QUOTATIONS

ELECTRICAL RESEARCH

A LITTLE more than a year ago attention was drawn to the financial difficulties by which the research association established in 1920 by the electrical and allied industries of this country was being faced both in insuring the maintenance of the income, about £25,000 a year, needed to enable it to continue its work on the existing scale, and still more in securing the additional money that would permit it to extend its operations. One of the research associations brought into existence with the pecuniary aid of the department of scientific and industrial research, it was originally an association of manufacturers, and, although it has received some support from the users of electrical plant, as represented by the electricity supply undertakings, its funds have hitherto been derived chiefly from the manufacturing side of the industry. This fact has given rise to an anomaly, for, while some of the researches it has carried out have been of importance to the manufacturers and have helped them to improve the technical quality of their products, many others have been mainly to the advantage of the suppliers, who indeed, presumably together with the consumers, are said to have received the larger share of the benefits.

In these circumstances it is thought that the supply undertakings, both private and municipal, may fairly be asked to find a greater proportion than hitherto of the annual income required, and an appeal—which has the support of the Electricity Commissioners, the Central Electricity Board, the Institution of Electrical Engineers and the chief associations concerned with the business of supplying electricity—is now being made to them to contribute individually on the basis of a subscription of £10 for each £25,000 of annual revenue derived from their sales. At the same time their claims to increased influence in the management of the association are recognized, and accordingly it is proposed that the constitution of the governing council shall be so modified as to give equal representation to them with the manufacturers, provision being also made for the cooption of a limited number of consumers and others. The excellence of the work already done by the association is admitted. While a money value can not readily be placed upon all its results, it is computed that some of them, through savings in capital, running and maintenance costs, have brought about a reduction in the cost of electricity supply amounting to something like a million pounds annually. Nor is there any reason to suppose that the field is exhausted, or that future effort will not be attended by equally substantial rewards, for many problems requiring solution are already in sight and one technical advance commonly shows the need for another. It is to be hoped, therefore, that the supply undertakings of all kinds, mindful of the interests alike of themselves and of their customers, will do their part in bringing the association's new plans to a successful issue, if only as a token of that gratitude which consists of a lively expectation of favors to come.—*The London Times.*

SCIENTIFIC BOOKS

Plant Ecology. By JOHN E. WEAVER and FREDERIC E. CLEMENTS. McGraw-Hill Book Company, New York, 1929. Large octavo, 522 pp., with 262 figures and one colored map.

AT the beginning of the present century the only book dealing with ecology in the modern sense was a small one by Warming which had recently been translated into German from the Danish. Now there are many, among them the greatly enlarged and extended work of Warming, besides various smaller and larger volumes by writers in England and America.

The book of Weaver and Clements exhibits a great advance over all others in comprehensiveness. In it are presented facts and principles together with practical applications to forestry, grazing and agriculture. Botanists who have not followed the progress of plant ecology will be surprised at the very large amount of material which is now so well known that it may be included in a text-book. Some may, perhaps, question the rather definite and unqualified statements which characterize much of the work, especially the chapter on "Climax Formations of North America."

Terminology and nomenclature are, in general, understandable, and there is only a moderate obtrusion of Clementsian terms. To the reviewer, the short chapter on "Units of Vegetation" is a bit disappointing as compared with Nichols's well-known lucid presentation of the subject.[1] An occasional anthropomorphism appears, as "water-loving" plants. It is unfortunate that the authors did not secure the help of an animal ecologist in preparing the chapter on "Relations between Plants and Animals," a chapter which seems wholly inadequate in a work of the present size and of this present year.

Most of the book deals with the standard material of ecology, as soil, water, temperature, humidity and light. The "Relation of Underground Plant Parts to Environment" is treated in one of the outstanding

[1] *Ecology*, 4: 11–23, 154–170, 1923.