

BOOK REVIEWS

Uses of Epidemiology. By J. N. Morris. (Pp.viii+135; illustrated. 19s. 6d.) Edinburgh and London: E. & S. Livingstone. 1957.

One of the many odd things about social medicine is that it has three legs to stand on. In this it has been fortunate indeed for the tripod of public health, medical sociology, and epidemiology has withstood some recent serious attempts to dislodge it from the medical curriculum, and even from medicine itself. The subject has so far been least successful in holding its own in London, but now it may be making a come-back. Dr. Morris's book is the second of a string of books on social medicine promised for this year from London medical schools and research units. The first* was reviewed here recently.

Though he is obviously well qualified to discuss all three legs of his subject, Dr. Morris's main interest is epidemiology. In this book he sets out to describe the rapid broadening of the subject which has taken place recently by showing some of the ways in which the method has been used.

The new epidemiology is very broad indeed. "If it moves, salute, and if it doesn't, paint it white", is perhaps a good enough classification for those entering the Army! "If it's one patient, it's clinical, and if it's more than one it's epidemiological" seems to be the new and equally rough classification in medicine. In fact, the term may be in danger of losing rather than gaining from the very wide interpretations of today. However, some broadening was obviously necessary, if only because epidemiologists do such queer things these days, and the older interpretations left important gaps which had to be filled.

When it is examined closely, both inside Dr. Morris's book and in the world outside, it is seen that what epidemiology really does in observing community disease patterns is to define in various ways vulnerable groups of people. These detailed descriptions of the characteristics of sick people in time or space, by age, sex, or by some social yardstick—such as our own crude yet invaluable "social class" (or even such esoteric classifications as "culture pattern"), can be used in many ways. First, and most important, of course, it is used in the search for the "causes" of disease. Half of this book is rightly devoted to showing how the characteristics of vulnerable groups can be used to provide links in the causal chain—"hunches", as the author would say—as to how the thing works. Dr. Morris is rightly reserved in his use of the word "cause" for there can be few diseases left in which the clear pattern of cause and effect is found today as it was by our predecessors of the

nineteenth century. The "new" diseases have a multitude of interacting causes and some of the difficulty in unravelling them comes from the poor definition of syndromes by clinicians. Another use, then, of epidemiology is to help to define more clearly syndromes in current use. With the clarification of syndromes and the breaking down of large disease groups such as peptic ulcer and atherosclerosis into their constituent and differently behaving entities more is learned not only of causes, but also of the "community need" for medical care. Information about the functioning of health services and how well these "community needs" are met is a first step towards the assessment of the quality of medical care, "evaluation" as the Americans call it, and epidemiology can help us here. For example, the discovery of different mortality rates in similar age/sex groups for the same disease in different types of hospital immediately raises the question of the quality of care in the two places. The epidemiologist, having been caught like this before, re-examines his populations while speculating about the quality and number of staff in the hospitals.

The increasing importance for health of personal behaviour, particularly in the new industries, in leisure activity, and in diet, is emphasized by the striking differences in individual chances or expectations of encountering disease. Epidemiology with its new ways of looking at the cohort, the life table, and the fashionable "prospective" study can help to define these critical features of our lives.

This is a fascinating and, at the same time, an irritating book. It is just what we have all wanted, but it is far too short to do justice to the subject (rather over 55 pages of large type, excluding tables, appendices, etc.). A few of the figures and some unimportant details of text and presentation could well be improved. But this is real social medicine and shortcomings of production are of small import beside the author's enthusiasm and flow of ideas. Obviously the new epidemiology reflects the new medicine, and it is very exciting.

E. MAURICE BACKETT

Pneumoconiosis: Industrial Diseases of the Lung Caused by Dust. By P. F. Holt. (Pp. 268; illustrated. 50s.) London: Edward Arnold. 1957.

Pneumoconiosis, of which the most familiar varieties are pneumoconiosis of coalworkers, silicosis, and asbestosis, is the most serious occupational disease. It affects a wide range of workers—male and female—in mines and factories throughout the world. While many of the hazards have been recognized for nearly two centuries, new ones continue to arise from new processes and new

* *Principles of Epidemiology.* Taylor and Knowelden, Churchill, 1957.

materials. To scientists in many fields such as biology, chemistry, and physics, the disease presents many fundamental problems for research. Thus the physician is concerned with the many complex problems of diagnosis, measurement of respiratory function, and the treatment, management, and rehabilitation of patients. Others are interested in the epidemiology of the disease and its social consequences. Prevention of the disease offers a constant challenge to the ingenuity and tenacity of engineers and others. For governments the problem is preventive legislation and schemes of compensation. Investigations in these several fields produce a seemingly unending spate of literature from almost every country in the world. It is quite impossible for any single individual—language difficulties apart—to keep abreast of the growing knowledge in all branches of pneumoconiosis research. Moreover, the various fields of enquiry have become so narrow and specialized and many of the technical researches so recondite that the general reader is unable to follow them.

