

the newest and best text-books of organic chemistry has its contents divided into the three sections of aliphatic, alicyclic and aromatic.

The author of a successful monograph must not only be an authority and expert in the subject, but he must make his collection of material as exhaustive as possible, arrange it clearly and systematically and indicate fresh lines of research; if, in addition, he possesses an attractive and concise style, such as is often *not* found in works of this kind published in the German language, the result of his labors is certain to be more than valuable. Professor Aschan's book amply fulfils all these requirements, and therefore the thanks of chemists are due to him for his exertions, and their congratulations on the manner in which he has discharged his task. Some idea of its magnitude will be gained when it is mentioned that more than 5,000 citations are embodied in the 1,200 pages which the book contains. These references to the literature of the subject are brought down to August, 1905. Only an extended use of the work will show how free it may be from error; as yet the reviewer has failed to detect any.

The book should certainly be obtained by all workers in organic chemistry, because they will find it most useful and interesting. Very appropriately, the author has dedicated it to Professor Adolf von Baeyer, in commemoration of his seventieth birthday.

J. BISHOP TINGLE.

SCIENTIFIC JOURNALS AND ARTICLES.

The Museum News of the Brooklyn Institute for April contains articles on 'How Insects are Protected' and 'How to Collect and Preserve Insects,' besides various shorter notes, one of which records the acquisition of a specimen of the rare African water-shrew, *Potamogale*. The collection of shells at the Children's Museum has been rearranged with a view to add to its interest and attractiveness.

The Bulletin of the College of Charleston Museum contains a brief sketch of Dr. Shecut and the origin of the museum, this being one

of the papers dealing with the 'History of the Museum.' There seems good reason to hope that the museum may obtain larger and more suitable quarters in the building known as the Thomson Auditorium.

SOCIETIES AND ACADEMIES.

THE AMERICAN MATHEMATICAL SOCIETY.

THE one hundred and twenty-eighth regular meeting of the American Mathematical Society was held at Columbia University on Saturday, April 28, 1906. President W. F. Osgood occupied the chair. Fifty members attended the two sessions. The council announced the election of the following ten persons to membership in the society: Rev. R. D. Carmichael, Hartselle, Ala.; Mr. F. L. Griffin, University of Chicago; Mr. W. R. Longley, University of Chicago; Mr. W. D. MacMillan, University of Chicago; Mr. F. W. Owens, Evanston Academy; Dr. J. J. Quinn, High School, Warren, Pa.; Mr. W. J. Risley, University of Illinois; Dr. R. P. Stephens, Wesleyan University; Mr. J. D. Suter, Iowa State College; Mr. A. M. Wilson, McKinley High School, St. Louis, Mo. Eighteen applications for membership were received. The total membership of the society is now five hundred and thirty.

Professor W. F. Osgood was appointed a member of the editorial committee of the *Transactions*, to succeed Professor E. W. Brown, who retires after seven years' service covering the entire period of existence of that journal.

The by-laws were amended to provide that only members of at least four years' standing shall be permitted to compound life membership.

The following papers were read at the meeting:

G. A. MILLER: 'Groups in which all the operators are contained in a series of subgroups such that any two of them have only identity in common.'

W. H. ROEVER: 'Lines of force illustrated by rotating carriage wheels.'

W. H. ROEVER: 'Systems of lines of force whose differential equations take Bernoulli's form in polar coordinates.'

VIRGIL SNYDER: 'On twisted curves contained in a linear complex.'

G. E. WAHLIN: 'The number of classes of binary quadratic forms and ideals.'

R. G. D. RICHARDSON: 'On the fundamental theorem in the reduction of multiple integrals.'

JAMES PIERPONT: 'The notion of area of curved surfaces.'

E. R. HEDRICK: 'Functions and their derivatives on given assemblages.'

E. R. HEDRICK: 'Lipschitz's condition in the case of implicit functions.'

MAX MASON: 'A necessary condition for an extremum of a double integral.'

G. A. BLISS: 'An invariant of the calculus of variations corresponding to geodesic curvature.'

EDWARD KASNER: 'A generalization of conformal representation.'

EDWARD KASNER: 'Velocity curves in the dynamics of a particle.'

J. W. YOUNG: 'On a generalization of a problem of Tchebychev.'

C. J. KEYSER: 'Concerning the bond uniting elements into a space.'

C. N. HASKINS: 'Note on the differential invariants of a plane.'

E. C. COLPITTS: 'On twisted quintic curves.'

W. C. BREUKE: 'On the differentiation of trigonometric series.'

I. C. RABINOVITCH: 'The necessary and sufficient kinematic axioms of geometry.'

In the interval between the sessions the members lunched together, and the informal dinner in the evening, attended by some thirty members, afforded another welcome opportunity for conference and renewal of acquaintance.

The thirteenth summer meeting and fifth colloquium of the society will be held at Yale University during the entire week, September 3-8, 1906. The first two days will be devoted to the regular sessions for the presentation of papers. The colloquium, which will open on Wednesday morning, will include the following courses of lectures:

PROFESSOR E. H. MOORE: 'On the theory of bilinear functional operators.'

PROFESSOR MAX MASON: 'Selected topics in the theory of boundary value problems of differential equations.'

PROFESSOR E. J. WILCZYNSKI: 'Projective differential geometry.'

W. H. BUSSEY,
Assistant Secretary.

FOLK-LORE MEETINGS IN CALIFORNIA.

