

in a book with so attractive a title and by such an eminent scientific worker they had a real certainty. The book itself, however, somewhat disappointed our, perhaps unduly great, expectations. It is a collection of lectures and addresses, delivered on different occasions and at different times, mainly on the thesis that physics has now reached the stage when the attempt to form a mechanical picture of natural processes, which has engrossed the attention of the great physicists of the past, should be definitely abandoned, and we should satisfy our souls with the subtleties of thermodynamics and the search for an all-embracing formula. The author develops his thesis forcibly and ingeniously though, necessarily from the structure of the book, with some repetition, and the book should prove attractive to those interested in the philosophy of science. To the physicist the most interesting chapter is that in which the author sketches the road by which he arrived at the quantum theory. The translators have not always been happy in their rendering of the original. We, at least, had some little difficulty in recognising in "Thales von Milet" our old friend Thales of Miletus.

*Joule and the Study of Energy.* By Dr. Alex. Wood. (Classics of Scientific Method.) Pp. viii + 88 + 8 plates. (London: G. Bell and Sons, Ltd., 1925.) 1s. 6d. net.

THIS excellent little volume could be read not only with profit but also with pleasure by all students of physics from the school-boy stage upward. There is no better way of appreciating the meaning and value of a scientific principle than a study of the ways in which it was evolved, and no better way of gaining a real understanding of scientific method than a study of the work of one of the great pioneers of science. In something under ninety pages, Dr. Wood succeeds in giving a clear and adequate outline of the gradual growth of the conception of energy, and a lucid account of the work of Joule on the mechanical equivalent of heat, illustrated by ample quotations from Joule's papers. At the same time, he finds room for those humanising touches of anecdote and biography which give life and colour to a work of this kind, and the numerous well-chosen illustrations add still further to the interest.

Dr. Wood has a high reputation as a lecturer, and he writes as charmingly as he speaks. Students of physics should certainly read and enjoy the book, but so clear is the exposition that those who, without being students of physics, are interested in scientific thought and method, could read it, we believe, with almost equal pleasure and interest. The editor of the series is to be congratulated on having persuaded Dr. Wood to write this book (we wish he had allowed him to write the general introduction also), and the publishers on producing it in such an attractive form and at so reasonable a price.

*Smoke: a Study of Town Air.* By Prof. Julius B. Cohen and Dr. Arthur G. Ruston. New enlarged edition. Pp. xii + 108 + 15 plates. (London: Edward Arnold and Co., 1925.) 8s. 6d. net.

THE second edition of Prof. Cohen's and Dr. Ruston's book on "Smoke" is modelled closely upon the first. It has, however, some important additions on the effect of smoke on vegetation, and a new section has

been added—"The Plant as an Index of Smoke Pollution." There is much useful information on the nature, quantity, and effect of soot, based mainly upon Prof. Cohen's own observations made in Leeds and its environs some years ago.

The chapter on "Town Fog" can scarcely be taken as setting forth the latest knowledge on the subject. For example, in describing the initial stages of condensation to form particles of mist or fog, p. 66, the vital distinction between the influence of ordinary dust and of hygroscopic salts is neglected, and ordinary dust is credited with an effect on condensation which it does not possess. Similarly, Aitken's "dust" counter is now known to take cognisance of hygroscopic nuclei only, neglecting ordinary dust. Yet this fact is not brought out when it is compared with the Owens' dust counter; the latter is incorrectly described as a modification of Aitken's, although based on a different principle and counting different particles. Again, the conception of a town fog as formed by condensation on "every little floating particle of dust" is not in accordance with the present state of our knowledge.

There is a little obscurity in the phraseology in plan (p. 27), but, on the whole, the book is a welcome contribution to the study of the air of our cities, the need for purifying which is becoming more apparent as such investigations lay bare the far-reaching ramifications of the smoke evil.

*The Ao Naga Tribe of Assam: a Study in Ethnology and Sociology.* By Prof. William Carlson Smith. (Published by direction of the Government of Assam.) Pp. xxvii + 244 + 8 plates. (London: Macmillan and Co., Ltd., 1925.) 21s. net.

THE AOs, the people studied in this latest addition to the excellent series of monographs published by the Government of Assam, occupy the country lying between the Lhota and Sema Nagas on the south, and the various Naga tribes, collectively known by the AOs as "Miri," in what is mainly independent territory on the north. The AOs are composed of two racial groups, the Mongsen and the Chongli, which Mr. J. H. Hutton in his interesting introductory analysis suggests may have fused comparatively recently, the Mongsen representing a pre-Ao population. The author modestly does not claim for his book that it is any more than an introduction to the study of the people. He has covered a wide field in his account of the culture, social organisation, and religion and magical beliefs of the people, but not in that intensive manner which we have become accustomed to look for in this series. What is, perhaps, the most valuable part of the book, especially from the practical point of view of the future of the people, is the final chapter recording the changes in their culture which have been brought about by contact with outside, and especially European, influences. It is both a guide and a warning.

*Nutrition de la plante. 4: Cycle de l'azote.* Par Marin Molliard. (Encyclopédie scientifique: Bibliothèque de Physiologie et de Pathologie végétales.) Pp. xv + 319. (Paris: Gaston Doin, 1925.) 15 francs.

A SUBJECT which has attracted the attention of botanist, chemist, and bacteriologist alike is bound to be unwieldy and its literature difficult to survey in a book of three hundred pages. Especially is this the case