nately, the authors have not made obvious use of the geologic glossary published by the American Geological Institute, and a few of their definitions are contrary to common or proper usage. Individual topics that might be discussed in more detail include rock mechanics, the origins of caves and coral reefs, types of glacial deposits, continental drift, and oil shales. The material in chapter 12, dealing with lakes and basins, might be worked into other chapters. Topics that are treated especially well include geologic time and the evolution of coastlines.

Very careful editing has eliminated virtually all errors and has produced a most attractive volume. Undoubtedly the book will continue to be widely used as a text in beginning geology courses.

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British Topographic Botany

Flora of the British Isles. A. R. Clapham, T. G. Tutin, and E. F. Warburg. Cambridge University Press, New York, ed. 2, 1962. xlvii + 1269 pp. Illus. $13.50.

Atlas of the British Flora. F. H. Perring and S. M. Walters, Eds. Nelson, New York, 1962. xxvi + 432 pp. $22.50.

Modern topographic botany had its origin in the British Isles with the work of Hewett Cottrell Watson. Now, 130 years after Watson's first book was published, two very fine additions to the literature on this subject have been made. Because of their background of intensive floristic work, British taxonomic botanists have sometimes been accused of being parochial in their outlook, but their concentration upon the details of local floras shows up to great advantage in these two books. Also, by including the results of recent monographic work, wherever this seemed reasonable, information on the taxa here recognized has been readied to take its place in the forthcoming *Flora Europaea.*

"Clapham, Tutin, and Warburg" became standard as soon as it was published in 1952. In this second edition, more information on the species has been added, even though the total number of pages has been reduced by the use of a larger format. In addition to very full morphological descriptions and accounts of range and ecological preference, the authors give flowering dates, pollination biology, seed or fruit dispersal systems, chromosome numbers, and, finally, the Raunkiaer life form. It is hard to suggest what more could be added without going to the detail of the "Biological Flora of the British Isles," another worthy effort that is being published, species by species in the *Journal of Ecology.* In addition, several of the keys have been considerably modified in this edition.

Naturally, the authors point out that, despite the combination of intensive experimental field and herbarium studies of variable species and "critical groups" during the last decade, much remains to be done. Nevertheless, it is probable that for many years this excellent *Flora* will be used with appreciation by all who have cause to work on the British flora and by many whose concern with it is incidental.

Our knowledge of the distribution of vascular plants in Britain has also been materially improved in the last 10 years, largely as a result of the field work undertaken in connection with the "Distribution Maps Scheme" of the Botanical Society of the British Isles. It is, therefore, particularly pleasing to be able to have the results of this admirable scheme available at the same time as this second edition of the *Flora.*

In the production of the *Atlas of the British Flora,* the energies of Britain's indefatigable band of amateur botanists have been harnessed to the successful performance of an immense task. It is the admirable function of the Botanical Society of the British Isles to bring amateur and professional botanists into close and productive contact. The happy result of this collaboration is a beautifully produced series of "dot" maps that treat all generally accepted British native species (excluding critical segregates) and most well-established introductions.

For the purpose of producing the maps, the country was divided into ten-kilometer squares of the National Grid, and these were allocated to one or more individuals or societies for listing the flora on standardized cards. Special expeditions were organized to remote areas to fill those cards that would otherwise have remained incomplete. In addition, herbarium records were used, so that recent changes of range might be indicated to some extent, and all critical species were checked by a large roster of experts. The maps were then produced with the aid of automatic machines. To assist users of the maps, a pocket in the back of the book contains a series of transparent overlays that help greatly in suggesting the possible natures of limiting factors in the distributions of particular taxa. These overlays represent, respectively, the river systems, vice-counties, altitude, temperatures at different times of the year, geology, humidity, rainfall, grid squares, and, for the benefit of those who would work further, "under-worked squares." There is also a most interesting account of the manner in which the scheme was put into operation. Hopefully, this will suggest means whereby it might be possible to follow a similar pattern of work elsewhere, even in North America.

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General Chemistry Texts

The Nature of Atoms and Molecules. A general chemistry. Ewing C. Scott and Frank A. Kanda. Harper, New York, 1962. xii + 765 pp. Illus. $8.

Fundamental Chemistry. Donald H. Andrews and Richard J. Kokes. Wiley, New York, 1962. xv + 814 pp. Illus. $7.95.

These two new general chemistry texts differ widely in the scope and sophistication of the material presented. The authors of each claim that their book assumes no previous training in chemistry or physics.

The Nature of Atoms and Molecules is the more traditional in approach to the subject; more than half of its chapters and two-thirds of its bulk are devoted to descriptive chemistry of the elements. Much space is devoted to the history and occurrence of the common elements and to the uses and industrial processes associated with them. The authors employ electronegativity as their major tool in explaining chemical reactivity. There is little attempt to show relationships between chemical behavior and thermodynamic and kinetic factors. The chapters on the metals each contain a section on analytical properties. Organic chemistry is treated briefly in the same chapter with the inorganic chemistry of carbon. A chapter on giant molecules