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Sir George Stokes (1819-1903) established the science of hydrodynamics with his law of viscosity describing the velocity of a small sphere through a viscous fluid. He published no books, but was a prolific lecturer and writer of papers for the Royal Society, the British Association for the Advancement of Science, the Victoria Institute and other mathematical and scientific institutions. These collected papers (issued between 1880 and 1905) are therefore the only readily available record of the work of an outstanding and influential mathematician, who was Lucasian Professor of Mathematics in Cambridge for over fifty years, Master of Pembroke College, President of the Royal Society (1885-90), Associate Secretary of the Royal Commission on the University of Cambridge and a Member of Parliament for the University.

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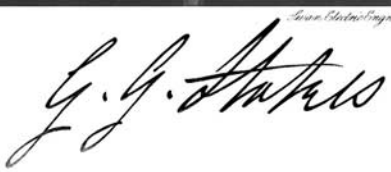

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SIR GEORGE GABRIEL STOKES, BART.,

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KT PRUSSIAN ORDER *POUR LE MÉRITE*, FOR. ASSOC. INSTITUTE OF FRANCE, *ETC.*
MASTER OF PEMBROKE COLLEGE AND LUCASIAN PROFESSOR OF MATHEMATICS
IN THE UNIVERSITY OF CAMBRIDGE.

Reprinted from the Original Journals and Transactions,
with brief Historical Notes and References.

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PREFACE.

IN the preface to the third volume Sir George Stokes expressed his intention, should life and health last, to complete the republication of his Scientific Papers without delay. These conditions were not destined to be fulfilled; and the task of completing this memorial of his genius has fallen to other hands.

This fourth volume includes the Papers that were published between 1853 and 1876. In accordance with the plan followed in the previous volumes, only memoirs and notes involving distinct additions to scientific knowledge have been included; this restriction has however had little effect except in the omission of some addresses, extracts from which will be collected together in another place. The texts of the papers have been reproduced as they originally appeared, with the exception that obvious misprints have been corrected. A few historical and elucidatory footnotes, those within square brackets, have been added by the Editor.

Advice has been received, in the selection and treatment of the material, from Lord Kelvin and Lord Rayleigh, who have seen most of the proof sheets. Acknowledgment is also due to Prof. Liveing who has very kindly examined the papers dealing with technical chemical and spectroscopic subjects, and to Mr F. G. Hopkins, who has gone through the work on the reactions of haemoglobin.

The remaining papers, together with a biographical notice which is being prepared for the Royal Society by Lord Rayleigh, will appear in a fifth volume. It is hoped that it will be possible to arrange a selection from Sir George Stokes' scientific correspondence, for publication either there or in a separate form: some extracts from it, relating to the contents of the present volume, are here printed in an Appendix.

The portrait prefixed to this volume is taken from an oil painting made in 1874 by Mr Lowes Dickinson, which belongs to Pembroke College.

J. LARMOR.

ST JOHN'S COLLEGE, CAMBRIDGE,
January, 1904.

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