operator A by $\int_{-\infty}^{\infty}\int_{-\infty}^{\infty} (\xi+i\eta)\, dP(\xi)\, dQ(\eta)$ is shown, where $\{P(\xi)\}$ and $\{Q(\eta)\}$ are the spectral families of the real and imaginary parts of A.

In Ch. VII the spectral representation of an unbounded selfadjoint operator is obtained using the Cayley transform and the preceding decomposition of a unitary operator.

The text is very clear and contains some excellent worked examples which are pursued throughout the book. This compensates for the small number of exercises.

J. C. Alexander,
Edinburgh

Subgroups of Finite Groups, by S. A. Chunikhin. 142 pages. (English translation by Elizabeth Rowlinson.) Noordhoff, Groningen, 1969. U.S. $6.25.

This book is essentially a unified exposition of research of the author and his school on certain generalizations of the Sylow theorems. For example, if Π is a set of primes, G a group, and m the largest divisor of the order of G all of whose prime factors lie in Π, then a subgroup of order m in G is called a Π-Sylow subgroup of G. One can now ask under what conditions the Sylow theorems will generalize to Π-Sylow subgroups. A typical result is this: Let G be a group with a composition series in which each index has at most one distinct prime divisor in Π (this is called Π-separability and generalizes the notion of solvability). Then for any $\Pi_1 \subseteq \Pi$, Π_1-Sylow subgroups of G exist and are all solvable and conjugate.

The chapter headings are (1) Sylow Π-properties of finite groups, (2) Factorizations of finite groups based on the indices of chief and composition series, (3) A method for finding subgroups by means of indexials, and (4) Complexes of non-nilpotent subgroups.

The book is on a very specialized topic and is probably not of wide interest. Nevertheless, any graduate student should find it accessible.

R. V. Moody,
University of Saskatchewan

Topics in the Theory of Lifting, by A. Ionescu Tulcea and C. Ionescu Tulcea. x+190 pages. Ergebnisse der Mathematik und ihrer Grenzgebeite Band 48. Springer-Verlag, New York, 1969. U.S. $9.90.

As indicated by the title, this book is concerned with the subject of lifting for spaces of bounded measurable functions. The problem was first formulated by A. Haar and solved by von Neumann in 1931 (for the real line and the Lebesgue measure). The general case has remained unsolved until 1958 when D. Maharam proved the existence of a lifting for a sigma-finite measure space.