first and higher orders and concludes with applications to elasticity, hydrodynamics and electromagnetism. The fourth chapter which is about 300 pages in length deals with boundary value problems; about half of it is devoted to elliptic equations and the remainder to parabolic and hyperbolic equations.

The whole book is a veritable mine of information and anyone browsing through it at random is almost certain to find something interesting that he did not know of before.

D. MARTIN

BRUCKHEIMER, M., GOWAR, N. W., AND SCRATON, R. E., *Mathematics for Technology: A New Approach* (Chatto and Windus, London, 1968), xiv+558 pp., 48s.

This is a very ambitious book. It seeks to reform the teaching of mathematics to engineers and scientists to give them not just a collection of techniques which may or may not be relevant to their subsequent career, but rather a grasp of the basic concepts. The subject matter is not revolutionary, but the method of presentation is new and fundamentally sound. With the one bold stroke of relating the whole to the basic mathematical structure, the authors have succeeded in presenting mathematics as a unified subject rather than as a disjointed collection of intellectual tricks. The material covered is appropriate to a first year course: Sets and Binary Operations; Mappings; Accuracy and Errors; Vectors; Matrices; Complex Numbers; Limits; Differentiation; Infinite Series; Integration; Differential and Difference Equations; Probability and Statistics.

Not content with the reforming of the teaching of " technical " mathematics, the authors have succeeded in breaking through the barrier of traditional text-book jargon and style. The text itself is lighthearted (it is occasionally helped by a cartoon) and intellectually honest. There is no attempt to gloss over the difficulties; indeed many of the sources of confusion to students are eliminated by using special notations and symbols. Each topic is dealt with in four chapters. Firstly there is a chapter of theory (lecture material), followed by a chapter on the associated techniques (tutorial material). Then at the " back " of the book there are two chapters which attempt to fill in some of the details for readers unfamiliar with the " New Maths ". Solutions are given to many of the problems.

There will be some who will feel that mathematics taught in this way is too formal for our engineering colleagues. I, for my part, am convinced that the authors have a true assessment of the teaching situation. I would disagree with some details of the text. I would have liked to have seen more numerical mathematics to emphasise the unity of the subject; indeed I would have omitted the chapters on Differential and Difference Equations and interpolated numerical analysis as appropriate throughout the book.

The authors have set themselves the target of producing mathematically literate technologists. Their book has made the achievement of that goal closer.

J. W. SEARL

TREVES, F. *Locally Convex Spaces and Linear Partial Differential Equations* (Springer-Verlag, Berlin, 1967), xii+121 pp., DM 36.

This book gives an account of some fundamental existence and approximation theorems relating to linear partial differential equations after first providing the necessary functional analytic tools. It is divided into two parts: Part I, entitled the spectrum of a locally convex space, is particularly interesting since it provides the basic functional analysis in a way tailor-made for the needs of partial differential equations. The author's point of view is that the profusion of topologies which are commonly used on the same underlying space acts as a deterrent to the student