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Methods of representation theory with applications to finite groups and orders, vol. 1, by Charles W. Curtis and Irving Reiner, Wiley, New York; Chichester, Brisbane and Toronto, 1981, xxi + 819 pp., \$55.00.

At last! After 20 years, C & RII, or at least its first volume, has appeared. Its predecessor, [C & RI] which was otherwise known as *Representation theory of finite groups and associative algebras*, had become something of a classic since its publication in 1962. It has been widely used as a text and general reference on representation theory. *The Scientific Citations Index* lists over 600 journal articles that cite it as a reference. It differs from other books in the field in that it attempts to cover all aspects of representation theory. Few volumes on group representations contain more than a minimal amount of the integral theory, while most books on integral representations use little material from the ordinary or modular theory. One of the appeals of [C & RI] is that it considers both. But because of the extensive progress in these areas over the last two decades, a revision of [C & RI] was appropriate.

However, let us make no mistake. Any suggestion that the new volume is merely a revision or up-dating of the old would do the book a grave injustice. In many ways the two are similar. The styles of writing and organization are essentially the same. But Curtis and Reiner have reorganized the subject matter considerably. They take pains to use different proofs and more modern approaches to theorems wherever appropriate. They make greater (though not extensive) use of homological techniques and include many results that have been proved since the publication of [C & RI]. The major emphasis of C & RII is representations of finite groups, although much material on the structure and representations of algebras and orders is also included. The several group-theoretical results in the book are proved so as to illustrate the power of the representational methods. While a few topics from [C & RI] have been omitted, the treatment of many others has been expanded. It is, of course, impossible to cover all of representation theory in one or two books. However given the length of C & RII and the fact that a second volume is to appear soon, it is difficult to take very seriously the authors' contention that their approach is "not intended to be encyclopedic".

This book is not a research volume in the sense that it contains few if any new results. Rather it is intended to provide a basic background in representation theory. Many areas of greatest research interest will be treated only in volume 2, and several sections in this first volume appear to be aimed at preparation for the next. The book begins with an introduction consisting of nearly 200 pages of preliminary material. Following the introduction, the first two chapters discuss primarily the theory of ordinary and modular group representations and their characters. The main thrust of the book is the