Knowledge Organization

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ABSTRACT: Defines the concept of knowledge representation. Explains the major AI-based knowledge representation techniques developed so far. Critically examines the strengths and weaknesses of such AI techniques. Argues that the analytico-synthetic approach advocated by Ranganathan is really a powerful knowledge representation technique containing in itself the epistemological foundations required for real progress in the field.

ABSTRACT: Possibilities are being explored to use traditional bibliographic tools, like Dewey Decimal Classification (DDC), Library of Congress Classification (LCC), Library of Congress Subject Headings (LCSH), and Universal Decimal Classification (UDC), to improve the organization of information resources on the Internet. The most recent edition of DDC, with its enhanced features, has greater potential than other traditional approaches. A review of selected Web sites that use DDC to organize Web resources indicates, however, that the full potential of the DDC scheme **for** this purpose has not been realized. While the review found that the DDC classification structure was more effective when compared with other knowledge organization systems, we conclude that DDC needs to be further enhanced to make it more suitable for this application. As widely reported in the professional literature, OCLC has conducted research on the potential of DDC for organizing Web resources. Such research, however, is experimental and should be supplemented by empirical studies with user participation.

ABSTRACT: A problem facing information retrieval and exchange among international medical practitioners and researchers is the lack of a knowledge structure or conceptual framework that relates concepts used in the Western medical system to those used in non-Western medical systems. This paper presents challenges we have encountered in attempting to develop a general conceptual framework to cover concepts and terminology used for information retrieval in the field of complementary and alternative medicine. This is a broad field that has not been covered appropriately in knowledge organization systems such as classification schemes, thesauri, and terminology databases. The objective of the project is to improve significantly the efficiency and the quality of cross-language and cross-cultural information exchange and knowledge discovery by facilitating concept mapping and information retrieval between Western and Eastern medical traditions. Major facets of the conceptual framework include *Diagnostic Categories*, *Therapeutic Preparations*, *Human Anatomy*, *Selected Diseases/Medical Conditions*, and *Basics of Traditional Systems.* The paper discusses issues of subject coverage, the representation of medical concepts in the conceptual framework, incorporation of concept names that have existed in individual traditional systems, and the relationships among concepts. Findings reported are primarily from current work that focuses on Traditional Chinese Medicine.

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Instructions for Authors

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A separate title page should include the article title and the author's name, postal address, and E-mail address, if available. Only the title of the article should appear on the first page of the text. To protect anonymity, the author's name *should not* appear on the manuscript, and all references in the body of the text and in footnotes that might identify the author to the reviewer should be removed and cited on a separate page. Articles that do not conform to these specifications will be returned to authors.

Criteria for acceptance will be appropriateness to the field of the journal (see Scope and Aims), taking into account the merit of the contents and presentation. The manuscript should be concise and should conform as much as possible to professional standards of English usage and grammar. Manuscripts are received with the understanding that they have not been previously published, are not being submitted for publication elsewhere, and that if the work received official sponsorship, it has been duly released for publication. Submissions are refereed, and authors will usually be notified within 6 to 10 weeks. Unless specifically requested, manuscripts and illustrations will not be returned.

The text should be structured by numbered subheadings. It should contain an *Introduction*, giving an overview and stating the purpose, a *main body,* describing in sufficient detail the materials or methods used and the results or systems developed, and a *conclusion* or *summary*.

Reference citations within the text should have the following form: (author, year). For example, (Jones, 1990). Specific page numbers are optional, but preferred when applicable, e.g. (Jones, 1990, p.100). A citation with two authors would read (Jones & Smith, 1990); three or more authors would be: (Jones et al., 1990). When the author is mentioned in the text, only the date and optional page number should appear in parenthesis – e.g. According to Jones (1990), ...

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Graesser, A., Person, N. & Huber, J. (1992). Mechanisms that generate questions. In T. W. Lauer, E. Peacock, & A. C. Graesser (Eds.). *Questions and Information Systems*. Hillsdale, NJ: Lawrence Erlbaum Associates. 167-187.

Sager, J.C. (1990). *A Practical Course in Terminology Processing*. Amsterdam: John Benjamins.

Sukiasyan, E. R. (1996). Change as a problem of classification system development. In R. Green (Ed.). *Knowledge Organization and Change: Proceedings of the 4th International ISKO Conference*. Frankfurt: Indeks Verlag. 119-122.

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Scope

The more scientific data are generated in the impetuous present times, the more ordering energy needs to be expended to control these data in a retrievable fashion. With the abundance of knowledge now available the questions of new solutions to the ordering problem and thus of improved classification systems, methods and procedures have acquired unforeseen significance. For many years now they have been in the focus of interest of information scientists the world over.

Until recently, the special literature relevant to classification was published in piecemeal fashion, scattered over the numerous technical journals serving the experts of the various fields such as

> philosophy and science of science
> science policy and science organization
> mathematics, statistics and computer science
> library and information science
> archivistics and museology
> journalism and communication science
> industrial products and commodity science
> terminology, lexicography and linguistics

Beginning 1974, KNOWLEDGE ORGANIZATION (formerly INTERNATIONAL CLASSIFICATION) has been serving as a common platform for the discussion of both theoretical background questions and practical application problems in many areas of concern. In each issue experts from many countries comment on questions of an adequate structuring and construction of ordering systems and on the problems of their use in opening the information contents of new literature, of data collections and survey, of tabular works and of other objects of scientific interest. Their contributions have been concerned with

(1) clarifying the theoretical foundations (general ordering theory/science theoretical bases of classification, data analysis and reduction)
(2) describing practical operations connected with indexing/classification, as well as applications of classification systems and thesauri, manual and machine indexing
(3) tracing the history of classification knowledge and methodology
(4) discussing questions of education and training in classification
(5) concerning themselves with the problems of terminology in general and with respect to special fields.

Aims

Thus, KNOWLEDGE ORGANIZATION is meant to be a programme for the improvement of classification methods and processes, a forum for discussion for all those interested in the organization of knowledge on a universal or a subject-field scale, using concept-analytical and/or concept-synthetical approaches as well as numerical procedures and comprising also the intellectual and automatic compilation and use of classification systems and thesauri in all fields of knowledge, with special attention being given to the problems of terminology.

KNOWLEDGE ORGANIZATION publishes original articles, reports on conferences and similar communications, the Newsletters of the International Society for Knowledge Organization (ISKO News) and the Committee on Classification Research of the International Federation for Information and Documentation (FID/CR News) as well as book reviews, letters to the editor, and an extensive annotated bibliography of recent classification and indexing literature, covering some 500 items in each issue.

KNOWLEDGE ORGANIZATION should therefore be available at every university and research library of every country, at every information center, at colleges and schools of library and information science, in the hands of everybody interested in the fields mentioned above and thus also at every office for updating information on any topic related to the problems of order in our information-flooded times.

KNOWLEDGE ORGANIZATION was founded in 1973 by an international group of scholars with a consulting board of editors representing the world's regions, the special classification fields, and the subject areas involved. From 1974-1980 it was published by K.G. Saur Verlag, München. Back issues of 1978-1992 are available from ERGON-Verlag, too. (The 14 volumes of 1978-1992 are offered now at the highly reduced price of DM 200,-)

As of 1989, KNOWLEDGE ORGANIZATION has become the official organ of the INTERNATIONAL SOCIETY FOR KNOWLEDGE ORGANIZATION (ISKO) and is included for every ISKO-member, personal or institutional in the membership fee (US $ 55/US $ 110).