Section of the Mathematical Association of America, the Nebraska Council of Geography Teachers, the Nebraska Science Teachers Association and the Nebraska Dietetic Association met jointly with the academy.

Three general sessions were held, and addresses of general interest given. Dr. Earl H. Bell, assistant professor of anthropology at the University of Nebraska, gave an address on "Red Pioneers of Nebraska"; Herbert B. Loper, captain, Corps of Engineers, U. S. Army District Engineer, Omaha, explained the "Design and Construction of Missouri River Regulating Works"; and Dr. J. J. Hompes, physician and surgeon, Lincoln, gave an illustrated address on a "Physician's Impressions of India." Only favorable reports of these meetings were received by the secretary.

Attendance at the banquet was limited by the rain, but those who did attend were well repaid by the music furnished by the Wesleyan Conservatory of Music and the informal discussion and demonstration of a new projectoscope by Dr. E. E. Lackey, professor of geography at the University of Nebraska.

One new feature of the meeting was a sectional program by the newly organized Junior Academy of Science. In fact, high-school science teachers found their time and interests divided between this section and the science teachers section. More than the usual number of high-school teachers were present, largely because of the double interests.

A total of 116 papers were presented at the various sectional meetings, and 14 projects presented at the junior meeting.

The following officers were elected: *President,* Dr. J. E. Weaver, University of Nebraska; *Vice-president,* Dr. Harry R. James, Hastings College; *Councillor* for three years, Dr. C. J. Shirk, Nebraska Wesleyan University. The secretary and treasurer are elected only on the odd-numbered years.

Announcement was also made that the 1935 "grant-in-aid" awards had been made to Dr. G. Robert Coatney, Peru State Teachers College, and to Professor Robert L. Graig, McCook Junior College; and the 1936 awards to Dr. G. Robert Coatney, Peru State Teachers College, and Miss Eunice Haskins, Stella, Nebraska.

Chairmen of sections for the 1937 meeting will be: Biochemistry and Nutrition, Dr. C. W. Ackerson; Biology, Dr. John M. Winter; Earth Science, Dr. E. H. Bell; History of Science, ...; Physics, Professor Chris Keim; High School, Professor Harold E. Wise; Chemistry, Dr. E. R. Washburn; Geography, Professor Durfee Larson; Mathematics, Dr. C. C. Camp; Social Science, Dr. C. E. McNeill.

M. P. BRUNIG,
Secretary

SCIENTIFIC BOOKS

THE THEORY OF FUNCTIONS

An Introduction to the Theory of Functions of a Complex Variable. By E. T. COPSON. Oxford University Press, 1935; 448 pp. $8.50.

THIS volume is based on lectures given to undergraduates in the Universities of Edinburgh and St. Andrews. Assuming a knowledge of mathematical analysis such as is contained, for example, in Hardy's "Course of Pure Mathematics" (Cambridge, fifth edition, 1928), the book affords an introduction to a number of branches of the theory of functions of a complex variable.

The first six chapters deal with the classical theory of single-valued differentiable functions. The remaining nine chapters have the following respective headings: VII. Integral functions; VIII. Conformal representation; IX. The gamma function; X. The hypergeometric functions; XI. Legendre functions; XII. Bessel functions; XIII. The elliptic functions of Weierstrass; XIV. Jacobi's elliptic functions; XV. Elliptic modular functions and Picard's theorem. The miscellaneous examples occurring at the end of each chapter include many significant theorems and contribute materially to the attractiveness of the book.

The matric definition of complex numbers introduced in Chapter I is worthy of note. The treatment of analytic functions is based on the Cauchy integral theorem. A function is said to be analytic in a domain if it is single-valued and differentiable at every point of this domain, save possibly for a finite number of exceptional points. In the opinion of the reviewer, this is one of the less preferable uses of the greatly overworked term "analytic." Cauchy's theorem is proved for a polygonal contour by a method due to E. H. Moore. Reference is then made to a paper of S. Pollard for the details of the passage from a polygonal contour to a general rectifiable simply closed curve. Pollard's work is dependent upon the theory of chains of regions as developed by de la Vallée Poussin. In addition to the statement and indication of proof of the more general form of Cauchy's theorem, there is given an elementary proof of the theorem for the case of a simply closed curve which consists of a finite number of arcs having continuously turning tangents. The proof is the usual one

involving Green's theorem; however, Green's theorem is not proved in either of the two references cited by the author for a region bounded by such a general contour. The inclusion of more extensive bibliographies on the proofs of Cauchy's theorem and Green's theorem would have enhanced the value of Chapter IV.

