be done to present the material in a way that is clear and well organized.

The Editors of the series and Princeton University Press must share the blame for the poor form and style of the book. Many of the lines in the text are badly set up, some symbols are all too obviously handwritten, and the formulas are generally difficult to read.

The organization of the book leaves much to be desired, and, in the opinion of the reviewer, the fault lies in the method of presenting a proof. The author seldom takes the trouble to let the reader know what he is doing and why. This is clearly illustrated in the first chapter where a proof is given of the transcendency of e^a. The reader may find the proofs involved, but not until the end of the chapter, if he gets that far, does he discover that the author has a perfectly good reason for presenting the proofs in the way he does.

Pólya, writing in the American Mathematical Monthly, December 1949, page 684, describes the situation exactly in the following words. "A mathematical lecture should be, first of all, correct and unambiguous. Still, we know from painful experience that a perfectly unambiguous and correct exposition can be far from satisfactory and may appear uninspiring, tiresome or disappointing, even if the subject-matter presented is interesting in itself."

R. D. JAMES

Fourier transforms. By S. Bochner and K. Chandrasekharan. (Annals of Mathematics Studies, no. 19.) Princeton University Press, 1949. 10+219 pp. $3.50.

This is a very readable introduction to the craft of the authors, and as such fills a very real need. The subject matter serves to a large extent as a springboard for the presentation of interesting techniques, viewpoints, and concepts, and is treated with great deftness and remarkable continuity. There is a good deal of explanatory and motivating material, and altogether the book is a very appropriate one for study by an apprentice to the guild of semi-classical analysts.

The book is apparently not intended for reference use, nor is its subject matter and development the sort that are best adapted to the needs of a mathematician with a merely general interest in the subject, or to the needs of a theoretical physicist. The topics treated are interesting but the basis of their selection seems to have been esthetic and subjective, rather than a function of their relative significance within the general framework of mathematics. Among the important topics not treated are Fourier transforms in the complex domain, Fourier-Stieltjes transforms, and generalized harmonic analysis; from a purely informational standpoint the book is hardly a well-rounded survey of Fourier analysis. The proofs and approaches employed in the book are technically elementary, but often somewhat intricate and delicate, and demand either a certain sophistication or special attentiveness of the reader. The very considerable smoothness, coherency, and local clarity of the book seem to be achieved by a unity of mathematical viewpoint and technique, as well as by niceness of style, rather than by logical organization.

Fourier transforms of functions in L_1 and L_2 on the real line and in euclidean n-space are treated along familiar lines, but with much intrinsically interesting illustrative material. In particular, transforms of derivatives, and Gauss and Abel summability, are presented in some detail. Special but valuable topics more briefly treated include transforms of radial functions, closure of translations of functions in L_2, and bounded transformations on L_2 commuting with translations. All these developments take up the first four chapters of the book, and there are two additional chapters, concerning more specialized matters, along lines reflecting some of the particular interests of the authors. The fifth chapter gives an integro-differential representation for the most general unitary operator on L_2, from which a study of the Watson transform evolves. The sixth chapter treats aspects of Tauberian theorems from a combination of viewpoints due originally to Karamata and Wiener. These last two chapters both have a certain roundness and charm almost, which make relatively complex subjects seem quite approachable. This feature may be related to the circumstance that each of these chapters is apparently based on a paper by Bochner.

There is also a short treatment of Banach spaces, along with a discussion of the L_p spaces for general p (the Fourier transforms of functions in those spaces are not considered). None of the deeper theorems about Banach spaces is covered, and on the whole the "abstract" viewpoint is avoided. The outlook of the book is indicated by the following quotation (pp. 211–212): " . . . theorem 7 . . . has the disadvantage (*if disadvantage it is*) of being peculiar to the euclidean setup . . . " (reviewer's italics). The book contains essentially no orientation of the results with respect to the theories of harmonic analysis on topological groups, Banach algebras, or operators on Hilbert space. (One of the very few comments on the operator-theoretic background of a result is unsound,—the operators described on page 215 as having simple spectrum can have nearly arbitrary spectral multiplicities.) It opens with a definition of Fourier transform on the line, and no explanation is even given of why this particular transform, rather than some other, is the object of such intensive study. The fact that there exists a general theory of transforms on locally compact abelian groups, which establishes such basic results as the uniqueness theorem for L_1 transforms, the closure theorems for translations of functions in L_1 and L_2, and the generalized Plancherel theorem, in forms which apply to Fourier integrals and series on n-dimensional euclidean space, as well as to almost periodic functions, expansions into Walsh-Rademacher functions, functions on finite groups, and so forth, is devoid of any significant recognition.

Thus the book is intensive rather than extensive in scope, and strength of logical organization has been somewhat sacrificed for elegance of technique and mathematical style. It is a really valuable addition to the literature, and substantial numbers of students should find it both pleasant and instructive.

I. E. SEGAL

ERRATA, VOLUME 56

Electromagnetic theory. (Review by L. Brillouin.)

p. 375, line 15. For "Rutherford" read "Retherford."

Coxeter, H. S. M. *The real projective plane.* (Review by P. DuVal.)

p. 377, lines 2–4. The statement "but curiously it is never shown, though constantly taken for granted in the sequel, that there is always one such collineation" is in error. It has been pointed out to the author of the review that it is proved on p. 53 of the book that a collineation always exists in which one given quadrangle corresponds to another.