

Lie groups or group representations will be much interested to observe here substantial applications of these theories and indeed some new contributions to these theories. The book is to be well recommended to many mathematicians on many counts but it is an absolute requirement as a source of inspiration to "live-wire topological dynamos" and "spark-plug measurable transformers."

WALTER H. GOTTSCHALK

*Elementary methods in analytic number theory.*¹ By A. E. Gelfond and U. V. Linnik. Moscow, 1964.

For many years, the theory of numbers has been expanding and growing by leaps and bounds. A great many interesting and significant results have been found, and important developments have been taking place. In due course, brief accounts of these are to be found in the mathematical reviews published in the U.S.A., Germany and the U.S.S.R., and later in encyclopedia articles. However, it has become increasingly difficult for any one to keep in close touch with all that is being done and published in various scattered journals and books.

There are three principal ways in which the new results become more accessible to the reader for closer study. For one, a body of knowledge dealing with closely related and connected results arises and these may be embodied in a systematic treatise. Thus there are Cassel's book on the Geometry of Numbers, the books on Transcendental Numbers by Siegel, Gelfond, and Schneider, Prachars' book on Prime Numbers, Walfisz' book on Exponential Sums.

Next there are books dealing with more loosely connected topics such as Delone and Faddeev's book on *Irrationalities of the third degree*, Vinogradov's book on the *Method of trigonometric sums in the theory of numbers*, and Lang's *Diophantine geometry*.

Finally, the book may contain a collection of miscellaneous topics which are mostly unrelated to each other, but which for various reasons make a special appeal to the author. Khintchine's *Three Pearls* is an instance of this.

The authors of the present book have followed the last pattern and in the twelve chapters of the book have assembled a collection of results representing many different and important aspects of number theory. Some of these results are well known but others have not appeared as yet in treatises. The reader will find a real treasure trove in this book.

Let us glance at the table of contents:

Chapter 1—Additive properties of numbers, the method of Schnirel-

¹ Rand, McNally and Co. are preparing an English translation.