

well-chosen list of suggested texts for further reading. At the end of the book there are tables of Greek and German letters, and a list of some of the more important symbols used in the text.

On the whole the book is well written and the typography excellent. The reviewer noticed a few misprints and even an occasional slip. However, these are mostly of a minor nature and should cause little or no confusion to the student. The book is a valuable and timely addition to the available texts on algebra.

NEAL H. MCCOY

*Gap and Density Theorems.* By Norman Levinson. (American Mathematical Society Colloquium Publications, vol. 26.) New York, American Mathematical Society, 1940. 8+246 pp. \$4.00.

In this book the author confines himself to a detailed study of a few salient topics in gap and density theory; he does not attempt to write a systematic treatise on the subject. The book is in form essentially a collection of research papers; it achieves unity principally through the author's repeated application of similar methods to a variety of problems. Most of the contributions to gap and density theory contained in the book are the author's own work, some of the most remarkable of them being published here for the first time. The principal topics treated are, on the one hand, the influence of the distribution of a sequence of numbers  $\{\lambda_n\}$  on the closure properties of the sequence  $\{e^{i\lambda_n x}\}$ , and the closely related topic of the influence of the distribution of the  $\lambda_n$  on the growth of analytic functions which vanish or are otherwise restricted at points  $z = \lambda_n$ ; and, on the other hand, general Tauberian theorems involving gap conditions. Among the topics not treated are, for example, the Paley-Wiener theory of "pseudoperiodic" functions, and Bochner's generalizations of it. The extensive "classical" theory connecting gap or density properties of a sequence  $\{\lambda_n\}$  with the position of the singularities of the function having the Dirichlet series  $\sum a_n e^{-\lambda_n x}$  is represented by one theorem. The author expects his readers to be familiar with approximately the amount of information contained in Titchmarsh's *Theory of Functions*. Familiarity with the Colloquium Publication of Paley and Wiener is not prerequisite, but would be advantageous for a reader. The author collects in an appendix the auxiliary theorems which he most frequently uses. His principal tools are such things as Jensen's theorem, Carleman's theorem which is its analogue for a half-plane, Phragmén-Lindelöf theorems, and the  $L^2$  theory of Fourier transforms; these he combines in ingenious and often unexpected ways.