

# Book Reviews

Edited by Clément Arsenault

Book Review Editor

Marinos Kavouras and Margarita Kokla. *Theories of Geographic Concepts: Ontological Approaches to Semantic Integration*. Boca Raton, Fla.: CRC Press, 2007. 352 p. ISBN 978-0-84933-089-6 (hbk.)

Knowledge Organization Systems (KOS) are often developed in specialized fields such as medicine, chemistry, law and geography. In geography, for example, there is a specialized literature about *Geographical Information Science*, just as *Geographical Information Systems* (GIS) are becoming important kinds of knowledge organizing systems. Research in Knowledge Organization (KO) should contribute to the organization of knowledge in such fields. If not, this would be an indication of a serious problem in our field. The overall impression is, unfortunately, that such specialized fields develop rather independently from developments in our community of KO—and that general KO and specialized fields of KO are relatively isolated from one another.

What general principles, concepts and methods of KO should be developed by our field in order to be useful to specific kinds of applications? Theories of concepts and semantics should clearly form an important part of such knowledge. (This is indicated by the subtitle of this journal: *Knowledge Organization: Devoted to Concept Theory, Classification, Indexing and Knowledge Representation*. Thus far, however, “concept theory” seems to have been neglected.) The book under review can be seen as an attempt to provide such knowledge and to apply it to Geographical Information Systems. Somewhat paradoxically, however, this book is not that much about geographical concepts. This becomes clear if compared with, for example, Holloway et al. (2003). It is more about *general ontology*, semantics, concepts, interoperability and knowledge representation theory (although mostly related to geography). This makes the book relevant for our community as a statement about what topics KO should be engaged in.

The Book is organized the following way:

## Part 1: The Context

- Chapter 1 The Context
- Chapter 2 Geographic Ontologies
- Chapter 3 Semantic Interoperability

## Part 2: Theoretical Foundations

- Chapter 4 Ontologies
- Chapter 5 Concepts
- Chapter 6 Semantics

## Part 3: Formal Approaches

- Chapter 7 Knowledge Representation Instruments
- Chapter 8 Formal Concept Analysis
- Chapter 9 Conceptual Graphs
- Chapter 10 Channel Theory
- Chapter 11 Description Logics
- Chapter 12 Natural Language and Semantic Information Extraction

- Chapter 13 Similarity

## Part 4: Ontology Integration

- Chapter 14 Integration Framework
- Chapter 15 Integration Approaches
- Chapter 16 Integration Guidelines

## Part 5: Post-Review

- Chapter 17 Epilogue

## Index

The book does a fine job in summarizing mainstream research in all these fields and as such, it offers a valuable overview of a very big amount of literature. However, I believe this mainstream research is currently on a problematic track, and in many places the authors express discomfort about the state of the field.

This book has neglected the theories that I consider most promising. Moreover, the book is not really about theories of geographical concepts as the title states. It fails to consider specific concepts and their associated theories. If this had been done, quite different perspectives would have been revealed.

Holloway et al. (2003/2008) is by contrast really about geographical concepts and their associated theories. The same can be said about Huber et al. (1988) covering physical geography and Larkin & Peters (1983) covering human geography. Huber et al. (1988) is described by an editorial review: “[T]his book in-

cludes a variety of analyses reaching back to origins or terms, making the work of interest to intellectual historians. The search for the intellectual genesis of each term, its development, usage, and change in meaning is accomplished with brevity and clarity." These books are parts of the series *Reference Sources for the Social Sciences and Humanities* edited by Raymond G. McInnis, who has written an article on concept theory, which supports the way this series has been designed. McInnis writes (1995, 35–36):

In scholarly disciplines, concepts, the building blocks of knowledge, are basic to enquiry and explanation. Scholars present their research findings in scholarly publications as explanations. These explanations, in turn, organize knowledge. And the principles and theories which emerge from this organization of knowledge are called concepts.

We are indebted to Paul Thagard [1992] for a succinct account of the shifting concept of the concept of the period from Descartes through Hobbes, Locke, Hume, Kant, to Hegel. To understand scholarly progress, he argues, we need an account of how concepts can change. For Thagard, Hegel should be recognized as the founder of the study of conceptual change. Whereas Kant and the earlier empirists tried to find a foundation for knowledge using both empirist and rationalist ideas, Hegel stressed the importance of conceptual development.

My point is as follows: There are different theories of concepts (as described by Kavouras & Kokla 2007). Such theories must have different implications for designing KOS, whether we speak of ontologies, dictionaries or something else. (If the implications are one and the same, then the theories are not relevant for our purpose, which is to guide in the construction and evaluation of KOS.) Although the book under review does present and discuss different theories of concepts, they are not related however to the analysis of specific concepts as in the mentioned dictionaries. Furthermore, the different implications for designing KOS are not discussed. Kavouras & Kokla (2007) contains a chapter about formal concept analysis. I cannot imagine how a dictionary such as Huber et al. (1988) would have looked like if its design had been governed by formal concept analysis. (And this is not just the case with dictionaries but also with ontologies and other kinds of KOS).

In my opinion, the design of KOS must be developed from the literature and concepts in the domain (here, geography). It should be acknowledged that different views or voices are competing in each field (see Holt-Jensen 1999, about competing approaches in geography). The designer of a KOS is thus involved in negotiating between views. To believe that there is only one view, and that the designer can reflect the objective reality without considering the different voices—and without negotiating different interests—is, in my opinion, an unfruitful view.

Among the views that have been ignored by Kavouras & Kokla (2007) are critical approaches to Geographical Information Systems (see, for example, Sheppard 2001 and Schuurman 2006). The word "critical" may have a negative echo, but in reality it provides a better theoretical foundation for establishing a constructive basis for information systems.

