The material has been carefully planned and developed in a clear and simple style, and the proofs are complete, neat and compact.

The introduction of the Lebesgue measure is based on the method of M. Riesz (Ann. Soc. Pol. Math. vol. 25 (1952)). The authors' aim is to present the theory in a form suitable for a person having the knowledge of elementary calculus without however weakening the theorems. This is excellently carried out by the clear exposition, explanations and a thorough treatment of the chosen material. There are no problems in the book.

In the opinion of the reviewer this book is an exceptionally good one and most suitable as a textbook for courses in which the concepts of the Lebesgue measure and integral are essential.

STANISLAW LEJA

Kontinuierliche Geometrien. By Fumitomo Maeda. Trans. from the Japanese by Sibylla Crampe, Gunter Pickert and Rudolf Schauffler. Springer-Verlag, Berlin, 1958. 10+244 pp. DM 36. Bound DM 39.

Continuous geometries are a generalization of the finite dimensional projective geometries to the non-finite dimensional case, as Hilbert and Banach spaces are a generalization of the finite dimensional (Minkowski) vector spaces.

It is now 23 years since John von Neumann first discovered continuous geometry. As a result of his work on rings of operators in Hilbert space (partly in collaboration with F. J. Murray), von Neumann found that certain families of closed linear subspaces of Hilbert space had intersection (i.e., incidence) properties very much like the intersection properties possessed by the set of all linear subspaces of a finite dimensional projective geometry. Profiting by the previous work of Dedekind, G. Birkhoff, Ore and Menger in the field now called lattice theory, von Neumann gave a set of axioms to describe such families of subspaces of Hilbert space (and certain abstractions of these, which he called continuous geometries) as complete lattices in which every element possesses at least one complement, and which satisfy a weak distributivity condition (first formulated by Dedekind, and called now the modular axiom). Von Neumann, at first, required the lattice to be also irreducible and to satisfy certain continuity conditions on the lattice operations.

Von Neumann's first deep result was the construction of a dimension function $D(a)$, defined for each element a in the geometry, with $0 \leqq D(a) \leqq 1$ for all a, and satisfying the usual condition: $D(a \cup b) + D(a \cap b) = D(a) + D(b)$. For this purpose von Neumann assumed both irreducibility and the continuity conditions. He formulated the