geometry " occupies pp. 40-56 of Part I. It contains n-dimensional generalisations of some of the earlier results, and other material, including problems 99-109. These are not discussed in Part II but, as elsewhere in the book, adequate references are given. Finally, there is a bibliography of 202 items (of which the last 86, forming a separate alphabetical sequence, were added by the translator) and an index.

The book, which is one of the publishers' Athena Series, can be recommended for the impression it gives of the power of elementary geometrical reasoning.

D. MONK

BELLMAN, RICHARD, *Perturbation Techniques in Mathematics, Physics and Engineering* (Holt, Rinehart and Winston, London, 1964), 118 pp., 30s.

The text is divided into three sections whose titles " Classical Perturbation Techniques ", " Periodic Solutions of Nonlinear Differential Equations and Renormalisation Techniques ", and " The Liouville-WKB Approximation and Asymptotic Series ", give some indication of the range of topics discussed. The style is annoyingly " chatty " and oratorial, and one cannot help but feel that here is a series of lectures bound into a book. As is permissible in a course of lectures to a known audience, but is not permissible in a book, the sections are of uneven depth, some of the simpler work being over-explained at the expense of some of the more difficult! The text will certainly be of interest to the applied scientists for whom it was written, but I fear that many will find it a difficult text, even with the knowledge of " an intermediate course in calculus and the rudiments of the theory of ordinary differential equations " assumed by the author. The reader is invited to try a " plethora † of problems "; too many of these are of a pure mathematical nature. There are extensive references to the background material of the book. The typography is excellent.

J. W. SEARL

LINNIK, YURI V., *Decomposition of Probability Distributions* (Edinburgh and London, Oliver and Boyd, 1964), xii+242 pp., 84s.

It has been common knowledge over the past few years that a considerable amount of work had been done by the Russian school on what has been called the " arithmetic of probability distributions ": i.e. topics such as the factorisation of characteristic functions into the product of two (or more) non-trivial characteristic functions, or equivalently the representation of a distribution function as the convolution of two others. Nevertheless probably all but the already-committed specialist have been deterred by the combination of language difficulties and the somewhat inaccessible character of the relevant journals from investigating this, for only relatively short accounts have been given in English. Now, however, the present book by Linnik, who has himself been responsible for much of the work in the field, has made the task much easier.

The first six chapters (approximately half the book) begin by setting down the basic requirements from real and complex variable theory, giving in some detail the essentials of less familiar topics, then summarise many of the properties of characteristic functions, and finally give the almost classical theorems of Cramér and Raikov on the decomposition of the Normal and Poisson laws respectively. While its contents are available elsewhere, this part of the book is in fact very useful.

The remainder of the book describes recent developments, in the direction suggested

† Any unhealthy repletion or excess! S.O.E.D.