of fundamental questions and that philosophy is the perspective from which he approaches his subject, a fact which is clearly discernible in the title of his lectures: "The Idea of Order...". In consequence of this, he constantly draws on statements made by prominent philosophers through the ages, from antiquity, through the Church Fathers of the Middle Ages, up to the existentialists and other philosophers of our times, but excluding Marxists. It is certainly no accident that Perreault often refers to Henri Bergson whose philosophy places intuition above the intellect and teaches that it is through intuition that knowledge of all life may be achieved, a philosophy which forges a link with Ranganathan in whose classification theory intuitive insights in many respects also play a role. But Perreault goes much further as the following two examples demonstrate. Turning to St.Augustine's "De civitate Dei", Perreault gives us what he terms, the peace of all things, a distribution in which every element has been given its allocated place in harmony. In another context, Perreault turns to Leibniz's philosophy of "pre-established harmony", seeing the "teleological" monads as in some way analogous to the elements of a catalogue with their interrelations. To put it mildly, this is taking things a bit too far!

The Result

A philosophy of catalogue order? Perhaps Perreault was the victim of a subconscious compulsion! Impressed by Ranganathan's work which has its "hidden roots" (as Ranganathan himself once put it) in Hindu philosophy and which in many respects is coloured - in the theoretical aspects - by philosophic ambition, even though some of these (e.g. concerning the formula PMEST) had to be retracted, and impressed by the occasion of a series of lectures in revered commemoration of Ranganathan, Perreault made the attempt to create a kind of philosophic theory of the Alphabetic Catalogue, to a certain extent as a counterpart to Ranganathan's Theory of the Systematic Catalogue (a comment in the short biography points this way!). In the course of this attempt, Perreault the Philosopher got the upperhand over Perreault the Librarian. A good catalogue theory does not need to be justified or substantiated in philosophy as the excellent work of the Hungarian AC expert A.Domanovsky, proves. It does, however remain Perreault's credit to be the first to make the problem of library order the main subject of an investigation.

Herbert H.Hoffman[6] and, in particular, Klaus Haller[7], who has gone into the whole complex of formal catalogues and formal ordering methods more intensively and extensively, are but two who have followed in Perreault s footsteps. Perreault has set new impulses in motion for the principles of ordering, and that not only from a library-empiric point of view.

As yet, the RAK has not come up with an optimal solution to all problems of order, and with the increased use of EDP in routine order processes we are forced to think again about many of the items which were valid up to now. This, once again, is reason enough to turn to Perreault, whose discourses are still worth reading today.

Helmut Beck

Notes and References:

1 Translated from the German with kind permission of the publishers of the Zentralblatt für Bibliothekswesen, DDR, where the review appeared in Vol.100(1986)No.11, p.504-508
2 Perreault, J.M.: The Idea of Order in Bibliography. Bangalore: Sarada Ranganathan Endowment of Library Science 1978. 135p. = Sarada Ranganathan Lectures 9, 1975.
3 See (2), p.XIII
4 Cutter, Charles A.: Rules for a printed Dictionary Catalog. 4th ed. Boston 1904.
5 RAK = Regeln für den Alphabetischen Katalog (Rules for the alphabetic catalogue)
6 Hoffmann, Herbert H.: What happens in library filing? Hamden, Conn. 1976. 176p.
7 Haller, Klaus: Katalogkunde: Formalkataloge und formale Ordnungsmethoden. 2.Aufl. München u.a. 1983.

Address: Dr.Helmut Beck, Netzstr. 67 (PF554/18), 6900 Jena, DDR.

SOERGEL, Dagobert: **Organizing Information: Principles of Data Base and Retrieval Systems.** Orlando, Florida: Academic Press 1985, 450 p., ISBN 0-12-654260-0.

Dagobert Soergel developed *Organizing Information: Principles of Data Base and Retrieval Systems* over 10 years. During this time he was teaching the subject matter of the book in classes at the University of Maryland College of Library and Information Services. Soergel is well-known for his classes which focus on careful analysis of the foundations of Information Storage And Retrieval (ISAR). More particularly, he is famous for his work on building and maintaining thesauri. His earlier book, entitled *Indexing Languages and Thesauri: Construction and Maintenance* (1), is one of the best books on the subject of building thesauri. Soergel's new book reflects his talent for thoughtful abstraction on the complex field of information science from a librarian's perspective. Furthermore, his special interest in thesauri is evident in the theme and content of the book which focuses on ISAR systems where thesauri are the key to the organization of the information in the system. The book has five major sections: 1) The Systems Approach to Information Transfer, 2) Objectives of ISAR Systems, 3) Data Schemas and Data Structures, 4) Index Language Functions and Structure, and 5) ISAR Systems Operation and Design.

The first major section of the book describes the nature and structure of information, with distinctions being made between data, information, and knowledge. That same section provides definitions for the major entities to be elaborated throughout the book, including the entities of "thesaurus", "query", and "indexing". The second section of the book emphasizes the importance of recognizing a goal in the course of designing and evaluating an ISAR system. The multi-dimensional characteristics of an ISAR system are delineated and related to user satisfaction. For instance, the selection of documents to include in the system certainly effects the user satisfaction with the retrieval that the system provides. On the other hand, the ease of interacting with the ISAR may at times be as important to the user as the documents which the ISAR returns. Precision and re-

call, two cornerstones of traditional retrieval assessment, are clearly described in section 2 through prose and without reference to mathematics.

