

Perception of the content of any communication is determined by many variables, any of which could conceivably prove critical to the act of perception and hence to communication. The location and classification of all the critical variables involved in perception would thus be required if it is decided to make perception one of the 12 variables. In other words, by including in the 12 variables factors which are multivariant situations, the list of critical variables will have to be extended indefinitely. This is exactly what happens in the book. The subcategories for *perception*, for instance, as given in the book, turn out to be a list of some of the critical variables which may affect the act of perception.

If we ignore for a moment this serious flaw in the classification and accept the 12 variables as presented, we can argue that this list might be shortened. The author's method was to divide each variable into subcategories, but there is no reason why *basic media* and *extending media* should be made separate variables instead of subcategories of *media*. What is discussed under *site* appears to be a fusion (or confusion) of certain characteristics of the audience (which, incidentally, is not one of the variables) and of certain natural and social factors—the weather, geographical and social accessibility, and the like—which are repeated under *restrictions*. *Restrictions* is given such a wide and vague application in the book that it ceases to be a useful concept. Almost anything that inhibits the communication process can be comfortably placed under *restrictions*: its subcategories include meteorological factors, electrical disturbances, natural resources, limitations of a medium, human abilities, linguistic knowledge, social structure, and others. If it is accepted that the subject of communication has two main divisions, namely (i) the process of communication up to the point where the content of the communication is perceived by the audience, and (ii) the effects on the audience of the communication which they perceive, then there is no sense in which *change* could be considered a critical variable. It could not be critical for the communication process of which it is the outcome; neither could it be critical for the effects, because the change, if it occurs, is the effect of the communication process. The discussion under *changes* thus turns out to be a mere description of the kind of changes that may occur in the audience.

There are some useful distinctions in the chapters on media. Some attempt is made to view, in the African context, some of the recent work done in the West in the field of communication by such workers as Festinger, Weiss, Rosenberg, and Hovland and Janis.

It is not very certain whether Leonard Doob has succeeded in delineating the boundaries of communication with precision. Despite its methodological shortcomings, the book should provide much stimulus to all who are seeking to understand some of the factors underlying change in contemporary Africa, and it should be a useful handbook for those whose job it is to induce change in Africa.

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Political Non-Science

The New American Political Economy.

A synthesis of politics and economics.

Marshall E. Dimock. Harper, New York, 1962. xi + 306 pp. \$6.

Toward a Reasonable Society.

The values of an industrial civilization.

C. E. Ayres. University of Texas Press, Austin, 1961. v + 301 pp. \$4.75.

These books are of such different quality that it seems almost unfair to consider them in the same review. Marshall Dimock's book is naive to the point of embarrassment. Its style is hortatory. "Let us be bold, let us recognize that America is young and vigorous and imaginative and the earth is good" (page 113). It betrays an ignorance of social systems, and especially of the American social system, so profound that one wonders what the American educational system has been doing all these years to produce an ignorance so monumental. We are told, for instance, "I am one who believes that in fifty years this country will be working as hard to put people back on the farms, as it is now working to move them to the cities" (page 192). Agricultural fundamentalism of this type reveals a massive ignorance of the necessary social and economic consequences of technological change. Dimock likewise believes in civic virtue, moral philosophy, and cabinet government. It is astonishing to me that a reputable publishing house should publish a work of this nature, and I recommend it only to

those interested in the pathology of rhetoric.

C. E. Ayres's work stands on a totally different level. It is the ripe fruit of a genuine social philosopher. Ayres is the outstanding living representative of the school of institutional economics, which began with Thorstein Veblen, John R. Commons, and Wesley Mitchell in the early years of this century. This is one of the few "schools of thought" that America produced, and it deserves to be taken seriously. In this book it seems to me that Ayres, after some floundering in earlier works, has finally found himself and has produced a clear and moving statement of his social philosophy. Its rhetoric is that of a passionate common sense, somewhat in the manner of Tom Paine.

Ayres sees human history as a continuous process of expanding knowledge and skill. He attacks conventional economics (to my mind rightly), for its overemphasis on exchange and the institutions of exchange as the organizer of this process, though perhaps Ayres falls into the opposite error of attributing too little to exchange as an organizer. He attacks the cultural and moral relativists who see value as derived only from the ceremonial aspects of culture, and he argues that technological values are universal; a better tool is a better tool in any culture. Ceremonialism and ceremonial values he attributes, on the whole, to misunderstood technology. Magic, in this view, is simply bad science, and the appeal to Higher Powers comes simply from the inability to control the Lower Powers. Ayres is unashamedly glad to be alive in the 20th century, and he thinks that, with all its dangers and difficulties, the world which science and technology is producing is a much better world than anything that has gone before. There is something refreshing about this lively blast from the Texas plains, especially in a world where there is so much unnecessary existentialist hopelessness. Ayres may be wrong, but he is certainly not sick.

For all the enormous difference in quality in these two works, they lie at opposite ends of a single dimension of intellectual activity. Each represents, in a sense, a personal philosophy of society. This type of intellectual activity may be relevant to science, it may indeed be raw material for scientific inquiry, but it does not have that peculiar property of securely based information and carefully tested prediction, which is the identifying mark of the scientific process. Political Non-Science is not

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