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Positive operators, by C. D. Aliprantis and O. Burkinshaw, Pure and Applied Mathematics, vol. 119, Academic Press, New York, 1985, xvi + 367 pp., $59.00. ISBN 0-12-050260-7

The theory of vector lattices or Riesz spaces is a natural outgrowth of Lebesgue integration theory. It traces its origins to the work of Kantorovic and Freudenthal in the thirties and before that to a paper of F. Riesz in 1928.

Over the years the subject has undergone some changes of emphasis. Although closely allied to general linear functional analysis, in particular topological linear spaces, Banach spaces, and operator theory, it has remained distinct in its viewpoint. The development of the subject has, however, mirrored trends in functional analysis.

In the early days of the subject the theory of Banach lattices received some prominence. During the fifties and sixties the trend in functional analysis was towards increasing abstraction, and the fashion was to study locally convex spaces rather than Banach spaces. In vector lattice theory the same trend towards abstraction tended to produce the study of pure vector lattices without topological structure and of locally convex vector lattices. In some senses the marriage of locally convex spaces and lattices was natural and promising, as there is some interplay between order structure and topology. Indeed numerous researchers were attracted to the subject, and a number of books and monographs in the late sixties and early seventies resulted. Ultimately, however, there seemed to be little of real consequence resulting from this theory, and as fashions changed so vector lattice theory turned back to more concrete considerations.

Thus, in the last couple of decades, researchers have returned to questions concerning Banach lattices and positive operators between them. Probably the greatest influence in this direction was the work of Schaefer and his school, and, in particular, Schaefer's monograph [**1**] published in 1974.

In their current book, Aliprantis and Burkinshaw, who have been amongst the forefront of research in this area in recent years, are not seeking to compete with or replace Schaefer's book or the more recent book of Zaanen [**2**]. They aim instead to complement these books and concentrate on new developments in the eighties. Thus, they avoid some of the topics that one would normally expect in such a work. One finds no reference to spectral properties of positive operators (Perron-Frobenius type results) or to ergodic theorems. Unfortunately the omitted topics do include some of the best motivating examples for the general study of positive operators.

The authors spend the first hundred pages developing positive operators without any topological assumptions. The material in the first two chapters is more or less well known and common to several texts although the treatments vary and some modern wrinkles have been introduced. Then, after a short chapter on Banach spaces, they study some modern research developments in the final two chapters (about half the book).