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Jia, Junzhi, and Zhao, Jie. **Mapping Analysis of Pre-coordinated Classes in DDC and CLC.** *Knowledge Organization.* 42(6), 369-385. 23 references.

Abstract: The purpose of this paper is to examine how complexities of pre-coordinated classes can influence mapping quality. Though various kinds of mappings among vocabularies have been achieved and applied, there is little research directly pointing out the problems that hinder the mapping quality. This paper focuses on the relationship between the grammatical forms of pre-coordinated classes and semantic mapping quality, in order to provide useful assistance to the setting and mapping of complex concepts in knowledge organization systems. A review of the literature on vocabulary interoperability and an empirical study of pre-coordinated classes in *Dewey Decimal Classification (DDC)* and *Chinese Library Classification (CLC)* are presented. As research objects, the authors have selected two main classes, mathematics and astronomy, in both *DDC* and *CLC*. Distributions in the selected classes are described based on the definition and division of pre-coordinated classes. We conclude that the high proportion of pre-coordinated classes in both *DDC* and *CLC* greatly increase the difficulty of achieving mapping quality.

Wu, Yejun, Lehman, Amanda, Dunaway, David J. **Evaluations of a Large Topic Map as a Knowledge Organization Tool for Supporting Self-Regulated Learning.** *Knowledge Organization.* 42(6), 386-398. 32 references.

Abstract: A large topic map was created to facilitate understanding of the impacts of the 2010 Gulf of Mexico Oil Spill Incident. The topic map has both a text and graphical interface, which complement each other. A formative evaluation and two summative evaluations were conducted, as qualitative studies, to assess the usefulness and usability of the large topic maps for facilitating self-regulated learning. The topic maps were found useful for knowledge fusion and discovery, and can be useful when undertaking interdisciplinary and multidisciplinary research. Users reported some usability issues about the graphical topic map, including information overload and cluttered display of topics when displaying large number of topics and their associated topics. The text topic map was found easier to use due to displaying topics, relationships and references in a linear view.

Soergel, Dagobert. **Unleashing the Power of Data Through Organization: Structure and Connections for Meaning, Learning and Discovery.** *Knowledge Organization.* 42(6), 401-427. 65 references.

Abstract::

The Future of Knowledge Organization
Knowledge organization is needed everywhere

Create the future of KO
Think BIG. Think answers not pointers.
Focus on substantive data
Many areas, tasks, and functions that could profit from KO principles
Engage with ontologies, AI, data modeling

Knowledge organization is needed everywhere. Its importance is marked by its pervasiveness. This paper will show many areas, tasks, and functions where proper use of knowledge organization, construed as broadly as the term implies, provides support for learning and understanding, for sense making and meaning making, for inference, and for discovery by people and computer programs and thereby will make the world a better place. The paper focuses not on metadata but rather on structuring and representing the actual data or knowledge itself and argues for more communication between the largely separated KO, ontology, data modeling, and semantic web communities to address the many problems that need better solutions. In particular, the paper discusses the application of knowledge organization in knowledge bases for question answering and cognitive systems, knowledge bases for information extraction from text or multimedia, linked data, big data and data analytics, electronic health records as one example, influence diagrams (causal maps), dynamic system models, process diagrams, concept maps, and other node-link diagrams, information systems in organizations, knowledge organization for understanding and learning, and knowledge transfer between domains. The paper argues for moving beyond triples to a more powerful representation using entities and multi-way relationships but not attributes.

Cleverley, Paul H., and Burnett, Simon. **The Best of Both Worlds: Highlighting the Synergies of Combining Manual and Automatic Knowledge Organization Methods to Improve Information Search and Discovery.** *Knowledge Organization.* 42(6), 428-444. 120 references.

Abstract: Research suggests organizations across all sectors waste a significant amount of time looking for information and often fail to leverage the information they have. In response,

many organizations have deployed some form of enterprise search to improve the “findability” of information. Debates persist as to whether thesauri and manual indexing or automated machine learning techniques should be used to enhance discovery of information. In addition, the extent to which a knowledge organization system (KOS) enhances discoveries or indeed blinds us to new ones remains a moot point. The oil and gas industry was used as a case study using a representative organization. Drawing on prior research, a theoretical model is presented which aims to overcome the shortcomings of each approach. This synergistic model could help to re-conceptualize the “manual” versus “automatic” debate in many enterprises, accommodating a broader range of information needs. This may enable enterprises to develop more effective information and knowledge management strategies and ease the tension between what are often perceived as mutually exclusive competing approaches. Certain aspects of the theoretical model may be transferable to other industries, which is an area for further research.

Lambe, Patrick. **From Cataloguers to Designers: Paul Otlet, Social Impact and a More Proactive Role for Knowledge Organisation Professionals.** *Knowledge Organization.* 42(6), 445-455. 48 references.

Abstract: In the early 20th century, Paul Otlet carved out a role for bibliography and documentation as a force for positive social change. While his ideals appeared to be utopian to many of his contemporaries, his activism and vision foreshadowed the potential of the World Wide Web. This paper discusses the role that KO professionals could play in enhancing the positive social impact of the web of knowledge, and how our roles are shifting from the more passive role of descriptive cataloguers, to proactive designers of positive and productive knowledge environments.

Gilchrist, Alan. **Reflections on Knowledge, Communication and Knowledge Organization.** *Knowledge Organization.* 42(6), 456-469. 23 references.

Abstract: Moments after mankind started to make moveable physical records describing the world about them people started to store and arrange the records in logical order. Thereafter, records were copied and translated and simple catalogues of collections were compiled. Others, working from these records and from oral sources compiled lists, dictionaries and encyclopaedias. As the means of communication developed from the first revolutionary invention of writing to other revolutions in communication methods, notably printing with moveable type and the computer, techniques of knowledge organization became more sophisticated and powerful. In the first half of the twenty-first century we are faced with an unprecedented communications overload and the full range of knowledge organization techniques need to be deployed, further developed and applied.