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Preface to Special Issue
"What is Knowledge Organization"

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Joan S. Mitchell is editor in chief of the *Dewey Decimal Classification* (*DDC*) system at OCLC Online Computer Library Center, Inc. Prior to joining OCLC in 1993, Mitchell was director of educational technology at Carnegie Mellon University and an adjunct professor in the School of Information Sciences at the University of Pittsburgh. She has also held various positions in academic and special libraries. Mitchell has written and spoken extensively in the area of knowledge organization, and has a special interest in localization and interoperability in classification systems. In 2005, she was awarded the Melvil Dewey Medal by the American Library Association. Mitchell serves on the editorial board of *Knowledge Organization*, and is a member of the Scientific Advisory Council of ISKO. She received her bachelor's degree in economics from Newton College of the Sacred Heart and her master of library science degree from the University of California, Berkeley.

The aim of this special issue of *Knowledge Organization* is to explore the definition of the interdisciplinary field of "knowledge organization" through historical and contemporary perspectives. The goal is to provide a shared framework of terminology, theories, methodologies, and approaches to stimulate research.

The International Society for Knowledge Organization (ISKO) is the premier international scholarly society devoted to the theory and practice of knowledge organization. At the Ninth International ISKO Conference in Vienna in July 2006, it became clear during informal conversations and discussions within the Scientific Advisory Council that there was a need to present a shared definition of the field of knowledge organization. While a majority of ISKO members are drawn from the field of library and information science (LIS), interest in knowledge organization is not limited to the LIS field. Indeed, contributors to *Knowledge Organization* (the society's journal) and to ISKO conferences represent areas of interdisciplinary research and application well beyond LIS itself. The excitement engendered by wide interest from many disciplines in the field of knowledge organization has also caused some confusion about the meaning of "knowledge organization" and its relationship to other fields such as "knowledge management."

We have invited a group of authors drawn widely from the ISKO community and who among them span a half century of research in the field to address such questions as:

– What is knowledge organization?

– What are the meanings of "document," "information," and "knowledge" in knowledge organization?
– What are the defining questions in knowledge organization?
– What fields have an interest in the defining questions of knowledge organization?
– Which epistemologies, theories, and methodologies are relevant in the knowledge organization field?
– What are some current research questions in knowledge organization?
– What are the long-term research questions in knowledge organization?
– What relationships are specified in the organization of knowledge?
– What are knowledge organization systems?

We begin the issue with an interview conducted in December 2007 with Ingetraut Dahlberg, founder of ISKO and the journal Knowledge Organization. Dahlberg shares a fascinating history of her personal involvement in the field of knowledge organization—early work in the field of classification in Germany, ties to colleagues in the German and U.S. library automation communities, and organizational activities in Germany and on the international level. Dahlberg discusses the adoption of "knowledge organization (from the German "Wissensorganisation") as the term to describe ISKO, its activities, and (eventually) its journal. Dahlberg also discusses the genesis of the Information Coding Classification (ICC), a fully faceted classification system she developed and the system used to organize subject fields in positions ending with 8 in the bibliography that appears in each issue of Knowledge Organization. She also shares her views on the prospects for knowledge organization as a discipline.

Hjørland tackles the central question of this issue, "What is knowledge organization?" He describes the narrow meaning of knowledge organization in LIS—activities such as document description, indexing, and classification; and the broad meaning of knowledge organization in the sense of how knowledge is socially organized and how reality is organized. Hjørland offers a critical analysis of the different approaches to knowledge organization in LIS. He asserts that any knowledge organization system has a bias to some philosophical position, and proposes the key is to mediate between different views and develop the system in accordance with the goals and values of the users for which the system is intended.

He also explores the definitions of information, document, and knowledge, contrasting positivist and pragmatic views of the last. Hjørland argues that knowledge organization in the narrow sense cannot be fully developed without considering knowledge organization in the broad sense. He observes that knowledge organization may have a theoretical base in the theory of knowledge.

