Handbook of South American Indians. Vol. 3: The Tropical Forest tribes; Vol. 4: The Circum-Caribbean tribes. (Bureau of American Ethnology, Smithsonian Institution, Bull. 143). Julian Steward. (Ed.) Washington, D. C.: U. S. Government Printing Office, 1948. Vol. 3: Pp. xxvi+986; Vol. 4: Pp. xx+609. (Illustrated.) \$4.50 and \$3.50.

These two volumes contain the factual reports on the typical lowland peoples of South America-those of the Amazon and Orinoco basins, as well as those of northwestern South America, Central America, and the Antilles. They form the middle third of the South American Handbook (!) now planned to comprise 7 volumes. Volume 3, of almost a thousand pages, includes the coastal as well as the Amazonian Tupí, the other four regions considered being Matto Grosso and eastern Bolivia, the Montaña and the Yungas of the eastern slopes of the Andes, the western Amazonian basin, and the Guianas. The smaller Volume 4 treats of the peoples northwest of the Orinoco, divided into Colombia and Venezuela, Central America, and the Antilles. As in Volumes 1 (Marginal tribes) and 2 (Andean civilizations), each consists of a number of articles by authorities of this and the Hispano-American countries and is amply illustrated. Bibliographical references follow each article, with a large bibliography at the back of each book. In the long Introduction to each volume the basic features of the culture of the region are summarized.

The archeology of the extinct groups is considered as well as the ethnology of living peoples, but quantitatively there is a great difference. Naturally, neither volume contains as much archeology as Volume 2, Andean civilizations. But the archeology of the tropical forests is so little known and so unimpressive that only two archeological articles, comprising 28 pages, are found in Volume 3. Past cultures are more important in Volume 4 (Circum-Caribbean), 6 articles totaling 150 pages, mainly on Central America, being devoted to them. In both volumes, however, writers of individual articles occasionally discuss the archeology of their particular region or tribe.

Volume 3 contains 40 signed articles by 15 different authors, but the majority of them are by Curt Nimuendajú and Alfred Métraux. Thirty-nine signed articles by 15 authors compose Volume 4, the major part of the book being the product of Wm. Duncan Strong, Paul Kirchhoff, Frederick Johnson, Irving Rouse, and Gregorio Hernández de Alba.

Apart from the presentation of thousands of facts, the most important part of Volume 3 is Julian Steward's article on "Culture Areas of the Tropical Forests" (pp. 883-899). He distinguishes 6 Basic Tropical Forest Cultures: Guianas, Northwest Amazon, Montaña, Juruá-Purús, Mojos-Chiquitos, and Tupían; two Sub-Marginal groups, the Western Marginals and the Mura; and three Marginal groups, the Guiana Internal, the Northwestern,

SCIENCE, November 12, 1948, Vol. 108

and the Southern Amazon Marginals. The distribution of the Basic Tropical Forest Cultures coincides almost exactly with that of the tropical rain forests, and they are thought to have had their origin in the Circum-Caribbean region and to have been carried up the rivers, mainly by tribes of the Arawak, Carib, and Tupí linguistic families. The diagnostic features of the cultures are the cultivation of tropical root crops, especially bitter manioc; effective river craft; the use of hammocks as beds; and the manufacture of pottery.

Steward's Introduction to Volume 4, "The Circum-Caribbean Tribes: An Introduction," is also most important, as is the short article, "Anthropological Needs and Possibilities in Central America," by Wm. Duncan Strong and Frederick Johnson. The peoples of Central America, the Antilles, and northern Colombia and Venezuela had a complex of traits that characterized them and set them apart from the tribes of the tropical forests; their culture was considerably higher. As the majority of these groups have disappeared, much or most of the data are from historical records. The Circum-Caribbean area is not only the least known of all South America, but is probably the most important to problems of native American culture history. Many basic elements of the Circum-Caribbean region are also basic to Mexican and Andean cultures, and all three are seen as developments from a relatively homogeneous Formative Period, retained in greater simplicity in the Circum-Caribbean region. The Andean features are more numerous than the Mexican ones, indicating that the flow of cultural influence was generally northward.

J. ALDEN MASON

University of Pennsylvania Museum, Philadelphia

Radio aids to navigation. R. A. Smith. Cambridge, Engl.: at the Univ. Press; New York: Macmillan, 1948. Pp. xii+114. (Illustrated.) \$2.50.

This short account of radio aids to navigation is chiefly concerned with the remarkable development of apparatus for the guidance of aircraft just prior to and during World War II. The author has catalogued the various types: beacons, navigational aids which lay a pattern of coordinates over the ground or water, the radar ranging systems, altimeters, and airplane landing equipment.

Unfortunately, the large number of devices of each type which are mentioned makes the book, in part, simply a listing of apparatus rather than a thorough discussion of any one device. Five types of altimeters, for example, are discussed in the compass of 5 pages, yet the analysis of any one of them is limited to a statement of the frequency range and probable error. Another difficulty is encountered if the reader is unfamiliar with the code names applied to the equipment during its secret development during the war. "Lucero," "Rebeca," "Eureka,"