can be considered a companion to “Information Retrieval: Searching and Finding Information” published in 2007, which is referenced throughout the book. Both textbooks are aimed at German-speaking students of information science and information management as well as a broader audience in the information managing industries.

The authors’ intent is to provide a far encompassing overview of methods and means to represent knowledge for information retrieval. The book is divided into seven topical parts:

- Propaedeutics of knowledge representation (i.e. history, term definitions etc.)
- Metadata (bibliographic, factual, non-topic filtering)
- Folksonomies (collaborative indexing, editing of tags)
- Knowledge organization systems (nomenclatures, classifications, thesauri, ontologies, faceted systems, crosswalks)
- Textual methods of knowledge organization (text-word method, citation indexing)

- Indexing (intellectual, automatic)
- Information compressing (abstracting, automatic information extraction)

The format is very appropriate for a textbook. Although the layout of the table of content lacks clarity (sub-sections and page numbers in continuous lines), the content of the book is well-structured and organized. Chapters stand on their own although it might make sense for educators to assign whole parts. Every chapter ends with a concise summary of the content and up-to-date bibliographic references for further reading. New and important terms are emphasized; many examples and figures illustrate the explanations (unfortunately—for the educator—without a separate index for quick access). Although most practical examples come from German systems, important international applications are also mentioned. A glossary, name and topic index provide good access points into the book.

Similar to Arlene Taylor's "Organization of Information", this textbook can serve as the text for an introductory class on information or knowledge organization. New developments and trends in information organization (e.g. folksonomies, FRBR, ontology development) are presented side by side with traditional information organization themes. Most of the book is dedicated to topical knowledge representation (or subject indexing to use a library term). However, the chapters on metadata provide a good introduction to formal description schemes and other filters to provide access to documents. The short chapter on factual metadata shows that there are metadata applications beyond bibliographic documents and web pages, but can just provide a glimpse into the problem areas of numeric, artistic or scientific data collections and their representation.

The authors start with a lengthy introductory section (propaedeutics) designed to create a terminological and conceptual basis for later chapters. The focus and direction of term definitions and concept discussion is clearly shaped and based on the philosophical background of at least one of the authors, which might necessitate further explanations for some students of the text. For example, concepts like reflexivity, symmetry and transitivity are used to explain ordering relations without a preceding definition of their meaning. These more philosophical concepts are also absent from the glossary. The last chapter of this part is devoted to the concept of information hermeneutics (understanding and interpreting) including a short introduction to cognitive work analysis, which is a logi-

cal conclusion to the section, shaping the viewpoint of readers for the following chapters.

The largest and most detailed part of the book is dedicated to the elaboration of different knowledge organization systems, which also includes a chapter on the merging and mapping of these systems, an important topic in today's heterogeneous and distributed information landscape. These chapters stand out with their many practical examples and discussion of advantages and disadvantages of each approach. The chapter on ontologies requires some expanded reading or explanation as some set-theoretic and logics knowledge is assumed.

One might question the placement of the section on folksonomies before the section on knowledge organization systems (maybe less controlled before more controlled vocabularies?) but the two short chapters illustrate the prominence of the topic in the on-going discussion. Whereas the first chapter describes tagging in general, the second chapter is a very interesting description of how the scaling and quality problems of manual tagging can be alleviated by automated ranking and tagging systems (most of which is based on work by one of the author's research groups).

The remaining six chapters deal with the methods of knowledge representation, i.e. intellectual and automatic indexing as well as abstracting and automatic extraction. One of the less familiar ideas for most readers will be the chapter about the "text-word-method", an original term-based indexing method developed for a German bibliographic database on philosophy. The chapter on citation indexing is an informative and concise introduction to the topic including other applications besides Garfield's ISI indexes, which might well be used in other contexts. The chapters on manual indexing and abstracting are followed by chapters on automatic indexing and extracting respectively, a good way to compare and contrast intellectual and machine-based approaches.

Overall, this book serves as a well-structured and well-written introduction to the topic area of information organization. It is a welcome addition to the German standard text *Grundlagen der praktischen Information und Dokumentation* and could support other introductory classes (e.g. information retrieval, digital libraries, web 2.0 applications) and purposes as well. Of special benefit is the authors' attention to applications other than bibliographic databases, for example patent or chemical information systems, which provide a varied picture of the problem areas and solutions.

Whereas the examples and figures help in clarification and understanding, the numerous quotations from research texts (most of them in English, some even French in the introductory section) might be more difficult for beginners to comprehend and become almost superfluous considering the accompanying explanations in German.

Throughout the book and especially in the introductory part, an elaboration and discussion of certain topics based on philosophical and linguistic perspectives is a recurrent theme (i.e. information hermeneutics). Whether these specific chapters or sections

should be assigned to beginners or read in applied classes is a matter of perspective; but they can add deeper insights or raise awareness of certain aspects of the field that too often fall by the wayside when implementation issues are at the forefront of discussion.

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