Chapters VII and VIII are good introductions to their respective subjects. In considering these chapters, however, the student is to be reminded of the admonition given in the preface that the book is not intended to be encyclopedic in character. One of the most interesting sections of the volume is that dealing with the application of saddle-point integration to the problem of determining asymptotic expansions of the Bessel functions. The work on modular functions culminates with the proof of Picard's theorem, together with the extension of this theorem due to Carathéodory. By way of conclusion, references are given to the elementary proofs of Picard's theorem due to Borel, Bloch and Nevanlinna.

For the most part, and in all the basic work, the proofs given are modern in character and sufficiently complete in detail for the thoughtful reader. The reviewer noted a few places, however, which are likely to trouble the student. For example, on page 16 it is stated without proof that a non-decreasing bounded sequence tends to a limit. In a later section, on page 21, it is proved that an arbitrary sequence of real numbers has maximum and minimum limits. One wonders why the order of these two sections was not interchanged. In the preliminary discussion of Cauchy's theorem on page 59 the author has omitted the assumption that the domain be simply connected. It is to be remarked that in many places the term "domain" is used without specifying whether an open domain or a closed domain is meant. In several statements made in Chapter IV it is necessary to interpret "domain" as meaning "open domain."

Due to the comprehensive treatment of the subject-matter of Chapters X–XII, this book will appeal to those interested in differential equations. In evaluating the work as a whole, however, the reviewer feels that an unduly large proportion of the book is devoted to the study of particular functions, rather than to the general methods of function theory. This opinion is strengthened when one considers the omissions. The subject of analytic extension and the definition of the complete analytic function, using the terminology of the author, receive a very meager treatment. The entire geometrical aspect of analytic function theory is missing, and the terms "Riemann surface" and "algebraic function" do not appear in the book. There is no mention of analytic functions of two or more complex variables. These comments are not to be interpreted as adverse criticism. They are intended to emphasize, however, that this work shares with many other books on the subject the property of not affording in itself a complete and balanced introduction to this important field of mathematical analysis.

The printing is excellent and the proofreading must have been done with great care. The reviewer noted only a few misprints, and these were of minor character. This book will doubtless be widely used as an introductory text on the subject.

W. T. REID

THE UNIVERSITY OF CHICAGO

TAXONOMY

Procedure in Taxonomy, including a reprint of the International Rules of Zoological Nomenclature with Summaries of Opinions Rendered to the Present Date. By EDWARD T. SCHENK and JOHN H. MCMASTERS. Stanford University Press. viii + 72 pp. Price, $2.00.

THIS timely little volume should prove very useful to all taxonomists, and serve as a guide to the younger group of naturalists unfamiliar with the rules and regulations which have been agreed upon by the International Congress of Zoology.

It is divided into eight chapters, the first of which constitutes the introduction and discusses binomial nomenclature. The second defines the systematic categories into which the animal kingdom is divided. The third discusses types and recommends a reduction of the many kinds of types that have been defined by superspecialists in recent years, recommending the use of a small number of definite type terms, all of which are in general use now. Chapter 4 offers suggestions for description of new species, which one hopes will be followed by the coming generation of naturalists, and which, if followed, will make comparison easier than is the case at the present time. Chapter 5 discusses the problem of specific names, while Chapter 6 deals with synonymy. Here again we find excellent suggestions. Chapter 7 offers basic suggestions where type material should be deposited, carefully avoiding the mentioning of such repositories, merely suggesting the qualifications that an institution should possess to merit being the custodian of type material. Chapter 8 deals with "Latin Terms and Abbreviations."

Pages 27 and 56 are devoted to a reprint of the International Rules of Zoological Nomenclature, together with the addition of the amendments to Article 25 of that code, that is, the article that covers the law of priority.

The last 17 pages are devoted to an index.

This little volume should find a place on the shelves of every zoological laboratory and worker in systematics, since it brings into very convenient form the method of taxonomic procedure now almost universally employed by systematists.

PAUL BARTSCH