Book Reviews

The Geography of the Flowering Plants. Ronald Good. Longmans, Green, London–New York, ed. 2, 1953. 452 pp. Illus. + plates. $10.

The great need for a first-class textbook on plant geography makes the appearance of a revised edition of Good's 1947 book a matter of great interest. It is satisfying to note that many of the obvious shortcomings of the first edition have been eliminated and that this volume goes a considerable way toward filling the need for a modern treatment of one of the most fascinating branches of botany.

As is usual with discussions of plant geography, the four main branches of the subject have not been given equal treatment. Floristic and historical plant geography are treated exhaustively, but physiological plant geography (vegetation science) and economic plant geography are scarcely treated at all.

The plan of this book is generally quite logical. After an introduction, there are three introductory chapters, providing an outline of the geography of the world, a division of it into floristic regions, and some general aspects of plant geography. Then follow eight chapters of detailed statistical information on the distribution of families, genera, and species; then two chapters on the history and distribution of British plants, and one on the geologic history and past distribution of the flowering plants. These make up part I. Part II consists of six chapters on the factors of distribution, with one on Good's theory of tolerance, and a chapter of conclusions. In addition, there are appendixes providing statistics on the world's land surfaces and a list of discontinuous genera. There are also an extensive bibliography and three indexes to the contents—one of subjects, one of plant names, and one of persons and places. The book is illustrated by 25 plates and 75 text illustrations. The revision of the first edition has obviously been very thorough, bringing in data from many papers as late as 1950 and even some published in 1952.

The comprehensive nature of this book, and the great interest of the subject matter warrant a much more detailed and critical consideration of some of these sections than space allows. It is, however, of interest to note that the elementary nature of the introduction suggests that the book is directed toward a popular audience with no particular botanical background. There is little doubt, though, that such readers would be well over their depth before they had read far into the main text. Sixteen of the plates are excellent reproductions of beautiful photographs of vegetation which, since they have no relation to the text, must be regarded as ornamentation to attract the same popular audience.

The enormous mass of statistical information on the distribution of plants, important as it is, serves well to emphasize the diffuse and unsatisfactory nature of the subject matter of plant geography. This is, of course, but a reflection of the fact that the taxonomy of plants is not in a very advanced state and that consideration of any other major aspect of botany is consequently limited.

The section on the British flora, one chapter on its history and distribution, another on the local distribution of plants in an English county, are among the truly excellent parts of the book. The "theory of tolerance," treated in Chapter 21, is apparently considered by the author to be his major contribution to plant geography. It seems eminently sound if somewhat obvious. The summarization, in the concluding chapter, of the history of the flowering plants into a long favorable period of only slow change with widespread generalized types, followed by a period of sharp differentiation of habitats in the late Tertiary and then by the Pleistocene disaster is interesting and well supported by the material presented.

One may sum up one's general impressions by saying that, although this is certainly not a book to be recommended to the casually interested reader or even the usual amateur naturalist, there is an enormous fund of information here for the critical student of plant geography and related fields. It is still not, however, the elementary textbook which is so much needed for beginning plant geography courses, nor will it likely be very satisfactory for even advanced general geography students to round out their background in the botanical phases of their science.

F. R. Fosberg

Falls Church, Virginia

Light. R. W. Ditchburn. Interscience, New York, 1953. 701 pp. Illus. + plates. $7.

This textbook on physical optics was written for students who have finished the study of physics and mathematics on the intermediate level. The author's aim is to give such students a thorough acquaintance with the manifold phenomena of light radiation, to show them the accomplishments and limitations of the different theories, and finally to present to them the ideas and formulations of the modern quantum mechanics, as developed by Dirac, which resolves the main difficulties of the particle-wave conflict.

There exists no other textbook on this level that contains so many details about the experimental background or goes so far into the theoretical treatment. Only a man of such comprehensive knowledge of the subject and of such superior pedagogical gift as the author possesses could successfully undertake this difficult, although alluring, task.

About half of the book deals with the general aspects of wave theory and the treatment of phenomena and instruments. Three chapters on "Velocity of light," "Relativistic optics," and "Polarized light" conclude this general part. Theoretical and experimental considerations are well balanced, and certain topics are treated in much greater detail than in other