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Budd, John. **Organizing Acts and Objects: Metaphysical Foundations.** *Knowledge Organization.* 41(6), 419-428. 46 references.

**Abstract:** A seldom-discussed, but nonetheless important, element of knowledge organization is the metaphysical underpinning of description and organization. The fundamentals of metaphysics and ontology are introduced here and the essential nature of their application is explored. In particular, applied metaphysics is presented as a conceptual and practical tool that can be used in the work of knowledge organization. The conclusion holds that the application of categories will especially benefit from the application of metaphysical principles.

Monteiro, Silvana Drumond, Moura, Maria Aparecida. **Knowledge Graph and “Semantization” in Cyberspace: A Study of Contemporary Indexes.** *Knowledge Organization.* 41(6), 429-439. 27 references.

**Abstract:** Knowledge Graph (KG) is a semantics-based search performed by intelligent agents, developed and implemented by Google in December 2012. Though it appears to be just another Google feature, it is actually a huge investment in artificial intelligence in the field of information retrieval. The paper addresses how meaning production occurs in cyberspace, as well as questions about the various stages of web development. Questioning how meaning is made on the web requires us to re-frame our understanding of the social, semantic and pragmatic webs, moving towards a ubiquitous web for desktop research. To understand KG, a document analysis was performed, based on an analysis of a Google search engine result page (SERP) and also based on DBpedia and Freebase results. The “semantization” process occurs through the convergence of meaning-making technologies, which Google KG has been implementing, namely: autosuggest, semantic tags, entity collections, geo-search collections, topical weblinks and reference sources. Currently, indexes acquire a more complex meaning. It is in the increasingly intertwined web of sign filigrees, interpreters, interpretants and interpretations that we use to represent the world in cyberspace.

Zeng, Marcia Lei, Gracy, Karen F, and Žumer, Maja. **Using a Semantic Analysis Tool to Generate Subject Access Points: A Study Using Panofsky’s Theory and Two Research Samples.** *Knowledge Organization.* 41(6), 440-451. 22 references.

**Abstract:** The problem addressed by this study is the assessment of alternative approaches of generating subject access points to materials that are usually not made available through

regular library catalog routines. As an aid in understanding how computerized subject analysis might be approached, we suggest using the three-layer framework that has been accepted and applied in image analysis. The hypothesis is that the computer-assisted semantic analysis has great potential in generating subject access at the “description” and “identification” levels. Two research samples were used to analyze the access points supplied by the OpenCalais semantic analysis tool. The first sample includes 43 archival record groups from 16 institutions, including university archives, government records archives, and manuscript/special collections repositories in various LAMs. The analysis resulted in dozens and, at times, hundreds of potential entities and social tags that could be used to provide additional points of entry to these archival records. These entities and tags correspond almost exclusively to the first two layers of subject analysis (description and identification). The second sample contained 44 philosophy theses. In this part of the research, it was found that the semantic analysis based on the abstracts generated more successful tags than those based on the titles. The research based on the two samples indicate these subject access points fall at the “description” (referring to the generic elements depicted in or by the work) and “identification” (referring to the specific subject) levels, rather than the “interpretation” (referring to the meaning or themes represented by the subjects and including a conceptual analysis of what the work is about) level.

Sawsaa, Ahlam F., Lu, Joan. **Using Natural Language Programming (NLP) Technology To Model Domain Ontology OTO by Extracting Occupational Therapy Concepts.** *Knowledge Organization.* 41(6), 452-464. 33 references.

**Abstract:** Creation and development of formal domain ontology of occupational therapy (OTO) requires the prescription and formal evaluation of the results through specific criteria. UPON methontology of development ontologies was followed to create an OTO ontology, and was implemented by using Protégé-OWL. Accuracy of the OTO ontology was assessed using a set of ontology design criteria. This paper describes a software engineering approach to model domain ontology for occupational therapy resources (OTO) using Natural Language Programming (NLP) technology. The rules were written to annotate the domain concepts using Java Annotation Patterns Engine (JAPE) grammar. It is used to support regular expression matching and thus annotate OT concepts by using the GATE developer tool. This speeds up the time-consuming development of the ontology, which is important for experts in the domain who face time constraints and high workloads. The rules provide significant results: the pattern matching of OT concepts based on the lookup list produced 403 correct con-

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cepts and the accuracy was generally higher. Using NLP technique is a good approach to reducing the domain expert's work, and the results can be evaluated. This study contributes to the understanding of ontology development and evaluation methods to address the knowledge gap of using ontology in the decision support system component of occupational therapy.