of mathematical theories in first order predicate calculus. It has long been known that a theory with a finite number of axioms formulated in PC (first order predicate calculus) can be absorbed into PC (it was in this way that the negative solution of the decision problem for PC was deduced from that of a finitely axiomatisable fragment of arithmetic) but it is also known that arithmetic with induction is not finitely axiomatisable. Skolem describes a way of translating a theory with axiom schemata (infinite bundles of axioms) into a theory with finitely many axioms having the same deductive power. The third part of the volume contains six papers on the foundations of arithmetic and analysis. Heyting discusses the descriptive role of axioms in intuitionistic mathematics and gives axiom systems for an intuitionistic theory of vector spaces. Mostowski shows that in weak second order logic (with only *finite* subsets of the set of individuals as values of the second order variables) there is no (finite or recursively enumerable) set X of axioms such that the set of all true formulas in the field of real numbers is exactly the class of consequences of X. Sierpinski (in a paper rather outside the field of this collection) gives a delightfully simple proof that if the numbers m^n, where m and n run through all positive integers, are arranged in increasing order then the difference of consecutive terms is unbounded.

Part IV contains four papers on the philosophy of logic and mathematics, the last of which is a very easy to read account by Hao Wang of such fundamental questions as the reduction of mathematics to logic, the nature of number and existence in mathematics.

R. L. GOODSTEIN

FUCHS B. A. AND LEVIN, V. I., *Functions of a complex variable and some of their applications*, translated by J. BERRY and edited by T. KÖVARI (International series of monographs on pure and applied mathematics Volume 21, Pergamon Press, 1961), 296 pp., 50s.

This book, which is intended for engineers and technologists, is a translation of a book published in Russia in 1951 and is a sequel to one with the same title by B. A. Fuchs and B. V. Shabat which covers the basic theory of functions of a complex variable.

The present volume contains five chapters entitled: I Algebraic functions, II Differential equations, III The Laplace transformation and its inversion, IV Contour integration and asymptotic expansions, V Hurwitz's problem for polynomials. It may be remarked that Chapter IV contains none of the elementary theory of contour integration but is concerned with applications of the inversion formula for the Laplace transform and with the derivation of asymptotic expansions. Chapter V is concerned with the problem of determining conditions under which the zeros of a polynomial should all have negative real parts, and should be particularly useful to workers in stability theory.

Throughout the book there are many worked examples (though there are none for the reader to work out) and the exposition would be very clear were it not for the large number of printer's errors.

D. MARTIN

JEFFREYS, HAROLD, *Asymptotic Approximations* (Clarendon Press: Oxford University Press, 1962), 144 pp., 30s.

In his preface, Sir Harold remarks that great advances have been made in the theory and use of asymptotic approximations during the last few decades. Many of these advances are due to Sir Harold himself, and the reader will find the present monograph a valuable and stimulating account of recent work in this field, written