Tennis takes a creative approach to the question "What epistemologies, theories, and methodologies are relevant in the KO field?" by proposing a preliminary classification of knowledge organization research. He divides research among epistemology, theory, and methodology, plus three spheres of research (design, study, and critique). Tennis also offers a definition of knowledge organization: "the field of scholarship concerned with the design study, and critique of the processes of organizing and representing documents that societies see as worthy of preserving." At first glance, Tennis seems to place his definition of the field close to the "narrow meaning" of knowledge organization described by Hjørland, but it is clear in his subsequent discussion of "epistemology," "theory," and "methodology" that his view of the field is certainly closer to Hjørland's desire to root the theoretical base of knowledge organization in the theory of knowledge.

López-Huertas addresses current research questions in the field of knowledge organization. She structures her discussion under two broad areas: 1) a demand for quality, and 2) a demand for managing emerging knowledge. López-Huertas uses "quality" as an umbrella term for research questions related to social issues (social groups, ethics, and social questions) as well as questions related to technical concerns (the integration of structures, forms, and formats). Under the second broad heading of managing emerging knowledge, she looks at work-oriented and organizational knowledge, with a special focus on what she terms "multidimensional knowledge" (knowledge that is multidisciplinary, interdisciplinary, transdisciplinary). López-Huertas roots her paper in a ten-year study of the literature. The main question under quality is: "How to ensure quality in knowledge representation and organization and information retrieval in the Internet environment?" The quality area includes questions related to multilingual and socio-cultural diversity, and the tension between universality and diversity. She notes special research interest in multilingual thesaurus construction and the treatment of indigenous knowledge. López-Huertas has a strong focus on gender and

women's studies in her own research, and explores research questions related to these areas under the quality framework. She suggests ethics is an important emerging topic in knowledge organization that perhaps has not been pursued to date by scholars at the same level as other topics.

López-Huertas' second broad framework, managing emergent knowledge, is devoted to research questions related to multidimensional knowledge in interdisciplinary domains. She explores different approaches to research on the organization of knowledge in work-oriented and organizational environments. She argues that the Web environment has brought the organization of knowledge in interdisciplinary and transdisciplinary domains to the forefront, and there is a need to study each discipline within the domain in order to construct effective knowledge organization systems.

Gnoli explores long-term research questions in knowledge organization. He presents ten questions to be considered in the 21st century:

1. Can knowledge organization principles be extended to a broader scope, including hypertexts, multimedia, museum objects, and monuments?
2. Can the two basic approaches, ontological and epistemological, be reconciled?
3. Can any ontological foundation of knowledge organization be identified?
4. Should disciplines continue to be the structural base of knowledge organization?
5. How can viewpoint warrant be respected?
6. How can knowledge organization be adapted to local collection needs?
7. How can knowledge organization deal with changes in knowledge?
8. How can knowledge organization systems represent all the dimensions listed above?
9. How can software and formats be improved to better serve these needs?

10. Who should do knowledge organization: information professionals, authors or readers?

In a sense, the previous papers are building blocks leading up to Gnoli's ten areas—each of the authors preceding Gnoli is referenced by him within the ten-question framework.

Green addresses relationships in knowledge organization, and observes that relationships are at the heart of knowledge organization. Relationships in knowledge organization include both non-subject bibliographic relationships (document-to-document relationships, responsibility relationships) and conceptual content relationships (subject relationships, relevance relationships). Green notes that knowledge organization schemes seldom express relationships fully and systematically.

The final paper is a state-of-the-art review of knowledge organization systems by Zeng. Zeng offers a taxonomy of knowledge organization systems (KOS) grouped loosely into the following nonexclusive categories: term lists, metadata-like models, classification and categorization, and relationship models. She presents a thorough investigation of the structures and functions of common KOS. Zeng notes that in the current networked environment, all KOS must become machine-understandable. She ends her paper with a provocative statement that perhaps sets a general direction for the field of knowledge organization:

The KOS in the networked environment do inherit most of the structures that the world has witnessed for at least a hundred years, yet networked knowledge organization systems/services/ structures are not simply a repetition of the past. They are forming new semantic structures that will function with a greater impact far more extensive than imagined.