In section 3 the connection between the format of information as normally perceived by people and its format in the computer is discussed. The role of records and fields in decomposing the information in databases is clearly illustrated in several examples. The significance of Boolean queries for information retrieval is explained. The trade-offs between data base costs and searching costs are discussed.

The last half of the book centers around index languages, particularly thesauri. In section 4 the function and structure of index languages are described. In section 5, the role of the indexing language in guiding indexing and searching is highlighted. The function of an index language is different depending on whether the entity-oriented or request-oriented view is taken. In the entity-oriented view a document description is desired which optimally characterizes the document in terms of capturing the content of the document precisely and completely. In the request-oriented view a description of a document is desired which is most likely to make that document accessible to the searchers who will want the document.

Soergel's book emphasizes the hierarchical nature of index languages. The hierarchy helps searchers and indexers find the concepts that they want and accordingly serves an important, specific function. Facet analysis is most useful in developing hierarchies. In facet analysis the characteristics of a concept are listed. These characteristics then serve as a guide in determining when one concept is broader or narrower than another. For instance, if one concept x inherits all the facets of another concept y, but x also has a facet which y doesn't then x may be considered narrower than y in a hierarchy. The degree of precombination and postcombination in an indexing language is also important. Soergel recommends that precombination be done to facilitate searching by users who are likely to know the precombined concepts of the thesaurus. However, the elemental concepts which are contained in the precombined concepts should also be available in the indexing language. Thus the language retains its flexibility for current and future users who might want to combine in unique ways sets of elemental concepts.

Soergel's book abounds with detailed, real-world examples. His experience with food thesauri manifests itself with frequent use of terms like frozen foods, canned foods, and distinctive distilled alcohols. On the other hand, there are also a number of systematic critiques of the components of ISAR systems. Diagrams and tables are liberally used to present these systems-theoretic analyses.

The Book is tailored towards a library-science type audience, although the preface notes that a wider audience is desired. No formulas are presented in the description of precision and recall in section 2 of the book. There ist, in fact, not a mathematical formula in the book. This contrasts markedly with some books that have a similar title. For instance, Salton and McGill's book *Intruduction to Modern Information Retrieval* (2) spends about half its pages discussing formulas that are used in characterizing documents by their frequencies of word co-occurrence. Salton and McGill's book at the same time gives almost no attention to thesauri.

Soergel's book won the American Society of Information Science's award as one of the best books of 1986. Soergel has taken a complex topic and beautifully organized and presented its subtleties. People from many disciplines and at many different levels of expertise may appreciate the richness of Soergel's understanding of the organization of thesauri-based ISAR systems.

Roy Rada

References

(1) Dagobert Soergel, *Indexing Languages and Thesauri: Construction and Maintenance* Wiley, New York, 1974.

(2) Gerard Salton and Michael McGill, *Introduction to Modern Information Retrieval*, McGraw-Hill, New York, 1983.

Dr. Roy Rada
National Library of Medicine
Bethesda, MD 20894, USA

DEGENS, P.O.; HERMES, H.-J.; OPITZ, O. (Eds.): **Die Klassifikation und ihr Umfeld (Classification and its Environment).** Proceedings der 10. Jahrestagung der Gesellschaft für Klassifikation eV, Münster/W 18.–21. Juni 1986. Frankfurt/Main: Indeks Verlag 1986. XXXII, 379 p. – ISBN 3-88672-017-9 (hardbound), 3-88672-016-0 (paperback).

The book consists of 39 papers (16 of them in English) arranged systematically into nine groups. However, they can be grouped under three main topics: (1) conceptual classification, (2) formal concept analysis, and (3) numerical classification.

(1) In conceptual classification the problems of indexing and retrieving something (information, books, data) predominate. 'Knowledge' is an important concept in this field worth an examination. Thus, different kinds of knowledge found in the AI literature were compiled by *J. Panyr* ("Knowledge and an approach to its taxonomy in the area of Artificial Intelligence") and brought into a knowledge taxonomy thought of as a substitute for an explicit definition of 'knowledge'. It is doubtful, however, whether the rather unprecise AI terminology can serve as a good starting point for such a task. What is the reason for the occurrence of different kinds of knowledge? Is it because there actually are different kinds of knowledge, or because of the expert system tools and/or programming languages used in AI, or because of the different subjects of knowledge? Relevant to indexing and searching is the knowledge on how to organize things to be archived, which ideally should be familiar to both the indexer and the searcher. Such an ideal condition will be found only in the case of an alphabetic order, whose role in classification was investigated by *G.J.A. Riesthuis* in his contribution "Alphabetic subject indexes and classification".

Normally, there will be a lack of agreement. With respect to indexing, a simple answer to this problem is the definition of a special representation structure. *J. Gesell* reports on the "New edition of the International Patent