The author proposes the terms 'odorophore' and 'odorogen,' to be used in a manner analogous to the 'chromophore' and 'chromogen' of the color chemists. Thus, he considers the phenolic OH as an odorophore, which becomes an odorogen when its H is replaced by an alkyl or acyl group; in support of which he cites the following examples:

$HOC.C_6H_4.OH$ (paraoxybenzaldehyde) = little odor.

$HOC.C_6H_4.OCH_3$ (anisic aldehyde) = odor.

$HOC.C_6H_3<^{OH}_{OH}$ (protocatechuic aldehyde) = little odor.

$HOC.C_6H_3<^{OCH_3}_{OH}$ (vanillin) = odor.

$HOC.C_6H_3<^{O}_{O}>CH_2$ (piperonal) = odor.

The work is divided into the following chapters:

I. Halogen and Nitro Compounds.—Includes the halogen derivatives of phenylethane, and of styrol; mirbane and Musc Baur.

II. Aldehydes, Dialdehydes and Oxyaldehydes.—Among the more important aldehydes listed are those of benzoic, phenylacetic, cuminic, cinnamic, salicylic, anisic and piperonylic acids. Vanillin, however, is reserved for the author's volume on 'Les Parfums Comestibles.'

III. Phenols and Phenolic Ethers.—Among others the following are discussed: thymol, carvacrol, anisol, diphenyl ether, anethol, betanaphthyl ethers, eugenol and safrol.

Each chapter begins with a few pages of explanatory text, followed by a tabular classification of the compounds belonging to that particular group. The column headings, for the tables are as follows: trade name; scientific name; formula, empiric and constitutional; method of preparation; literature and patents; properties and characteristic reactions. The references to the literature and patents are particularly valuable.

Although the compounds are well arranged in a logical chemical classification, an Index would nevertheless be a desirable addition.

MARSTON TAYLOR BOGERT.

BOOKS RECEIVED.

*Elements de paléobotanique.* R. ZEILLER. Paris, G. Carré and C. Naud, 1900. Pp. 421.

*A Treatise on Zoology*, edited by E. RAY LANKESTER. Part III.: Echinoderma, F. A. BATHER, J. W. GREGORY, E. S. GOODRICH. London, Adams and Charles Black, 1900. Pp. vi + 344.

*First Book, Home Geography and the Earth as a Whole.* RALPH S. TARR, FRANK M. MCMURRY. New York and London, The Macmillan Company, 1900. Pp. xv + 279.

*Prantl's Lehrbuch der Botanik.* FERDINAND PAX. Leipzig, Wilhelm Engelmann, 1900. Pp. viii + 455.

*Reinhardt's Technic of Mechanical Drafting.* CHARLES W. REINHARDT. New York, The Engineering News Co., 1900. Pp. 36. 10 Plates.

## SOCIETIES AND ACADEMIES.

### THE ACADEMY OF SCIENCE OF ST. LOUIS.

AT the meeting of the Academy of Science of St. Louis, on the evening of April 2, the following subjects were presented:

A paper by Dr. H. von Schrenk, entitled 'A Severe Sleet-storm,' and embodying the results of a study of the injury to trees and shrubs by an unusually severe recent sleet-storm, was presented by title.

Dr. W. H. Warren read a paper giving an outline of recent progress in the chemistry of perfumes. For the most part, these substances are high boiling oils. Formerly these oils, which are complex mixtures of several compounds, were obtained exclusively from flowers, but recently some of the essential principles have been produced by chemical means, whereas other artificial perfumes are mere imitations. With a few exceptions the essential principles, which give the perfumes their value, belong to a complex class of organic compounds known as the terpenes. The terpenes are reduction products of cymol. The molecule is characterized by the presence of an atomic linking such as is found in the hydrocarbon ethylene, and the determination of the exact location of these ethylene linkings constitutes a difficulty in studying the terpenes. It is found also that nearly every substance having the properties of a perfume has in its molecule certain atomic groups whose presence exerts a marked influence on the odor. Among the more important of these may be mentioned the aldehyde, ketone, ester, ether and alcohol

group. Besides those terpenes which have the ring-structure in the molecule, there are substances which have long chains of carbon atoms. Apparently such compounds should be classified with fatty compounds, but so closely do they resemble the terpenes in their properties and chemical behavior that they are placed with them instead. Citral or geranial, an aldehyde found in largest quantity in oil of lemon-grass, is such a substance. Citral is of importance because it is the starting-point in the synthesis of ionone, the artificial violet perfume. The wonderful progress in our knowledge of the terpenes and of their derivatives is the work of scarcely more than ten or fifteen years at the most. There is great activity still, and among those chemists who have taken a prominent part in the labor should be mentioned Wallach, Baeyer and Tiemann.

Six persons were elected active members of the Academy.

William Trelease,
*Recording Secretary.*

THE TORREY BOTANICAL CLUB.

At the meeting of Torrey Botanical Club on March 13, 1900, a paper was read by Dr. P. A. Rydberg, on the 'Phytogeography of Montana.' He divided Montana into three regions, the Great Plains, constituting about one-half of the State, and the sub-Alpine and the Alpine regions, the last constituting those isolated peaks which exceed 9000 feet. The characteristic plant-coverings of each region, termed formations, were classed under the usual groups as Xerophytic, Mesophytic, Hydrophytic, and Halophytic, which were fully discussed.

Dr. Rydberg's paper was followed by remarks by Judge Brown on the beauty of the mountain flora, and by Dr. Britton on the Dodge expedition of 1897, of which the paper is a result. Dr. Rydberg said in answer to Dr. Underwood that the Montana flora extends but little westward of the State. Dr. Underwood referred to the interest attaching to any possible influence of hot springs upon the flowering-time of plants growing near, and called attention to the very early flowering of *Ranunculus Cymbalaria* along ditches supplied with hot water baths near Syracuse, New York.

Edward S. Burgess,
*Secretary.*

BIOLOGICAL SOCIETY OF WASHINGTON.

The 322d meeting was held on Saturday, April 21st. L. O. Howard exhibited, with explanatory remarks, 'Some New Illustrations of Insects,' comprising series illustrating the different genera of mosquitoes, the species of flies presumably connected with the carriage of germs of diseases of the intestinal tract, and of fig caprification in California.

F. W. True spoke of 'The Newfoundland Whale Fishery,' his remarks being illustrated by lantern slides. The fishery for finback whales carried on at Snook's Arm, Notre Dame Bay was described in some detail, the speaker stating that a small, swift steamer was employed which cruised in the adjacent waters where the whales were taken by means of a harpoon gun. After being killed the whales were towed to the harbor and by the use of a steam winch hauled out upon an inclined plane where the blubber was rapidly removed.

F. A. Lucas.

## *DISCUSSION AND CORRESPONDENCE.*

THE OFFICIAL SPELLING OF PORTO RICO.

To the Editor of Science:—Some time since there appeared in your paper a contribution from a distinguished Washington geographer to the effect that President McKinley had issued an order that the name of the island of Porto Rico should be spelled 'Puerto' Rico. There likewise appeared in the *National Geographic Magazine* for December, 1899, an anonymous personal communication stating in effect that I was the only government official who adhered to the form Puerto Rico.

I beg to inform you that in an Act of Congress passed April 11th and signed by the President of the United States, April 12, 1900, 'to provide revenues and a civil government for Porto Rico,' the word Puerto was stricken out wherever it occurred and *Porto* substituted therefore. The President's signature to this bill and the statutory act of Congress settles the spelling of the name of the island. Puerto