WOJCIECHOWSKI, J. A. (Ed.): Conceptual Basis of the Classification of Knowledge. Proceedings of the Ottawa Conference. . . , Oct. 1–5, 1971. (Title also in French). München: K. G. Saur Verlag 1. 1974, 2. 1978. 503 p., DM 98,–; ISBN 3-7940-3649-2

The mode of the publication is a conference with all the problems of some papers seen by speakers and others not. The manner reflects this stochastic process – the bibliographies are not standardised, one indeed truncated, some papers have abstracts others not. A standard form of abstract (E, D, F,) and keywords/descriptors would have been welcome, especially in the session paper by KEDROV.

It is, however, the matter that should be the message and almost all the papers are worthy of study rather than "königlich begraben" as was the work of Mendel in imperial university proceedings.

A human cannot read a conference but a computer might. The manner of presentation adopted here is to choose GROLIER'S bibliography to represent the librarian and SUPPE the philosopher. The DAHLBERG article can be read first or last, as the citation network will show. Possibly an anglo-saxon compromise will result in a continental "inter-framework relationship" (HEELAN).

The philosophers make much of the euclidean/lobachevskian dialectic. Your reviewer can only quote Gregory, R. L.: *Eye and brain,* 1972, p. 224 "The regions of the cerebral cortex concerned with thought are comparatively juvenile. They are self-opinionated by comparison with the ancient striate area responsible for seeing".

WOJCIECHOWSKI, J. A. "The philosophical relevance of the problem of the classification of knowledge" p. 13–9. Key phrase "Is there any formal, mathematical or logical element which can be separated from the body of classifications and thus saved from oblivion as retaining its value in the face of more adequate classifications? The answer depends, no doubt, on the nature of classifications" (p. 18). –

GROLIER, Eric de: "Le systeme des sciences et l'evolution du savoir" p. 20–118 (The system of knowledge and the evolution of knowing about) GROLIER rightly points out the dichotomy between "savoir" and "connaissance" (p. 20), but in English, except when singing "D'ye ken John Peel?" the difference is masked in the verb "to know". A historical survey of knowledge classifications (p. 26–57) with library classifications (p. 57–95) is a *tour de force* giving a bird's eye overview of the subject. The modest conclusion (p. 96–8), poses some fundamental questions and calls for an architectonic of knowledge. The bibliography of some 240 items, (p. 99–118), would at one level be a test checklist for any library in our field. At the level of research it has a long half-life. The material is international with strong French emphasis even to the esoteric, e.g. Dieterlen, G.: "Classification des végétaux chez les Dogons" (*J. soc. des Africanistes* 22 (1952), p. 115–58), such a non-linnéan approach could well have been followed up by reference to M. Adanson (1727–1806): *Familles naturelles des plantes* 1763 and his planned work (unpublished) *Tous les êtres connus suivant leur série naturelle indiquée par l'ensemble de leur rapports* (see SUPPE below) as well as Alexis Jordan (1814–97) French botanist founder of a school with differentiation by minimum characteristics as compared to linnéan species in breadth. Also while Lenin and Plekhanov are mentioned why not also A. Bogdanov whose theory of *Tectology* might contribute to an arichtectonic? (see HEELAN below).

(Ed. Note: The English language contributions of this book have been reviewed excellently already in an earlier issue (I.C. 3 (1976) No. 1, p. 40–42) by E. Svenonius. Mr. Dickson's review of the reprint of 1978 approaches this proceedings volume from a rather formal aspect, admittedly somewhat unusual. We hope that our readers will get his 'message' anyhow.)

BHATTACHARYYA, G. and RANGANATHAN, S. R.: "From knowledge classification to library classification" (p. 119–43). Author abstract (p. 119), covers Vedic, Greek, Medieval, Bacon, Kant, Hegel, Hobbes and other Serialist philosophers and the DC, UDC and CC schemes of library classification. Their own field of Vedic philosophy is enlightening, on medieval trivium (p. 122), they are less sure, including "Linguistics" instead of "Logic", admittedly Sanskrit had linguistics well before Grimm with "Svarabkahti" for "Sprossvokal". But to return to the limitation of time, e.g., obsolescence of patent literature (*J. for Industrial Economics* (Blackwell, Oxford) 1977); the section on "Limitation of Notational Place" (p. 137), shows the weakness of DC in depth classification. S. R.'s idea of the Ultimate p. 131, "Thesists (sic!) would use the term God" may have seemed strange to Westerners some thirty years ago when D. J. Foskett was professing PMEST, but it is a keynote to the Conference, particularly, in the philosophical papers. The bibliography (p. 143), of 16 items are all cited in GROLIER except one.

