sequential minimax theory for the drift in an additive process—which might have been mentioned.

The material has been carefully planned and presented, and the proofs are neat and compact. Generous use has been made of outside references to most of the more delicate points, and for many of the applications. There is a set of problems at the end of the book, of a wide range of difficulty. There are a number of more or less easily rectifiable misprints.

The following is a reproduction of the table of contents: Chapter 1, Stationary Stochastic Processes and their Representation; Chapter 2, Statistical Questions when the Spectrum is Known; Chapter 3, Statistical Analysis of Parametric Models; Chapter 5, Applications; Chapter 6, Distribution of Spectral Estimates; Chapter 7, Problems in Linear Estimation; Chapter 8, Assorted Problems.

DONALD A. DARLING

*Einführung in die Theorie der Differentialgleichungen im reellen Gebiet*, by Ludwig Bieberbach, Berlin, Göttingen, Heidelberg, Springer-Verlag, 1956. 8+281 pp. DM 29.80. Bound DM 32.80.

This book, volume 83 in the Grundlehren series, has its genesis in the author's *Theorie der Differentialgleichungen*, which appeared as volume 6 in the same series in 1923. This earlier work had a third edition (1930), and was reprinted by Dover in 1944. Those chapters having to do with differential equations in the complex plane (which included material on analytic equations, regular and irregular singular points) have been expanded into a separate volume, *Theorie der gewöhnlichen Differentialgleichungen*, which appeared as volume 66 of the Grundlehren series. The present volume is an amplification and updating of the remaining chapters of the 1930 work. It is intended as an introduction to the subject of differential equations.

The book is divided into six sections 0–5. The introductory section 0 considers the single equation $dy/dx=f(x, y)$, and by various examples the questions of existence, uniqueness, and the behavior of solutions are posed. The section ends with a proof of the existence and uniqueness theorems assuming $f$ satisfies a Lipschitz condition. Section 1 is an extensive treatment of existence and uniqueness results. It is much more detailed than the corresponding material in the 1930 book (56 pages to 27 pages), and for systems the author introduces vector and matrix notation. The equation $dy/dx=f(x, y)$, where $f$ is continuous, and $|f(x, y)| \leqq M|y|+N$ on $a\leqq x\leqq b$, $|y|<\infty$, is considered. The existence theorem, using the polygonal approximations and the Ascoli lemma, is proved. Uniqueness results of the Osgood