Weierstrass, of the function defined by the series at an interior point of this circle. Likewise the series defines a function which is holomorphic at every point exterior to this unit circle and the circle is a natural boundary of the function thus defined. In the theory of Weierstrass there is no means of continuation by which one may establish a connection between the function defined by (1) in the interior of the unit circle and that so defined in the exterior of this circle. In fact, from the point of view of Weierstrass they are to be treated as unrelated functions.

Nevertheless Borel shows that a suitable continuation does exist for establishing the connection between these functions, this being constituted by a series of polynomials. In fact, one can form a series of polynomials

$$\sum_{p=0}^{\infty} P_p(z)$$

which converges uniformly on every finite segment of every straight line of argument $m\sqrt{2} + n$, where m and n are integers and $m \neq 0$, an infinity of which lines lie in every angle issuing from the origin; on each of these lines the series converges to the sum of the series in (1).

R. D. CARMICHAEL.

SHORTER NOTICE.

Elements of Optics for the Use of Schools and Colleges. By GEORGE W. PARKER, M. A. London, New York, and Bombay, Longmans, Green and Company, 1915. vi + 122 pp.

THE mathematical prerequisites necessary for reading this little book have been reduced to a minimum. A student whose knowledge of mathematics is limited to an acquaintance with elementary geometry, the solution of simple algebraic equations and a few fundamental propositions in trigonometry will be able to follow the treatment at all places. The knowledge of physical phenomena presupposed is also reduced to an extreme minimum. The book is therefore of a strictly elementary character. It is written in a satisfactory style and its material is arranged in interesting sequence, so that it may be