This reduces the study of the asymptotic behavior of the solutions of the original nonlinear equation to the study of the iteration of two explicit transformations. These are of simple enough analytic form to permit the use of graphical analysis with great effect. It is this approach which the author has exploited.

Equations of this quasi-linear type are of great interest from the theoretical point of view since they furnish a vital link between the well-regulated world of linearity and the chaotic universe of nonlinearity. It is therefore a valuable contribution to the theory of nonlinear differential equations to have the behavior of the solutions of an important class of these equations presented in as complete and systematic a fashion as is done by the author. References to rigorous proofs of results used in the text, which is aimed at the engineer who must use mathematics, rather than the mathematician who is poaching in the domain of the engineer, are given throughout, particularly to papers of Bilharz, Klotter, Hodapp, and Scholz.

The occurrence of retarded control, which introduces a time-lag in the exertion of the forcing term, gives rise to differential-difference equations in place of the conventional differential equation. There is a brief treatment of this phenomenon in this volume. Those interested in further discussion of the mathematical and engineering consequences of retardation may wish to refer to the papers of Minorsky, cf. Journal of Applied Physics vol. 19 (1948) pp. 332–338, where further references may be found.

The last part of the volume treats the problem of the control of a missile, a problem involving more than one degree of freedom.

The editors of the Princeton University Press are to be congratulated upon adding another attractive and interesting volume to their series on nonlinear mechanics.

RICHARD BELLMAN

Complex variable theory and transform calculus. By N. W. McLachlan. 2d ed. Cambridge University Press, 1953. 11+388 pp. $10.00.

This book is the second edition of a text first published in 1939 (reviewed in Bull. Amer. Math. Soc. vol. 47 (1941) pp. 8–10). The principal changes are in the early, function-theoretic part. The author says that his exposition should now be "rigorous enough for all but the pure mathematician (to whom the book is not addressed)." On the whole this claim seems justified, in some instances more than justified, as on p. 116 where the continuity of a particular entire function is elaborately discussed. There are still mathematical obscurities. For instance, the definition of regular makes $z^{3/2}$ regular at