methods; (2) to codify the set of theorems found; (3) to connect them with the work of the rigorists; and (4) to extend the theorems by all possible means." It seems to the reviewer that the author has succeeded well in his attempt.

The nature of the book is indicated by the chapter headings: I, Introduction and Definitions (8 pages); II, The Operator $D\equiv d/dx$ (47 pages); III, Applications to Ordinary Linear Differential Equations with Constant Coefficients (14 pages); IV, Algebraic Theorems (determinants, 18 pages); V, Matrices (12 pages); VI, Systems of Ordinary Linear Differential Equations with Constant Coefficients (26 pages); VII, The Operators $d_1\equiv\partial/\partial x$, $d_2\equiv\partial/\partial y$ (30 pages); VIII, Applications to Partial Linear Differential Equations with Constant Coefficients (18 pages); IX, The Operator $d_i\equiv\partial/\partial x_i$ (6 pages); X, The Noncommutative Operator $xD\equiv\theta$ (8 pages); XI, Solutions in Series (41 pages); XII, The Differential Equation in Mathematical Physics (9 pages); XIII, Initial or Terminal Conditions (10 pages).

The last two chapters belong more properly in a text on differential equations and are so excellent that they should form the introduction to every beginning course in that subject. The first explains the nature of a differential equation and its solution, and gives the most illuminating discussion of these matters that the reviewer has seen in any book. The second shows the meaning of the constants of integration and how to determine them in a wide variety of problems.

The book concludes with three appendices and an index. The third appendix gives the history of operational mathematics and a complete bibliography of the subject from 1765 to the present time.

J. B. Scarborough

An Introduction to the Theory of Numbers. By G. H. Hardy and E. M. Wright. Oxford, Clarendon, 1938. 16+403 pp.

As the authors have taken pains to describe—too modestly—the nature of their work, we quote from their preface.

"This book has developed gradually from lectures delivered in a number of universities during the last ten years, and, like many books which have grown out of lectures, it has no very definite plan.

"It is not in any sense (as an expert can see by reading the table of contents) a systematic treatise on the theory of numbers. It does not even contain a fully reasoned account of any one side of that many-sided theory, but is an introduction, or a series of introductions, to almost all of these sides in turn. . . . There is plenty of variety in our programme, but very little depth; it is impossible, in 400 pages, to treat any of these many topics at all profoundly."

Those who had the pleasure of hearing the senior author's lectures when he was in the United States ten years ago, will have pleasurable anticipations of what to expect; nor will they be disappointed. The book is like no other that was ever written on the theory of numbers, as an introduction or as a treatise; although Edouard Lucas might have written something like it had he been primarily interested in the analytic theory and were he living today. Some of the topics treated have been frequently discussed in the English and German journals of about the past decade. As might be anticipated from the authors' interests, analysis dominates much of the material. The treatment throughout, even of old things, is fresh and individual.

Owing to the widely varied character of the matter, it is impossible to give a brief summary of the scope of the book, and the following sample must suffice to indicate the contents. The theory of quadratic forms is omitted. Chapters 1, 2 treat the series of primes and the fundamental theorems on divisibility for the rational integers.