ECOLOGY OF MICRO-ORGANISMS

Principles of Microbial Ecology

By Thomas D. Brock. (Prentice-Hall Biological Science Series.) Pp. xiv + 306. (Englewood Cliffs, N.J.: Prentice-Hall, Inc.; London: Prentice-Hall International, 1966.) 62*s*.

NOT long ago, inclusion of the word "ecology" in the title of a microbiological research project was a sure way of diverting prospective research students elsewhere. Today the situation is more cheerful and Professor Brock's book should help to dispel the notion that the subject is a dull one. As the first book of its kind, it will be informative for the younger graduate not yet committed to a particular field of research as well as for the larger audience of microbiologists, sanitary engineers, pedologists, petroleum engineers, geochemists, physicians, food sanitarians and limnologists for which it is intended.

In the first three chapters, amounting to about one-third of the text proper, Professor Brock lays the basis for the physiological and biochemical approach to the examination of the behaviour of micro-organisms in natural situations. The experienced microbial physiologist will find much that is familiar to him here. Fragmentation of some sections seems excessive—Chapter 3, on "The Ecology of the Cell", has no fewer than 43 subheadings in 57 pages.

In the remainder of the book Professor Brock sets about the integration of a diversity of information from a variety of fields and the enunciation of principles. He deals with dispersal, population ecology, interactions between microbial populations, microbial ecosystems, interactions of micro-organisms with macro-organisms and microbes in macro-ecology. Sometimes the principles remain elusive and the text becomes reminiscent of a textbook in soil microbiology or chemistry, plant pathology or medical microbiology among others. In my opinion the coverage is too wide but, to be fair, Professor Brock states clearly in his preface that he is attempting to provide a picture of the place of micro-organisms in nature and human society. He has collected and documented much information in a compact and not too expensive space. All credit is due to him for providing a welcome first text on microbial ecology. J. W. HOPTON

Biographical Memoirs of Fellows of the Royal Society

Vol. 12. Pp. 564 + 28 plates. (London: The Royal Society, 1966.) 100*s*.; $15.

THERE is much interest and useful information in the twenty-eight short biographies contained in this volume. The more famous fellows include Sir Winston Churchill, E. V. Appleton, J. B. S. Haldane and Lord Nuffield, but perhaps the more interesting are the other less well known scientists. Theodore von Kámán was a mathematical prodigy who became a brilliant mechanical and aeronautical engineer. During the First World War he helped to develop the first stable hovering helicopter. He was later a member of the committee appointed to investigate the Akron and Macon dirigible disasters, and was a consultant on the Grand Coulee Dam Project. He was an early supporter of the science of astronautics, when other scientists still classed it as science fiction; von Kámán preferred enthusiasts with imagination to serious scientists without imagination. Hans Pettersson, another foreign member, was the Swedish oceanographer who organized the voyage of the research ship *Albatross*, during which measurements of light absorption and radioactivity as well as biological investigations of the sea were carried out.

Some of these fellows of the Royal Society had strong non-scientific interests. T. G. Brown was a neurophysiologist who climbed Mont Blanc; the Canadian physicist, J. S. Foster, who was involved in the development of radar, drew up plans for a concert hall at McGill University, and R. G. Hatton, who was for thirty years the director of the East Malling Research Station, founded the Kentish branch of the Workers' Educational Association. This volume is full of such fascinating facts; it makes interesting reading and a useful reference book.

MARY LINDLEY

Early Public Libraries

A History of Public Libraries in Great Britain Before 1850. By Thomas Kelly. Pp. 281. (London: The Library Association, 1966.) 56*s*. (L.A. members, 42*s*.)

ONCE again Dr. Kelly has demonstrated the compatibility of erudition and lucidity of exposition. Though thoroughly documented, this book will be read with ease by the general reader as well as the scholar, and it has some features of particular interest to a scientist. It notes the relation between the growth of libraries and public interest in science, and the book is welcome for its emphasis on the feature which made Chetham's Library, Manchester, of outstanding importance—provision of adequate income for the purchase of books. Even today, the University Grants Committee, much less the Department of Education and Science, has failed to appreciate the significance of this simple truth for either the new or the old university libraries. Dr. Kelly's book is also of importance as a corrective to the report of the Select Committee on Public Libraries of 1849, which has attracted some attention in recent years, following the centenary of the Public Libraries Act. There is a pertinent reference, in connexion with the origins of the British Museum Library, to Bacon's "Solomon's House" and the utterly inadequate provision for libraries in London in the seventeenth century is duly noted. Primarily a book for the scholar, it will be read with care by anyone interested in social history and particularly in education, whether scientific or technical or general. R. BRIGHTMAN

Flora of the U.S.S.R.

Vol. 12: Leguminosae: Astragalus. Chief editor V. L. Komarov. Compiled by A. G. Borisova, N. F. Goncharov, S. G. Gorshkova, M. G. Popov and I. T. Vasil'chenko. Edited by B. K. Shishkin. Translated from the Russian by N. Landau. Pp. xxviii + 681. (Jerusalem: Israel Program for Scientific Translations; London: Oldbourne Press, 1965.) 182*s*.

THERE are numerous important revisions in the monumental *Flora of the U.S.S.R.*, edited by Academician V. L. Komarov, but the fact that they were originally written in the Russian language has often been a barrier to non-Russian botanists who wished to consult them. The present English translation is of Volume 12 of this great flora, devoted entirely to the single genus *Astragalus* (Leguminosae).

The great size and complexity of *Astragalus*, which has not been generally revised for the old world since Bunge's work, *Generis Astragali Species Gerontogeae*, was published in 1868–70, make the present account of great taxonomic importance to any serious student of the genus. The degree of importance is indicated by the fact that, although many of the 103 sections here admitted were delimited by Bunge, no less than twenty-two were established in recent years by N. F. Goncharov, who wrote much of the present work but died before it was quite complete; and also that no less than 302 of the 849 species included were described as new by Russian botanists since 1930. As the preface states, this very large number "does not nearly exhaust the wealth of species of this genus, the greatest in our flora". It is noteworthy that very few infraspecific taxa are recognized and,