

control theory, truncation-error analysis, moment problems, birth-death processes, etc. There is a 16-page bibliography and a subject index. The volume is beautifully produced and is sure to become the major textbook in its field.

R. A. RANKIN

BRYANT, V. and PERFECT H., *Independence Theory in Combinatorics* (Chapman and Hall, 1980), £5.50 (soft cover).

Although there are a great many books on practically every aspect of combinatorial theory, few of these are sufficiently elementary (or sufficiently inexpensive) to be of much use to undergraduate students. The book under review, however, should do well on both counts, being a reasonably-priced introduction to the study of independence spaces (or matroids). The only prerequisites for the book are a little knowledge of vector spaces and (perhaps) graph theory.

The first chapter deals with notation and mentions some of the results to be assumed. The second chapter gives the main definitions and some basic results about independence spaces. In Chapter 3 (Graphic Spaces) various connections between graphs and independence spaces are exhibited and in Chapter 4 (Transversal Spaces) Hall's Theorem and some of its consequences and generalisations are discussed.

In these four chapters there are many exercises (with solutions) and all results stated are rigorously proved. There is also a fifth chapter, different in character from the previous chapters, in which the authors discuss the representation of independence spaces. Here, though, only some of the results are proved.

As already mentioned, the book is of an elementary nature, but nowhere is it of a trivial nature. It is a very good introduction to quite a difficult subject and in many places it illustrates superbly the links between various combinatorial disciplines.

MICHAEL J. GANLEY

BOOKS RECEIVED

Reviews of some of the books listed below will appear in future issues.

C. CLARK, *Elementary mathematical analysis*, 2nd ed. (Wadsworth), pp. 259, \$19.95

P. J. GIBLIN, *Graphs, surfaces and homology*, 2nd ed. (Chapman and Hall), pp. 329, £6.95

G. P. BEAUMONT, *Intermediate mathematical statistics* (Chapman and Hall), pp. 248, £5.95

G. A. BAKER and P. GRAVES-MORRIS, *Padé approximants*, 2 vols. (Encyclopedia of mathematics and its applications, vols. 13 and 14, Addison-Wesley Advanced Book Programme), pp. 325 and 215, \$32.50 and \$29.50

G. JAMES and A. KERBER, *The representation theory of the symmetric group* (Encyclopedia of mathematics and its applications, vol. 16, Addison-Wesley Advanced Book Programme), \$44.50