of some clever lemmas on derivations. As an application, the pfaffian of a 2-vector is defined, and an interesting proof is given of the equality of the determinants of an endomorphism and of its transposed endomorphism, both endomorphisms being considered (following another idea of Papy) as restrictions of a single endomorphism of the direct sum of the module E and its dual.

Due to the usual time lag between research and teaching, multilinear algebra, although fundamental in modern mathematics, is still hardly taught (if taught at all) in most universities. It is to be hoped that many professors will avail themselves of the opportunity created by the publication of this little book, and let their students share the experience of the young Japanese mathematicians who first listened to these challenging lectures.

J. DIEUDONNÉ

Konstruktive Funktionentheorie. By I. P. Natanson. Trans. by K. Bögel. Berlin, Akademie-Verlag, 1955. 14+515 pp. 36 DM.

The phrase "constructive theory of functions" was coined by S. Bernstein to describe the part of analysis that deals with the approximate representation of functions of a real variable by means of combinations of other functions. Thus it includes the theory of approximation, in various metrics, by polynomials and trigonometric polynomials; the theory of interpolation and approximate integration (formerly known inappropriately as "mechanical quadratures"); large portions of Fourier analysis and the theory of orthogonal functions; and related subjects like moment problems. All this may fairly accurately be thought of as the classical part of the subject. Although its fine structure (to borrow a term from atomic physics) is still undergoing investigation, the main results are at least 25 years old, often much older. There are also a number of topics that clearly belong to the subject but are of more recent development: approximation by translations of a function (and hence Wiener's Tauberian theorems); approximation by entire functions (developed by Kober and Bernstein within the last ten years); weighted polynomial approximation on infinite intervals (here the fundamental problem was finally solved by Pollard, and independently by Ahiezer and Bernstein, in 1953); closure and completeness theorems; extremal problems for polynomials, trigonometric polynomials, and more general classes of functions (currently enjoying a renaissance at the hands of Rogosinski and others); and the theory of special classes of functions that admit simple representations, such as absolutely mono-