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G. N. Watson

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COMPLEX INTEGRATION
AND
CAUCHY'S THEOREM

by

G. N. WATSON, M.A.

Fellow of Trinity College, Cambridge

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PREFACE

MY object in writing this Tract was to collect into a single volume those propositions which are employed in the course of a rigorous proof of Cauchy's theorem, together with a brief account of some of the applications of the theorem to the evaluation of definite integrals.

My endeavour has been to place the whole theory on a definitely arithmetical basis without appealing to geometrical intuitions. With that end in view, it seemed necessary to include an account of various propositions of *Analysis Situs*, on which depends the proof of the theorem in its most general form. In proving these propositions, I have followed the general course of a memoir by Ames; my indebtedness to it and to the textbooks on Analysis by Goursat and by de la Vallée Poussin will be obvious to those who are acquainted with those works.

I must express my gratitude to Mr Hardy for his valuable criticisms and advice; my thanks are also due to Mr Littlewood and to Mr H. Townshend, B.A., Scholar of Trinity College, for their kindness in reading the proofs.

G. N. W.

TRINITY COLLEGE,
February 1914.

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