

Observation and Interpretation

A Symposium of Philosophers and Physicists. Edited by S. Körner in collaboration with M. H. L. Pryce. (Proceedings of the Ninth Symposium of the Colston Research Society held in the University of Bristol, April 1st–April 4th, 1957.) Pp. xiv + 218. (London: Butterworths Scientific Publications; New York: Academic Press Inc., 1957.) 40s.; 8 dollars.

THE conference recorded in this volume brought together a remarkably distinguished international gathering of philosophers and physicists. There were seven sessions, at each of which two short papers were presented, and the discussion which followed was tape-recorded.

The main topic is indeterminism in quantum physics, with the problems arising from it. Several of the papers, including those of Profs. Braithwaite, Ayer and Popper, deal with the notion of probability, and discuss whether the frequency view is adequate for use within physics, and how to express the degree to which a belief is supported by evidence. The central argument develops with Profs. Bohm and Rosenfeld as antagonists, and leads to the question whether the laws of quantum mechanics would be the same whether there were human observers or not. Bohm outlines his view that the indeterminacy of quantum physics is not necessarily ultimate but may be explicable by deterministic behaviour at a deeper level, somewhat as random Brownian motions are explained by deterministic motions of molecules. Among the most interesting of the other papers are that of Prof. Körner on regulative principles in physics and that of Mr. Kneale on the question whether we can 'see' atoms.

Most of the papers could be read by anyone interested in the philosophy of science or in quantum physics. The discussions give the reader the excitement of a debate by experts on live and important issues. The volume is a successful experiment in the reporting of an important symposium.

E. F. CALDIN

Science in New Zealand

Edited by F. R. Callaghan. Pp. 272 + 27 plates. (Wellington, N.Z.: A. H. and A. W. Reed; London: Bailey Bros. and Swinfen, Ltd., 1957.) 22s. 6d.

AS with the British Association in Great Britain, it has become a tradition for the Australian and New Zealand Association for the Advancement of Science to issue a hand-book on the occasion of its periodical meetings. The holding of the thirty-second meeting in Dunedin in January 1957 was marked by the issue of the present volume. It makes no attempt to be comprehensive in its scope, and its articles aim at dealing with only a selected group of scientific interests. They are written in a style readily understandable by all readers and provide a general background knowledge of the scientific and cultural features of New Zealand.

A distinct local colour and flavour are regarded as an essential feature of an A.N.Z.A.A.S. hand-book and the present volume is descriptive, historical and scientific throughout its chapters.

Among articles of outstanding interest is one by Gilbert Archey on the relationships between Maoris and Polynesians, native and introduced birds by E. C. Turbott, geothermal power by G. W. Grindley, aerial top-dressing by E. A. Gibson, trans-Tasman relationships in natural history by C. A. Fleming, and the growth of hydro-electric schemes by F. R. Callaghan. There is also a valuable introduction

showing the contributions made to the development of science in New Zealand by Sir Joseph Banks and Sir Joseph Hooker.

The book is well illustrated, not the least important photograph showing a group of Maori intellectuals considering the new edition of the standard dictionary of their language.

Micro-Organisms in the Soil

By Prof. Alan Burges. (Biological Sciences.) Pp. 188. (London: Hutchinson and Co. (Publishers), Ltd., 1958.) 10s. 6d. net.

FEW books have been written on soil microbiology since the Second World War, and therefore the present volume, although much biased towards soil mycology, will be most welcome to soil scientists. Workers in general in biological and related sciences should also find something to interest them.

Prof. A. Burges has taken upon himself a heavy task, and he is to be commended for approaching it from the ecological point of view. The opening chapter, which gives a brief account of the soil and its structure, is followed by a chapter on the various groups of organisms found in the soil. No diagrams or photographs are provided and consequently some of the descriptions of the more complicated organisms (for example, nematodes) and the systematics (for example, of the algae) will be fully appreciated only by those trained in zoology and botany. The succeeding chapters deal with such topics as: methods of examining the soil population; form, distribution and ecology of the organisms in the soil; the role of micro-organisms in the biochemical transformations taking place in soil; the influence of man on soil micro-organisms; and a consideration of soil as a dynamic equilibrium system. It is in these chapters that the true worth of the book will be found.

This volume will be very useful to students who have to learn something about soil microbiology and who are looking for an up-to-date account in a comprehensive form. The references at the end will be found of particular value in this connexion.

D. M. WEBLEY

A Treatise on Photo-Elasticity

By Prof. E. G. Coker and Prof. L. N. G. Filon. Second edition revised by H. T. Jessop. Pp. xxxvi + 720. (Cambridge: At the University Press, 1957.) 70s. net.

THE Cambridge University Press has performed a very real service to all those interested in the theory and history of photoelasticity by producing a second edition of Coker and Filon's classic work on this subject; this was first published in 1931 and has been out of print for many years.

The book has been reprinted by the offset-litho process; it differs from the first edition, apart from a very few minor corrections and alterations, in only two particulars. The colour photographs contained in the original edition have been omitted, presumably to keep down the cost of the new edition, and the reviser, Col. H. T. Jessop, of University College, London, has added an excellent short introduction giving an outline of developments in the field of photoelasticity since 1931 and a short bibliography covering this period.

This new edition is a book which technological and scientific libraries as well as individual workers in photoelasticity will wish to place on their shelves.

E. K. FRANKL