

The publication of Mrs. Steentoft Nielsen's book is something of an event. The author (*née* Margaret Fox) herself taught at the University of Ibadan and her book should have a wide appeal to university and college students, also to school-teachers, interested amateurs, foresters and agriculturalists, who will find it a work of reference as well as an introduction to West African plants.

F. NIGEL HEPPER

A SULPHURETUM OF BACTERIA

Photosynthetic Bacteria

By E. N. Kondrat'eva. Translated from the Russian by Jean Salkind. Edited by Dr. E. Rabinovitz. Pp. 243. (Jerusalem: Israel Program for Scientific Translations; London: Oldbourne Press, 1965.) 72s.

THE photosynthetic bacteria are divided into three main families, Athiorhodaceae, Thiorhodaceae and Chlorobacteriaceae; the first two are known as the purple non-sulphur and purple sulphur bacteria, respectively, and the last as the green sulphur bacteria. The Thiorhodaceae and Chlorobacteriaceae are strict anaerobes and utilize hydrogen sulphide and other sulphur compounds as a source of reducing power in photosynthesis, while the Athiorhodaceae are generally photoheterotrophes, although some are facultative aerobes and can grow in darkness.

The modern era of study of the photosynthetic bacteria began with the now classical investigations of van Niel in the 'thirties; since then these organisms have been the subject of numerous investigations relating not only to photosynthesis but also to their general metabolism. As experimental material for studies on photosynthesis, they have many advantages over the more intractable higher plants; but in one respect they, themselves, are intractable: to my knowledge no one has yet succeeded in producing satisfactorily active chromatophore fragments. Comparative biochemistry has also benefited greatly from studies with photosynthetic bacteria.

Although many excellent reviews exist on various aspects of the biochemistry of photosynthetic bacteria, Kondrat'eva's book is the first comprehensive monograph on the subject. His claim "to sum up the data concerning photosynthetic bacteria" is justified if one adds the phrase 'up to early 1962', when references cease. It can therefore be recommended as a satisfactory source book of the literature up to that time. The further aim to "provide a clearer concept of the prospects of future research in the field" is less successfully achieved because little or no critical assessment of the data is made and because, between the time the author completed his survey and its appearance in an English translation, a large number of important investigations have been reported. The topics treated include distribution, isolation, cultivation, morphology, chemical composition, physiology, photosynthesis and taxonomy. There is also a separate chapter on pigments, which have attracted the attention of chemists and biochemists for many years. There is unfortunately no subject index—presumably this was also missing in the Russian edition—and the bibliography is divided into two sections: (a) references to papers in Russian (including translations into Russian); and (b) 'others'.

Apart from a few peculiarities, such as the use of 'oxy' for 'hydroxy' and 'phenazine metasulphate' for 'phenazine methosulphate', the translation appears to be very satisfactory. A small number of obvious typographical errors were observed but errors of fact were few; the structures of farnesol (p. 88) and γ -carotene (p. 91) are, however, incorrect.

Photosynthetic Bacteria has been produced by a photo-offset technique, and while the typography is satisfactory,

one or two of the diagrams are not easy to decipher. The half-tone plates of electron micrographs are less satisfactory and one doubts if the authors who gave their 'kind permission' for reproduction of plates will feel that they have been kindly treated.

The price is high, 72s. for 243 pages, and compares rather unfavourably with the usual present-day cost of 25–30s. per 100 pages of a conventionally printed book, containing about the same number of words per page. One wonders whether the photo-offset technique is a sensible choice if the price of the final product is not considerably lower than that of a conventional book.

In summary, this is a book to be recommended for the library of any department concerned with research in photosynthetic bacteria.

T. W. GOODWIN

EVOLUTION OF STATE MEDICINE

Public Health in the Nineteenth Century

By Prof. C. Fraser Brockington. Pp. viii + 287 + 16 plates. (Edinburgh and London: E. and S. Livingstone, Ltd., 1965.) 42s. net.

PESTILENCE has always been a stimulus to public health administration and legislation. The edicts of Henry VIII, drawn up with the advice of Sir Thomas More, concerning plague and the sweating sickness, and those of Charles II and the Corporation of London on the Great Plague, are examples of this stimulus. The College of Physicians was frequently consulted as epidemics of disease were threatened or appeared. In the reign of George I, when bubonic plague ravaged Marseilles, the College appointed Dr. Mead to report, and he wrote his *Treatise on the Plague* (1720) in which he advocated a Central Board of Health with other precautions. The plague did not come to England and no action was taken on his recommendation.

In this general study of public health in the nineteenth century, Prof. Brockington first directs attention to early measures in State medicine which preceded the wider-known public health administration inspired by Southwood Smith, Arnott, Kay, Chadwick and John Simon.

Towards the end of 1804 the Privy Council consulted the College of Physicians as to how best the "Gibraltar Sickness" (an epidemic of yellow fever which had spread from Africa to Spain and killed 5,733 persons out of a population of 15,000) "might be prevented from extending its malignant effects, and what was proper and material to be known by the public at large on the subject of infectious complaints". The College promptly replied, arguing the case for strict quarantine together with services for early diagnosis, treatment and isolation, and a strict enforcement of the "Cordon Sanitaire". A central Board of Health was also recommended; this was set up in May 1805 with the Comptroller of His Majesty's Navy as president. It included the President and four Fellows of the College among its members. It established a centre of epidemic intelligence and made five important reports to the Privy Council. Sir Francis Milman, an active member, advocated its being made permanent, but, when the continental epidemic ceased, the Privy Council terminated the Board. "Frenzied action" was followed by torpor, until Asiatic cholera spread from India into Russia in 1830, and the College of Physicians was again consulted by the Privy Council.

A Central Board of Health was established in June 1831 with Sir Henry Hallford, then president of the Royal College of Physicians, as its president, six Fellows of the College and five Government officials. This Board was responsible for much good work. It investigated the disease, described it, advised on precautions against its spread and on its treatment, and recommended local boards of health, of which 1,200 were set up. In November