

THE EVOLUTION OF PHYSICS

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PREFACE

BEFORE you begin reading, you rightly expect some simple questions to be answered. For what purpose has this book been written? Who is the imaginary reader for whom it is meant?

It is difficult to begin by answering these questions clearly and convincingly. This would be much easier, though quite superfluous, at the end of the book. We find it simpler to say just what this book does not intend to be. We have not written a textbook of physics. Here is no systematic course in elementary physical facts and theories. Our intention was rather to sketch in broad outline the attempts of the human mind to find a connection between the world of ideas and the world of phenomena. We have tried to show the active forces which compel science to invent ideas corresponding to the reality of our world. But our representation had to be simple. Through the maze of facts and concepts we had to choose some highway which seemed to us most characteristic and significant. Facts and theories not reached by this road had to be omitted. We were forced, by our general aim, to make a definite choice of facts and ideas. The importance of a problem should not be judged by the number of pages devoted to it. Some essential lines of thought have been left out, not because they seemed to us unimportant, but because they do not lie along the road we have chosen.

Whilst writing the book we had long discussions as to the characteristics of our idealized reader and worried a good deal about him. We had him making up for a complete lack of any concrete knowledge of physics and mathematics by quite a great number of virtues. We found him interested in physical and philosophical ideas and we were forced to admire the patience with which he struggled through the less interesting and more difficult passages. He realized that in order to understand any page he must have read the preceding ones carefully. He knew that a scientific book, even though popular, must not be read in the same way as a novel.

The book is a simple chat between you and us. You may find it boring or interesting, dull or exciting, but our aim will be accomplished if these pages give you some idea of the eternal struggle of the inventive human mind for a fuller understanding of the laws governing physical phenomena.

A. E.

L. I.

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