Commercial Organic Analysis. By ALFRED H. ALLEN, F.C., F.C.S. Third edition, illustrated with revisions and addenda by the author and HENRY LEFFMANN, M.A., M.D. Volume II., Part I., Fixed oils, fats, waxes, glycerol, nitroglycerine and nitroglycerine explosives. Philadelphia, P. Blakiston's Son & Co. 1899. Pp. 387. Price, $3.50.

The new editions of Volumes I. and IV. of this excellent work were noticed in SCIENCE some time ago. The present part contains only a portion of the matter originally included in the second volume, the discussion of the hydrocarbons and their immediate derivatives being reserved for the second part of the same volume. The more important additions to this part are: the bromine thermal method, methods for the determination of glycerol, acetyl number, various tests for oxidation of oils, composition and official methods for examination of dynamites and smokeless powders, degras and cloth oils.

The standard character of the work is so well known that any detailed criticism is unnecessary. The revision has been well done and the book gives a good account of the present state of knowledge in what must be acknowledged as one of the most difficult as well as important fields of analytical chemistry.

W. A. NOYES.

BOOKS RECEIVED.

I Sogni. SANTE DE SANCTIS. Torino, Fratelli Bocca. 1899. Pp. 390.

Geometrical Drawing for Army and Navy Candidates and Public School Classes; Vol. 1., Practical Plane Geometry. EDMUND C. PLANT. London and New York, The Macmillan Company. 1899. Pp. xiv + 185.

Poems of Nature and Life. JOHN WITT RANDALL. Edited by FRANCIS ELLINGWOOD ABBOT. Boston, Ellis. 1899. Pp. 556.

The Making of Hawaii, a Study in Social Evolution. W. F. BLACKMAN. New York and London, The Macmillan Company. 1899. Pp. xii + 266.

SOCIETIES AND ACADEMIES.

THE NEW YORK ACADEMY OF SCIENCES—SECTION OF GEOLOGY AND MINERALOGY.

THE section met on May 15, 1899, Dr. A. A. Julien presiding. The following program was then offered:

1. Arthur Hollick: 'A Reconnoissance of the Elizabeth Islands, Mass.'

2. W. Goold Levison: 'Several Notes on Microscopical Attachments and Photography of Minerals.'

3. Heinrich Ries: 'Preliminary Notes on the Physical Properties of Clays.'

Another paper announced in behalf of Professor J. C. Smock, State Geologist of New Jersey, on 'Artesian Water Supply in New Jersey,' was postponed on account of sickness and absence of the author.

The following is an abstract of Dr. Hollick's paper on the Elizabeth Islands, which was illustrated by specimens, photographs, sketches and charts.

The Elizabeth Islands extend in a southwesterly direction from Wood's Holl, Mass., forming the barrier between Buzzard's Bay, on the north, and Vineyard Sound, on the south.

The principal islands are five in number, and beginning at the eastern end of the group they are known as Naushon, including Nonamessett, Uncatina, Pine Island, Buck Islands and the Weepeckets; Pasque; Nashaweena; Penikese, including Gull Island, and Cuttyhunk.

Little or nothing has been written in regard to them for the reason that each island, with the exception of Cuttyhunk, on which there are a number of separate holdings, belongs to some one individual, family or corporation; hence there is no line of public travel to or through them and no house of public entertainment, except in connection with Cuttyhunk. The trip occupied a week and was made possible through the courtesy and kindness of the owners.

Taken as a whole the islands represent a partially submerged morainal ridge, which has become separated into islands and isolated from the mainland in recent geologic times. They apparently represent a later, more northern branch of the terminal moraine, the southern or older portion of which is represented by Montauk Point, Block Island and Martha's Vineyard.

One of the most interesting discoveries was an exposure of plastic and lignitic clay, presumably Cretaceous in age, on the south side of Nonamessett. The proximity of this locality

to the mainland leads to the inference that other deposits of the same age, which have escaped erosion, may be found farther north, up the old estuaries, where theoretically the formation once extended.

The general surface features of the islands are such as are characteristic of typical morainal regions, consisting of rounded hills and corresponding depressions, many of the latter occupied by ponds or swamps.

To an inquiry by Professor Kemp, Dr. Hollick stated that only indefinite lignitic remains had been detected in the deposits, and that no ilmenite boulders had been recognized. The Chairman explained that the *Pinus rigida*, of sparse occurrence on Naushon, was the prevailing conifer along the south shore of Cape Cod to the eastward, while, on the other hand, the beech was rarely found on the Cape. The morainic chain of the Elizabeth Islands extended to the northerly part of the Cape, in Brewster, separated from the south shore by modified glacial deposits in Dennis, Harwich and Chatham.

Professor R. E. Dodge was inclined to believe that the whole aspect of the topography of these islands was that of a drowned shore line, modified by subsequent erosive action, probably not caused by easterly winds. Professor J. F. Kemp favored the view of the author, that present erosive action was mainly concerned; and Dr. Hollick pointed out that the prevailing direction of the wind was southeast, that extremely violent currents prevailed in the channels, especially during ebb-tides, that sandspits occurred only at the east end of the channels, and that, during the process of sinking and erosion, the embayments deepened, met and united, and thus the channels were cut through.

