

DARWIN VINDICATED

The Structure and Distribution of Coral Reefs

By Charles Darwin. Originally published 1842. Pp. xii + 214 + 3 plates. (Berkeley and Los Angeles: University of California Press; London: Cambridge University Press, 1962.) 1.95 dollars; 17s. net.

IT is now more than one hundred years since Darwin published his work on the structure and distribution of coral reefs and it is good to have this classic readily available in a well-printed paper-back.

A very welcome foreword is contributed by Prof. H. W. Menard, who remarks: "It may be unprecedented for an essentially correct hypothesis to be the centre of a raging controversy for more than a hundred years". He goes on to discuss the hypothesis of the origin of atolls by subsidence in the light of more recent work. The Royal Society's attempt to test this theory by drilling on Funafuti Atoll had been inconclusive, but more recent results at Eniwetok Atoll and elsewhere by drilling, supplemented by seismic soundings, have demonstrated that subsidence has predominated for thousands of years. It has been shown, for example, from seismic studies of four atolls that each has a cap of coral several thousand feet thick, and so Darwin's hypothesis may be taken as proved.

Prof. Menard adds: "Sprinkled among the atolls of the Western Pacific are about a hundred and fifty 'guyots' or ancient islands now submerged to depths as great as a mile. They were originally identified as former islands solely because they are truncated volcanic cones and the truncation could only be ascribed to erosion at sea level. This deduction has been amply confirmed by deep-sea dredging of guyots. The tops are covered with rounded cobbles and fossils typical of very shallow water. . . . Former islands in favourable locations have been capped by coral that has grown upward as fast as they subsided, and these are atolls. Other former islands, lacking the coral, are now guyots".

With Darwin vindicated, the controversy has now shifted to the much-debated question of the cause of the subsidence. W. J. REES

STAINING TECHNIQUES

Staining Animal Tissues

Practical and Theoretical. By Edward Gurr, with a foreword by Sir Howard W. Florey. Pp. xii + 631 + 1 photograph. (London: Leonard Hill (Books), Ltd., 1962.) 84s.

IN recent years a number of books devoted to collections of staining techniques has been published, so that one might question the need at the present time for yet another such volume. The author of this work, however, has stated in his preface that he has attempted to bring together a number of such techniques and staining procedures which were previously scattered throughout many books and journals, so this present book does in fact form a welcome addition to the laboratory bookshelves. It is undoubtedly a great convenience to have such compilations readily at hand.

At the same time, Mr. Gurr has devoted some ninety pages to a discussion of various aspects of the mechanism and theory of staining reactions. Such observations are essential to a proper understanding

of the rationale of microtechnique, but one must question the advisability of treating them in a practical text. Of necessity this section must be subordinate to the main part of the book, devoted to the actual techniques themselves, and this leads to a rather limited treatment. For myself, I would like to see such theoretical aspects dealt with at greater length in a separate publication.

The selection of techniques given is very wide (more than 300 staining procedures and 700 recipes are included) and designed to meet the needs of workers in widely separated fields. Each method is given in detail, and notes of special points are appended.

An appendix giving details of the preparation and use of various fixatives, embedding methods and mountants is a useful addition to the main part of the book. There is, one is pleased to note, a very adequate bibliography and a comprehensive author index and general subject index. The book is well produced, indeed, almost too well produced, as its price is rather high and this may well prevent its acquisition by some laboratories. It is welcomed as a valuable source of reference for the busy histologist.

S. BRADBURY

SISAL HEMP

Sisal

Twenty-five Years' Sisal Research. By G. W. Lock. (Tropical Science Series.) Pp. xvii + 355 + 62 plates. (London: Longmans, Green and Co., Ltd., 1962.) 60s.

SISAL, like so many tropical crops, has reached its greatest stature far from home. This hard fibre, which owes its name to the Mexican port of Sisal whence came the early shipments, is now a major product first of East Africa, with Tanganyika by far the greatest producer, and secondly, of Brazil.

East Africa's lead, not only in bulk of shipments, but also in scientific production, owes much to the far-sighted establishment in 1934 of a research station for sisal in Tanganyika. G. W. Lock was placed in charge, and his direction of the work over a period of twenty-five years has enabled him to write with exceptional experience of the crop.

An introductory chapter outlines the history of sisal in East Africa, going back to seventy years ago, when an article in the *Kew Bulletin* inspired the German agronomist Hindorf to give the plant a trial in Tanganyika where he was employed. The second chapter contains a useful account of the botany and life of the plant. From then on, the author is concerned with the practical handling of the crop, its propagation and raising in the nursery, its establishment in the field, its maintenance, nutrition, and pest-control, its cropping and processing to make fibre. Throughout, the author's recommendations, whether as to choice of planting material or to spacing in the field, are backed by the results of field experiments covering most aspects of cultivation. While forming, therefore, a very adequate manual of the growing and preparation of sisal, the work shows in interesting manner how agricultural research can serve and can shape efficient production.

The author writes clearly and competently, providing a good index and ample references to relevant literature. The book is well produced, with admirable illustrations, and is a welcome addition to the series of works on tropical crop-plants. T. A. RUSSELL