we note the omission of cosmological applications (treated so well in Tolman's book) and of time-space measurements in connection with the experimental verifications of General Relativity Theory. On the other hand much space is devoted to the equations of motion as deduced from the field equations.

The third part (pp. 245–279) is of much more special character and deals with the unification of the gravitational and electromagnetic field. Here we find an exposition of Weyl's and Kaluza's theories and of their generalizations on which the author collaborated with Einstein. This part will rather interest specialists than students.

The book is well designed. The title of the book is too modest. It is not an introduction; it is an excellent book on the principles of Relativity Theory.

L. INFELD

Degree of approximation by polynomials in the complex domain. By W. E. Sewell. (Annals of Mathematics Studies, no. 9.) Princeton University Press, 1942. 9+236 pp. $3.00.

The main subject of this book is the relation of the analytic and continuity properties of a function inside and on the boundary of a region, and the degree of approximation by polynomials. It is related to the analogous questions for functions of a real variable and approximation by trigonometric sums, as presented in treatises of C. de la Vallée Poussin, S. Bernstein, D. Jackson and G. Szegö. The problems of the present work originate with the fundamental theorem that a function analytic in a Jordan region and continuous in the closed region can be uniformly approximated by polynomials. This was proved by J. Walsh in 1926. His treatise *Interpolation and approximation by rational functions in the complex domain* (Amer. Math. Soc. Colloquium Publications, vol. 20, 1935) is an important forerunner to the present book.

This book is divided into two parts. Part 1 (Chapters II, III, and IV) is devoted to a study of the relation between the degree of convergence of certain sequences of polynomials $p_n(z)$ to a function $f(z)$ on a point set E in the z-plane on the one hand and the continuity properties of $f(z)$ on the boundary C of E on the other hand (Prolem α). Recent contributions to Problem α are due primarily to J. Curtiss, Sewell, and Walsh.

In Part II (Chapters V–VIII) a more delicate problem is considered. Let E with boundary C be a closed limited set, whose complement K is connected and regular; thus a function $w=g(z)$ maps K conformally on the exterior of the unit circle $|w|=1$ in the w-plane so