

German industry the author supervised the elaboration of an EDP-assisted subject information system designed for a versatile assortment of goods. The experience gathered and insights gained by him in this task as well as in his cooperation on the DIN standard committee "Sachmerkmale" (Subject Characteristics) (NSM) are exploited as well as deepened and expanded in this book. Though mainly conceived for self-study, it can also be used as a teaching aid.

Its central topic is the analysis of the interactive relationship between a group of objects of basically arbitrary nature and the associated structure of characteristics. This central topic is treated in an inductive fashion and illustrated by significant examples whose similarities and differences are lucidly worked out. From this analysis the exact conceptual clarification of the thematic field is derived. In an almost natural way the author arrives at an application of Boolean algebra which he terms "Merkmalalgebra" (algebra of characteristics). As his unique scientific achievement one may regard his having brought the structuro-logical interrelationships to the "mathematical point". In the chapter "Parallelen" (Parallels) he finds an elegant connection to the Formal Concept Analysis according to R.Wille, which he expects to furnish a broad scientific foundation for the subject characteristics classification. This connection is then used for a comparison of product and literature information. Both in the one and the other, however, the formalizability of the interrelationship and thus also the applicability of EDP depends on the limits of model formation: a rigid descriptive scheme cannot encompass "reality in its entirety". Among the non-quantifiable properties this is true already of the object's own, inherent characteristics and even more so of its relationships with the technical-economic environment as described by the relation characteristics. Also deserving of mention here is the purpose-specific interlinkage of various groups of objects as required for expert systems. Awareness of existing limits and of the problems still to be solved is not repressed by any means, for it is just as indispensable for the sovereign development and handling of subject information systems as the structuro-logical weaponry.

Although mathematical formulations make up a sizable portion of the work, the reader is not expected to have advance knowledge surpassing 'lower algebra'. What is expected, however, is his concentrated participation and effort to acquire an overall view. The author endeavors to make reading easier by means of comparisons and thrown-in quotations, while it is also quite noticeably supported by three Annexes. Of these, Annex A alphabetically and systematically lists and explains the technical terms used, Annex B presents the aforementioned subject information system from the author's industrial practice, while in Annex C a realistic economy calculation is performed to show conclusively that the not inconsiderable expense of establishing a subject information system is certainly worth while if such a system is professionally and energetically developed and utilized.

Josef Hölzl

Prof.Dr.J. Hölzl, Institut für Technologie und Warenwirtschaftslehre, Wirtschaftsuniversität, Augasse 2-6, A-1090 Wien, Austria

GOTTSTEIN, Klaus (Ed.); BEHRMANN, J., BOCK-WERTHMANN, W., MENACHE, G.(Comps.): **Directory of International Cooperation in Science and Technology.** Index of Institutions in the Federal Republic of Germany Cooperating with Developing Countries. 2nd, rev.& enlarged ed. München, etc.: K.G.Saur 1989. 256 p., ISBN 3-598-10626-2. A Publication of the Research Unit Gottstein in the Max Planck Society.

This directory lists institutions in the Federal Republic of Germany including West Berlin which cooperate with institutions in developing countries in science, technology or letters, or which work on problems related to developing countries. For each institution, a brief description of its respective activities is given. Altogether 595 institutions are listed (p.25-200) with their addresses, descriptions, partner countries and partner institutions. The book is written in English to facilitate the transfer of information to scientists, science administrators, students and government agencies in developing countries, interested to establish contacts with institutions in Germany. Of special importance are the indexes to this directory (p.201-256), numbering seven, partly established from the fields of an entry, viz.: 1) Subject index, 2) Name index, 3) Index of cities in which German institutions are located, 4) - of partner countries, 5) - of partner institutions, 6) Name index of German institutions in English translation, and 7) Index of abbreviations and acronyms.

The Preface (p.1-24) includes also listings of the references and a selection of additional literature, of 29 databases supplying electronically stored information, of 15 Federal Ministries involved in cooperation with developing countries, of 16 Ministries of Regional Governments involved in cooperation with developing countries, and finally of a summary of the topics of the projects described in the volume: in the fields of energy, health, nutrition, raw materials, communication/documentation, history/culture, and environment.

All in all, a very useful book indeed, especially for all colleagues interested in international cooperation, communication and understanding. In 1979 it has had its first edition, however, as the editor stated, "far from complete". Work towards this second edition started in 1980. At the end of 1990, facing the enlargement of Germany by its Eastern part, a new situation is given, calling also for a necessary new updating of the directory. May it not take another decade for the collection and presentation of its data!

I. Dahlberg