proof by analogy in the first paragraph on p. 292 is unconvincing and the proof in the following paragraph tacitly assumes the converse to the non-equivariant complex Adams conjecture, which is false.)

This volume is addressed to experts in algebraic topology. There is no general introduction and the individual chapters have at most a few sentences of introduction. There is no index and a quite inadequate list of notations. On the other hand, most chapters end with historical comments and a guide to the relevant literature, and there is a very useful bibliography (although several references in the text failed to reach it). The "exercises" tend to be just that early in the book but become references to deeper results and research problems later on. There are numerous misprints. In particular, symbols meant to be completed by hand rather than by typewriter are often incomplete. For example, $\in$ or $=$ may appear where $\notin$ or $\neq$ is intended (e.g., in the statements of Propositions 7.4.3 and 7.7.3). Nevertheless, the experts owe tom Dieck a considerable debt of gratitude, since they will be able to use the book to get some feel for this fascinating new direction in algebraic topology.

REFERENCES

1. M. F. Atiyah and D. O. Tall, *Group representations, λ-rings, and the J-homomorphism*, Topology **8** (1969), 253–297.

2. A. Dress, *Contributions to the theory of induced representations*, Lecture Notes in Math., vol. 342, Springer-Verlag, Berlin and New York, 1973, pp. 183–240.

3. H. Hauschild and S. Waner, *The equivariant Dold theorem* mod k (to appear).

4. G. Lewis, J. P. May and J. McClure, *Ordinary $RO(G)$-graded cohomology* (to appear).

5. J. McClure, *The groups $JO_G(X)$* (to appear).

6. G. B. Segal, *Equivariant stable homotopy theory*, Actes Internat. Congres Math., Tome 2, 1970, pp. 59–63.

7. ______, *Permutation representations of finite p-groups*, Quart. J. Math. Oxford (2) **23** (1972), 375–381.

8. S. Waner, *Equivariant $RO(G)$-graded singular cohomology* (preprint).

J. P. MAY

BULLETIN (New Series) OF THE
AMERICAN MATHEMATICAL SOCIETY
Volume 4, Number 1, 1981

0002-9904/81/0000-0005/$01.75

Integral representations, by Irving Reiner and Klaus W. Roggenkamp, Lecture Notes in Math., vol. 744, Springer-Verlag, Berlin, Heidelberg, 1979, 272 pp., $14.30.

Representations of a finite group G are finitely generated RG-modules, where R is a commutative ring. Thus representation theory is largely concerned with the commutative monoids $m(RG)$ where, for any ring Λ, $m(\Lambda)$ denotes the monoid of isomorphism classes of finitely generated Λ-modules with addition given by the direct sum.

Classically R is taken to be the complex numbers. The monoids $m(\mathbf{C}G)$ have a very simple description: they are freely generated by finitely many irreducible modules. Indeed for any field K whose characteristic does not