Book Reviews

Administrative Medicine. Transactions of the first conference, 9–11 Mar. 1953. George S. Stevenson, Ed. Josiah Macy, Jr., Foundation, New York, 1953. 176 pp. Illus. $3.

This is a report of the first of five annual conferences on administrative medicine conducted under the auspices of the Josiah Macy, Jr., Foundation. These conferences are designed to foster joint planning for the solution of major problems in administrative medicine by providing informal exchange of ideas and facts among individuals of varied background and training related to this field.

This particular conference was devoted to the broadening of medical care beyond the immediate treatment of disease by developing an awareness in the health professions of the many related important factors in the management of disease and the preservation of health. These included preventive, economic, political, environmental, and genetic influences on the cause, evolution, and termination of disease and the provision of medical care. Many important points were made.

Spirited discussion centered around the relationship of the social sciences to medical care and medical education, stimulated by participants representing widely divergent points of view. On the one hand, it was recommended that the concepts of social science be recognized as important determining factors in medical administration. It was further proposed that the "social science disciplines" be a major focal point in educational programs for the health professions. In contrast, it was also argued that these were only common-sense measures and that, in particular, the medical curriculum should be limited to more important matters, such as the basic sciences and clinical medicine based on pathologic physiology. Curiously enough, no mention was made of the need for distinguishing between established facts and undocumented ideas in the social sciences. In my opinion, much of the controversy would disappear if representatives of the social sciences would clearly distinguish in their fields, as has been done in the physical and biological sciences, the concepts deduced from scattered individual observations from principles induced by means of the scientific method.

This report makes interesting reading. The editor has preserved the informal and spontaneous flavor of the conference in these transactions. As he will in the case of reports of all informal conferences, however, the casual reader is likely to find a need for guidance. This could be provided *post hoc* by appending a list of appropriate references where documentation is possible. The lack of such documentation recommends this book primarily to the informed reader.

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Contributions to American Anthropology and History. vol. XI, Nos. 52–56. Carnegie Institution of Washington, Washington, D.C., 1952. 236 pp. Illus. + plates. Cloth, $7.50; paper, $6.75.

Of the five papers composing this generously illustrated volume, the one entitled "Mound E-III-3, Kaminaljuyu, Guatemala," by Edwin M. Shook and Alfred V. Kidder, has the broadest interpretative significance. The paper contains a detailed description of the excavation of a single mound in a large archeological site. So technical is the presentation that even the authors warn the nonspecialist reader to skip to the brief summary. Nevertheless, an important general point is brought out in the discussion. As evidenced by this mound containing two elaborate tombs, a stage of development—social, religious, and technologic—must have been attained at an earlier time than hitherto believed. The mound belongs to the period labeled Archaic, yet the degree of cultural advance is closely comparable to that of the Classic period. In conclusion, the authors suggest that if leadership in the development of the social structure typical of Classic Mesoamerica was assumed by any single pre-Classic people, those responsible for the enormous mounds, of which E-III-3 is one, might well have been that people.

The object of the paper by Ralph L. Roys, "Conquest sites and the subsequent destruction of Maya architecture in the interior of northern Yucatan," is to furnish a general picture of the towns and buildings both contemporary and abandoned which the Spaniards found in the more thickly populated regions of the area. Additional evidence is given, "not only that a large number of the towns in northern Yucatan are located at their pre-Spanish sites, but that the present churches and plazas are situated at the ceremonial centers of the old towns."

The ball game of the ancient Maya attracts modern interest because it was played with a heavy solid rubber ball of native manufacture, because it was a team game by means of which towns and localities competed, and because it was played by both amateurs and professionals. The study "The ball courts at Copan," by Gustav Strömsvik, includes comparative material on ball courts from four other Maya centers in the vicinity of the key site. The results indicate that Copan is the oldest court yet discovered, and the author concludes that the origin of the game perhaps antedates formal architecture in Mesoamerica and that the complex very probably spread from a common point of origin.

In "Pottery from Chipoc, Alta Verapaz, Guatemala," Robert E. Smith establishes what at present appears to be "the only true ceramic phase known in that region." As in the other papers, many questions are raised and the necessity for much more extensive work is emphasized.

