

Marine and Air Navigation

By John Q. Stewart and Newton L. Pierce. Pp. xii + 472. (Boston, New York and London: Ginn and Co., 1946.) 26s. 6d. net.

Coasts, Waves and Weather

For Navigators. By John Q. Stewart. Pp. vii + 348. (Boston, New York and London: Ginn and Co., 1946.) 21s. net.

THESE two volumes are typical of publications popular in the United States, but not seen often in Britain. The American reading public evidently appreciates books upon technical subjects, written in sufficient detail to make a volume of appreciable size, but using popular language rather than the more concise and pointed style of the text-book. Such books have their value to the student, and should be of great use for introductory reading. In Britain we seldom see this kind of work. A popular book on a technical subject, in Britain, is usually so small that only the broadest treatment is possible, which, although correct in substance, is not much use to even an elementary student.

"Marine and Air Navigation" covers the whole subject, so far as it can be treated in the classroom, with many clear explanatory diagrams and photographs. The style is empirical, but a wealth of information of use to the navigator is given. Celestial navigation is covered without unnecessary astronomical detail, and some useful coloured "Star Charts" are included. Various maps and tables naturally refer to the American continent in general, and references are almost entirely to American publications, some of which are, however, obtainable in Britain.

"Coasts, Waves and Weather" is a fascinating book for general reading, but is rather the more non-technical of the two. It is not, in any sense, a text-book on meteorology, as its title might suggest. Part 3, "Meteorology for Navigators", treats the subject from the point of view of weather forecasting by the man flying or sailing into it, and does this very thoroughly with the aid of some beautiful cloud pictures. Again, the description and examples of coast-lines, terrains, and oceanography are taken from the American continent, and lose a certain local interest for British readers.

Both books are well worth reading, the few strictly American terms are generally understandable from the sense of the text, and the style of the writing never becomes pedantic. They might be read with interest and advantage by both sailors and airmen, professional and amateur.

Atoms, Stars and Nebulæ

By Leo Goldberg and Lawrence H. Aller. (Harvard Books on Astronomy.) Pp. v + 323. (London: J. and A. Churchill, Ltd., 1946.) 18s.

ONE of the most serious defects in astronomical literature is the lack of any authoritative and up-to-date English text-book on astrophysics. The need for such a book is widely felt. This book is not a text-book and it does not deal with all branches of astrophysics, but it partly fills the gap. That it has met a real need is shown by the fact that the present edition is the third reprint since it was first published in 1943. In this reprint various additions have been made to bring the book up to date.

The volume begins with a non-mathematical account of the principles of atomic physics and the theory of light. It then goes on to consider stellar

atmospheres, the widths of spectral lines, the formation of absorption lines, the curve of growth, the differences between the spectra of giant and dwarf stars of the same spectral type and related problems. Special classes of stars are then considered: pulsating stars, novæ, planetary nebulæ, and stars with extended atmospheres. One chapter is devoted to the interstellar gas, and a final chapter deals with the source of stellar energy. Several appendixes give much useful information.

The book forms one of the excellent series of Harvard Books on Astronomy. Like all the other volumes of this series, it is very well illustrated. It can be strongly recommended to the student of astrophysics as an authoritative introduction to the subject; it is also a useful reference book for the working astronomer.

Science, Faith and Society

By Prof. M. Polanyi. (University of Durham: Riddell Memorial Lectures, Eighteenth Series.) Pp. 80. (London: Oxford University Press, 1946.) 2s. 6d. net.

THE Riddell Memorial Lectures, given by distinguished men of science, philosophy and theology, provide a pulpit of great value. One has only to glance through the list of names since the first series was published in 1928 to see how powerful this foundation has become. Into this learned company Prof. M. Polanyi fits extremely well. He discusses "Science and Reality" (1), "Authority and Conscience" (2), and "Dedication or Servitude" (3). There is also an appendix dealing with the premises of science and the question of observation. Through all that Prof. Polanyi has to say shines a passionate desire for truth and for full opportunity to realize it. His background, differing—as it must—from our own in certain ways, is at one with it in its plea for tolerance, and for the inculcation of responsibility in the transmission of tradition. By means of a clarification of man's cultural and social purpose, he will be brought—it is claimed—to a revelation of the Divine.

An interesting point is made regarding seeming irrelevance. Scientific genius consists largely in the ability to pounce upon something fundamental and to follow it up relentlessly, consigning the rest to limbo. Indeed, this is the way to the eternal verities, philosophic and otherwise. F. IAN G. RAWLINS

Population, Psychology and Peace

By J. C. Flugel. (Thinker's Library, No. 117.) Pp. xviii + 142. (London: Watts and Co., Ltd., 1947.) 2s. 6d. net.

IN this book, Dr. Flugel analyses with acumen the emotional resistances to accepting the doctrine of Malthus, and appears to come down on the side of neo-Malthusianism. His psychological approach is novel and puts into perspective the economic and quantitative aspects of the subject which tend to dominate current discussion. But the calm tone and reasoned exposition conceal many controversial issues. How much truth is there, for example, in his key premise (p. 103) that "the decreasing poverty of the western world is due in considerable measure to the reduction of the birth rate"? Is it true (p. 47) the 'elderly' contribute more to the community and make fewer demands on it than do young children? Nevertheless, the book will be read with much profit by students of demography in general and by members of the Royal Commission on Population in particular. Dr. Joad contributes a lively introduction.

JOHN COHEN