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A. S. Eve

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RUTHERFORD

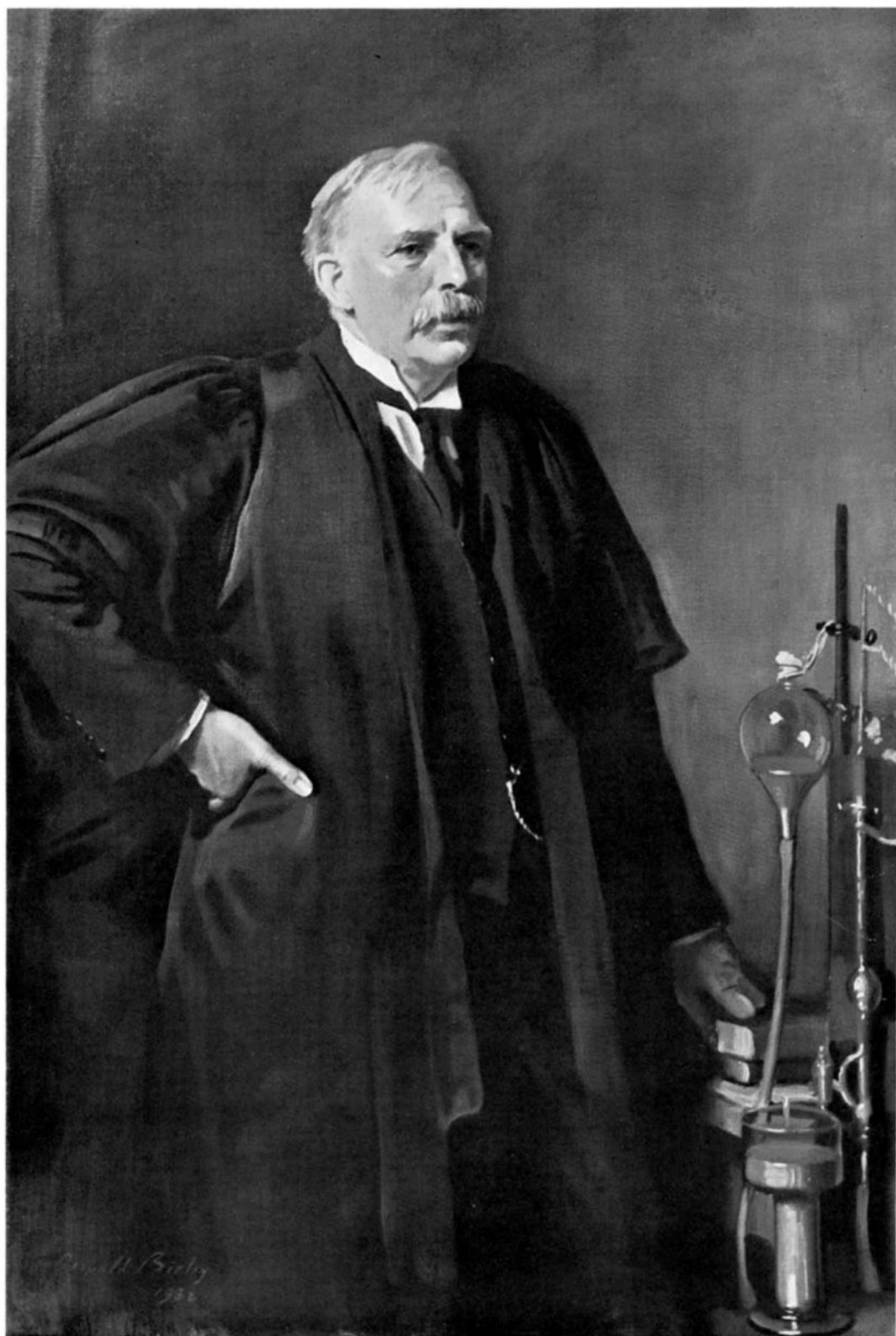
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RUTHERFORD

*Being the Life and Letters of the
Rt Hon. Lord Rutherford, O.M.*

By

A. S. EVE, C.B.E., D.Sc., LL.D., F.R.S.

*formerly Macdonald Professor of Physics
McGill University*

With a foreword by

EARL BALDWIN OF BEWDLEY, K.G.