*Theories of Geographic Concepts* offers, despite such omissions, a rich and valuable overview of a complicated field. The different perspectives it presents are views and concepts that are at the centre of attention in contemporary research. Our field of KO cannot afford to ignore this literature and it is important that we come in closer contact with specific domains, including geography. This book should therefore be included in libraries and collections serving research and teaching in Knowledge Organization.

## References

Holloway, Sarah L., Stephen P. Rice and Gill Valentine (eds.) 2003. *Key concepts in geography*. London: SAGE Publications. [Second edition in press 2008].

Holt-Jensen, Arild 1999. *Geography, history and concepts: a student's guide*. 3<sup>rd</sup> ed. London: SAGE Publications.

Huber, Thomas P., Robert P. Larkin and Gary L. Peters. 1988. *Dictionary of concepts in physical geography*. New York: Greenwood Press.

Larkin, Robert P. and Gary L. Peters 1983. *Dictionary of concepts in human geography*. Westport, Conn.: Greenwood Press.

McInnis, Raymond G. 1995. The lexicology of scholarly concepts. In Baxter, Pam M. ed., *Social science reference services*. New York: Haworth Press, pp. 27–56.

Schuurman, N. 2006. Formalization Matters: Critical GIS and Ontology Research. *Annals of the Association of American Geographers* 96: 726–39.

Sheppard, E. 2001. Geographic information systems: critical approaches. In Smelser, Neil J. and Baltes,

Paul B. eds., *International encyclopedia of the social and behavioral sciences*. Amsterdam: Elsevier, pp. 6182–85.

Thagard, Paul 2003. Conceptual Change. In Nadel, Lynn ed., *Encyclopedia of cognitive science*. London and New York: Nature Pub. Group, vol. 1, pp. 666–70.

Birger Hjørland, Professor  
Royal School of Library and Information Science,  
6 Birketinget  
DK-2300 Copenhagen S, Denmark  
bh@db.dk

M. P. Satija and Dorothy Elizabeth Haynes. *User's Guide to Sears List of Subject Headings*. Lanham, Md.: Scarecrow Press, 2008. xii, 143 p. ISBN 978-0-8108-6114-5 (pbk.)

*User's Guide to Sears List of Subject Headings* reminds me of my library science classes where the tutors struggled to teach subject headings as they did not have any companion to the *Sears List of Subject Headings*. The best available resource was the manual itself. Tutors and learners can now get respite as a help book produced by two veterans in the field, Satija and Haynes, is readily available. To my knowledge, this eagerly awaited text of 143 pages is the first practice book on the *Sears List of Subject Headings* I've come across.

The subject approach to documents is a key area in the knowledge organization aspect of librarianship. Effective subject headings are needed for adequate search. The *Sears List* is a very well-known subject headings list and is used all over the world in small and medium sized libraries. Tutors in library schools often make it their first choice. Although some book chapters mention the *Sears List*, there is no complete book on usage. The *User's Guide* attempts to educate practitioners on its role, introducing them to a variety of uses, contexts, and offering a wide range of examples. It aims to compensate for the lack of a much needed workbook on the *Sears List*. The authors describe it as a "companion book" (p. vii).

The work is organized into twelve chapters. Chapter 1, "History and Chronology of the Sears List of Subject Headings", serves as an introduction and presents a brief history of the various editions of the *Sears List*, accounting for its popularity.

Chapter 2, "Structure of the Sears List", elaborates on the design of the *Sears List*, offering interesting insight to the trainers of subject cataloguing and subject analysis. In chapter 3, "Subject Analysis", readers will find very important tutorial principles on the topic. It also tells how fanciful and vague book titles often baffle the subject cataloger. The chapter finally deals with the general procedure of assigning the correct heading.

The next chapter, "Principles of the Sears List", discusses the theoretical basis and main features on which the *Sears List* was founded, including the principle of uniformity and the semantic constructions of the headings (e.g., single-noun headings, synonyms and phrase headings).

Following chapters include "Key Headings" (i.e., "model headings that provide a clear and ready-made pattern to construct similar subject headings in that area" (p. 43)), "Headings Omitted in the Sears List", and "Subdivisions". The authors provide long lists of examples including Key Headings of different categories (person, wars and battles...).

Chapter 8, "Cross-references", demonstrates how cross-references (*see*, *see also*) are constructed. Chapter 9, "Geographical Headings and Subdivisions", deals with geographical headings, namely headings for cities and towns. In chapter 10, "Subject Headings for Language and Linguistics", the authors provide us with a wide array of examples from Spanish, Sanskrit, Arabic, Korean and French languages, for example "A handbook on the use of foreign words in Hindi: Hindi language—Foreign words and phrases—Handbooks, manuals, etc." (p. 104). Chapter 11, "Subject Headings for Literature and Literary Works", covers criticism and portrayal of individual literary authors and also the subject headings for individual works. The last chapter, "Subject Headings for Biographies and Autobiographies", offers information on headings for individual biographies, collective biographies as well as subdivisions related to biographical work: anecdotes, case studies, chronology, correspondence, etc.

The *User's Guide* will undoubtedly be of great help to practitioners and tutors, as each chapter includes a summary and exercises. The purpose suggested by the title is fulfilled, serving as a companion to the 19th edition of the *Sears List*. It is designed as a manual for beginners who will realize the importance of vocabulary control and subject analysis, and start to comprehend the structure and organization of the *Sears List* as well as the methods and techniques to locate, specify, and construct subject headings.