Whither Knowledge Organization?

An Editorial

Richard P. Smiraglia,
Editor-in-Chief

In the last number of volume 32 (2005) I wrote about the task recently given to the ISKO Scientific Advisory Council, to properly define the central concepts in our domain – knowledge, organization, and knowledge organization – and to relate them to knowledge management, a growing and clearly related domain of its own that arose in industry but has found many adherents in academe.

One could, of course, always rely for this task on a description of our originating discourse. Knowledge organization used to be called classification, and classification has primarily played a distinct role in science and in librarianship. In science, classification is the primary product of research, providing terms and their definitions and through the structure of paradigmatic enterprise seeing to it that the terms do not shift without the acquiescence of the whole community. The recent ruckus in the press about the demotion of Pluto, once considered a planet but now considered to be a mere ' object,' is a classic example of the proper functioning of classification. The definition did not change, and as more and more evidence of an empirical nature was gathered it became clear that the application of the term to this particular bit of rock turned out to have been inappropriate. Similarly, astrophysicists have recently had to adjust their definition of planetary formation, again because of the sum of new evidence.

In librarianship, of course, classification is used to render the subject content of documents and to enhance information retrieval. In vast parts of the world classification also is used to physically organize documents to facilitate browsing by the public. There is constant tension in the world of bibliographic classification between these competing demands. On the one hand classification should be flexible enough to provide absolute coverage of intellectual content and on the other it should be fixed enough to serve as a literal standard.

So if knowledge organization is the domain comprising the study of the action of naming the elements of domains, whether for science or other applications, it is clearly important for the terms that define us to be tightly defined as well. As part of our ongoing conversation we are most grateful to have a featured paper in this issue from our domain's founder and first leader, and indeed the founder and first editor of this journal. Dr. Ingetraut Dahlberg graciously provided an English translation of her ground-breaking paper "Knowledge Organization: A New Science?" first delivered at a conference on conceptual knowledge processing in 1994. The paper surveys the constitution of the domain and places it squarely within the confines of "science of science."

One might also wish to analyze the research questions that comprise the research front in the domain and a good place to start is with the recent 9th international conference in Vienna, which was titled interestingly enough, "Knowledge Organization for a Global Learning Society." There were 62 titled contributions in the program (not counting panels, keynotes, or generic workshops). Contributed papers appeared on sessions designated by keywords such as "Information Systems," "Knowledge and Knowledge Organization," "Multilingual Information Retrieval," "Nonprint and Multimedia," "Ontologies," "Representations of Knowledge," "Users and Uses," and "Universal Versus Local Solutions." An analysis of title keywords yielded a fascinating glimpse inside the domain. Not including terms identifying specific topical domains (such as nursing or education), the 62 titles yielded 112 keywords – from "adaptive modeling" to "wikis" – that can be grouped into several clusters. There is, as should be expected, a cluster of traditional knowledge organization terminology and a set of standards for knowledge organization:

classes	*DDC*
classification scheme	Flickr
domain knowledge	*FRANAR*
facet analysis	*FRBR*
faceted classifications	*RDA*
facets	RDF
genres	*UDC*
hierarchical relationships	
hierarchies	
ontologies	
ontology framework	
semantic	
taxonomy	
terminological representation	

Another cluster conforms to traditional information science, and includes a very sophisticated set of terms related to data modeling techniques:

automatic indexing	adaptive modeling
digital documents	bibliometric mining
hybrid	citation analysis
image retrieval	concept mapping
indexing	concept representation
information	heuristics
information infrastructure	instantiation
information representation	knowledge map
information science	logic
usability	thematic map
user interfaces	
user tasks	
users expectations	
wikis	

One cluster of terminology represents a focus on cultural integration, which I reproduce here together with another cluster of terms related to cultural shifts:

cross-language retrieval	post-structuralist
cultural heritage	reclaiming
cultural perspectives	reconceptualizations
indigenous knowledges	repression
information society	
interdisciplinary domains	
interdisciplinary knowledge	
multicultural	
multilingual	

While another cluster maps to the knowledge management domain, and overlaps traditional knowledge organization:

business intelligence
collective knowledge creation
Corporations
domain knowledge
economic intelligence
knowledge management
knowledge mediation
knowledge structures
knowledge transfer
modern organization
network
ontologies
ontology framework
semantic
sociologic
taxonomy
terminological representation

We will certainly have a more thorough report on the conference in a forthcoming issue. But although one clearly might argue with my mapping of these terms, the result gives us a picture at a glance of the current state of our domain. It extends from traditional library classification into the realm of formal information science. But it also incorporates mapping and mining techniques that reflect the richness of the virtual world. It demonstrates attempts to grapple with real human issues. And it shows how the corporate world has had impact on questions of interest for research. Indeed, the three research articles in this issue – one about classifying blogspace, one about semantic metadata interoperability, and one about automatic indexing – fall neatly into the reported segments of the domain.

Then there is the question of what knowledge organization could be. According to a piece in the October 14th Economist (The brain business, v. 381, no. 8499, p. 60) knowledge, considered a key to economic growth, underpins the European Union's effort to become a competitive and dynamic knowledge-based economy. Two think tanks and one economist have devised an instrument for measuring countries' knowledge bases. Components are a) human-capital endowment – the imputed value of education and training, from parenting to graduate school; b) employment or human-capital utilization;

c) productivity – economic output divided by human-capital stock; and d) demographic change – fertility and immigration. The best performing countries (Sweden, Denmark, Britain, Austria, Netherlands) invest a lot in bringing up children, putting skilled people to work in the proper jobs, and increasing the size and productivity of the knowledgeable workforce. Is knowledge organization a driving force behind the proper employment of a knowledge base?

To ask whither someone or something is to ask wherefore and in what manner it comports itself. Motion is implicit in the question. Whither knowledge organization? Where is our domain going and in what condition? Readers of this journal are eager for an answer.