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DEDICATED TO
LADY RUTHERFORD
WITHOUT WHOSE CARE AND FORESIGHT
THIS BOOK
COULD NOT HAVE BEEN WRITTEN

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It is the great beauty of our science, that advancement in it, whether in a degree great or small, instead of exhausting the subject of research, opens the doors to further and more abundant knowledge, overflowing with beauty and utility.

FARADAY

* * * *

In 1911 Rutherford introduced the greatest change in our idea of matter since the time of Democritus.

EDDINGTON

* * * *

In watching the rapidity of this tide of physics I have become more and more impressed by the power of the scientific method of extending our knowledge of Nature. Experiment, directed by the disciplined imagination either of an individual or, still better, of a group of individuals of varied mental outlook, is able to achieve results which far transcend the imagination alone of the greatest philosopher.... From time to time there arises an illuminating conception, based on accumulated knowledge, which lights up a larger region and shows the connection between these individual efforts, so that a general advance follows.

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PREFACE

In this book it has been my aim to hold up a mirror in which Rutherford may reveal himself, just as he was, in lectures, books, papers, speeches, portraits, letters, and casual talk.

All his books and papers, and many of his letters, were typed by his wife and it is due to Lady Rutherford's care that both the letters written to her husband and the innumerable reprints of papers sent to him have been preserved. The collection of reprints is now in the Cavendish Laboratory.

This careful collection and arrangement of material has greatly facilitated my work; I am also indebted to many friends of Rutherford for valuable help, in particular to Mr S. C. Roberts, to Professor J. Chadwick, to Professor M. L. E. Oliphant, and not least to my wife, who encouraged me at those times when the task seemed beyond my powers.

A. S. E.

May 1939

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FOREWORD

BY

EARL BALDWIN OF BEWDLEY

The world knew Lord Rutherford as a man of science, knew—perhaps without fully appreciating its significance—of his work on nuclear physics: it was my privilege to know him as a man. Others, therefore, may write of the unique part he played in the rapid advancement of the frontiers of knowledge which has been so striking a feature of this century, and of the unfailing source of inspiration which his collaborators and pupils found in him. I write of him with the memory of his ever fresh and boyishly eager personality, of his patient kindness and of his almost uncanny gift for singling out from a mass of confusing detail the one significant fact.

To me, as Chancellor of the University of Cambridge, there came many opportunities in the last few years to see how fruitful was his spirit. The Cavendish Laboratory under his guidance and through the boundless enthusiasm which radiated from him to inspire even the youngest of those about him, had reached even higher and more sustained levels than ever before. Indeed the Cavendish Laboratory *was* Rutherford, bone of his bone. He was no remote or inaccessible being: the students were his familiars, they were his friends. He encouraged them in their difficulties, he was quick to praise their success. Frank yet kindly, his criticism always had a force and vigour that suggested new and promising ideas to replace those it had demolished.

His was no weakling spirit demanding for its exercise seclusion from the world of every day, nor was he careless of the great and increasing change that science was working in every aspect of the life of man. With a vigour no whit diminished by his scientific labours he devoted much of his time to secure the application in

industry of the methods and results of scientific research. He was convinced, none more so, that continued industrial prosperity in this country could only come from such an application and, as Chairman of the Advisory Council for Scientific and Industrial Research during the last seven years of his life, he never spared himself in working for its achievement. Perhaps they are but few who are aware just how much British industry owes to him, but it was my good fortune on many occasions to receive the benefit of his advice in this and other ways. His shrewd insight and practical mind rarely if ever failed him nor was his aid ever invoked in vain.

And yet, having said this much, how little has one really described him! His refreshing personality, his dauntless spirit, the merry twinkle of his eye, the exuberance of his ever-youthful, ever-joyful, enthusiasm: how can they be recaptured and confined within the limits of mere words! As well might one essay to distil the essence of the wind. One can only say he was a man, a peer among men: he was Rutherford.

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