extra labour can be afforded (and we grant that it is considerable), a scale independent of wave-length is desirable.

The third part of the book is an account of the theory and experimental investigation of the Stark effect by the one most qualified to give it, namely, J. Stark himself, and the reviewer can only remark that comment on it by him is superfluous.

The book abounds throughout with references to the literature of the subject, which are very complete and are brought so well up-to-date that the only supplement needed should be recent numbers of *Science Abstracts*. The printing and illustrations are all that could be desired.

J. A. C.

Academic Mycology.

The Structure and Development of the Fungi. By Dame H. C. I. Gwynne-Vaughan and B. Barnes. Pp. xvi + 384. (Cambridge: At the University Press, 1927.) 15*s*. net.

THE increasing recognition of the significance of the fungi in agriculture and industry makes the publication of a treatise on this group of plants an event of notable importance. This is the more manifest when it is realised that, since the translation of De Bary's great work on the fungi in 1886, there has appeared no book in English which covers the subject as does the present volume, or which has been suitable as a mycological text-book for advanced students of botany. Further, during this period only one book—Gaumann's "Vergleichende Morphologie der Pilze," published in 1926—has appeared on the continent of Europe. The present volume by Prof. Gwynne-Vaughan and Mr. Barnes partially occupies, therefore, a niche which has been empty for some considerable time.

The authors have kept strictly to their title, which is "The Structure and Development of the Fungi," and have not attempted to consider wider issues such as the physiology, ecology, and general biological relationships of the group. This is, perhaps, a little unfortunate, for readers will gain little conception of the part played by these organisms in Nature, of their vast importance as disease-causing agents in agriculture, forestry, etc., or of the dependence of many great industries upon fermentative processes brought about by them.

The book is thus in no sense a general treatise on the fungi, but it is a well-written and readable account of their reproductive structures and processes. Accepted as such it is a notable success and is assured of a cordial welcome.

Beginning with the more primitive forms in each of the three great classes of fungi, and working through to the more advanced types, the authors present a clear picture of the present state of our knowledge. The systematic arrangement they have adopted is more simple than that of many continental mycologists, but with the increasing recognition of the entirely artificial basis of much, at least, of our fungal systematics and phylogenetic schematisation, simple diagrammatic arrangements have at present almost everything in their favour. The book contains a useful chapter on mycological technique and a bibliography that will be found of value by students desirous of consulting original sources. Two hundred and eighty-five illustrations, many of them original, add greatly to the value of the book, which is excellently produced and commendably free from misprints and errors. A certain amount of loose wording here and there which might give rise to ambiguity can easily be amended in the several editions into which the volume is sure to run.

W. B. B.

Our Bookshelf.

Electro-Farming: or the Application of Electricity to Agriculture. By R. Borlase Matthews. Pp. xvii + 357. (London: Ernest Benn, Ltd., 1928.) 25*s*. net.

THE introduction of mechanical power to the farming industry has proceeded more slowly than in other industries. Apart from the natural conservatism of the agriculturist, the main reason for this is the diffuse and spasmodic power requirements on the farm. In other industries, the processes are localised in a factory and are not subject to the constant change of plans that the weather conditions impose on the farmer. Nevertheless, steam power for cultivations, and the internal combustion engine for cultivations, haulage, and general work in the farm buildings, have all found a place in agriculture and the use of power is now rapidly extending.

The latest claimant is electric power, and the author of this book, who is a well-known pioneer in the subject, has produced a thoroughly up-to-date review of the position. The characteristic of electric power that most commends it to agriculture is the extreme simplicity of the motor as compared with other prime movers. For all work that can be done by fixed or portable engines the electric motor will no doubt seriously rival all other forms of power, immediately an adequate supply of electricity becomes available in rural areas. The weak point is its use for work on the land, which absorbs by far the greater proportion of the total power