

unique position as incubators of the golden egg of epidemiology. They have clinical information which can be recorded accurately for populations whose size and characteristics can be precisely defined, and whose exposure to environmental factors can be noted and documented. They can, through their records, add the dimension of time. All these are characteristics of the kind of observers so badly needed by the medical geographers whose work Dr McGlashan has brought together in this book.

Medical geographers have sophisticated skills and technologies at their disposal. They can make good use of material when they can get it, and they range far for sources, often accepting mortality data when they would have preferred morbidity or figures from large bulked populations when those from smaller and more precisely located ones would serve better. It is the pre-occupation of medicine with its traditional hospital orientation on the one hand and with the Public Health notification systems of the sanitary revolution that has limited their scope in the past, and greater awareness of their responsibilities by doctors in general practice must offer the geographers great hope for the future.

In his book Dr McGlashan has combined discussion of the latest methods used by geographers to portray the distribution and spread of illness with accounts of the ways in which these methods have been applied both in this country and overseas. In paper after paper there is the unspoken wish for better data, and the practitioner will realise that in these days of diagnostic indexes and morbidity surveys, it lies within his power to provide it. General practitioners should read the book, even if only to find themselves faced with this statement—albeit one inevitably inferred—of what could be expected of them. They would be stimulated to consider their own potential as observers and that of their practices as media for data acquisition, and the stimulus would be an enjoyable one.

Some of the chapters, especially those about overseas countries, may at first sight have little direct relevance to doctors in this country, but doctors in practice in every continent receive this *Journal*. A second reading of the chapters on overseas applications, furthermore, shows that they contain expositions of principles which can be applied, maybe, on our own doorsteps, in our own practices. The account of the isolation of dimethyl-N-nitrosamine as possible causative factor of oesophageal cancer in liquor drinkers in Zambia makes fascinating reading as does the story of the socioeconomic and population effects of flybone riverblindness in Northern Ghana. General practitioners in Leeds will find a study of the distribution of chronic bronchitis in their city necessarily carried out by an interview technique for lack of more sophisticated data.

There are some books which, a reviewer is tempted to suggest, should be read twice, and this is one. Without specifically setting out to do so it

makes the case for the kind of interdisciplinary bridge-building that science needs for its own sake and medicine needs to help it lose its blinkers. Reading it for the second time will confirm the reader's recognition of the part that he and his colleagues have to place in medical geography in the future—it offers the general practitioner great scope to contribute to environmental health.

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Patients, hospitals and operational research (1971).

LUCK, G. M., LUCKMAN, J., SMITH, B. W. and STRINGER, J. Pp. 210. London: Tavistock Publications. Price: £3.75.

One of the characteristics of any evolutionary system is that it retains features which, with the passage of time, have become solely atavistic, fulfilling no discernibly useful function, at the particular stage of development which may be under consideration.

The hospital services in this country have evolved from several different sources. The oldest establishments were originally charitable foundations set up by the Church and more recently others were set up by public subscription to serve the growing urban populations of the industrial revolution. In later years small cottage hospitals were built in what were then country districts and many of these have increased in size and scope in response to the gradual urbanisation of the formerly rural areas to which they were built to serve. In addition the Boards of Guardians, whose functions were later taken over by Local Government bodies, created a large number of poor law infirmaries, many of which still remain as active units of the present hospital system.

The welding of these diverse institutions into a unified service has not been achieved easily and improvement and expansion of the hospital services has been *faute de mieux*, to a large extent a matter of endeavouring to graft new building on to existing institutions or of endeavouring to adapt old buildings to fulfil functions which were undreamt of when these were originally designed. However, with the advent of new hospital building there has come the need to examine critically the structure and layout of these buildings in relation to the services which they are intended to provide.

In this recent publication, G. M. Lask and his colleagues examine the various ways in which the methods of operational research can be applied to the activities carried out in the hospital setting. The authors illustrate the problems first of all by studies of an intensive therapy unit and the operational policies for a new hospital, proceeding from this to the exposition of model construction and statistical method as tools of operational research.

On first reading, much of the content of this book appears to be abstruse yet it would well repay careful study by anyone interested in the most efficient and economical application of the limited material and human resources available to the National Health Service.

Although this work is confined to the exposition of the value of operational research within the hospital service, nevertheless there are some lessons to be discovered from it which could be applied usefully to the study of the construction of group practice and health-centre buildings and the related problems of practice organisation.

It is unfortunate that its lack of literary style, due no doubt to multiple authorship, may possibly detract from its value, particularly to the reader who is not already acquainted with the research methods which are discussed. In spite of this defect there is much to be learned by those who are interested in the organisation of buildings in relation to the people who use them and work in them.

In their final chapter the authors sound a timely warning of the danger of attempting to relate experience of operational research in the industrial field to the hospital situation. It is hoped that this warning may be heeded by those who are charged with the planning and management of the Health Services in the near future.

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