deed, this reader will find in Walsh's book a refreshing change from the extreme abstractness of some present-day mathematics and perhaps he too will find it encouraging that so much new and important mathematics can still be discovered by relatively elementary methods.

<div align="right">MORRIS MARDEN</div>

Anwendung der elliptischen Funktionen in Physik und Technik. By F. Oberhettinger and W. Magnus. (Die Grundlehren der Mathematischen Wissenschaften in Einzeldarstellungen, vol. 55.) Berlin, Springer, 1949. 8+126 pp.

The authors' collection, *Formeln und Sätze für die speziellen Funktionen der mathematischen Physik*, which appeared some years ago, is now supplemented by a treatment of those applications of elliptic functions and integrals which arise in the study of a wide variety of physical and engineering problems. With the exception of some conformal maps, none of the results of the theory of elliptic functions are proved. All formulas used in the applications are, however, collected in the first chapter and, wherever desirable, have been supplemented by useful comments.

In the first chapter the authors study elliptic integrals of the first and second kind in Legendre's normal form, as well as the corresponding complete integrals; the elliptic integral of the third kind is not considered. A variety of expansions and transformation formulas are listed, together with a large number of integrals reducible to them. This is followed by the four theta-functions and their properties and by a similar treatment of the Jacobian elliptic functions. A somewhat briefer treatment is accorded the Weierstrass theory. The second chapter deals with the conformal mapping of ellipses and certain types of polygons. The third chapter is devoted to a large number of examples of electrostatic distributions in two dimensions which may be treated by means of elliptic functions. The fourth chapter deals with similar applications to problems in fluid dynamics. In particular, there are some problems on wind tunnels, such as the airfoil in a wind tunnel of elliptic cross-section. The fifth chapter is a collection of various unrelated physical problems, such as the pendulum and the potential due to a charged ellipsoid. Finally, the authors consider a problem of Chebyshev approximation which leads to elliptic functions.

A short, but useful, bibliography follows each chapter and the book concludes with a short set of tables of the Legendre integrals of the first and second kind.