color, taste, and other characteristics commonly used by foresters but rarely recorded for the tropics. The wood of the tree (cacti, ferns, and bamboos are "trees" in this text) is described, and compiled data are given on its specific gravity, hardness, uses, and milling properties.

The introductory material contains an excellent review of forests and forestry in Puerto Rico and the Virgin Islands. A bibliography of 40 titles, published between 1866 and 1964, includes a reference to a Spanish edition of this book (planned to include colored plates) which, in December 1964, is still in page proof. The lists that group species according to special characteristics—for example, colored sap—present a laborious exercise when referred to, rather than serving as an informative compilation, because numbers are used instead of names to "save space." Although the species treated in the text belong to 68 families, a key to the plants contains entries for 88 plant families and numerous genera not otherwise listed. A remarkably complete index of 20 pages, each with three columns, is a valuable section of the book.

A book of this size with 254 illustrations and figures, and priced at $4.25, is a botanical bargain. Regrettably it is not completely praiseworthy. The book has been in preparation since 1939, and many of the illustrations were prepared by obviously unskilled helpers. Although, superficially, the illustrations give an impression of each of the plants being described, the majority are, in fact, poor examples of botanical drawing; many are unfinished, many are inaccurate in detail, and all cast unjustified suspicion on the actual reliability of the text. Although the text has been brought "up-to-date" in some ways, careless proof reading, numerous errors in terminology, and unclear sentence structure decrease its usefulness. A one-page key (p. 25) contains eight erroneous page references among the 17 listed. Descriptive absurdities, such as Tree Fern Family having leaves with "spores in brown dots beneath" and the Bombax Family having "fruit a large oblong capsule with hairy seeds," are all too numerous. Nevertheless this text does serve a useful purpose, and it provides a basis for improved future editions.

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Mathematics

Functions of a Complex Variable. And some of their applications. vol. 1. B. A. Fuchs and B. V. Shabat. Translated from the second Russian edition (Moscow, 1959) by J. Berry. J. W. Reed, Translation Ed. Pergamon, London; Addison-Wesley, Reading, Mass., 1964. xvi + 431 pp. Illus. $10.

A reasonable balance has been drawn between theory and applications in this introductory textbook on functions of a complex variable. It includes the standard topics in the theory and at the same time abounds in significant applications. Although all of the material found in a complex analysis course is mentioned in the book, the level of rigor and depth of the treatment falls short of that needed for a one-year course in complex analysis. This is the kind of a text that is suitable for undergraduates or beginning graduate students who are interested in applications (engineers and scientists) and for a one-semester introduction to the subject for the pure mathematics students who will take a more penetrating course later. There is probably much more material between the covers of this book than can be covered in a one-semester course, but it is so organized that the topics (pure and applied) can be sampled as the teacher wishes.

The approach is very strongly geometrical. Stereographic projection is introduced to define the complex sphere. The elementary functions are studied by means of the conformal mappings they give. Although the Riemann mapping theorem is not proved in the book, it is carefully stated and frequently used as a tool in developing both the theory and the applications. The book contains an excellent intuitive discussion of the idea of a Riemann surface, with many examples and applications. The physical applications concern three basic fields: the velocity field of a fluid in motion, the electrostatic field, and the heat flow field. These subjects are developed rather extensively to illustrate how conformal mapping and the consequences of the Cauchy integral theorem are used.

The eight chapters are "The fundamental ideas of complex analysis"; "Conformal maps"; "Elementary functions"; "Applications to the theory of plane fields"; "The integral representation of a regular function"; "Harmonic functions"; "Representation of regular functions by series"; "Applications of the theory of residues"; and "Mappings of polygonal domains." Chapter 3 includes a rather thorough treatment of the linear fractional (bilinear) mappings, although the cross ratio is omitted. Chapter 5 contains a discussion of the Dirichlet problem for harmonic functions and the Green's function. Chapter 6 includes an analysis of the singularities of analytic functions and analytic continuation. Chapter 7 discusses the Mittag-Leffler theorem (without a proof) and the gamma function. The last chapter treats the Schwarz reflection principle, the Schwarz-Christoffel mappings, and a geometric introduction to the Jacobian elliptic integrals. There are approximately 17 problems at the end of each chapter and answers and hints at the end of the book. The translation from the second Russian edition is very good, although some slips, such as the incomplete statement of theorem 15 (p. 266), seem inevitable in any first printing.

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Radioisotopes and Biology

Dynamic Clinical Studies with Radioisotopes. Proceedings of a symposium held at Oak Ridge, Tennessee, in October 1963. Ralph M. Knisely, W. Newlon Tauxe, and Elizabeth B. Anderson, Eds. U.S. Atomic Energy Commission, Washington, D.C., 1964 (order from U.S. Department of Commerce, Washington, D.C.). vi + 634 pp. Illus. Paper, $4.50.

Here is a paperback that no biology laboratory can afford to be without. And in "biology" I would include all applied human biology (that is, medicine, surgery, pediatrics, and the like) centers as well as preclinical departments and research foundations.

This book is a remarkable one, bringing together the data, interpretation, comments, and discussions relative to an important and emerging new field—clinical data based on isotope kinetics. It is a fit successor to the previous publications of Oak Ridge symposia, the most recent predecessor being the proceedings of the 1962