THE seventh meeting of the California Branch of the American Folk-Lore Society was held in South Hall, University of California, Berkeley, on Tuesday, March 20, 1906, at 8 P.M. Mr. Charles Keeler presided. The minutes of the last meeting were read and approved. The following were elected to membership in the society: Dr. E. K. Putnam, Stanford University, and the Department of Education of Ontario, represented by the Honorable David Boyle, Toronto. Professor Vernon L. Kellogg, of Stanford University, gave an address, illustrated with lantern slides, on 'In Samoa.'

THE fourth regular meeting of the Berkeley Folk-Lore Club during 1905-6 was held in the Faculty Club of the University of California on Tuesday evening, April 3. President A. F. Lange presided. On motion a committee consisting of Charles Keeler, A. H. Allen and P. E. Goddard was appointed to report on the feasibility of a special investigation of the folk-lore of Berkeley. Dr. P. E. Goddard then presented a paper entitled 'Some Examples of Tolowa Tales,' which was discussed at length.

A. L. KROEBER,
Secretary.

THE TORREY BOTANICAL CLUB.

THE meeting of April 10, 1906, was held at the American Museum of Natural History, with President Rusby presiding. Ten persons were present.

President Rusby, in the absence of the chairman of the field committee, briefly outlined the program for the spring excursions.

The scientific program was an illustrated lecture, by Dr. Henry Kraemer, of the Philadelphia College of Pharmacy, on 'An Experiment in the Growing of Wild Plants, and a Plea for the Preservation of Our Native Woodlands.'

The experiments in the growing of wild plants were carried on in what would usually be considered a very unfavorable situation—namely, a narrow strip of ground about sixty feet long and varying from seventeen to thirty-one inches wide on the northern side of

a city house, where the space between any two houses is not more than eight feet in width, so that it receives very little direct sunlight. Below the thin coating of sod the substratum is composed mostly of debris from the building operations, such as pieces of tin, bricks, slate and pebbles. For two years an attempt was made to grow grass on this strip, but without success.

In 1903, a number of wild plants including diminutive trees, small shrubs and perennial herbaceous plants, in all about a hundred species were added. The plants have been distributed so as to give the best ornamental effect. At intervals of several feet through the middle of the strip the small trees and shrubs and larger herbaceous perennials, as blue cohosh and black snakeroot, are planted. Between these are the smaller plants, the more attractive and those producing the most flowers being near the front, as violets, wild geranium, etc. A few rocks are placed near some of the ferns, columbines, and other plants which seem to prefer a rocky situation. There is a procession of flowers from early spring when the bloodroot, hepatics and spring beauties make their appearance, until fall when the asters and other plants are in bloom. Not only is there a succession of flowers, but the foliage is also of interest and beauty. The ferns and bloodroot are specially interesting when the leaves are unfolding, and in the late fall the yellow leaves of the spice bush and tulip poplar, the red leaves of the maple and dogwood, and also the red berries of the jack-in-the-pulpit and Solomon's seal, the blue berries of the blue cohosh, are very attractive at a time when the flowering season has gone by.

The desirability of preserving individual trees and strips of woodland in the suburbs of cities was considered, and the opinion expressed that if a universal sentiment were created in favor of this, the means would be forthcoming for the purchase and protection of trees and wooded lots. In this connection the statement was made 'that there is no item of taxation which the people of London

more cheerfully pay than those for the maintenance of small parks.'

C. STUART GAGER,
Secretary.

DISCUSSION AND CORRESPONDENCE.

C. S. RAFINESQUE ON EVOLUTION.

RECENT discussions in SCIENCE relating to evolution, its nature and terminology, call to mind a very remarkable letter written in 1832 by Rafinesque and published by him in the 'fifth number for the spring of 1833' of his *Atlantic Journal* and 'Friend of Knowledge.'¹ This letter, which in many respects reads so curiously modern, seems to deserve reproduction here. The first part of it, it is true, has been quoted in Call's 'Life and Writings of Rafinesque'² but the last half of the letter is not the least interesting part. Asa Gray³ also quotes a sentence of it, and Darwin⁴ refers to two sentences in Rafinesque's 'New Flora of North America,'⁵ which show indication of Rafinesque being an evolutionist. The reproduction here is not so much for the purpose of calling attention to the latter fact, but rather to emphasize the essentially modern phraseology employed.

Copied *verbatim, literatim et punctuatim* it is as follows:

124. Principles of the Philosophy of new Genera and new species of Plants and Animals. *Extract of a letter to Dr. J. Torrey of New York dated 1st Dec. 1832.* . . . I shall soon come out with my avowed principles about G.[enera] and Sp.[ecies] partly announced 1814 in my principles of Somiology, and which my experience and researches ever since have confirmed. The truth is that *Species and perhaps Genera also, are forming in organized beings by gradual deviations of shapes, forms and [p. 164] organs, taking place in the lapse of time.* There is a tendency to deviations and mutations through plants and animals of gradual steps at remote irregular periods. This is a part of the great universal law of PERPETUAL MUTABILITY in every thing.

¹ Vol. I., Philadelphia, No. 5, pp. 163-164.

² From 'Herbarium Rafinesquianum,' 1833, pp. 11-15.

³ Silliman's *Amer. Jour. Sci. Art.*, XL., 1841, p. 239.

⁴ 'Orig. Species,' 4th ed., 1866, p. xvi.

⁵ 1836, pp. 6 and 18.