

nation can be recommended for any particular variety.

While it is generally possible to secure a higher percentage germination in the gelatin-sugar solutions than in the simple sugar solution, growth of the pollen tube is often less rapid, especially when the larger amounts of gelatin are used. This is frequently an advantage if large numbers of samples are being tested, since long, interlacing tubes make counting difficult.

E. J. KRAUS

OREGON AGRICULTURAL EXPERIMENT STATION

#### SCIENTIFIC BOOKS

*Economic Geography.* By JOHN MCFARLANE, lecturer in geography in the University of Manchester. The Macmillan Company. 8vo. Pp. 560. \$2.25.

The work is based on the principle of natural regions. It is recognized, however, that political conditions control economic development so largely that the boundaries of countries, whether natural or arbitrary, must figure in the reckoning. Also true geographic units may be closely linked into a group dominated by one or more geographic factors.

Preceding the geography of continents and countries are three chapters on physical conditions of economic activity, climate and vegetation. These chapters occupy but 26 pages and it may be questioned whether so brief and general a statement is useful as an introduction to the main treatment. The author recognizes that the economic geographer relies on the geologist, meteorologist, botanist, etc., for the data which he correlates, and it would, in the reviewer's judgment, be as well to leave the case thus; for, to take an example, a non-geologist could not derive much help from the author's two-page account of rocks and geological periods, or from one page on the principles of geomorphology, or the like brief discussions of winds, ocean currents and the distribution of plants. Should we not frankly concede that this branch of geography is an advanced phase to be based on previous training in physical and biological geography?

The proportioning of space in the regional treatment is fairly balanced considering that

the text is no doubt expected to be used mainly by British students. This fact would justify 38 pages for the United Kingdom and 34 for the United States. Indeed most American texts are more one-sided than this. On the same basis we can not criticize the assignment of more space to India and Ceylon than to Germany, or giving two thirds as much space to Canada as to the United States. Our author used the term *economic* as designating the phase of anthropogeography here treated. It is not easy to see that the subject-matter differs in general scope from the volume by Mr. Chisholm, who although deeply versed in economic conditions, calls his handbook commercial geography. So, it would seem, we are still using these terms interchangeably. It is to be hoped that we may be able in time to arrive at more specific terminology.

As for the body of the work, we find sound, clearly expressed and informing accounts of the physical conditions, products and trade of the various countries, the work of a thorough and conscientious geographer. The illustrations are confined to maps, eighteen in number, mainly devoted to rainfall and the delineation of natural regions. Possibly the author's plan was deliberate, not to emphasize transportation either by map or text, and thus to justify somewhat the term *economic*. The chapter on the United States has been prepared with evident care. The map of natural regions conveys some misapprehensions which indeed a generalized map could not avoid. Some misleading boundaries, however, are qualified by statements in the text. Still it is not quite appropriate, as seen by an American geographer, to include the lake plains of New York and the coastal plain of New Jersey in a "Middle Appalachian Region."

The volume takes a good place among the few comprehensive manuals in English dealing with this aspect of geography.

A. P. BRIGHAM

#### IO AND ITS ENVIRONMENT

THE manuscript of Dr. Chas. C. Adams's paper on "The Variations and Ecological Distribution of the Snails of the Genus *Io*" was