

necessarily nonsense, though it seems to have a bias in that direction. It should not, however, be mistaken for that political science based on quantitative data and testable theory, which is now in the making.

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Problems of Methodology

Statistical Geography. Problems in analyzing areal data. Otis Dudley Duncan, Ray P. Cuzzort, and Beverly Duncan. Free Press (Macmillan), New York, 1961. 191 pp. Illus. \$6.

Statistical Geography, written by three sociologists, "refers to a set of methodological problems and not to any unique body of subject matter which representatives of a particular discipline are best equipped to investigate." The text is divided into three chapters, with the first and second each accounting for about 16.5 percent and the third for some 60 percent of the total book.

Chapter 1, "Preliminary," deals with parallel and converging developments, the perspectives on areal differentiation, and the scope and purpose of the monograph.

Chapter 2, on areal units and areal data, is concerned initially with characterizing some formal properties of certain major types of areal units and areal data. Then the areal unit is considered in various ways: (i) as a collection of items; (ii) as a segment of space; (iii) as a site or location; (iv) as a member of a set of areal units; and (v) in relation to other units. The chapter ends with a discussion of the quality of areal data.

Chapter 3, on the analysis of areal data, is subdivided into components that deal with such topics as the aggregation of areal data, measurement of areal distributions, analysis of spatial structure, explanation of areal variation, contiguity and regional classification, and temporal aspects of areal variation.

The book may be correctly described as "a pilot investigation of the feasibility of formalizing and codifying methods of analyzing areal data." A study of the topics considered clearly shows the broad scope of inquiry. The authors were, however, modest in their hopes of what they expected to accomplish in their "pilot investigation." I know of no

other book that covers so broad a range of methodological issues connected with the description and analysis of such data. In a book of this size, one cannot expect as complete a discussion as one might wish of the large number of topics mentioned. Of course, each person's view on such a matter is influenced by his background and needs.

Researchers who are interested in various aspects and uses of areas and areal data and who belong to such diverse disciplines as geography, economics, regional science, sociology, and botany, will find this a very useful reference book. The excellent bibliography alone is of considerable value. Much of the material presented can be understood by those with little training in statistics or in mathematics and logic. However, a full grasp of some parts, especially portions of chapter 3, demands a high level of sophistication in the use of statistical tools and a knowledge of logical theory construction and use. Readers of this monograph will of necessity have more than a passing interest in methodology!

A steadily growing number of geographers believe their discipline would benefit from a more scientific approach to the description and evaluation of the areal arrangement of phenomena that concern them. The authors of this book provide substantial assistance toward achievement of such a goal. However, geographers and other researchers must be aware of the danger of being mastered by method. There must be a well-knit interaction between work and method.

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Use of Statistical Method

The Physical Anthropology of Southern Nigeria. P. Amaury Talbot and H. Mulhall. With a preface by J. C. Trevor. Cambridge University Press, New York, 1962. xvi + 127 pp. Maps. \$6.50.

This work bears a somewhat deceptive title, for, in Mulhall's own words, it is primarily "an example of statistical method in physical anthropology." In it the junior author analyzes data on nearly 7000 natives of Southern Nigeria and adjacent regions, assembled by the late Amaury Talbot between 1902 and 1931. After Talbot's death it proved im-

possible to find his raw material, but Mrs. Talbot and Trevor managed to recover the means and standard deviations as well as the related typewritten notes, maps, and photographs. No photographs at all appear in the present work, which would also be more useful and appealing if it had an index, or even a detailed table of contents; otherwise the presentation is uniformly excellent.

The nine pages of chapter 1 are devoted to "The earlier classifications of the peoples of Southern Nigeria," of whom we hear no more, however, except incidentally, until we reach page 85, where the detailed analysis of Talbot's material begins. Chapters 2 through 7 are devoted to a thorough systematic examination of the development of statistical concepts and practices concerning the problems of sampling, variability, probability, and theoretical distributions, and to similarities and divergences between groups. This section on whys and wherefors is wonderfully well written, and almost as lucid to unmathematically minded people as such things can be made. The only practical question that it raises in my mind is whether the average physical anthropologist will find it worth his while, for the going inevitably becomes difficult every now and then. Some of even my more able colleagues would, I think, be willing to accept Mulhall's conclusions on faith and leave him to discuss his reasoning with professional statisticians. Nevertheless they will find this book very valuable as a work of reference if not as an everyday working tool.

In chapters 8 and 9 the various groups represented by Talbot's data are analyzed with a view to determining their internal characteristics of homo- and heterogeneity, and their external resemblances and differences. Such new knowledge as results from this methodical investigation seldom extends beyond matters of detail, but that alone is important, if only because Mulhall places previous surmises on a sounder base than was available before, and also because, in doing so, he shows clearly and convincingly how the same kind of thing can be done almost anywhere when one is willing to give enough thoughtful consideration to the possibilities and limitations of adequate raw data.

In a word, Trevor and Mulhall have taken a massive body of undigested material and have demonstrated precisely what can be done with this kind of