DIEMER, A.: "L'ordre (classification) universel des savoirs comme probleme de philosophie et d'organisation (Universal classification of knowledge as a problem of philosophy and organisation) (p. 144–60). A neoplatonic scheme with the first phase at ontological level, descending to the fourth level of information negotiation, is illustrated in five clear figures. Although in French, the German words "Wissenschaft" "Geisteswissenschaft" (p. 144, 150) and the fruitful, "Vorverständnis" (pre-understanding) (p. 151) reveal the problems of the Düsseldorf school in philosophy. A universal classification would be possible "si il (sic) existait un Dieu tout puissant", Diemer thinks not. There is no bibliography.

MÖLGAARD-HANSEN, R.: "On the problem of universality in knowledge classification" (p. 161–71). Bohr's „natural" scheme of periodic system of chemical elements is contrasted with "arbitrary" library classifications. A workmanlike comparison of Ranganathan, Dobrowolski, Classification Research Group and International Building Classification Committee on universal classification is made, with great emphasis on IBCC with Perreault's Relators and tabulation of major categories in Appendix 1–2, (p. 170–1). The bibliography, 20 items, contains some 12 in GROLIER as well as SfB. It could well be extended by Agard Evans criticism of SfB 1956+. A fleeting mention of rhetoric is made, it can be supplemented in a revised GROLIER by reference to M. Masterman and G. Genette.

SHEA, W. R.: "The classification of scientific terms as 'theoretical' and 'observational' in contemporary philosophy of science" (p. 172–85). A philosophical approach centred on Feyerabend. "The meaning of every term we use depends upon the theoretical content in

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which it occurs" (p. 179). The bibliography (p. 185) does not coincide with GROLIER. For links with the key paper Hempel: *Aspects of Scientific Explanation* 1954 see SUPPE below, as well as HEELAN, HOOKER. The bibliography as printed, would appear to lack nos. 17–23.

DOBROWOLSKI, Z.: Secteurs scientifiques autonomes et leur role dans la classification des sciences (Autonomous sectors in natural science and their role in the classification of knowledge) (p. 186–9). Studied from the point of view of metallurgy but raises the basic problem of Ranganathan's "Notational Plane" (see above).

SUPPE, F.: "Some philosophical problems in biological speciation and taxonomy" (p. 190–243). Author's abstract p. 190. An overview of theories is given (p. 191–8). Taxa definitions are examined p. 213+ with some consideration for the New Systematics p. 215+. As to the historical accuracy of the overview see the comments by R. BERNIER (p. 244–51). A professional taxonomist could well review the whole paper. The bibliography of 29 items, (p. 241–3), only coincides with GROLIER in two parts: Simpson: *Principals of animal taxonomy* 1961, and Sokal & Sneath: *Principals of numerical taxonomy*, 1963, as well as Gaskin: *Clusters* 1960 link to Saporta: "Frequency of consonant clusters" (1955 *Language 31* (1) 25–20) and especially Price and Schiminovich: "A clustering experiment" (*Inf. storage and retrieval* 1968). It is the numerical taxonomy link which leads to Adanson p. 195. SUPPE (note 5 p. 234), specifically ignores this field but an expert (in relation to use of computer and classification), e.g. Sneath, should review this. Further to numerical taxonomy the problem of "fuzzy logic" applied to thesaurus work would appear fruitful.

LA FRANCE, G.: "Le problème épistemologique de la classification dans les sciences humaines sociales" (The epistemological problem in the classification of the social sciences) (p. 252–9). A rapid but balanced overview of the social sciences in France since Spencer/Espinas, to introduce a 'biological sociology' to Durkheim, based on Wundt, social morphology/physiology, and general sociology, Durkheim would have annexed history to sociology but his pupil Mauss recognised them as two distinct branches, whereas Weber saw them as complementary. Mauss in 1934 raised Linguistics based on Meillet, a Durkheim follower, to a key position "Parmi les sciences de l'homme, la linguistique est peut-être la plus sûre". Since Mauss, the problem of classification has been less pursued, rather that of structuralism of Levi-Strauss, who also advises French sociology to return to its philosophical roots. (Bibliography p. 259). Only five of 30 items are in GROLIER. In item 15 Weber is missing, in 19 Mauss is missing.

