no groups of any sort are introduced. It thus opposes the widely held opinion that algebra can clarify and simplify topology. However that may be, modern topology does involve a lot of algebra; and if indeed there is anything tricky about the application of algebra to topology, then the sooner its utility is gently illustrated to the student the better. There is, of course, considerable topological activity concerned with phenomena in lower-dimensional Euclidean spaces in which it appears possible to do quite well without some of the tools being sharpened in algebraic topology; and for such research this book will prepare the student quite well.

If the needs of the future algebraic topologist were thus as a matter of pedagogic (not sectarian) policy left to one side, the needs of the future topologic algebraist were overlooked altogether. Uniform structures are presented only with a countability restriction; function spaces are treated almost not at all. Infinite topological products are presented merely as an application of the axiom of choice, and Tychonoff's theorem appears as a variant of this axiom. (The treatment of the axiom of choice is marred by a preoccupation with what seems to be an unnecessary axiom of finite choice.) Metrizability of product spaces is not discussed (and therefore the Hilbert cube has to be carefully circumvented in the earlier section of metrization). One would have expected the theorem on the connectedness of product spaces. These defects can easily be repaired by a competent instructor, and are thus minor. We invite anyone preparing a course in topology to consider this work on the merit of the substance and treatment of the fifth chapter which is even physically half the book.

RICHARD ARENS

Plane waves and spherical means applied to partial differential equations. By Fritz John. New York, Interscience Publishers, Inc., 1955. 8+172 pp. $4.50.

This book is dedicated, as the title indicates, to an exposition of the author's results on various problems concerning partial differential equations, results obtained by using relations between a function in an n-dimensional Euclidean space and its integrals over planes and spheres. While treatises and encyclopedia articles supposedly strive for completeness either in the extent of subject-matter treated or in its detailed presentation, a tract has no such pretension and may present a slice of the subject-matter of its field organized to the author's taste. The present example, the second of a new series of Interscience Tracts, has been fitted to a very elegant taste indeed. Yet while concentrating on techniques and ideas which he has personally developed and finds congenial, Fritz John has touched upon