gonal Projection and F. Riesz's Representation Theorem; 4, The Hahn-Banach Theorem; 5, Strong Convergence and Weak Convergence; 6, Fourier Transform and Differential Equations; 7, Dual Operators; 8, Resolvent and Spectrum; 9, Analytical Theory of Semi-Groups; 10, Compact Operators; 11, Normed Rings and Spectral Representations; 12, Other Representation Theorems in Linear Spaces; 13, Ergodic Theory and Diffusion Theory; 14, The Integration of Equation of Evolution. The subject matter is developed almost ab initio, though in a concentrated manner, so that each of the above topics is thoroughly discussed. There are also useful references at the end of each chapter to a very satisfactory bibliography given at the end of the book, which is extremely up to date.

A further good feature of the book is the large number of examples used in illustrating theorems; these examples are mainly of commonly met function spaces, etc.

A criticism that must be made is that there is not enough emphasis on the generality of certain results, and one does not get an overall picture of the modern developments of functional analysis (particularly in the theory of locally convex spaces); to be balanced against this is the very large number of more detailed results that can be obtained by methods mainly of use in normed spaces.

Thus the book is something of a recipe book. I have no hesitation in recommending it as a balance to the loftier abstractions of Nicolas Bourbaki.

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Random sampling

THE MONTE CARLO METHOD: The Method of Statistical Trials. Yu. A. Schreider, ed. Trans. from Russian by G. J. Tee. 381 pp. Pergamon Press, Oxford, 1966. $12.50

by Alan G. Henney

It is the intention of the authors to expound the basic features of the Monte Carlo method, to give an adequate account of the techniques used, and to exhibit typical examples to illustrate the principal fields of application.

The result is a book designed for a wide circle of readers, ranging from those who are interested in the fundamental applications of the method, to those who are concerned with comparatively limited problems connected with the peculiarities of simulating physical processes. Techniques are described for generating and transforming random and pseudo-random numbers, computing multidimensional integrals, and simulating complex systems of control and operations research. Several chapters are devoted to applications associated with neutron physics and radio technology. There is also a section dealing with the design of specialized computers for performing Monte Carlo computations.

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The reviewer is a staff member at the Naval Ordnance Laboratory.

Engineering MHD

A TEXTBOOK OF MAGNETOHYDRODYNAMICS. By J. A. Shercliff. 265 pp. Pergamon Press, Oxford. 1965. Paper $3.95

by J. Gillis

The author's declared purpose was to provide a textbook for advanced undergraduate and graduate students, with the emphasis on physical understanding rather than on mathematical technique. This aim would seem to have been realized, and the result is an extremely useful little volume.

The science of magnetohydrodynamics (provided that frequencies are low and displacement current is negligible) is actually pre-Maxwellian; indeed Ritchie's pump, which worked in 1832, was essentially an MHD instrument. However the present great interest in the subject has its origins in the post World War II period and can be traced to three causes; the realization that nearly all of the matter of the universe is in a state to which MHD equations apply, the stability problems of magnetic confinement of a hot plasma, and the usefulness of MHD devices in reactor technology.

A curious feature of the present state of the science is the huge lead of theory over experiment. It is to be