HEELAN, P. A.: "The logic of changing classificatory networks" (p. 260–74). A philosophical paper on continuous and discontinuous trajectories of theory development and inter-framework relationships, based on the work of Feyerabend and Kuhn. There is positive mention of the New Systematics (p. 269). A useful chart based on Bunge (*Scientific Research* 1968) shows how far various theories of optics cover typical facts and laws. (Why not submit Goethe's *Farbenlehre* to the same examination compared with Newton?). The bibliography, (p. 174) contains 15 items, only one, Kuhn, links with GROLIER, whereas Feyerabend links to SHEA, HOOKER, HEELAN. A minor thesis note 11, leads by serendipity to the Jordan school of Botany in 19th century France. The reference to Aquinas could be expanded by the computer-readable edition, available since circa 1970.

ASHWORTH, E. Jennifer: "Classification schemes and the history of logic" (p. 275–83). Workmanlike explanation of scholastic as opposed to modern logic. The view of logic as *ars sermocinalis* or linguistic art, may well account for the error in BHATTACHARYYA, p. 122, on the Trivium. The bibliography (p. 283), does not coincide with GROLIER although a technical reference to Wittgensteins (p. 275) links to SUPPE.

HOOKER, C. A.: "The impact of quantum theory on the conceptual basis for the classification of knowledge" (p. 284–318). An esoteric paper – the major seven elements of the "classical" concept are summarised (p. 289) but §7, p. 304+ examines the quantum philosophy of N. Bohr with four doctrines (p. 304). The bibliography (p. 316–8), does not coincide with GROLIER but links via Feyerabend to HEELAN, whose own work is quoted and whose paper is complementary to this. There is a link to SUPPE via Strawson.

DATTA, S. and FARRADANE, J. E.: "A psychological basis for general classification" (p. 319–31). An exposition of the now well-known work of Guilford and the author in late 1950's and early 60's with a commentary by Phyllis A. RICHMOND, (p. 322–4), including Foucault's *boutade on the classes of animals.*

JOLLEY, J. J.: "The holotheme" (p. 335–65). Author's abstract (p. 335–6). Nomenclature summary p. 366. "Based on experiment . . . . it was found that the elements of human knowledge fall into eight integrative levels. . . . each level was found to contain two ranks, each of eight formative grades. . . . The whole pattern of knowledge, and this representation of it in particular, are here named 'The holotheme' (the whole set). The theological basis of classification is again seen "The concept of an eternal being of infinite power may really (sic) find a home there". The author is now dead but this is a fitting epitaph. The bibliography (p. 363–5), basically deals with integrative levels and Feibleman links to DAHLBERG. The wisdom of the author is seen in merely mentioning the years of reading, wisdom, that *pourriture noble,* when information has passed into knowledge. An addendum by R. A. FAIRTHORNE, a mathematician and doyen of our craft, (p. 367–70) shows that "the pattern of human knowledge is binary".

AUSTIN, D.: "A conceptual approach to the organisation of machine-held files for suject retrieval" (p. 371–98). A craftsman working in the field of MARC and PRECIS, reviews results based on small-scale experiments, concludes with the wish "to set up a working situation." The bibliography (p. 396), 10 items, has four GROLIER items, a link to SUPPE via Strawson and to DAHLBERG via Körner. The commentary by J. M. PERREAULT returns to the basic philosohical problems, p. 399–403.

FAIRTHORNE, R. A.: "Temporal structure in bibliographical classification" (p. 404–12) "What discourse speaks of, that is, what it mentions by name or description –, are among its extensional properties. What discourse speaks on, that is, what it is amongst its intensional properties" (p. 406). The bibliography (p. 412), is

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one self-citation, understandable in a doyen, but could have been strengthened by Foucault: *L'ordre du discours* 1971 (in GROLIER). Phyllis A. RICHMOND reviews favourably (p. 413–5). However, "Overlapping (sic) fan-histories" need not be a mere compromise, possibly even a lattice?

WÅHLIN, E.: "The AR-Complex – Adapted systems used in combination with a common reference system" (p. 416–49). An exposition of product classification (Brussels Tariff) building documentation (A-Z system) combined with a simple reference grid. The bibliography, of 8 items, are all self-citations (one in GROLIER). The paper can well be read in conjunction with MÖLGAARD-HANSEN, see above, but PC in one is not PC in the other.

KEDROV, B. M.: "Klassikatsiya nauk. Ege printsipe. Ege tsiklicheskaya forma" (Classification of knowledge. Its principles. Its cyclic form) (p. 472–93). Bibliography *passim*. An author's abstract in E, F, D, with reference to GROLIER's citation to his "La classification des sciences" 1956, mentioned in §43, p. 492, would have been useful.

