

organic touch to the work as a whole; the subject and treatment never become academic or remote from familiar events.

The method, although the author seems to hope otherwise, is clearly phenomenological, that is, simply descriptive of the phenomena of social life. It has been used most fruitfully by Prof. Katz in animal psychology and human needs and by Prof. Aveling in the study of volitional processes. There is thus no real attempt at a presentation of underlying principles. This is unfortunate and perhaps the chief criticism one has to make. One feels compelled to admit that the subject is still at the descriptive level. But science is far more than a collection of interesting facts sensibly grouped and classified. It requires an economy of explanation, so that much variation is reduced to the workings of few causal forces. In this connexion, one has to deplore the fact that the author nowhere makes any explicit use of psycho-analytic findings, in spite of the fact that psycho-analysis has made notable contributions to this field of study in the works of Freud, Ernest

Jones and others. The one reference to the psycho-analytic technique is deprecatory—the meaning of ‘symbolism’ as used in psycho-analysis “is not clear to any but the disciples of this cult”. One reason for this absence of psycho-analytic theory suggests itself, namely, that if the author once commenced with such an approach he would find himself bound to sustain it throughout the work, which would entail acceptance of unconscious processes as fundamental determinants of social behaviour.

Sociologists with an eye for the part of economic conditions controlling the patterns of human behaviour, will find this factor somewhat neglected.

A specific instance where the author takes an extreme position unwarranted by experimental data is in connexion with collective thinking. There is quite inadequate evidence for the statement: “collective solving of any problem is per se a socio-psychological absurdity” (p. 378).

In spite of these defects, the work will be of much use to the student as an introduction to the phenomena of social life. J. I. COHEN.

## The Present Position of Botany

### Principles of Paleobotany

By William C. Darrah. (Plant Science Books, Vol. 3.) Pp. vi + 239. (Leyden: Chronica Botanica Co., 1939.) 7 guilders; 15s.

THEY say the trouble with palæobotany is the number and plasticity of its theories; but these are only symptoms. The real trouble is its facts. To be sure, there are lots which are clearly enough established, but nearly all are incomplete; of the 60,000 fossil plant species which Darrah says have been described, perhaps not more than a dozen or two are known as fully as the fossil botanist can expect to know his material. The result is that nearly everything that can be said in a palæobotanical discussion is of doubtful relevance or equivocal. It is a situation offering splendid opportunities and rewards for research; but for the writing of a fairly short book it is beset with difficulties. However, Dr. Darrah believes in his task, for he writes near the beginning: “From 1885 to 1915 paleobotany underwent its modernization chiefly because of the appearance of the textbooks and reference books”.

This book is called in the prospectus “an integrated summary of the present status of Paleobotany” and that does indeed describe it. In a book of this modest length much must be left out,

and although every palæobotanist will regret the suppression of some favourite line, the book must be conceded to be well balanced. It appears best when on fairly general topics which fall nearest the title “Principles of Paleobotany” and is certainly least good when it describes, as in the chapters on the Devonian, genus after genus after the manner of an extremely condensed text-book. There are some pleasant little line drawings which help but only illustrate a few of the plants described.

Somewhat more space is given to morphology (and resultant ideas of phylogeny) than to floristics (and ideas of plant migration); but both are dealt with, as also more limited topics like the formation and structure of coal; palæobotanical technique and history.

It should be made clear that this book was written for the unspecialized botanical reader. It is in no way, however, a popularized account; on the contrary the reader is assumed to be painstaking, and the list of relevant literature at the end of each chapter offers him the possibility of weeks of further study. It is a lot to hope for, but the author’s enthusiasm is so evident that it may go a long way to inspire equal keenness.

T. M. HARRIS.