evident in research on group representations. Notions from homological algebra and algebraic K-theory have clarified many features of the modular theory, as well as the difficult integral representation theory, which deals with representations over various types of integral domains. Work goes on on all parts of the subject, and there is still a great deal to be discovered.

Serre's book gives a fine introduction to representations for various audiences. It is divided in three parts. The first was originally an appendix to a book on quantum chemistry by Gaston Berthier and Josiane Serre. It gives an exposition of the basics of complex characters and representations, in a style suitable for nonspecialists. There are also a few remarks on the extension of the theory to compact groups.

The second part is for a more sophisticated reader. It gives more detailed information on complex characters, and then proceeds to deeper topics. These come under two main headings. First, there is a discussion of induction theorems, which tell when characters of a group can be obtained in a natural way from characters of certain subgroups. Second, rationally questions in characteristic zero are considered. Thus, one sees what happens when the complex field is replaced by a subfield which may be too small to realize all the complex representations.

The third part is an exposition of Brauer's modular theory. Here, categorical notions (projective covers, Grothendieck groups) are used freely. The connection between complex, integral and modular representations is examined very elegantly, and the Fong-Swan Theorem on lifting modular characters of p-solvable groups is obtained as an application. The Brauer characters are discussed briefly, but block theory is omitted altogether.

Despite the brevity of the book and its omission of many topics, the specialist can profit greatly from reading it. As always with Serre, the exposition is clear and elegant, and the exercises contain a great deal of valuable information that is otherwise hard to find. Also, the discussion of rationality questions is by far the best available. The translation, by L. L. Scott, Jr., is excellent; the design and typography are up to Springer-Verlag's superb standards. Thus, although the book is no substitute for the encyclopedic works of Curtis and Reiner and of Dornhoff, it is highly recommended for specialists and nonspecialists alike.

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Applied and computational complex analysis. II, by Peter Henrici, Wiley, New York, London, Sydney, Toronto, 1977, ix + 662 pp., $32.50.

What would you put into a text for a second course in complex analysis? I expect that most of us, faced with this decision, would follow Hille in accepting some material as canonical and pursue our personal interests for the rest. Hille's basic list consisted of analytic continuation, elliptic functions, entire and meromorphic functions, normal families, and conformal mapping, but was for a rather "pure" course. Suppose it is to be a course oriented toward applications, meaning applications outside of mathematics itself? One has to consider what the applicable parts of the subject are (now, not in some