seems unusually readable and has the additional attraction, which devotees of the subject have learned not to take for granted, that the separation theorem is correctly stated.

The last two chapters treat subjects which are "nonstandard" in one sense or another. In Chapter 8 the authors discuss unbounded control input elements and sensing functionals. This subject has no finite dimensional counterpart but is "of the essence" in discussing control and observation of processes described by partial differential equations where control variables appearing in the boundary conditions and state measurements made at boundary points are important both because they are physically the most realizable and because, mathematically, they tend to provide the strongest controllability and observability results. The treatment is admirably general from the abstract point of view but appears, at first reading to be limited in application to analytic semigroups. This is certainly forgivable since the corresponding theory presented in a context wide enough to include, e.g. hyperbolic systems, would necessarily be very complicated and would have to resort to description of a number of special cases. Chapter 9 is a discussion of time dependent infinite dimensional systems carried out in the context of quasievolution operators and generators This material is nonstandard to the degree that in the differential equations and functional analysis literature generally, the extension to infinite dimensional systems of the very complete theory of finite dimensional linear systems with time varying coefficients is fraught with all sorts of technical difficulties. The main objective of this section is the study of the linear-quadratic optimal control problem (linear system, quadratic objective function) for a time-varying infinite dimensional system on a finite time interval.

The book has ample lists of references, one following each chapter and a long supplementary list at the end. I do feel that more commentary on the nature of these referenced contributions in the body of the text would have been helpful but this is mere quibbling. The book is a very sound one and the authors are to be congratulated on a significant achievement.

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Constructive functional analysis, by D. S. Bridges, Research Notes in Mathematics, Volume 28, Pitman, London-San Francisco-Melbourne, 1979, vi + 203 pp., $15.00.

The appearance in 1967 of Errett Bishop's book *Foundations of constructive analysis* was a significant event. Until then it had been a commonplace that the constructive point of view toward mathematical truth could be successful only in a few areas of mathematics, and certainly not in analysis or topology. That is, it was believed that these areas would inevitably be trivial and uninteresting if constructive principles were followed. Errett Bishop deflated this opinion by showing explicitly how to develop a substantial portion of abstract analysis constructively. Moreover, the subject matter and style of