and the new in such fashion as to provide an excellent basis for the student who desires some knowledge of organic chemistry—either as a subsidiary discipline or as a basis for further delving into its details.

Noteworthy are the discussions of recent advances in the chemistry of acetylenes, cyclo-octatetraene, the use of isotopes in elucidation of reaction mechanisms, and the introduction of modern ideas on biochemistry.

It is a pleasure to commend the present volume as an excellent introduction to organic chemistry without commitment that the book pretends to be more than its author sets forth in the preface.

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The Geography of Europe. 2nd ed. George D. Hubbard. New York: Appleton-Century-Crofts, 1952. 870 pp. $6.75.

Geographers and others interested in Europe will welcome the appearance of a revised edition of this well-known textbook. The author is professor emeritus of geology and geography from Oberlin College—a vigorous little man with a gray goatee, a twinkle in his eye, and a question on his lips, who looks for all the world like an elderly teacher from a centuries-old university in one of the countries he is describing. Professor Hubbard is a geographer of the old school who does not hesitate to employ a geologic term or refer to a geologic period when he feels it will improve his description or his interpretation. For such boldness this reviewer would like to commend him.

Approximately one sixth of the 800-odd pages in the book are devoted to aspects of Europe as a whole, and the remaining five sixths to a presentation of individual countries grouped for convenience on a broad basis of climatic similarity. Anthropogeography gets more than the customary attention, with a good chapter on the "Geography of Prehistoric Men in Europe," and a closing section entitled "Geography in the Fourth Dimension," which includes well-written chapters on agriculture, commerce, and culture.

The Geography of Europe is not a book to which one can turn for a completely up-to-date treatment of the European economy. Production figures and ratios have been reduced somewhat beyond the desirable minimum, but perhaps the author feels that such ephemeral facts can best be left to the annually revised statistical yearbooks. The book does provide, however, a good introduction to the broader physical and human patterns of the continent and can safely be recommended to both the student and the general reader. Most of the black-and-white maps are well selected, and a welcome addition to the revision is a colored political map with shaded relief, inside the front cover. More maps of the entire continent, showing, for instance, population distribution, agricultural regions, and coal basins, would certainly be desirable additions in a future revision. Many new pictures have been incorporated in the 1952 edition, and the bibliographies have been completely redone. As in the first edition, too many inconsequential books are cited and too little of the available periodical literature. The author makes passing mention of the *Géographie Universelle* series in his bibliographies but fails to credit De Martonne and Demangeon with authorship of the three final volumes on France. It seems doubtful that he has consulted much of the European literature on the continent he is describing.

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The Chemistry of Lignin. Friedrich Emil Brauns. New York: Academic Press, 1952. 808 pp. $14.50.

This monograph is a comprehensive treatise on the chemistry of lignin and should be considered a valuable addition to the library of the plant biochemist, the organic chemist interested in natural products, the plant physiologist, and others whose work or interests are associated with the chemical aspects of wood technology and utilization.

After a brief introduction to the nature and scope of the problems of lignin chemistry and the evolutionary development of research in the field, since its first recognition as a plant constituent, the author sets about to define lignin according to the present knowledge; to outline its distribution in the plant kingdom; and to discuss its morphological relationship to the plant tissue in which it occurs. Theories on the biosynthesis of lignin are reserved for discussion in a later chapter.

The chemistry of lignin is presented in an orderly progression from detailed discussion and evaluation of the methods for its isolation and determination to a broad but detailed outline of its physical properties and chemical reactions with organic and inorganic reagents—concluding with a consideration of the numerous theories on its chemical structure and relationship to other constituents of the plant cell wall. A brief account is given of attempts to synthesize lignin, and a short appendix of laboratory techniques is included.

Throughout the writing an intensive effort is apparent to establish a rational nomenclature for the multitude of lignin preparations and reaction products which appear in the literature, and to suggest methods of oriented approach to the great variety of problems which confront present and future workers in the field.

Literature citation is comprehensive although some readers may feel that significant papers have been excluded—a situation which the reviewer feels may be due to the extreme diversity of opinion and experimentation in the field. In general, the author has adhered to his stated intention of offering objective comment and interpretation where conflicting results are compared, and the book will serve as a much-needed blending medium to the vast and heterogeneous range of investigations to which lignin has been subjected.

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