

use this information has been put in *Soviet Progress in Forest Fire Control*.

The last report is an analysis of the calorific value of moss, fern, grass, conifer needles, branchlets and resin.

This publication is somewhat disappointing; this may be due in part to the expectation gained from the title that the reader is going to learn a lot about forest fire control. He does not, which is a pity.

C. J. TAYLOR

THE WORLD OF PLANTS

The Life of Plants

By E. J. H. Corner. (The Weidenfeld and Nicolson Natural History.) Pp. xii+315+41 plates. (London: Weidenfeld and Nicolson, 1964.) 55s. net.

BOTANISTS often wonder why their subject, critically concerned as it is with the food and therefore the primary welfare of the whole human race, has remained so long the Cinderella of the biological sciences. A cynic might suggest that the neglect springs from a deep-seated disinclination in the human mind to grapple with essentials, but there is another and simpler reason. When botany and zoology emerged from their purely descriptive phases the latter was able to advance rapidly because zoologists, being themselves examples of their own subjects, could interpret a good deal about them in terms of personal experience—an advantage that was denied to the botanists. For this reason there has always been a certain difficulty in coming to grips with the study of plants, which has in consequence tended to become either chemistry or physics or, alternatively, taxonomy. Only in recent years has an awareness begun to grow that an enquiry into the principles on which the life of plants is ordered may reveal truths quite as important as those derived from the study of animals. *The Life of Plants* is a valuable amplification of this still small voice and deserves a warm welcome.

The author has a mind of considerable originality and powers of penetration, and he has made good use of both to write an introduction to the world of plants which is novel without being eccentric. Furthermore, the book is very well produced, and notable because nearly all the many illustrations are either new, in the sense that they have not appeared in a book of this kind before, or have been drawn or re-drawn with skill and care, though it must be said, more in sorrow than in anger, that Fig. 96, with its Mercator's projection, is the exception which proves the rule.

The book has fifteen chapters of which the first six provide a remarkable study of the algae, mainly from the point of view of their significance as the modern representatives of the aquatic forerunners of the present sub-aerial land-flora, and it is pleasant to notice here a long-overdue tribute to the neglected writings of A. H. Church. The next six chapters are, in effect, almost entirely concerned with seed-plants, though many others are included, and these amount to what has been sadly lacking in the past, namely a broad general exposition of the flowering plants by one with a really wide interest in, and experience of, tropical vegetation, and this part of the book is certainly likely to draw most attention and applause. Mr. Corner would have been more than human had he refrained from riding one or two hobby-horses, but even these exercises are spirited, and excellent for the sluggish botanical liver. The last three chapters deal with Mr. Corner's second (or is it first?) love, the fungi, and they are as interesting as the rest.

To do full justice to this unusual book is a hard task and perhaps the most sober verdict that can be brought in with regard to it is that no one can possibly read it without being a better botanist and without knowing

more about plants afterwards than he was or did before. To advanced students, and especially to the best of them, it will be a delight, and something to be savoured when all else begins to pall.

Apart from its factual content the book does, however, raise two issues of considerable interest and wider context. The first, and lesser, is how far it is possible to breathe new life into familiar and perhaps dry facts by clothing them in new words. Mr. Corner's expressive style of writing is one of the pleasures of his books, but at times it seems to take him dangerously near incoherence and there is a risk here and there that the less-sophisticated reader may fail to understand, or may even misunderstand, his meaning. The book is unlikely to prove easy reading to anyone without a sound grounding in botany.

The second point is more serious. The central theme of the book is, as it must be in all biological writings which are neither formal nor systematic, that of organic evolution. A writer dealing with this subject can easily slip into a "slough of despond" from which escape is difficult, and it is a tribute to Mr. Corner that he avoids this peril. Nevertheless one must feel some regret that so acute a thinker has not, apparently, been able to free himself more completely from the indoctrination of an outworn Darwinism, or to take more account of the change in attitude towards this in recent years. R. GOOD

A NEW AGRICULTURAL ATLAS

An Agricultural Atlas of England and Wales

By Dr. J. T. Coppock. Pp. 255 (205 maps). (London: Faber and Faber, 1964.) 63s. net.

THIS new *Agricultural Atlas of England and Wales* contains, in addition to a large number of maps, a substantial text providing historical and explanatory comment. The author is to be congratulated on its comprehensive nature, because only by reference to such a detailed study can the considerable diversity of agricultural activity in these areas be appreciated.

After a brief statement of the aims of the *Atlas* and a description of the methods used in its preparation, the first chapter presents an interesting discussion of the factors, other than the more obvious physical and economic ones, which can affect enterprise choice and combination in farming. The second and third chapters provide a well-illustrated physical and economic background for the distribution of crops and livestock. There are then three chapters dealing in some detail with the distribution of tillage crops, grassland and horticulture, and a chapter covering the distribution of the various classes of farm livestock. In these four chapters, which comprise the major portion of the *Atlas*, the problems of describing crop and livestock distribution graphically have been given full consideration. By using more than one map for the individual tillage crops and types of grassland, the author has attempted to illustrate not only their distribution as a proportional area but also their relative importance. In order to map the regional importance of different classes of livestock, a weighting system based on relative feed requirements has been used. This converts the various classes of livestock into a common unit, the "livestock unit". The resulting difficulties of map interpretation can, however, be overcome by reference to the accompanying text. The distribution of separate classes of livestock is shown both in relation to the distribution of other livestock and in relation to land use. An interesting feature of the chapters on tillage crops and livestock is the inclusion of maps indicating the most common associations of crops and of livestock, and how these associations are distributed.

The remainder of the book is devoted to a chapter dealing with combinations of enterprises in farming, and