compact set B in the plane R^2 such that: (1) the complement of B in R^2 has m+1 components $U_o, \ldots, U_m$ ($m \geqslant 3$);(2) every $x \in B$ is a boundarypoint of each U_i, $i = 0, \ldots, m$. The circle has these properties with m = 2, but for $m \geqslant 3$ Brouwer's construction is very complicated and ingenious. Now, using Leray's cohomology theory, it is easy to prove the following generalization of the famous Jordan curve theorem: If B' is homeomorphic to B and is a sub-space of R^2, then B' also has properties (1) and (2). In particular, if B is a circle, B' can be any Jordan curve and the theorem states that such a curve divides the plane in two domains and is the complete boundary of both domains. All this is trivial using Leray's theory, but it cannot be proved using singular homology theory (even the proof of the classical Jordan curve theorem is rather cumbersome in singular homology theory, so far as I know). The reason is that a space B is locally non-connected in a very strong sense (for $m \geqslant 3$). Now a beginner coming across such a situation may think that Algebraic Topology is only useful for spaces which are "locally nice"; this is definitely wrong, and suggested by singular homology only.

Even "very smooth" spaces X for which every homology theory gives the same groups $H_p(X)$ may cause trouble. It may happen that the computation of the homology groups is the most complicated in singular homology theory. For example, let us take Pontrjagin's method for computing the homology groups of a classical group G. The method is roughly the following. We single out sub-manifolds of G, treat them as cycles, compute the intersection matrix, and show that for a suitable choice of these sub-manifolds we have a homology basis. Of course, here we need intersection theory. However, this is very complicated in singular homology; even if we do this via the singular cohomology and cup-product theory, we have to develop as long a theory as the one given in the book.

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Introduction to Difference Equations by S. Goldberg. John Wiley and Sons, New York, 1958. 260 pages. $7.10.

A very elementary introduction to finite differences and difference equations with illustrative examples from economics, psychology and sociology. This book is intended primarily for social scientists. Sections involving any knowledge of elementary calculus are starred. Generating functions and matrix methods are relegated to the last few pages and the numbers of Bernoulli and Stirling are not mentioned. For the mathematician the main interest of this book will be that it affords an easily accessible view of some of the recent applications of mathematics to the social sciences.

L. Moser, University of Alberta

Selections from Modern Abstract Algebra by Richard V. Andree. Henry Holt and Company, New York, 1958. 213 pages. $6.80.

Contents by chapters are: Number Theory and Proof; Equivalence and Congruence; Boolean Algebra; Groups; Matrices; Linear Systems; Determinants; Fields, Rings and Ideals; More Matrix Theory.

The aim of this book is to introduce the undergraduate mathematics major to some of the abstract thinking required in higher mathematics and to stimulate his appetite for more. It well succeeds in these objects for it is a most fascinating and stimulating treatment. Noteworthy features are the abundance of ingenious and well chosen problems in every chapter, the references and suggestions for further study, the flexibility with which it can be read and the many indications where various topics are applied in the social and exact sciences. An outstanding feature of the book is the care with which fundamental concepts are explained and developed.

The typography is clear and large and every page is a delight to read. In short, the book is interestingly written and beautifully produced.

Herbert Tate, McGill University

Analytical Conics by Barry Spain. International series of Monographs in Pure and Applied Mathematics, Pergamon Press, New York, 1957. 145 pages. $5.25.

Analytical Conics is an "English" textbook with a few important differences. One of these is an eleven page appendix containing a key to most of the difficult problems. Anyone who

https://doi.org/10.1017/S0008439500024966 Published online by Cambridge University Press