havior, e.g. regularity and asymptotic behavior. He also has a chapter on nonlinear equations, with emphasis both on the successive approximation theory associated with (7) and on monotone operator methods. (For recent results on equations such as (8), (9) see for instance Kato [1], [2].) The last chapter is concerned with optimal control theory.

Tanabe's book is a good one. A lot of good material is gathered together and unified nicely. Notable features include a nice treatment of fractional powers of operators, a unified exposition of J.-L. Lions' variational approach with evolution operator theory, a sketch of higher order elliptic boundary problems in L^p spaces, $1 < p < \infty$, some nice applications of (nonlinear) monotone operator theory in reflexive Banach spaces, and more.

Unfortunately, the book has some flaws. In many places the English is awkward and there are a number of errors, linguistic, typographical, and mathematical as well.[1] When the book again goes to press, either for a second edition or a new printing, the book will undoubtedly benefit from having the services of a conscientious and competent translation editor.

I wish to thank Professor James G. Hooten of L.S.U. for his helpful comments.

References

1. T. Kato, *Quasi-linear equations of evolution, with applications to partial differential equations*, Proc. Sympos. Dundee, 1974, Lecture Notes in Math., no. 448, Springer-Verlag, Berlin and New York, 1975, pp. 25–70.

2. ______, *On the Korteweg-de Vries equation*, Manuscripta Math. **28** (1979), 89–99.

JEROME A. GOLDSTEIN

[1]I'll be happy to supply interested readers with a list of the errors.

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Generalized inverses of linear transformations, by S. L. Campbell and C. D. Meyer, Jr., Surveys and Reference Works in Mathematics, No. 4, Pitman, London, San Francisco and Melbourne, 1979, xi + 272 pp., $42.00.

Although Generalized Inverses (GIs) date back to about 1900, and have been developed more or less continuously since then, with explosive growth since the 1950s (the annotated bibliography of Nashed and Rall [2, pp. 771–1041] lists 1775 related publications through 1975), the subject has long been a somewhat murky backwater. GI .theory is notorious for having spawned disproportionately many inferior published articles (presumably hundreds more having been deservedly ambushed on their way to print), and, apart from a wide acceptance by statisticians, there has as yet been only limited interaction with other parts of mathematics. The subject has not penetrated the undergraduate curriculum, and probably most working mathematicians regard GIs as at best a mystery–or even a kind of mysticism.

Nevertheless, certain basic items of GI lore should, in the reviewer's opinion, become part of every mathematician's tool kit; and, among the