the rationals and not merely a subset isomorphic to the rationals (a modification of the Dedekind cut is used); Ordinal numbers (von Neumann's version), transfinite induction and recursion; Cardinal numbers, introduced (again following von Neumann) as initial ordinals; the Axiom of Choice and its equivalents. Part III is a description of, and an interesting discussion of the relations between, the main axiomatic systems of set theory—essentially those of Russell, Zermelo, von Neumann-Bernays and two systems of the author.

The book is practically self-contained, assuming some knowledge of logic (elementary quantification theory) but no previous knowledge of mathematics or set theory. This, together with its soundness and readability, makes it suitable reading not only for mathematics students (at graduate or undergraduate level), whether as part of an organised course on axiomatic set theory or not, but also for philosophers with an interest in the foundations of mathematics. An excellent index and system of numbering formulæ make it also a useful reference book. More advanced readers will regret the relegation of proof theory to footnotes and parentheses.

A. A. TREHERNE

HERVÉ, M., *Several Complex Variables: Local Theory* (Oxford University Press, 1963), 26s. 6d.

The Theory of Several Complex Variables has, in the past fifteen years, undergone a remarkable development as a result of the work of Oka, Cartan, Stein, Grauert and Remmert. No books on the subject however have appeared for very many years, and the time seems certainly ripe for more modern texts.

The present book by Professor Hervé is a modest but useful contribution. It is essentially self-contained and develops the local theory from its foundations. It begins with the classical results—Weierstrass preparation, Hartogs Theorem, etc. and ends up with detailed results on the structure of analytic sets, including the proof of the coherence of the sheaf of an analytic set.

Compared with the treatment of the same topics given by Cartan in his Séminaires 1951-52 the present exposition strikes the reviewer as a little heavy-handed. This is no doubt due to the author's rather concrete and classical approach, and may be compensated by the fact that little is required of the reader except diligence.

M. F. ATIYAH

HELGASON, S., *Differential Geometry and Symmetric Spaces* (Academic Press, 1962), 486 pp., 89s. 6d.

This book is the first to give a comprehensive account of Cartan's theory of symmetric spaces, i.e. Riemannian manifolds for which the curvature tensor is invariant under all parallel displacements, and of the more modern developments concerning functions defined on these spaces. The book is well written but, since the style is very compact, it will be difficult reading for anyone not already acquainted with the basic ideas of modern differential geometry and the theory of Lie groups. A reading of Lichnerowicz's little book on Tensor Calculus and the recent book by Flanders on Differential Forms would be an excellent propaedeutic to the serious study of the book. However, features of the book which add to its value as a textbook are the short summaries provided at the beginning of each chapter and the collections of problems at the end of each chapter. The bibliography, occupying 15 pages of text, is also an asset. An extraordinary amount of material is included in the book, and anyone prepared to work through it conscientiously will be richly rewarded not only by what he will learn about symmetric spaces but by the sound knowledge he