
Book Reviews

Fahrmeir, L. Hamerle, A. (Eds. in collaboration with W. Häußler, H. Kaufmann, P. Kemeny, Ch. Kredler, F. Ost, H. Paper and G. Tutz): **Multivariate statistische Verfahren.** (Multivariate statistical procedures).

Berlin – New York: W. de Gruyter 1984. XIII, 796 p., DM 198,– ISBN 3-11-008509-7

This is a medium-level introductory text on “multivariate statistical methods” designed for mathematicians, statisticians, and practitioners, but simultaneously a valuable reference manual on a large number of classical and more recent methods in this field. These are presented in 12 largely independent chapters where each one introduces the problem, develops the formal basis with definitions, theorems, and proofs (but omitting lengthy derivations by referring to the bibliography), and illustrates the results by a real case example.

The first 5 chapters concentrate on classical topics and general principles which are exemplified mainly in the multivariate normal case; this presentation is more or less concise since these topics are well explained in other books, too. Fully detailed, however, are the 7 subsequent chapters which account for the novelty and peculiarity of the book since they present a series of more recently developed multivariate methods which refer to non-classical situations: Categorical, binary, ordinal, or mixed data, as well as exploratory methods like model selection, cluster analysis, multidimensional scaling etc. This is evident from the chapter headings (with some keywords):

§ 1 Introduction (10 p.); § 2 Multivariate random variables and their distributions (e.g. multinomial, normal, Wishart or Wilk’s distributions. 30 p.); § 3 Fundamental multivariate testing and estimation problems (likelihood methods, union-intersection principle, simultaneous inference. 34 p.); § 4 Regression analysis (the univariate and multivariate case, nonlinear regression, canonical correlation. 72 p.); § 5 Variance and covariance analysis (one-way and two-way designs, random and mixed effects, MANOVA. 51 p.); § 6 Categorical regression (binary and multistate target variables, conditional methods, ordinal responses, scoring method. 41 p.); § 7 Generalized linear models (univariate and multivariate, variable selection. 38 p.); § 8 Discriminant analysis (normal, categorical, and mixed variables, kernel methods, nonparametrics. 69 p.); § 9 Cluster analysis (similarity and distance, hierarchical and partitioning methods, mixture models, latent class analysis, nonparametric methods. 101 p.); § 10 Association analysis in multidimensional contingency tables and loglinear models (model selection, logit models, ordered categories, missing values. 101 p.); § 11 Factor analysis (identifiability, maximum likelihood method, principal components, factor rotation, structure analysis of covariance matrices, latent structure and profile analysis. 88 p.); § 12 Multidimensional scaling (metric

and nonmetric MDS. 26 p.) – Appendices: A. Matrix algebra B. Tables C. Real data. – Bibliography (620 references).

When reading the book I was pleased by its smooth style of presentation, the careful choice and adequacy of notation, the almost negligible number of (minor) errors, and the excellent lay-out of the text. Personally, I missed some specialities, e.g., some information on the power properties of tests (e.g., in § 3, 4, 5) or some references relating theorems to their original papers (e.g., canonical correlation in § 4.2.5, Menger’s and Schoenberg’s embedding theorem in § 12.4.2). However, these 800 pages cover such a wide domain that this book can be highly recommended as a standard text and a valuable source of information for students, statisticians and applied researchers which have some background in matrix algebra.

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LORENZ, Bernd: **Systematische Aufstellung in deutschen wissenschaftlichen Bibliotheken** (Systematic shelving in German scientific libraries). Wiesbaden: Harrassowitz 1985. 101 p. = Beiträge z. Buch- u. Bibl. wes., Bd. 21. ISBN 3-447-02493-3

In contrast to the comprehensive title of this article, the contents, in the main, deals with the possibilities and problems of existing shelf-classification systems in the university libraries of the Federal Republic of Germany. In this connection, some general aspects of the pros and cons of open access shelving for universal library holdings are also discussed. As, up to now, a survey in the university libraries of the FRG was non-existent, this attempt at an “outline of the state-of-the-art” is more than welcome. Six classification systems are looked into: namely those of the university libraries in Bielefeld, Bremen, Konstanz, Trier, and of the library networks in Bavaria (UL Regensburg), and in North Rhine Westphalia (Comprehensive University Library System). Apart from the Trier classification system, which is still in an immature state, the selection made is representative of the highly individual use of classification systems in scientific general libraries in Germany, though a comparison with the subject scheme of the UL in Bochum and free classification systems could have rounded off the spectrum of the various possible solutions. The systems chosen are properly characterized by short schematized descriptions and references to the literature.

These classification profiles would, however, be much more graphic if they did not only list the sequence of the main classes, but also showed structuring and notation extracts from the described schemes. The comparative examples that follow touch on some important aspects, such as the subject fields, depth of vision, and subject classification of selected topics. These quantitative arrangements are, however, hardly meaningful as they, in the main, reflect local starting conditions in isolated universities and dispense with a comparison with general criteria for subject-field structuring. On the other hand, the

practice-oriented remarks on work with library networks, especially for the possibilities of the common maintenance of classification systems, are much more informative, while it is obvious that the author has deliberately ignored the problems connected with the intake of data from other systems in cooperative classification.

