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Osińska, Veslava, and Bala, Piotr. **New Methods for Visualization and Improvement of Classification Schemes: The Case of Computer Science.** *Knowledge Organization*, 37(3), 157-172. 48 references.

ABSTRACT: Generally, Computer Science (CS) classifications are inconsistent in taxonomy strategies. It is necessary to develop CS taxonomy research to combine its historical perspective, its current knowledge and its predicted future trends – including all breakthroughs in information and communication technology. In this paper we have analyzed the ACM Computing Classification System (CCS) by means of visualization maps. The important achievement of current work is an effective visualization of classified documents from the ACM Digital Library. From the technical point of view, the innovation lies in the parallel use of analysis units: (sub)classes and keywords as well as a spherical 3D information surface. We have compared both the thematic and semantic maps of classified documents and results presented in Table 1. Furthermore, the proposed new method is used for content-related evaluation of the original scheme. Summing up: we improved an original ACM classification in the Computer Science domain by means of visualization.

Deokattey, Sangeeta, Neelameghan, Arashanipalai, and Kumar, Vijai. **A Method for Developing a Domain Ontology: A Case Study for a Multidisciplinary Subject.** *Knowledge Organization*, 37(3), 173-184. 11 references.

ABSTRACT: A method to develop a prototype domain ontology has been described. The domain selected for the study is Accelerator Driven Systems. This is a multidisciplinary and interdisciplinary subject comprising Nuclear Physics, Nuclear and Reactor Engineering, Reactor Fuels and Radioactive Waste Management. Since Accelerator Driven Systems is a vast topic, select areas in it were singled out for the study. Both qualitative and quantitative methods such as Content analysis, Facet analysis and Clustering were used, to develop the web-based model.

Amirhosseini, Maziar. **Theoretical Base of Quantitative Evaluation of Unity in A Thesaurus Term Network Based on Kant's Epistemology.** *Knowledge Organization*, 37(3), 185-202. 27 references.

ABSTRACT: The quantitative evaluation of thesauri has been carried out much further since 1976. This type of evaluation is based on counting of special factors in thesaurus structure, some of which are counting preferred terms, non preferred terms, cross reference terms and so on. Therefore, various statistical tests have been proposed and applied for evaluation of thesauri. In this article, we try to explain some ratios in the field of unity quantitative evaluation in a thesaurus term network. Theoretical base of the ratios' indicators and indices construction, and epistemological thought in this type of quantitative evaluation, are discussed in this article. The theoretical base of quantitative evaluation is the epistemological thought of Immanuel Kant's *Critique of pure reason*. The cognition states of transcendental understanding are divided into three steps, the first is perception, the second combination and the third, relation making. Terms relation domains and conceptual relation domains can be analyzed with ratios. The use of quantitative evaluations in current research in the field of thesaurus construction prepares a basis for a restoration period. In modern thesaurus construction, traditional term relations are analyzed in detail in the form of new conceptual relations. Hence, the new domains of hierarchical and associative relations are constructed in the form of relations between concepts. The newly formed conceptual domains can be a suitable basis for quantitative evaluation analysis in conceptual relations.

Van Doorn, Marlene, and Polman, Katrien. **From Classification to Thesaurus ... and Back? Subject Indexing Tools at the Library of the Afrika-Studiecentrum Leiden.** *Knowledge Organization*, 37(3), 203-208. 16 references.

ABSTRACT: An African Studies Thesaurus was constructed for the purpose of subject indexing and retrieval in the Library of the African Studies Centre (ASC) in Leiden in 2001-2006. A word-based system was considered a more user-friendly alternative to the Universal Decimal Classification (UDC) codes which were used for subject access in the ASC catalogue at the time. In the process of thesaurus construction UDC codes were used as a starting point. In addition, when constructing the thesaurus, each descriptor was also assigned a UDC code from the recent edition of the UDC Master Reference File (MRF), thus replacing many of the old UDC codes used by then, some of which dated from the 1952 French edition. The presence

of the UDC codes in the thesaurus leaves open the possibility of linking the thesaurus to different language versions of the UDC MRF in the future. In a parallel but separate operation each UDC code which had been assigned to an item in the library's catalogue was subsequently converted into one or more thesaurus descriptors.

Frâncu, Victoria, and Sabo, Cosmin-Nicolae. **Implementation of a UDC-Based Multilingual Thesaurus in a Library Catalogue: The Case of BiblioPhil.** *Knowledge Organization*, 37(3), 209-215. 8 references.

ABSTRACT: In order to enhance the use of Universal Decimal Classification (UDC) numbers in information retrieval, the authors have represented classification with multilingual thesaurus descriptors and implemented this solution in an automated way. The authors illustrate a solution implemented in a BiblioPhil library system. The standard formats used are UNIMARC for subject authority records (i.e. the UDC-based multilingual thesaurus) and MARC XML support for data transfer. The multilingual thesaurus was built according to existing standards, the constituent parts of the classification notations being used as the basis for search terms in the multilingual information retrieval. The verbal equivalents, descriptors and non-descriptors, are used to expand the number of concepts and are given in Romanian, English and French. This approach saves the time of the indexer and provides more user-friendly and easier access to the bibliographic information. The multilingual aspect of the thesaurus enhances information access for a greater number of online users.

Boteram, Felix, and Hubrich, Jessica. **Specifying Intersystem Relations: Requirements, Strategies, and Issues.** *Knowledge Organization*, 37(3), 216-222. 15 references.

ABSTRACT: Ideally, intersystem relations complement highly expressive and thoroughly structured relational indexing languages. The relational structures of the participating systems contribute to the meaning of the individual terms or classes. When conceptualizing mapping relations the structural and functional design of the respective systems must be fully taken into account. As intersystem relations may differ considerably from familiar interconcept relations, the creation of an adequate inventory that is general in coverage and specific in depth demands a deep un-

derstanding of the requirements and properties of mapping relations. The characteristics of specific mapping relations largely rely on the characteristics of the systems they are intended to connect. The detailed declaration of differences and peculiarities of specific mapping relations is an important prerequisite for modelling these relations. First approaches towards specifying intersystem relations are presented with special respect to linkages between universal decimal classifications and thesauri.

Gnoli, Claudio. **Classification Transcends Library Business.** *Knowledge Organization*, 37(3), 223-229. 26 references.

Abstract: Although bibliographic classifications usually adopt a perspective different from that of object classifications, the two have obvious relationships. These become especially relevant when users are looking for knowledge scattered in a wide variety of forms and media. This is an increasingly common situation, as library catalogues now coexist in the global digital environment with catalogues of archives, of museums, of commercial products, and many other information resources. In order to make the subject content of all these resources searchable, a broader conception of classification is needed, that can be applied to any knowledge item, rather than only bibliographic materials. To illustrate this we take an example of the research on bagpipes in Northern Italian folklore. For this kind of research, the most effective search strategy is a cross-media one, looking for many different knowledge sources such as published documents, police archives, painting details, museum specimens, organizations devoted to related subjects. To provide satisfying results for this kind of search, the traditional disciplinary approach to classification is not sufficient. Tools are needed in which knowledge items dealing with a phenomenon of interest can be retrieved independently from the other topics with which it is combined, the disciplinary context, and the medium where it occurs. This can be made possible if the basic units of classification are taken to be the phenomena treated, as recommended in the León Manifesto, rather than disciplines or other aspect features. The concept of bagpipes should be retrievable and browsable in any combination with other phenomena, disciplines, media etc. Examples are given of information sources that could be managed by this freely-faceted technique of classification.

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