Hensel and Landsberg even at a time when they represented only a formal generalization.

As in any book written by mortal man there are a number of rough places. Although the reviewer did not read every proof in detail he observed the following. No attempt is made to motivate the use of a definition of "schlichtartig" not quite the usual one. The definition of the mapping h in the middle of p. 136 is either confused or confusing. Not sufficient discussion is given of the distinctions between the various decompositions of differentials in Chapter 7. On p. 237 it is not made clear what is meant by "adjacent sides". However without greater precision the last two sentences in the paragraph following Theorem 9–12 are questionable. Consider the modular group. On p. 268 there seems to be slight verbal confusion between divisors which are integral and those equivalent to an integral divisor. There is little attempt made to motivate the Jacobi inversion problem. Also in its discussion we find on p. 281 $P_1, \cdots, P_n$ specified as distinct points but at the top of p. 284 the conclusions are applied without further ado to the specialization $P_1 \cdots P_g = P_0^g$. On p. 295 in the proof that a certain surface is not hyperelliptic it should be observed that the powers of z do not form a subfield (it should be the rational functions of z). Most of these points are comparatively minor and easily rectified but might distract the conscientious student. Finally a small number of misprints, pure and simple, were observed.

JAMES A. JENKINS

Teoria miary i calki Lebesgue'a. (Polish). By S. Hartman and J. Mikusinski. Panstwowe Wydawnictwo Naukowe, Warszawa, 1957. 140 pp. zl. 10.

This book is a short textbook on the theory of measure and of the Lebesgue integral, containing the classical material of the subject which corresponds to the requirements of the curriculum in Polish universities.

The main purpose of the book is to present that part of measure theory which has shown itself to be most useful in its applications in other fields such as the theory of probability and theoretical physics.

There are twelve chapters in the book. 1. Introductory concepts; 2. Lebesgue's measure of linear sets; 3. Measurable functions; 4. The Lebesgue definite integral; 5. Convergence in measure; 6. Integration and differentiation. Functions of bounded variation; 7. Absolutely continuous functions; 8. L^p spaces; 9. Orthogonal expansions; 10. Measure in plane and in space; 11. Multiple integrals; 12. The Stieltjes integral.

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