BULLETIN OF THE
AMERICAN MATHEMATICAL SOCIETY
Volume 78, Number 6, November 1972

BOOK REVIEWS

Dimension Theory by Keiô Nagami, Volume 37 in the series Pure and Applied Mathematics, Academic Press, New York and London, 1970, 244+xi pp.

This book has a limited scope and is designed to introduce the reader quickly and efficiently to some of the frontiers of research in modern dimension theory. Examples are emphasized which demonstrate the inequalities between the various dimension functions. With only a basic knowledge of general topology a student should be able to read the text without great difficulty except for the appendix on cohomological dimension theory written by Y. Kodama for which a knowledge of Čech cohomology is advisable.

The author has taken great pains in his presentation. The proofs are generally flawless and efficient and the development is purposeful and clear. There is a generous sprinkling of examples which intersperse the text to act as landmarks by which the reader can keep his bearings as the author leads him through newly charted territories. Authors of modern textbooks in higher mathematics would do well to imitate Nagami's careful and concise presentation. He has made his book an adventure as the reader peers with the author as the limits of man's knowledge in this area unfold before him.

The chapter titles indicate the range of topics covered in the book: 1. Theory of Open Coverings; 2. Dimension of Normal Spaces; 3. Dimension of Metric Spaces; 4. Gaps between Dimension Functions; 5. Dimension-Changing Closed Mappings; 6. Product Theorem and Expansion Theorem; 7. Metric-Dependent Dimension Functions; and an appendix, Cohomological Dimension Theory by Yukihiro Kodama. This would certainly not be a complete list of topics in a comprehensive work on dimension theory. For that matter, it is not a complete list of current research topics in this area of mathematics. There has been a restriction of the topics treated according to the taste and interest of the author. Although this restriction is evidently by design, the reader should be aware of its severity. One must search and strain to find an indication that the dimension of the n-cube is n. At last! In a footnote on the bottom of a page, one is referred to Hurewicz and Wallman's *Dimension Theory* for an elegant proof of this result. One meets the classical theorems in dimension theory for separable metric spaces only in the Preface and then they are only named in passing as part of the "classical dimension theory for separable metric spaces" embodied in Hurewicz and Wallman's book. With this book as sole text the reader would be brought to certain