for a concise and very readable text that offers him the true physicist's insight in place of the mathematician's epsilons and deltas.

MICHAEL GOLOMB

Purdue University

Acoustic Measurements. Leo. L. Beranek. New York: John Wiley; London: Chapman & Hall, 1949. 914 pp. $7.00.

In *Acoustic Measurements* Dr. Beranek gives us a handbook covering the basic procedures followed, and the instrumentation required, for the measurement of sound. Theory and practice are blended to make a volume that is at once a compendium of detailed information and a summarizing textbook. It should prove useful to anyone concerned with acoustics.

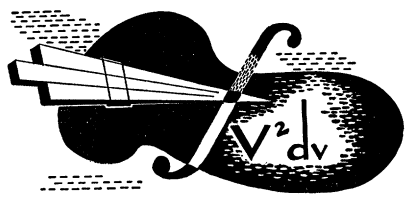
The twenty chapters cover an extraordinary variety of topics, ranging from the anatomy of the ear to a description of the testing rooms of the National Physical Laboratories in England, and from the mathematical basis of a reciprocity calibration to a list of words used in articulation testing. In each case, ample illustrative material complements a clearly written text.

Considered individually, most of the chapters present information of interest to those who require a "how-to-do-it" book. For example, descriptions of common microphones, with diagrams, show the essential details of their construction, the text and figures illustrating their weak and strong points as tools. Sound sources and sound analyzers are similarly handled. Knowledge of the facts presented should enable the reader to make an intelligent choice of the device that will best serve his needs. A further point: the author's care to define the limitations of his instruments and procedures alerts the reader continuously to the pitfalls inherent in such measurements.

Considered together, the chapters make a comprehensive textbook, complete with subject and author index and a glossary of terms. The bibliography is distributed as footnotes, and some 85 percent of the references are to publications in English. Although certain of the topics seem less adequately treated than others, the effort to cover the entire field has, on the whole, been successful.

ROBERT GALAMBOS

Harvard University



Algebraic Curves. Robert J. Walker. Princeton, N. J.: Princeton Univ. Press, 1950. 201 pp. $4.00.

Plane geometry in antiquity concerned itself for the most part with the straight line and the conics, studied by synthetic means. It was only with the introduction of analytic methods in the 17th century that it became possible to consider algebraic curves in general. Since that time a large number of particular curves have been exhaustively studied, and an extensive and beautiful theory of algebraic curves has been developed. It is with this theory that the present book is concerned.

Although the subject matter is classical, the author has made use in his exposition of some of the concepts of modern algebra, such as fields, ideals, and valuations. At the same time, he has set himself the task of keeping the treatment on as elementary a level as possible. In this objective he has admirably succeeded. Very little previous knowledge of algebra on the part of the reader is required, since the first chapter is entirely devoted to algebraic preliminaries, and further algebraic concepts are introduced throughout the book as needed. The second chapter develops the necessary material on projective spaces.

The subject matter of the book proper begins with Chapter III. Here are discussed plane algebraic curves, their singularities, and the reduction to ordinary singularities by quadratic transformations. By means of resultants, Bezout's theorem is proved in a weak form: The number of intersections of two curves is at most the product of their degrees. The full theorem of Bezout is proved in Chapter IV, after the introduction of formal power series and the definition of a place of a curve. These notions are then used to prove Noether's theorem also. Chapter V deals with space curves and with rational and birational transformations of algebraic curves. Finally, Chapter VI contains the theory of linear series and the Riemann-Roch theorem.

There are a large number of excellent exercises, ranging from the very elementary to the quite difficult. It is pleasing to note that the author has not contented himself with merely developing the general theory but has applied it, both in text and exercises, to various special curves. Many drawings are given, and these will be found very helpful.

This book should make available to a wide class of readers the classical theory of algebraic curves.

IRVIN S. COHEN

Massachusetts Institute of Technology

The Theory of Probability: An Inquiry into the Logical and Mathematical Foundations of the Calculus of Probability, 2nd ed. Hans Reichenbach. Translated by Ernest H. Hutten and Maria Reichenbach. Berkeley and Los Angeles: Univ. of California Press, 1949. 492 pp. $12.50.

This book is the English version of the author's "*Wahrscheinlichkeitslehre*" of 1935. Several changes—which, however, do not bear upon the essential contents—are listed in the preface. Reichenbach's theory is an attempt to combine and to reconcile two different concepts of probability: the mathematical notion of numerical probabilities which underlies the so-called calculus of probability, and the entity of phenomena to which the terms *probable* and *improbable* of everyday language usually apply. The main characteristics of his conception are that he accepts the frequency interpretation in the calculus of probability without introducing a randomness