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Marijuán, Pedro C., del Moral, Raquel, and Navarro, Jorge. **Scientomics: An Emergent Perspective in Knowledge Organization.** *Knowledge Organization.* 39(3), 153-164. 47 references.

ABSTRACT: In one of the most important conceptual changes of our times, biology has definitely abandoned its mechanistic hardcore and is advancing “fast and furious” along the informational dimension. Biology has really become an information science; and, as such, it is also inspiring new ways of thinking and new kinds of knowledge paradigms beyond those discussed during past decades. In this regard, a new “bioinformational” approach to the inter-multi-disciplinary relationships among the sciences will be proposed herein: scientomics. Biologically inspired, scientomics contemplates the multifarious interactions between scientific disciplines from the “knowledge recombination” vantage point. In their historical expansion, the sciences would have recapitulated upon collective cognitive dynamics already realized along the evolutionary expansion of living systems, mostly by means of domain recombination processes within cellular genomes, but also occurring neurally inside the “cerebral workspace” of human brains and advanced mammals. Scientomics, understood as a new research field in the domain of knowledge organization, would capture the ongoing processes of scientific expansion and recombination by means of genomic inspired software (like in the new field of culturomics). It would explain the peculiar interaction maps of the sciences (scientometrics) as well as the increasing complexity of research amidst scientific and technological cumulative achievements. Beyond the polarized classical positions of reductionism and holism, scientomics could also propose new conceptual tools for scientific integration and planning, and for research management.

Szostak, Rick. **Classifying Relationships.** *Knowledge Organization.* 39(3), 165-178. 24 references.

ABSTRACT: This paper develops a classification of relationships among things, with many potential uses within information science. Unlike previous classifications of relationships, it is hoped that this classification will provide benefits that exceed the costs of application. The major theoretical innovation is to stress the importance of causal relationships, albeit not exclusively. The paper also stresses the advantages of using compounds of simpler terms: verbs

compounded with other verbs, adverbs, or things. The classification builds upon a review of the previous literature and a broad inductive survey of potential sources in a recent article in this journal. The result is a classification that is both manageable in size and easy to apply and yet encompasses all of the relationships necessary for classifying documents or even ideas.

Souza, Renato Rocha, Tudhope, Douglas, and Almeida, Maurício Barcellos. **Towards a Taxonomy of KOS: Dimensions for Classifying Knowledge Organization Systems.** *Knowledge Organization.* 39(3), 179-192. 27 references.

ABSTRACT: This paper analyzes previous work on the classification of Knowledge Organization Systems (KOS), discusses strengths and weaknesses, and proposes a new and integrative framework. It argues that current analyses of the KOS tend to be idiosyncratic and incomplete, relying on a limited number of dimensions of analysis. The paper discusses why and how KOS should be classified on a new basis. Based on the available literature and previous work, the authors propose a wider set of dimensions for the analysis of KOS. These are represented in a taxonomy of KOS. Issues arising are discussed.

Kim, Jong-Ae. **Understanding Knowledge Representation in the Knowledge Management Environment: Evaluation of Ontology Visualization Methods.** *Knowledge Organization.* 39(3), 193-203. 32 references.

ABSTRACT: The application of effective mechanisms for organizing knowledge has been of great concern to help the user discover and share knowledge. Ontology provides the foundation for knowledge organization and sharing by supporting the specification of knowledge structure. The visualization of ontology provides new possibilities for presenting knowledge representation, but the effectiveness of visualization has not been proven. This study examines user performance and perception with ontology visualization methods and provides suggestions for the design of ontology visualization. Differences in user performance based on ontology visualization methods were examined in terms of task completion time and frequency of interaction. Also user perceptions on the usability of ontology visualization methods were examined in terms of ease of use, compre-

hension of visualization style, comprehension of properties, and subjective satisfaction.

Almeida, Carlos Cândido de. **The Methodological Influence of Peirce's Pragmatism on Knowledge Organization.** *Knowledge Organization.* 39(3), 204-215. 35 references.

ABSTRACT: Information and knowledge organization in Brazil has been historically influenced by theoretical linguistics. However, some aspects related to language theory and its interface with philosophy need to be further investigated, particularly the semiotic interpretation of information and knowledge organization processes. In order to advance a dialogue with the philosophy and semiotics of Charles Peirce (1839-1914), a theoretical and bibliographical study was carried out so as to understand and evaluate the contributions of the Peircean thought to information organization. It was found that several aspects of Peirce's work, viewed as a whole and not just semiotic concepts, suggest fundamental points to explain issues in information and knowledge organization. Basing on the analysis of Thellefsen's studies, this research presents some arguments aimed at reframing Peirce's pragmatism, which should no longer be mistakenly considered as a doctrine of practical results, but as a useful methodological approach for professionals dealing with knowledge organization in the field of Information Science.

Freitas, Juliana Lazzarotto, Gabriel Junior, Rene Faustino, and Bufrem, Leilah Santiago. **Theoretical Approximations Between Brazilian and Spanish Authors' Production in the Field of Knowledge Organization in the Production of Journals on Information Science in Brazil.** *Knowledge Organization.* 39(3), 216-223. 11 references.

ABSTRACT: This work identifies and analyzes literature about knowledge organization (KO), expressed in scientific journals' communication of information science (IS). It performs an exploratory study on the Base de Dados Referencial de Artigos de Periódicos em Ciência da Informação (BRAPCI, Reference Database of Journal Articles on Information Science) between the years 2000 and 2010. The descriptors relating to "knowledge organization" are used in order to recover and analyze the corresponding articles and to identify descriptors and concepts which integrate the semantic universe related to KO. Through the analysis of content, based on metrical studies, this article gathers and interprets data relating to documents and authors. Through

this, it demonstrates the development of this field and its research fronts according to the observed characteristics, as well as noting the transformation indicative in the production of knowledge. The work describes the influences of the Spanish researchers on Brazilian literature in the fields of knowledge and information organization. As a result, it presents the most cited and productive authors, the theoretical currents which support them, and the most significant relationships of the Spanish-Brazilian authors network. Based on the constant key-words analysis in the cited articles, the co-existence of the French conception current and the incipient Spanish influence in Brazil is observed. Through this, it contributes to the comprehension of the thematic range relating to KO, stimulating both criticism and self-criticism, debate and knowledge creation, based on studies that have been developed and institutionalized in academic contexts in Spain and Brazil.

Ortega, Cristina Dotta. **Conceptual and Procedural Grounding of Documentary Systems.** *Knowledge Organization.* 39(3), 224-228. 8 references.

ABSTRACT: Documentary activities are informational operations of selection and representation of objects made from their features and predictable use. In order to make them more dynamic, these activities are carried out systematically, according to institutionally limited (in the sense of social institution) information projects. This organic approach leads to the constitution of information systems, or, more specifically, systems of documentary information, inasmuch as they refer to actions about documents as objects from which information is produced. Thus, systems of documentary information are called documentary systems. This article aims to list and systematize elements with the potential to a generalizing and categorical approach of documentary systems. We approach the systems according to: elements of reference (the documents and their information, the users, and the institutional context); constitutive elements (collection and references); structural elements (constituent units and the relation among them); modes of production (pre or post representation of the document); management aspects (flow of documents and of their information); and, finally, typology (management systems and information retrieval systems). Thus, documentary systems can be considered products due to operations involving objects institutionally limited for the production of collections (virtual or not) and their references, whose objective is the appropriation of information by the user.