LACHARITÉ, N.: "Questions about 'classifiables' and 'classifiers' submitted as a commentary to various papers" (p. 494–503). 1) Refers to ASHWORTH (p. 494); 2), to SHEA (p. 494–5), 3) (p. 495–7) to LA FRANCE/HEELAN, 4) (p. 497–503) to FARRADANE.

DAHLBERG, Ingetraut: "Principles for the construction of a universal classification system: a proposal" (p. 450–71). The definitions (p. 450–1), contain some German words (p. 450) *Massgabe* = existence? "Knowledge fields consist of clusters" (p. 451). It would also be useful to define knowledge as "forms" and "fields". "A scientific discipline represents the last stage of a knowledge field" (p. 451). Here the question of "wissenschaftlich" arises. In English usage "scientific" still has natural science overtones, better to use "scholarly", "learned" or even „objective." This could well be a subject for the Düsseldorf group, whose influence is strong in this paper. The Postulates (p. 452–3), cover arrangement, contents, relations, notation and presentation. Two schemes are elaborated with schedules (p. 456–63) with decimal notation but certain free spaces at various places. A practical step is the collection of "field terms"; a fruitful proposal for "indicative" as well as "informative" indexing is made, (p. 464), why not in depth "evaluation" indexing?

Philosophy is dealt with (p. 464–6), with a neat hegelian triad. The thrust of the argument is towards "integrative levels" which leads to the theory of JOLLEY and the practical application of AUSTIN via Feibleman. There is a faustian pentagram (p. 468), illustrating the whole system described as "Ontologic-categorial". Perhaps it would have been better to concentrate upon the teleological before going into the ontological. Exegesis before hermeneutics! The bibliography, (p. 469–71), 28 items, has six authors who are in the Conference, three of these are editors of the *International Classification* journal, the mains fruit of the Conference? Five authors are also mentioned in GROLIER, two are also editors of IC and the other three contain two library theoreticans and St. Körner whose *Categorial frameworks* links the paper with AUSTIN.

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BARTELT, Frauke: **Standardlisten zur Schlagwortgebung.** Hilfsmittel der verbalen Sacherschließung in Bibliotheken (Authority lists for the assignment of subject headings. Aids for the verbal subject access in libraries) (In German). Köln: Greven Verlag 1978, 124 p. – BLI Heft 46: ISBN 3-7743-0546-3

This little book of 89 pages is based on an intensive study of the literature on subject heading lists; altogether 313 items are cited in the list of references (pp. 91–124). The book is a revised version of the author's thesis for the degree of "Assessor" at the Bibliothekar-Lehrinstitut, Köln. "Standardlisten" was translated by "authority lists" (for subject heading assignment). What is meant could also be expressed by "controlled vocabularies". It is concerned with those controlled vocabularies which are used in universal libraries; thesauri are treated only from a theoretical point of view (chapter 1). In chapter two the history of universal subject heading lists in the USA is traced, especially of those of the major ones, as e.g. Library of Congress Subject headings (LCSh), the Sears List, the one from the New York Public Library a.o. The third chapter focusses on the LCSh alone. Its structure and application by the Library of Congress is described and investigations for its improvement especially the ones from J. E. Daily towards "Classified Library of Congress Subject headings" as well as future plans concerning the discontinuation of the Library of Congress card catalogue beginning 1980 are taken into consideration. The fourth chapter provides a survey on the distribution of universal subject heading lists in other countries, such as Canada, Australia, Latin America, Spain, Italy, France, Belgium, Netherlands, Great Britain, Norway, Denmark, Sweden, East-Europe and Asia, Germany, Switzerland and Austria. In a final chapter the subject heading catalog is confronted with the subject heading list. The inconsistencies of the former must be seen to belong to its nature, a thesaurus-like and computer-controlled subject heading list may well serve to compensate for its shortcomings.

The book gives a wealth of information, it is also timely and well-written. It should be translated into English soon. An English version might bring along the necessary feedback from the authorities in other countries (Chapter 4) and would possibly reveal that the literature sources consulted were sometimes somewhat old. This holds also for the availability of English-language thesauri, there is some outdated information on the pages 2–3 regarding the thesaurus collection at the Case Western Reserve University, (see Intern. Classificat. 6 (1979), No. 1, p. 38: IINTE Clearing House).

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