

Garnett would go further than Mr. Butler in his agreed measure has proposed to do. But in general, Mr. Butler could congratulate himself on finding respectable philosophical warrant for his Bill in Dr. Garnett's book, and Dr. Garnett could reflect with satisfaction that his theory of education is capable of translation into the realistic terms of administrative legislation. Their new education will be cast in the image of the old, but will undoubtedly be in many respects an improved version.

It is well that those who hope to fashion the shape of things to come should in this way draw on the wisdom that tradition and their own experience have given them. They cannot do more. Dr. Garnett's book, with its orderly argument and copious use of evidence, will help them to see their own way ahead. New generations, however, will have new experience and will interpret it in their own way. The world we mean to make will not necessarily be the world the next generations will see fit to make.

R. A. C. OLIVER.

UTILITARIAN ASPECTS OF GEOLOGY

Geology in the Service of Man

By Prof. W. G. Fearnside and Dr. O. M. B. Bulman. (Pelican Books, A.128.) Pp. 158+8 plates. (Harmondsworth and New York: Penguin Books, Ltd., 1944.) 9d. net.

NOT so very long ago, the layman who wanted a simply written and up-to-date book on geology would have had to be content with a students' primer not altogether suitable for his needs. Now some half-dozen small volumes, written especially for him, await his choice; and among them this new "Pelican" book takes a high place. The authors have set out to show how geology has been used in the service of man—when he has been wise enough to utilize such knowledge—and have made clear their purpose in writing the book by their introductory note: "It is regrettable that more geologists have not been professionally associated with the war effort; it will be a tragedy if geological knowledge is not co-ordinated and directly applied in post-war reconstruction".

The book is divided into two parts, the earlier being a brief account of geological principles, an acquaintance with which is necessary for the appreciation of the later part, which is a review of the economic aspects of the science. In Part 1 the manner of treatment followed by the authors is what might be termed the 'classical' method; that is, it begins with the consideration of the earth as a globe, and the composition and physical properties of its core and crust, as elucidated by geophysical and chemical investigations. Whether or not this is a better approach for a layman than one which begins with the phenomena and materials around him—and therefore more or less familiar—and leads him to the less familiar and unknown is obviously a matter of opinion. In the present instance, however, the course taken lands him, in about six pages, in a discussion of stability relationships of mineral constituents that may deter him from going farther—which would be a pity since the problem cannot be treated with sufficient accuracy and detail to satisfy the critics, and since it appears that at the moment work on these lines has proved of limited value in petrology.

If the reader skims this chapter and passes to those on the building of continents, the development of scenery and the geological history of Britain, he should feel well repaid by following a fascinating story simply told.

A short chapter on the nature and construction of geological maps concludes Part 1. Here, just enough is said to titillate the curiosity of the intelligent reader and make him wish for more, but (most importantly) enough to show that there is a more or less simple geometrical arrangement of the rocks of the crust and not a higgledy-piggledy mess as the uninitiated still seem to think.

Part 2 contains seven chapters, each dealing with an important aspect of industrial geology, such as water supply, geology and soils, petroleum, engineering geology (foundations, reservoirs, tunnels, building materials and roadstones), mineral supplies for heavy industries (coal and iron ores), non-ferrous metals and chemical supplies, and gemstones. Here, indeed, is a wealth of information to satisfy the inquirer; and, considering the scope of the subject-matter, it is noteworthy that the treatment is accurate and up to date throughout.

It may be serviceable to direct attention to a small point of nomenclature. Whereas the terms 'well-graded' and 'well-sorted' were formerly synonymous in geological writing, the practice of engineers is now to apply the former expression to a sediment in which the grains are distributed fairly evenly throughout the grades (as defined by size-limits)—that is, 'well-graded' becomes just the reverse of 'well-sorted' (where most of the grains belong to one size grade). In the interests of conformity and in order to make effective use of two good words, it would be well (at least in my opinion) for geologists to follow the engineers' practice.

To compress a large part of a text-book of geology into a "Pelican" book of 150 pages is no mean achievement. Inevitably it has necessitated a condensed style, but clarity is helped by many diagrams and a number of photographic illustrations. We may hope that the subject-matter will not prove so solid as to be indigestible to the general reader; and, if we can judge from the popularity of other "Pelican" books, certainly not less condensed and even more technical, it should not do so. As it takes two to make a bargain, it would seem that the layman, as well as the man of science, is now playing his part in helping forward this method of disseminating knowledge.

P. G. H. BOSWELL.

WEATHER WISDOM

Weatherwise

England's Weather through the Past Thirty Years. By John H. Willis. Pp. 110+30 plates. (London: George Allen and Unwin, Ltd., 1944.) 7s. 6d. net.

MR. JOHN H. WILLIS is a member of the band of amateur meteorologists who co-operate with the Meteorological Office in maintaining local records of weather according to a fixed plan day by day and year by year. The climatology of Great Britain owes much to their efforts, which are purely voluntary. It will easily be realized that to carry out such a self-imposed duty successfully, a man must be an 'amateur' in the literal sense of the term. Observations must be made in all weathers; they must take priority over personal convenience, they must be made punctually and they must be meticulously