The last section provides a table of useful transforms of the various types discussed.

Some of the recent work involving the use of the integral equation of the Wiener-Hopf type is conspicuous by its absence. It is in these topics that Fourier methods come to the forefront because, for the most part, there are no other methods available. Such a discussion would also serve to accentuate the importance of the role of function-theoretic methods in the integral transforms discussed in this text.

ALBERT E. HEINS

Vorlesungen über Differential- und Integralrechnung. Vol. II. *Differentialrechnung auf dem Gebiete mehrerer Variablen.* By A. Ostrowski. Basel, Birkhäuser, 1951. 482 pp. 67 Swiss fr.

Volume I of this work appeared in 1945, and was reviewed by the present writer (Bull. Amer. Math. Soc. vol. 52 (1946) pp. 798–799). The first volume was devoted to the structure of differential and integral calculus for functions of a single variable, and to the development of the rules of calculus as they apply to the standard elementary functions. This second volume carries the study of limits and continuity further than was done in the first volume, and deals with a variety of additional topics. There are eight chapters. A third volume is planned to complete the work. It will deal with integral calculus in relation to functions of several variables.

Chapter I is entitled *Infinite sets.* After a discussion of denumerable and nondenumerable sets, the chapter is mainly taken up with the concepts of point set topology for Euclidean space. Chapter II treats the theory of limits and continuity for real functions defined on sets in Euclidean space. Chapter III deals with infinite sequences and series, beginning with the concepts of limits inferior and superior for sequences. A prominent place is given to a useful but apparently little known theorem of Cauchy, which reads as follows: Suppose $0<A_1<A_2< \cdots, A_n \to \infty$ as $n\to\infty$, and let $\{a_n\}$ be any sequence. Then

$$\frac{a_{n+1}-a_n}{A_{n+1}-A_n} \to d \quad \text{implies} \quad \frac{a_n}{A_n} \to d.$$

This holds as well if $d= \pm\infty$. There are numerous applications of this theorem, among which is a proof of one of the forms of l'Hospital's rule (in Chapter IV). The treatment of series of constant terms follows standard lines. There is a generalized form of Raabe's test, but the very useful test of Gauss is omitted. The discussion of uni-