

the facts as known to us, though many students of ancient science will feel that an instrument so admirably devised and designed is unlikely to have emanated from the almost extinct fires of Greek culture. Very admirable is the author's clear account, in non-technical language, of the basic principle of the astrolabe, namely, the superposition of a movable map of the celestial sphere upon a map of the terrestrial as viewed from the locality of the observer. His explanation of the stereographic projection on which the instrument depends will be clear even to those whose geometrical equipment is of the slenderest. The book next considers the parts of the astrolabe, and enables the reader to discover the purpose of the networks of circles and arcs which are engraved on every part of these instruments; this is particularly valuable for the understanding of the oriental types. M. Michel devotes more than one section to the practical use of the astrolabe, to which some more pretentious treatises give so little attention that the reader wonders whether their authors considered the instrument as a thing of use or only as a collector's piece: the reviewer, indeed, when first confronted with a collection of astrolabes, was forced to resort to Geoffrey Chaucer's little treatise on the subject, which explains the essentials with admirable clarity.

Astrolabes, to-day, are the prized possessions of museums and connoisseurs, and their owners are greatly interested in a matter which seemed less important to their makers, namely, the date of their construction. In the second part of the book under notice, M. Michel has assembled the methods by which such dates can be estimated. To find a date on the instrument is eminently satisfactory, yet it is not uncommon to find that this has been added and indicates the time at which the instrument was repaired or remodelled. The maker's name may be inscribed, and the book gives a very useful and full list of makers with their dates and brief notices of their work. But the collector's chief problem is the dating of the astrolabe which bears no inscription. Considerations of style and design are useful, and the series of full-page plates of astrolabes, twenty-four in number, at the end of the book is a valuable guide to those who have not been able to see a large collection of these instruments. But the most useful feature is a discussion of the dating of the astrolabe from the astronomical data implied in its markings. Thus many astrolabes are engraved with a zodiacal calendar, and the date of the first point of Aries indicates the number of days by which the Julian calendar differed from the astronomical, and therefore the approximate date. The author makes the valuable point that the difference will depend on which of the four years of the leap-year cycle the instrument was constructed and that an uncertainty of about a century may thus result. Other methods, such as those involving the alteration of the positions of the stars through the precession of the equinoxes, are more reliable, and the application of them should settle many hitherto doubtful cases.

The book concludes with a section on the use of the astrolabe for the elementary teaching of astronomy, in which connexion the late Prof. Jenkin's Oxford astrolabe, designed for such a purpose, might have received a mention.

All who have to do with the astrolabe will be truly grateful to M. Henri Michel for providing them with a valuable and much-needed instrument of research.

F. SHERWOOD TAYLOR

PUBLIC HEALTH TO-DAY

Recent Advances in Public Health

By Dr. J. L. Burn. Pp. viii+409. (London: J. and A. Churchill, Ltd., 1947.) 25s.

THIS book is well printed and illustrated, clearly written and, while full of factual data, is easy to read.

In a volume of this size much of necessity is omitted. We should have liked, for example, in Chapter 22 on venereal disease schemes to have had an account to show how modern methods of treatment by the sulphonamides and penicillin have changed the whole outlook on venereal diseases and advanced the prospect of their ultimate eradication. In the preface the author disarms criticism of this kind by pointing out that recent advances in public health have been on so wide a front, so quick in pace, so significant in nature, that he can only restrict himself to the task of summarizing selected features of recent progress, and has had to leave many advances of fundamental importance unnoticed.

Even with this self-imposed limitation, the field covered is very wide. The subject-matter is considered in three main parts: public health and the individual; public health and the community; and public health and the environment.

In the first part, admirable and succinct accounts are given of the Public Health Nursing Service in Britain; the care of mother and child; nursery care; the school health services, with desirable emphasis on the provision of school meals; health education; mental and dental health services; and social services, with special reference to the important work of the almoner. A chapter follows on the handicapped child; and here due weight is assigned to the work of J. Alison Glover, who for some twenty years, in the reports of the Chief Medical Officer of the Ministry of Education and elsewhere, has adduced cogent evidence to show that in the majority of cases tonsillectomy is an unnecessary operation. Yet still one quarter of a million tonsillectomies are said by Maxwell to be performed annually in Great Britain.

The advantage of dealing with the family in the interests of public health is set out, and an informative chapter on welfare of the aged follows. This is a topical problem of increasing importance and magnitude. Dr. Burn shows what can be done here and in other countries to deal with it. In the second part, chapters of special interest are: Chapter 19, diphtheria immunization, which the Ministry of Health with the co-operation of local authorities has done so much to promote for the past twenty years; Chapter 21, tuberculosis, with an able appreciation of the Papworth Colony and an account of mass radiography; Chapter 23, detailing the modern work on scabies; and Chapter 24, which describes the use of D.D.T. in the conquest of typhus fever, etc. The third part dealing with environment is the shortest in the book, but treats of such varied subjects as smokeless air, milk, road safety, cremation and garden cities. The references in each subject, together with suggested books and papers for further reading, are copious and useful.

The Medical Officer of Health of Salford has done good service to the cause he serves by writing this book, which will appeal to all those who wish to keep abreast of a progressive science.

ARTHUR S. MACNALLY