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Contents

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Contents pages

Abstract: Author-selected keywords have been widely utilized for indexing, information retrieval, bibliometrics and knowledge organization in previous studies. However, few studies exist concerning how author-selected keywords function semantically in scientific manuscripts. In this paper, we investigated this problem from the perspective of term function (TF) by devising indicators of the diversity and symmetry of keyword term functions in papers, as well as the intensity of individual term functions in papers. The data obtained from the whole *Journal of Informetrics* (*JOI*) were manually processed by an annotation scheme of keyword term functions, including "research topic," "research method," "research object," "research area," "data" and "others," based on empirical work in content analysis. The results show, quantitatively, that the diversity of keyword term function decreases, and the irregularity increases with the number of author-selected keywords in a paper. Moreover, the distribution of the intensity of individual keyword term function indicated that no significant difference exists between the ranking of the five term functions with the increase of the number of author-selected keywords (i.e., "research topic" > "research method" > "research object" > "research area" > "data"). The findings indicate that precise keyword related research must take into account the distinct types of author-selected keywords.

Abstract: This research takes the academic articles in the Web of Science's core collection database as a corpus to draw a series of knowledge maps, to explore the relationships, connectivity, distribution, and evolution among their keywords with respect to smart cities in the last decade. Beyond just drawing a text cloud or measuring their sizes, we further explore their texture by identifying the hottest keywords in academic articles, construct links between and among them that share common keywords, identify islands, rocks, reefs that are formed by connected articles—a metaphor inspired by Ong et al. (2005)—and analyze trends in their evolution. We found the following phenomena: 1) "Internet of Things" is the most frequently mentioned keyword in recent research articles; 2) the numbers of islands and reefs are increasing; 3) the evolutions of the numbers of weighted links have fractal-like structure; and, 4) the coverage of the largest rock, formed by articles that share a common keyword, in the largest island is converging into around 10% to 20%. These phenomena imply that a common interest in the technology of smart cities has been emerging among researchers. However, the administrative, social, economic, and cultural issues need more attention in academia in the future.

Abstract: In the post-war period before computers were readily available, urgent demand for scientific and industrial development stimulated research and development (R&D) that led to the birth of the information retrieval thesaurus. This article traces the early history, speciation and progressive improvement of the thesaurus to reach the state now conveyed by guidelines in international and national standards. Despite doubts about the effectiveness of the thesaurus throughout this period, and notwithstanding the dominance of Google and other search engines in the information retrieval (IR) scene today, the thesaurus still plays a complementary part in the organization of knowledge and information resources. Success today depends on interoperability, and is opening up opportunities in linked data applications. At the same time, the IR demand from workers in the knowledge society drives interest in hybrid forms of knowledge organization system (KOS) that may pool the genes of thesauri with those of ontologies and classification schemes.

Abstract: Although classification has been an important aspect of astronomy since stellar spectroscopy in the late nineteenth century, to date no comprehensive classification system has existed for all classes of objects in the universe. Here we present such a system, and lay out its foundational definitions and principles. The system consists of the "Three Kingdoms" of planets, stars and galaxies, eighteen families, and eighty-two classes of objects. Gravitation is the defining organizing principle for the families and classes, and the physical nature of the objects is the defining characteristic of the classes. The system should prove useful for both scientific and pedagogical purposes.

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Abstract: Soil classification is a long-debated issue. Despite the accumulation of empirical data and appearance of modern computer technologies, soil classification problems remain unresolved and relevant for discussion. The main problem is the creation of a universal soil classification system. The causes of soil classification problems are analyzed and a solution based on contemporary theories of classification and the general systems theory (open system) approach is presented. I discuss the purposes and the current state of soil classification, as well as unresolved issues such as: what definition of soils should be the basis for a universal soil classification system, should soil classification systems be genetic or morphological, how to make them evolutionary, and others. The common features of officially recognized national and international soil classification systems and some underdeveloped ones are reviewed, as well as those in which they differ from each other. It is shown that the shortcomings of soil classification systems are largely related to neglecting the essential character of soils, namely, its dual systemic nature to be not only an independent natural body (that is, a system), but also the result of interaction and interrelation of soil-forming factors (that is, an element of the system), ignoring the rules for logical division of concepts and replacing the differentiating criteria with diagnostic criteria. The theoretical basis and advantages of the "soil-landscape classification system" being developed by the author are outlined. To solve soil classification problems, an outside perspective is needed, that is, the use of classiology and the systems approach.