Weierstrass's Non-Differentiable Function, the Laguerre Polynomials, and some formulae of Ramanujan.

§ II contains 12 papers, written between 1910 and 1946, on widely scattered topics in the Theory of Functions.

§ I was edited by E. M. Wright, § 2 by M. L. Cartwright, who give valuable comments, corrections and references to more recent work.

E. T. COPSON

CLEGG, JOHN C., *Calculus of Variations* (University Mathematical Texts Series, Oliver and Boyd, 1968), ix + 190 pp., 21s. (Paper bound), 27s. 6d. (cloth bound).

In a modern undergraduate course on mathematics calculus of variations is often disposed of in a few lectures, where most of the emphasis is on physical applications. Less often a much fuller course, with care taken to put the subject on a more rigorous basis, may be given. For students in both these types of courses, the book under review should prove an excellent text. For a comparatively short book a surprisingly large number of topics is covered: to mention a few, corner conditions, fields of extremals and the sufficiency conditions in terms of Weierstrass's E-functions. In the last chapter there are short discussions of integrals involving higher derivatives than the first and of the extrema of double integrals. There are many illustrative examples worked out in full detail and physical applications are given a prominent place. A minor criticism is that more examples for the student to tackle might have been provided.

R. P. GILLESPIE

POLYA, G., *Patterns of Plausible Inference* (Second Edition, Princeton University Press, 1968), x + 225 pp, 72s.

In a review of the second edition of so celebrated a book, there is obviously no need either for a synopsis of the contents of the main body of the text or for a detailing of the features which will continue to provide entertainment, instruction, food for thought, and inspiration for thought to readers of all sorts of mathematical tastes and backgrounds.

The first edition was published in 1954. New in this edition is an appendix consisting of (i) a 10-page article " Heuristic Reasoning in the Theory of Numbers " (reprinted from the *American Mathematical Monthly*, 1959), and (ii) 23 pages of additional comments and problems. This material is designed as a supplement to the whole of Polya's two-volume work " Mathematics and Plausible Reasoning " (of which " Patterns of Plausible Inference " is volume II). Solutions are given for the 33 new problems.   T. A. WHITELAW