As the comparisons in the first part are laid out selectively, general conclusions on the specific methodology of shelf classification are avoided. This is, e.g., true of the "sensible maximum number" - often mentioned later on - of title frequencies per class; the controversial question of adequate rough and fine classification, and the effective value of coding, the assessment of which as a polyhierarchical approach in the special codes of the Regensburg system (c.f.p.40) is surely dubious. Leaving out of consideration the fact that the terminology is, in parts, not particularly precise (c.f. notation types) and that some details are out-dated (e.g. spread of the Bremen system; hospitality of the GHBS), the inclusion of empiric analyses¹ would have contributed to a critical investigation of the systems presented.

The main part of the investigation, which is much more successful, takes a critical look at the demands made on shelf-oriented classifications and at the status of subject catalogues, including subject catalogues in open-access shelving. The theses propounded here contain pragmatic guides, e.g. for the justification of double placings, refer, however, more to single contributions than to previously described systems. As a way out of the diversity of the monohierarchical classification systems in use, the author recommends - without further comment - the drawing-up of concordance indexes (p.86-87), the effectivity of which, considering the subject and structural discrepancies in conventional systems, appears doubtful.

The consideration of classificatory subject analysis in Germany is enclosed by an introductory chapter on the LCC and a concluding digression on the Library Bibliographical Classification (BBK). Although the model function of the LCC for some systems at new German university libraries is stressed, the - from a historic point of view - reciprocal influences and the use of the LCC at the university library at Ulm are not expressed in concrete terms. nor are individual studies² in connection with this taken into account. Considering the planned adaptation of the LCC by the Göttingen State and University Library, it could also be a moot point whether the methodological shortcomings of this classification - from the German point of view - could not be elaborated on here more clearly. The final plea - an unrelated appendage - for a greater consideration of the Soviet BBK - not least because of the importance of the classification system for libraries in the GDR - should certainly be emphasized. To be included in the long list of references given is the paper published recently by Ludwig³.

In many respects, this outline has its uses for orientation in the field of German shelf classification systems, information which is otherwise hard to come by. Furthermore, this first "stock-taking" may serve as an impetus for further, more intensive research.

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Notes:

1 E.g. the examination theses HB from the FHBD in Cologne: Voigt, R. The subject catalogue systems of the university libraries in Bremen and Regensburg. 1976. - Leisering, W.-J.: Systems for libraries (SfB) and GHBS. 1985.

- 2 Stevenson, G.: Andreas Schleiermacher's bibliographical classification and its relationship to the DDC and LCC. Champaign, Illinois 1978. - Engbarth, M.: Die LCC. Geschichte, Struktur, Verbreitung und Auswirkungen auf deutsche Bibliotheksklassifikationen. Köln: FHBD 1980. (Examensarbeit ÖB).
- 3 Ludwig, D.: Die Diskussion um die BBK in der sowjetischen Fachliteratur seit 1965. Mit einem Exkurs über die Anwendung der BBK in Bibliotheken der DDR. Köln: FHBD 1984. (Examensarbeit HB).

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Neue Regelwerke zum Schlagwortkatalog: eine Einführung in RSWK und PRECIS. (New Rules for the Subject Catalog: An Introduction to RSWK and PRECIS). Lectures from a further training course at the College for Librarianship and Documentation, Cologne, July 9-10, 1984. Köln: Greven 1985. 175p., ISBN 3-7743-0559-5. = Kölner Arb.z.Bibl.- u.Dok.wesen, H.6.

In the Federal Republic of Germany, the year 1977 brought with it the collapse of a project whose aim it had been to develop a uniform system of classification (Einheitsklassifikation) suitable for the shelving of books and the keeping of systematic catalogues in both public and university libraries.

Parallel to the tradition of systematic catalogues, since the beginning of the 19th century - initiated by Martin Schrettinger in Munich - there had also been subject catalogues in the libraries of the German-speaking countries. Varying local practices led, in the course of time, to the drawing up of various sets of rules. Using data processing, newly founded libraries also began to compile subject catalogues in the 70's. At the same time, the development of thesaurus concepts and the use of verbal index and retrieval processes in literature data banks ran parallel to this.

The expected use of data processing gave rise to the hope in many German libraries that in the field of subject analysis the intake of outside data or a cooperative form of subject cataloguing would also be possible. Under the impact of the collapse of the classification project mentioned above, efforts were directed to common rules, yet to be drawn up, for the subject catalogue which, in the future, should be the basis for a cooperative subject analysis at German universities. A commission appointed to draw up such rules submitted the first draft of them in 1981, the third in 1983 (1), which could then be discussed by those interested groups connected with library work. This discussion was partly carried out under the positive impression the theoretic elegance and the practical applicability of PRECIS had made on German librarians.

Great importance was laid by all concerned on the reaction of the Deutsche Bibliothek (German Library) as the leading light in German bibliography: would the Deutsche Bibliothek offer a central service in the field of verbal subject analysis, and, if it did, which process would it choose. A project was set up in which the Deutsche Bibliothek investigated the applicability of PRECIS to the German language, the results of this being summarized in a report (2, 3). The final decision fell in February, 1984: the Deutsche Bibliothek would not, in future, use