Asiatic Magnolias in Cultivation

By G. H. Johnstone. Pp. 155+34 plates. (London: Royal Horticultural Society, 1955.) 63*s*.

THE author of this work brings to his task not only a love of magnolias, but also a long experience of their culture, and it is particularly where his knowledge of them as living entities illumines the text that the horticulturist will find the pages especially worth perusal. In the first two chapters, where cultivation, pruning and propagation are treated, Mr. G. H. Johnstone has brought together the experience of others, enriched by his own, to provide a helpful guide to any who would essay the cultivation of this genus. The remainder of the text deals with the species individually. Of some forty-five known magnolias, exclusive of hybrids, the Asiatic species, which are here considered, number eighteen, and nine of these latter and their varieties are admirably portrayed in the fourteen coloured plates, mostly from paintings by Miss A. V. Webster.

For each species a diagnosis and formal description is provided, together with a more discursive consideration of matters of identity, culture and other aspects which will appeal especially to those who themselves share Mr. Johnstone's enthusiasm for growing magnolias. They range from tall trees such as the magnificent pink-flowered *M. campbellii* from the Himalayas or *M. obovata* from Japan, to shrubs such as the charming *M. sinensis* from China, with its exquisite drooping flowers and crimson stamens. The flowering period extends from the bleak days of March, when the white stars of *M. stellata* burst through their furry covering, to August and September, when *M. sieboldii* and *M. delavayi* contribute to the garden's fragrance as well as to its beauty.

Many species are diploid, with 38 chromosomes; but the members of the Yulania section, to which the beautiful *M. denudata* introduced from east China by Banks in 1780 belongs, are all hexaploids with 114 chromosomes, while the Chinese *M. liliflora* is a tetraploid with 76 chromosomes. The genus, in fact, presents a great diversity of interest to the student of plant life, and æsthetic attraction and problems of cultural skill to the grower, so that those who peruse this volume should feel indebted to Mr. Johnstone for its production and to the Royal Horticultural Society for its publication at what, in these days, must be regarded as a very reasonable price.

E. J. SALISBURY

Scientific and Technical Societies of the United States and Canada

Part 1: Scientific and Technical Societies of the United States. Compiled by the Library, National Academy of Sciences—National Research Council. Part 2: Scientific and Technical Societies of Canada. Compiled by John R. Kohr, National Research Council, Canada. Sixth edition. (Publication 369.) Pp. 447. (Washington, D.C.: National Academy of Sciences—National Research Council, 1955.) n.p.

BLESSED with vast rich natural resources, the North American people have not been slow to develop an economic system that seems naturally adapted to the rapid exploitation and enjoyment of these resources and a high standard of scientific and technological achievement that is both the outcome of economic growth and the means by which further and swifter advances are made. Probably no other people are more scientifically minded, and an indication of this is given by the present edition (the sixth) of the "Handbook of Scientific and Technical Societies of the United States and Canada".

As is remarked in the preface, during the twenty-seven years since the first edition, a large number of new scientific and technical organizations have been started in North America, and though they may be concerned with highly specialized topics and their membership small, the fact of their establishment is worth recording. Glancing over the pages, the reader is impressed both by the very large number of regions or localities that are associated with a particular organization and by the great wealth of topics that form the basis of the various organizations.

It is to be noted, too, that the earlier editions of this handbook covered both societies and institutions; but the latter are now omitted, as also are such other organizations as trade associations with research activities.

There are 1,506 entries for the United States and 206 for Canada, occupying more than four hundred pages. The size and content of the entries vary somewhat; but typical of the details given are the history of the society, its purpose, membership, meetings, library, research funds and medals, etc., and publications. The two indexes, one for the United States and one for Canada, are of the omnibus type: they include a subject classification of the activities, purposes and research funds of the societies (with the subjects appearing in capitals); periodicals (in italics); names of research funds, prizes, medals, etc., and changes in names of societies after 1948. The book is prepared jointly by the National Academy of Sciences—National Research Council of the United States and by the National Research Council of Canada. As such it bears the stamp of authority and can be relied upon.

The Chemistry and Fertility of Sea Waters

By Dr. H. W. Harvey. Pp. viii+224. (Cambridge: At the University Press, 1955.) 30s. net.

THIS excellent book deals more fully with the fertility of sea water than did its predecessor, "Recent Advances in the Chemistry and Biology of Sea Water" (Cambridge, 1945). Dr. H. W. Harvey recognizes five major processes, which in his unsemantic way he calls "conditions". Briefly they are: illumination; replenishment of nutrient salts; grazing of plants by animals; removal of plants from the upper, photosynthetic, layer of the sea by turbulence; and metabolism, which is at least partly governed by temperature. Chapter 5 collects and sets out succinctly the published effects of those processes on the growth of the plants in the plankton. A shorter chapter suffices for what is known about the production of animals. The two chapters together mark a notable advance in elaboration of knowledge, compared with that behind Chapter 10 of the preceding book—worth, with the better paper and printing, the extra cost.

The new book also gives more information on the chemistry, including how to determine phosphate much more accurately than has sufficed hitherto, and therefore less rapidly. Other additions on chemical methods are perhaps more useful, and all are described more precisely than in the earlier books. Harvey's study of sea water and the related biology forms an essential part of twentieth-century oceanography, and chemists may care to note this advance in their own subject in an unusual field.

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