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Book Reviews

H. P. F. SWINNERTON-DYER, *Analytic Theory of Abelian Varieties*, Cambridge, 1974, 90 pp. A no-nonsense, crystal clear account of a difficult and critically important subject. Will make a good introduction to other treatments of the subject, such as Mumford's.

J. A. RICHARDSON, *Modern Art and Scientific Thought*, Illinois, 1971, 191 pp. What does Cézanne have in common with non-Euclidean geometry? How does cubism relate to the Principia Mathematica? Does Kandinsky relate to the rise of quantum mechanics? Read this book and you might find out.

D. H. FREMLIN, *Topological Riesz Spaces and Measure Theory*, Cambridge, 1974, 266 pp. Some subjects are easier to write about than others, and Riesz spaces is one; hence the spate of texts and surveys. This is one of the best. The idea of deriving measure theory from Riesz space should be adopted. The author's discussion of Boolean rings and his $S(A)$ would have been greatly simplified by use of the valuation ring of a Boolean ring, developed by L. Geissinger and others. Also, one misses references to Caratheodory's mass and integral and to Linton's categorizations.

D. G. NORTHCOTT, *A First Course in Homological Algebra*, Cambridge, 1973, 206 pp. It is rare to find an advanced algebra text which is not written by the author for his dozen-odd friends, but this seems to be one. The material is central to presentday mathematics, and we are grateful that it is at least being made accessible to a wide public.

J. F. HOFMANN, *Leibniz in Paris*, Cambridge, 1974, 372 pp. The author was one of the foremost experts ever on Leibniz, and this is his lifetime work. Unlike most historians, he writes engagingly and accessibly. This book should go a long way to do away with the perniciously inaccurate Romantic image of the superior-to-all, universal, saintly "genius," an image which is still inculcated, with criminal disregard for the truth and catastrophic results, to schoolchildren all over the world.

N. BIGGS, *Algebraic Graph Theory*, Cambridge, 1974, 170 pp. Most—though not by any means all—known results relating graphical enumeration to linear algebra are collected here, at long last. A useful reference.

M. AUDI, *The Interpretation of Quantum Mechanics*, Chicago, 1973, 200 pp. Philosophers of quantum mechanics usually trail current research by about one generation. No wonder: The mathematics is too tough. One wonders of what conceivable use to physicists these Johnny-come-lately-accounts stressing the "what if" aspects of past research can be.

D. C. GAZIS, Ed., *Traffic Science*, Wiley, 1974, 293 pp. The mathematical theory of traffic lies at the intersection of fluid mechanics, stochastic processes, optimization, and perhaps other currently fashionable disciplines as well. It is a testing ground and an effective way of making contact with some of the current problems in applied mathematics.

I. R. SHAFAREVICH, *Basic Algebraic Geometry*, Springer, 1974, 439 pp. At long last, an introduction to algebraic geometry that does not require four years of background in commutative algebra. The old and the new are skillfully mixed to produce a book one can learn from. The reader can read and is not asked to do any deciphering, as is sometimes the case with books in algebra.

H. E. Lacey, *The Isometric Theory of Classical Banach Spaces*, Springer, 1974, 270 pp. The reader should compare this book with Banach's to realize how far we have come. This sophisticated account of some of the deepest techniques of real analysis is a worthy successor.

G.-C. Rota

Editor