All are increasingly dependent on abstracts and commentaries by experts for current information. These are admirably exemplified by the *Bulletin of Hygiene*.

In the present volume Dr. Holt, distinguished over many years for his chemical and physical researches on silica and fibrogenesis, has undertaken to present background material on the subject, which, he hopes, will inform and assist medical specialists, physicists, chemists, engineers, administrators, and others. In the preface he states "that the intention of this book is to provide sufficient material to act as an introduction and to indicate where further information can be found." This demands an encyclopaedic knowledge of the subject. Moreover, it requires great objectivity and self discipline if the author is to achieve a balanced and proper selection of the enormous literature. Almost inevitably the author will prove more expert in his selection and appraisal in his own special field than in others. Likewise, the reviewer cannot avoid the same weakness for he will judge the work by the adequacy of the section, which deals with his special interest. The predicament is not new or peculiar to this subject. It has led to team authorship under the direction of an editor.

Dr. Holt's book consists of 236 pages comprising 18 chapters. The first chapter is a historical survey supplemented by statistics of mortality from various sources. In view of the purpose of the book to direct the reader to sources of further information it is disconcerting to find on the very first page that Aldridge is cited as Aldridge and as this error is repeated in the bibliography and in the author index the printer can be excused. Only a little farther on it is stated that "Josiah Wedgwood introduced finely powdered calcined flint into his white pottery in 1720". This, if one might say so, is a preconception for the great potter was not born until 1730. Generally the innovation is attributed to John Astbury, a North Staffordshire earthenware manufacturer. Chapters 2 and 3 deal with the structure and properties of some industrial minerals and the chemistry of the surfaces of minerals. In the succeeding six chapters discussion is narrowed to silicic acid and its derivatives and their fibrogenic action in the lung. This is Dr. Holt's

special field and much of the material, I fear, is beyond the comprehension of all but a few, of which I am not one, industrial medical officers. Thereafter successive chapters deal with silicosis, asbestosis and coal-miners' (not coalworkers') pneumoconiosis. The effects of other siliceous and non-siliceous dusts are then discussed. Beryllium receives relatively considerable notice. I do not dispute that beryllium dust causes lesions—often extensive—in the lungs but I doubt if berylliosis is rightly included among the pneumoconioses. Within its necessarily restricted limits the chapter on protective measures against pneumoconiosis in mines, factories, and workshops gives a good account of modern practice and matches up to the author's purpose. The chapter on the measurement of dust concentrations is based on a series of papers written by the author and published in *Metallurgia* in 1951. The final chapter is devoted to a summary of compensation legislation and factory regulations. In no subject is the need to be accurate and precise more important than in the law. The opening sentence that "in Great Britain compensation for *pneumoconiosis* (italics mine) was first provided . . . in 1919" is inaccurate; the legislation then applied narrowly to silicosis. The distinction is important and emphasizes the laxity in the use of terms which all too commonly exists in the literature of the subject.

An excellent bibliography, enhanced by author and subject indexes, comprises 657 references. Some researcher may, on occasion, be irritated by the errors in such references as Aldridge (3), Permezzioni (548), Commins (611), Scheppers (630), and Gwyrpai (490). The book contains a wealth of scientific material but pneumoconiosis is basically a disease affecting the lives of thousands of workmen and their dependants. For this reason I think—particularly for the benefit of non-medical readers—that a short introductory chapter on the medical aspects might, with advantage, have been included.

Despite the criticisms which I have made, this book is a *tour de force* and a testimony to the wide range of Dr. Holt's knowledge. The paper and printing are excellent and the illustrations well produced. I can offer no higher commendation than to say that I am glad to have this volume in my library and that it will be a constant source of reference.

A. MEIKLEJOHN

Chronic Bronchitis in Newcastle-upon-Tyne. By A. G. Ogilvie and D. J. Newell. (Pp. vii + 115; 6 figures. 15s.) Edinburgh and London: E. & S. Livingstone. 1957.

This book describes a survey designed to discover the prevalence rate of chronic bronchitis in Newcastle-upon-Tyne. In addition an attempt was made to find out more about the aetiology of bronchitis by comparing the present and past living conditions and the family histories of a group of bronchitics with a group of controls. The task undertaken by Ogilvie and Newell, to survey a whole city of 281,000 inhabitants, was one that might well have discouraged Hercules. One in 40 of all the houses in the city were visited by 43 health visitors who, on the basis of an agreed definition, placed all the men