

## BOOK REVIEWS

MCDONOUGH, T. P. and MAVRON, V. C. (editors), *Combinatorics* (London Mathematical Society Lecture Note Series No. 13, Cambridge University Press, 1974), v+204 pp., £3·20.

This volume contains the Proceedings of the British Combinatorial Conference held in the University College of Wales, Aberystwyth, from 2nd to 6th July 1973. There are 28 papers and a Problem Section. The papers cover a wide range of topics: graphs in many different aspects; enumerative problems; combinatorial designs of various kinds, such as Room squares and Latin rectangles; partition relations for ordered sets; and so on. Thus for its size the book gives, at postgraduate level, a very good impression of modern combinatorics. Clearly such conferences are of great benefit, but perhaps the reviewer may be permitted to wonder whether in this field a little too much is now being published in special volumes of this kind, rather than in the regular periodical literature.

D. MONK

KALLAHER, M. J. and OSTROM, T. G. (editors), *Proceedings of the International Conference on Projective Planes* (Washington State University Press, 1973), vii+287 pp., \$8.00.

The conference referred to in the title took place from 25th to 28th April 1973. The volume, which is reproduced from typescript, contains 21 papers presented at the conference. It is dedicated to the memory of Peter Dembowski (1928-1971), whose early death was a tragic loss to Mathematics, and to this speciality in particular. The memorial note contains a bibliography of 30 items; there is also an index of work quoted in his fine treatise *Finite Geometries*. Inevitably this collection of papers will appeal mainly to experts in the field.

D. MONK

CHAMBERS, LI. G., *Integral Equations: A Short Course* (International Textbook Company Limited, 1976), 198 pp., £7·00.

One could say that books on integral equations cover a continuous spectrum ranging from the completely classical to the ultra-abstract, in which case this book would lie in the infra-red. Those seeking phrases such as "Hilbert space", "spectral theory" or "compact operator" must look elsewhere instead, the author opts for a presentation more suited to an honours course in mathematical methods. The student will have to be familiar with such topics as uniform convergence, mean convergence (in  $L^2$ ), special functions and complex integration. The author's intention is to use such tools to develop and illustrate the elementary theory of integral equations.

Chapter 1 shows how integral equations can arise in practice and introduces Volterra equations and Fredholm equations of the first and second kind. Chapter 2 gives an account of the classical theory of Fredholm equations proceeding via degenerate kernels to Hilbert-Schmidt operators. Symmetric and Hermitian kernels receive special attention and analogies are drawn with matrix algebra. Chapter 3 treats Volterra equations with particular mention of kernels of convolution type and equations related to Abel's equation. Chapter 4 deals with the use of classical integral transformations in solving integral equations. Sections are devoted to applications of the Fourier, Laplace,