Professor Levison exhibited by the lantern six photographs of minerals, natrolite and calcite, taken by reflected light; four enlargements of photomicrographs, by reflected light, of minute groups of aragonite, pyrite, apophyllite and stilbite; a new method of showing the photographic action of the Becquerel rays on a sensitive plate, by use of a written inscription on a card, in the form of a glue-line dusted with the powdered uraninite; a simple mode of attachment of a separate foot to a microscope, in order to render it portable; and read a note on a visit to Hubbard's Mine, Fairfield county, Connecticut, with description and analysis of apparently a new lithia mineral from that locality. The Chairman suggested that such photographic enlargements might be of great service for study of faces and even goniometric determinations on very minute crystals, where numbers of such crystals were arranged in coincident planes and proper adjustments could be made.

In the absence of Dr. Ries, an abstract of his paper was presented by Professor Kemp, with emphasis on two important conclusions: First, that the plasticity of clays was not caused by the predominance of any particular constituent, such as Kaolin, but by the physical coherence of minute surfaces; secondly, that the fusibility of clays was due, not so much to their mineral components, but to their ultimate chemical composition, and that this could be, therefore, practically improved, when necessary, by intermixture with the proper constituents.

The Academy then adjourned to October 2, 1899.

ALEXIS A. JULIEN,
Secretary of Section.

TORREY BOTANICAL CLUB, MAY 9, 1899.

THE regular program of the evening consisted of an address by Mr. Samuel Henshaw, 'Notes on the Flora of Porto Rico,' giving an account of the people, customs, climate and present conditions of that island. He exhibited numerous specimens of Porto Rican utensils and articles of household use of vegetable manufacture, including many applications of the calabash gourd, from spoons to chopping-bowls, many ways of using palm leaves, etc., etc. He referred to the immense growths of *Bougainvillea*, showing a specimen, of Crotons in the open sun, of *Fourcroya*, *Lantana*, etc. He showed many photographs, portions of large tree fern and banana trunks, a tall wooden mortar and dumbbell-shaped wooden pestle, musical instruments made from gourds and from other sources. Orchids were few, the reports of their occurrence proving to be founded chiefly on aroids and *Tradescantias*. By one coming from the North the most singular sen-

sation is experienced on finding every common weed under foot to be what would have been a greenhouse plant at home. But he heard our soldiers say: "We would rather go out and pick a dandelion once more."

EDWARD S. BURGESS,
Secretary.

THE NEW YORK SECTION OF THE AMERICAN CHEMICAL SOCIETY.

THE May meeting of the New York Section of the American Chemical Society was held on the 5th at the Chemists' Club, 108 West Fifty-fifth Street.

Mr. A. H. Allen, of Sheffield, England, well known as the author of the 'Commercial Organic Analysis,' was present as the Society's guest and was warmly welcomed. In response he made a short address expressing keen appreciation of his reception by the Section and his pleasure of being able to attend this meeting.

The papers of the evening were by:

1. W. S. Myers: 'On the Alcoholic Content of Some Temperance Drinks.'

2. J. H. Stebbins: 'Upon the Action of Diazo Compounds upon Thymol para-sulpho-Acids.'

3. J. H. Stebbins: 'Note upon the Reichert Figure of Butter.'

4. L. L. Van Slyke, Geneva, N. Y.: 'Some Facts and Fictions about Milk.'

5. Martin L. Griffin, Mechanicsville, N. Y.: 'Comparative Value of certain Reagents for removing Lime and Magnesia from Natural Waters for Industrial Uses.'

6. Charles F. McKenna: 'A New Laboratory Valve.'

DURAND WOODMAN,
Secretary.

DISCUSSION AND CORRESPONDENCE.

LARVAL STAGE OF THE EEL.

TO THE EDITOR OF SCIENCE: Mr. Eugene Blackford's 'Note on the Spawning Season of the Eel' in SCIENCE (p. 741–742) is interesting as well as important. As Mr. Blackford has indicated, almost "the only known instance of the taking of a sexually matured eel has been in waters of [nearly] one hundred or more fathoms in depth." Others are rare. It is probable, however, that our east-coast eels generally spawn in water of less depth. The occurrence of an eel with well-developed eggs in water only two or three fathoms deep in May is, however, truly exceptional. The question then arises whether the eel had matured eggs 'many months later than in the Mediterranean' or earlier. I am disposed to believe that the individual noticed had wandered beyond its breeding ground and abnormally retained its eggs on account of its uncongenial environment. As Mr. Blackford also remarks about New York, "it has always been supposed that the spawning season takes place within a month or so of the" descent of the eels in November and December, and that 'the elvers (*montées*) which ascend the rivers' in the next ensuing 'early spring' are the young of those that had entered the sea a few months before. For a long time I have been of a different opinion. Inasmuch as (1) the sea-going eels do not mature their ova till the winter season, (2) the leptocephalus young are found from February to September, or later, and (3) the transitional form between the leptocephalus stage and the cylindrical stage has been found in January, it appears tolerably certain that the elvers which ascend the rivers in the early spring are the progeny of eels that descended therefrom *not later* than winter of the *penultimate* (and not last) year before.

It may be of interest to add that brief notices and figures have been published of the development of the eel in a readily accessible journal—*Nature*—for March 18, 1897 (Vol. 55, pp. 467–468), and for May 27, 1897 (Vol. 56, p. 85).

THEO. GILL.

WASHINGTON, May 26, 1899.

SCIENTIFIC NOTES AND NEWS.

AT a general meeting of the members of the Royal Institution of Great Britain on May 22d the following scientific men were elected honorary members in commemoration of the centenary of the Institution, which is being celebrated this week: Professor S. Arrhenius, (Stockholm), Professor C. Barus (Brown University), Professor H. Becquerel (Paris), Professor G. L. Ciamician (Bologna), Professor N. Egorof (St. Petersburg), Professor A. P. N.