The contribution by Howell Williams, "Geological observations on the ancient human footprints near Managua, Nicaragua," differs from the other papers in that it is a critical and definitive review of all the evidence to date bearing on the fascinating but complicated problem of deciding when the footprints were made. After the footprints came to the attention of the scientific world in the latter part of the 19th century, a controversy raged, with many taking the side of the archeologist Flint, who claimed that they "were at least 50,000 years old, and might be 200,000." After the present painstaking study of the geology of the region, and after taking into account such evidence from fossil remains and human artifacts as has been adduced, Williams is forced to the conclusion that the footprints are not less than 2000 and probably not more than 5000 years old.

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Theory of Functions of a Complex Variable. vol. I. C. Carathéodory. Trans. by F. Steinhardt. Chelsea Publ., New York, 1954. xii + 301 pp. Illus. $4.95.

The past few years have witnessed a good deal of activity in the translation of mathematical books and monographs into English. The list of outstanding books in the theory of functions of a complex variable available in English has been increased this last year by the monograph of Saks and Zygmund and now by the first volume of the *Theory of Functions,* by Carathéodory. It was with considerable excitement that the news of the original appearance of Carathéodory's *Funktionentheorie* was greeted by the mathematical public in 1950. The theory of analytic functions had been an ever-recurring theme in the research of Carathéodory. His contributions were many and significant. His monographs that had appeared hitherto (*Real Variable Theory, Calculus of Variations, Conformal Mapping*) were all of striking originality. The *Funktionentheorie,* from the time of its appearance, has had a warm reception, and its importance certainly justifies the pride that Carathéodory himself felt in his accomplishment.

The translation of this work by F. Steinhardt now renders it available to a large scientific public. In its present form it should be useful as a textbook in a course in the theory of functions of a complex variable and as a reference work in a scientific library. The first volume is elementary in scope and, of course, looks forward to the more sophisticated second volume.

The author has frankly omitted certain topics in the interest of not expanding the textbook unduly. From one point of view, the most serious omission is a systematic account of the theory of analytic continuation (however, the monodromy theorem is treated). Although the lacuna can be made up by reference to the masterful account of Saks and Zygmund, it would have been of great interest to see a treatment of this theme by Carathéodory. On the other hand, the treatment of the geometry of circles (unlike that of most books on the theory of functions of a complex variable) is extremely extensive. The justification for this elaborate treatment lies both in its pedagogic utility as an introduction to the theory of functions of a complex variable and in its value as an instrument of investigation. Other special features worthy of note are the systematic use of spherical distance (Ostrowski), the theory of normal families, and the early introduction of the Poisson integral.

An idea of the scope of the book may be had from the following summary of its contents.

> Part one: "Complex numbers from the algebraic point of view"; "Geometry of complex numbers"; "Euclidean, spherical, and non-Euclidean geometry." Part two: "Convergent sequences of numbers and continuous complex functions"; "Curves and regions"; "Contour integration." Part three: "Foundations of the theory"; "The maximum-modulus principle"; "The Poisson integral and harmonic functions"; "Meromorphic functions." Part four: "Continuous convergence"; "Normal families of meromorphic functions"; "Power series"; "Partial fraction decomposition and the calculus of residues." Part five: "The exponential and trigonometric functions"; "The logarithm and the general power function"; "The Bernoulli numbers and the gamma function."

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Wave Motion and Vibration Theory. Proc. of Symposia in Applied Mathematics of the American Mathematical Society, vol. V. Albert E. Heins, Ed. McGraw-Hill, New York–London, 1954. v + 169 pp. Illus. $7.

This book contains a collection of 15 addresses on wave motion and vibration theory delivered at the fifth symposium on Applied Mathematics of the American Mathematical Society, held at Carnegie Institute of Technology, 16–17 June 1952. It reports the mathematical methods and the latest advances in many diverse fields of wave motion and vibration theory. These 15 papers can be grouped into approximately four broad categories:

Stability of fluid motions. C. C. Lin, "Hydrodynamic stability." A critical discussion of the linearized theory of stability of laminar parallel or nearly parallel flow is given. Many controversial points on this linearized theory are clarified. S. Chandrasekhar, "Examples of the instability of fluid motion in the presence of a magnetic field." The difference of effects of magnetic field on the thermal instability of a horizontal layer heated below and the rotational instability of viscous flow between rotating cylinders is discussed. Without magnetic fields, these two problems of instability are quite similar.

Hydrodynamic waves. P. R. Garabedian, "On free-surface flows." Researches on axially symmetric cavitational flow are reviewed. W. Bleakney, "Review of significant observations on the Mach reflection of shock waves." N. W. McLachlan, "On a nonlinear differential equation in hydraulics." The nonlinear differential equation that oc-