WILLIAMS, L. Pearce (1968) *Relativity Theory: Its origins and impact on modern thought*. New York: Wiley n.p. Pp. viii+159

This is one of a series of individual volumes entitled 'Major Issues in World History'. The series volumes have been edited by history scholars, and as the senior editor of the series explains in the preface, their themes and titles have been determined by two criteria: (1) that the issue be of relevance to undergraduate lecture courses in history and (2) that it be an issue which the scholar editor knows thoroughly and in which he has done creative work. Thus special relativity finds itself side by side with such other 'major issues' as the Norman conquest and the twelfth-century renaissance.

The book consisting of relevant extracts from the works of scientists, philosophers and laymen, is divided into four parts. There is a brief commentary by the editor before each extract giving the historical background and the general theme of the work.

Part I deals with 'the Origins of the Special Theory of Relativity'. It begins with an extract from Newton's *Principia* describing the Newtonian concepts of space and time, of absolute and relative motion. This is followed appropriately enough by Mach's criticism of Newtonian views as given in the *Science of Mechanics*. We then have Michelson & Morley on their famous experiment. As the editor points out, this experiment is more often cited than read today. The original paper describing the experiment is an interesting part of this collection. The implications of this experiment for theoretical physics are discussed in the following two contributions from Lorentz and Poincaré. Finally we have Einstein's paper which first spelled out the outlines of the Special Theory of Relativity. However, only the non-mathematical part of the paper is given.

The second part is about the nature of relativity theory and contains only one article—that by its creator. This is a popular account of both the special and general theory written in 1921. Part II contains articles by Einstein, Whittaker, Holton and Grünbaum about how the theory of relativity was born. Einestin's contribution is taken from his famous 'autobiographical notes'. The extract from Whittaker's *A History of the Theories of Aether and Electricity* describe the

events that led to the theory from the eyes of a contemporary physicist. We then have the points of view of a historian (Holton) and a philosopher (Grünbaum). How much, if at all, was Einstein helped by the earlier work of Poincaré and Lorentz? It was inevitable that a theory which created such a profound stir in physics should evoke such controversies. They make interesting reading to the student of the history of science.

The final part is about the impact of the theory on the world at large. First we have the scientific reaction in terms of the extracts from the works of Magie, More and Eddington. The extracts indicate, in a small measure, how different scientists received the theory in different ways. Next comes the lay reaction. The theory of relativity has been unique in its impact on the lay public. It is clearly impossible to even summarize the vast amount of lay literature on the subject. The selection given in the book, including an editorial from the *New York Times*, gives some idea of the diversity of the lay reaction.

This book will make a valuable addition to the library of the student of history of science. Some of the extracts are too short and sometimes fail to convey to the reader the full impact of the complete articles. This, perhaps unavoidable shortcoming, is corrected to some extent by the inclusion of a select bibliography at the end.

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