On the other side of the coin, this book is still, strictly speaking, not a text. Exercises for the student to worry about are virtually nonexistent, although many proofs leave sufficient gaps to provide challenge. The removal of some peripheral material to exercises would give the book more of a Clifford-Preston flavor, while allowing some contact with every chapter in a one-semester course. Complaints about choice of content should be forestalled until the appearance of a second volume, due out in the near future and promising cohomology, semilattices, Lie semigroups, and other topics of current interest. It strikes the reviewer that cohomology, which has provided the subject with some of its most elegant theorems, would have been well invested in the first volume. Nevertheless, the reviewer believes Wallace would be happy with this book, and in this subject there can be no better compliment.

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Analytic functional calculus and spectral decompositions, by Florian-Horia Vasilescu, Mathematics and its Applications, Volume 1, D. Reidel Publishing Company, Dordrecht, Holland, 1982, xiv + 378 pp., Dfl. 180,–, U.S. $78.50. ISBN 90-277-1376-6

A linear transformation T acting on a finite-dimensional complex vector space $\mathscr{X}$ can always be decomposed as $T = D + N$, where (i) D is diagonalizable and N is nilpotent; and (ii) $DN = ND$; moreover, such a decomposition is unique with respect to the conditions (i) and (ii), and both D and N are indeed polynomials in T. When $\mathscr{X}$ is an infinite-dimensional Banach space, such a representation for a bounded operator T is no longer true, but an important class of transformations introduced and studied by N. Dunford [3] in the 1950s possesses a similar property.

By definition, a *spectral operator* T acting on $\mathscr{X}$ is one for which there exists a spectral measure E (i.e., a homomorphism from the Boolean algebra of Borel subsets of the complex plane $\mathbf{C}$ into the Boolean algebra of projection operators on $\mathscr{X}$ such that E is bounded and $E(\mathbf{C}) = I$) satisfying the following two properties: (1) $TE(B) = E(B)T$; and (2) $\sigma(T|_{E(B)\mathscr{X}}) \subset \overline{B}$, for all B(Borel) $\subset \mathbf{C}$. Such an E is called a *resolution of the identity* for T, and is