The reviewer noted a few inaccuracies and other defects of exposition, as follows. The term "nowhere dense" is defined in two quite different ways on pages 145 and 201 (the latter being the customary one). The attribution to Tong [1] on p. 167 should be to Hewitt [2]. The reference to Loomis [2] on p. 248 is inexact: Loomis deals with complex function spaces and homomorphisms onto the complex numbers. The terms "real linear function" and "linear functional" are used interchangeably, to the probable confusion of unsophisticated readers (pp. 108 and 241). The author cites Banach spaces (p. 110) and Haar measure (pp. 166 and 210) without explanation. Such references are bound to be unintelligible to many student readers. Only a few misprints, all of them inessential, were noted. The convenience of the book would be enhanced by numbering the chapter at the top of each page, or by designating theorems, etc., as they appear, with the number of the chapter containing them. As it is, locating back references in the text is troublesome.

Comparison of Professor Kelley's treatise with those of Kuratowski and Bourbaki is of some interest. Kuratowski's work (*Topologie* I and II, Monografie Matematyczne, Warszawa, 1948–1950) is an encyclopedic affair, strictly for professionals, and overlapping Kelley's book very little in subject matter. Bourbaki's work (*Topologie générale*, Actualités Sci. et Ind., Nos. 858–1142, 916, 1029, 1045, 1084, Paris, Hermann, 1940–1949) covers a good deal of the same ground as Kelley's, but in an austere manner very far from the sprightly style used by Professor Kelley. The treatments are in some ways complementary, and an abstract analyst could profitably be acquainted with both. In the United States, at least, Kelley's book will undoubtedly be more widely read than Bourbaki's, and it may be expected to exert a decisive and beneficent effect upon the future development of set-theoretic topology.

EDWIN HEWITT

Theory of functions of a real variable. By I. P. Natanson. Trans. by L. F. Boron, with the editorial collaboration of and with annotations by E. Hewitt. New York, Ungar, 1955. 277 pp. $6.50.

This volume differs from the original Russian book on which it is based (*Teoriĭ funktsiĭ veščestvennoĭ peremennoĭ*, Moscow-Leningrad, 1950) and from the more or less literal German translation (*Theorie der Funktionen einer reellen Veränderlichen*, Berlin, 1954 (reviewed in this Bulletin, vol. 61 (1955) p. 346) in two major respects. These changes appear to have been made by the editor to fit the book more closely to a course in Lebesgue measure and integration on the real line, rather than to a course covering a somewhat less concentrated list of topics in real function theory. The first, unarguably positive, change is the addition by the editor of appendices to several chapters; these show how results stated in the original text only for bounded measurable sets can be extended or adapted for unbounded sets. The second, or negative, change is the omission of the last eight chapters of the original work. This brings the scope of the text down to approximately the material needed for a one semester course of measure and integration on the real line, if it is assumed that the student already knows his ϵ from his δ, lim sup and lim inf, and uniform convergence; all these matters are used freely through the text. The present book ends with the chapter on absolutely continuous functions of one variable and their relation to differentiation and integration. It is easy to agree with the editor that, in an introductory course in measure theory given in a limited time, such topics as singular integrals, transfinite induction, set functions, Baire classification of functions, a little functional analysis, and a chapter of the contributions of Russian mathematicians to the theory of real functions, can be omitted without unfairly distorting the subject. Unfortunately Fubini's theorem has also been lost in this cut; as this is the last of the basic theorems of the Lebesgue theory, it would have been good for the student if it could have been kept available. The author and editor have both displayed considerable knowledge of the subject under discussion. All the kindly reviews of the other versions of this book, as far as they refer to the early chapters, apply as well to this edition. The style of the present work is very smooth; the clarity of the author's discussion is carried into English with none of the stiffness of expression which plagues translators.

M. M. DAY

The construction and study of certain important algebras. By C. Chevalley. (Publications of the Mathematical Society of Japan, no. 1.) The Mathematical Society of Japan, 1955. 6+64 pp.

This booklet reproduces lectures given by the author in Japan in 1954 on the main topics in multilinear algebra. But the subject is approached from an unusual point of view, the importance of which has only been realized during the last few years, mainly in the recent work on homology and Lie theory; and it is chiefly for the introduction it presents to these new methods that the book is especially valuable, being probably the first of its kind to appear in print.

The main themes of the book are the notion of "*universal*" algebra with respect to a given property, and the notion of *graded* algebra.