Editorial

Classification and Structure

One of the results of the recent 12th Annual Conference of the German Society for Classification at Darmstadt, March 17-19, 1988, on "Classification and Order" (see the short summary of this event under FID/CR News in this issue) was a new insight into the importance of the recognition of structures. Indeed, a number of papers reflected the necessity to consider more consciously what we can learn from nature and from our own nature as well as from our experiences and observations with the structures in which we live. The organizer of this conference, the mathematician Rudolf WILLE, who himself has found and established as a proper direction in our field a new way of clarifying and visualizing conceptual structures through combining lattice theory with hierarchical concept systems, rightly put emphasis on a crucial problem in classification - namely on "order" (which to a mathematician is of course only another word for structure), this also being the meaning of the Latin word "structura", which represents the concepts of "putting together", "construction", "construct", or - "order".

Nicolai HARTMANN once said that "all structure - seen from the inside -is essentially relationship"[1]. This means also that the relationships form the structures, and different kinds of relationships are responsible for different kinds of structures. In order to understand better how our knowledge is and can be structured we must therefore put far more effort into the analysis and identification of relationships and devote much more of our studies to their application in our conceptual systems. R.FUGMANN in his brilliant paper at the conference mentioned above ("The concept of order in information science") once more stressed the necessity - in order that our indexing systems become more reliable tools for scientific research and development - to make sure that the devices for the assignment of descriptors, i.e. classification systems and thesauri, contain the highest degree of established order. A user of such a system should be able to immediately understand its structures and have no trouble in applying its elements most consistently and reliably.

The worldwide development of thesauri, which started some twenty years ago was a move away from the established structures of "outworn" classification systems. Although relationships were introduced into these tools, they were not predominantly meant to form structures, but to help in the control of the given vocabulary. However, it was also soon recognized that thesauri without formal structures are no real help for the indexer. Thus, with the resolution of the Dorking Conference still in her mind[2], Jean AITCHISON came up with her first faceted thesaurus[3] in 1969, followed later on by many others.

Have we been thinking about structures and relationships in our research and development work in the past? A literature review on these problems might not yield too many contributions on those topics. If we have a look at the two articles in this issue on the revision work of the Dewey Decimal Classification (COMAROMI and SATIJA) and on the new edition of the Colon Classification (P.DHYANI), we will not find very much concerning insights into new structures beyond what is already there, prefabricated by the designs of their respective authors.

The foundation-laying work of S.R.RANGANTHAN through his recognition of form building structures in his fundamental categories displayed in every subject field and expressed by the formal classes, called facets, was indeed the basis for the formulation of the mentioned recommendation of the Dorking Conference of 1957. And fortunately it has also made its way into the best indexing system known so far, namely Derek AUSTIN's PRECIS (see the pertinent book reviews in this issue). It is also reflected - through the method of chain indexing - in the Deep Structure Indexing System of F.DEVADASON[4], which solicited a first reaction in the article of S.C.BISWAS and F.SMITH in this issue. However, I feel that there is still a long way to go until a "Structurology of classification systems" is available and can be taught to our students - be it in library and information science schools or in the general courses at universities. The mathematician Ranganathan demonstrated that knowledge can be organized by formal structures and constructed (sic) his universal Colon Classification accordingly. However, our knowledge of the structures of knowledge fields has grown, as have the fields themselves and their contents. Wouldn' t it be wise, today, to put more research and development into the continuation of his work - not by revising his schedules but by doing the necessary work based on our new insights into the necessity of using formal structures to build better knowledge representation systems?

Or, do we still rely on a concept - once more alluded to in the review by H.LÖCKENHOFF of NALIMOV's most challenging new book ("Space, Time and Life") - namely "self-organization"? I cannot believe in such a concept as a proof of reality since nothing develops and comes into being by itself. There is always a cause for every effect, even though we cannot recognize it with our material eyes. There is, of course, no such thing as self-organization of our knowledge units, our concepts. We must create the order ourselves, consciously, by applying the structural elements we know of or have to find and identify in each knowledge field. Fortunately we are dealing here with a subject related more to form than to contents. Therefore - it seems to me - there should be a better, an objective basis about which consensus can be reached more readily than about the subjective decisions of where, or under which heading "to put something" in a classification system.

Nor is there such a thing as "chance" - as was rightly pointed out in the discussion on the paper of O.DEGENS ("Approaches in the mathematization of biological systematics") at the conference mentioned above. What we consider as such is a "lawfulness of some other kind" (Gesetzmäßigkeit anderer Art) was his conclusion. Monod[5] and his followers misguide the world with this their claim. The conscious systematization of our knowledge becomes increasingly possible as we make more endeavours to deal with its theoretical bases. Let us work ever more in this direction for the improvement of our systems and also for the improvement of the science of classification understood as the organization of knowledge.

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