and some derivatives obtained from it. A number of substances were obtained whose exact natures have not yet been determined.

Tetrametaphosphimic Acid: By H. N. STOKES. In this article, which is a continuation of one recently published on the phosphimic acids, the author discusses the acid, its decompositions, and the salts formed by it. He also offers some suggestions as to its structure, but calls attention to the fact that experimental data for such a discussion is almost wholly wanting.

A short obituary notice of August Kekulé, who died July 13, 1896, is also contained in this number. J. ELLIOTT GILPIN.

SOCIETIES AND ACADEMIES.

THE AMERICAN CHEMICAL SOCIETY.

THE regular meeting of the American Chemical Society was held at the College of the City of New York on Friday evening, November 6th, Prof. William McMurtrie in the chair, and fifty-one members present.

The announcement was made that an invitation from Drs. Morton and Leeds to hold the next meeting (December 11th) at the Stevens Institute of Technology, Hoboken, had been received, duly acted upon and accepted by the Executive Committee. Dr. Morton will read a paper on 'Some Illustrations of the Phenomena of Fluorescence,' and Dr. Leeds will give an 'Exhibition of Appliances for the Quantitative Estimation of Micro-Organisms.'

Dr. Squibb reviewed in detail the method of Messrs. Robineau and Rollin for the 'Volumetric Determination of Aceton.' (Moniteur Scientifique, 1893.) This method consists in mixing acetone with a solution of potassium iodide and sodium hydroxide, and then transforming it into iodoform with a titrated solution of a hypochlorite. The end reaction is indicated by the appearance of a blue color when a drop of the liquid is touched with a drop of bicarbonated starch solution. From the volume of hypochlorite used the quantity of acetone is deduced. Dr. Squibb has introduced various modifications which shorten the work so as to render the process available in commercial work, the details of which require a perusal of the paper in full for their due appreciation.

Dr. Doremus gave an interesting sketch of the scientific meetings held in London and Paris last summer, and of the various English and Continental laboratories visited, not the least efficient of which were several connected with large manufacturing establishments. The expensive platinum apparatus used by Moissan in the isolation of fluorine, Dewars's apparatus for liquefaction of oxygen, and photographs of the spectrum of Argon, were among many extremely interesting landmarks in the progress of chemical science which were seen and described.

Mr. J. C. Boot exhibited and described a specific gravity bottle, designed to prevent the rapid alteration of the temperature of the liquid and consequent difficulty in making accurate weighings, when the temperature of the laboratory happens to be much above the standard temperature at which the liquid must be weighed. The essential point is the inclosure of an inner by an outer bottle, the space between being quite thoroughly exhausted. The non-conductivity of the vacuum permits of maintaining the temperature of the inner bottle stationary for as much as five minutes with a room difference of twenty-five or thirty degrees.

A paper by Mr. Heath, on the colorimetric determination of copper, described methods of preparing color standards, whereby a year's permanence is assured, and other modifications conducive of accuracy and rapidity. Mr. Heath insists on the absence of nitric acid in the standards of color comparison, as well as an excess of ammonia of uniform strength, and the standards should then be preserved in absolutely tight, glass-stoppered bottles, and not exposed to heat or direct sunlight.

He objects to the method involving the use of metallic aluminum, because of the danger of incomplete precipitation, or retention of copper by silica, and the additional time required to avoid or correct errors resulting in these ways. He advocates a double precipitation, by ammonia, of the iron and alumina, redissolving in sulphuric acid for the second precipitation. His standards enable him to read to 0.03 per cent., and check assays made by electrolytic method indicate a very small range of error. DURAND WOODMAN,

Secretary.

THE TORREY BOTANICAL CLUB.

At the meeting of October 28th two new members were elected. The reference in the last minutes to the occurrence of the Russian Thistle on Captain's Island was corrected, the plant proving to be *Salsola Kali.*

The paper by Mr. B. D. Gilbert, entitled 'A New Gymnogramme from Venezuela, with Remarks on other Venezuelan Ferns,' was presented by Prof. L. M. Underwood, the author not being present. It consisted of an exhibit of the ferns collected upon the lower Orinoco River last spring, by Messrs. Rusby and Squires. The more interesting species, besides the new one, were *Adiantum olivaceum* Baker, *Alsophila blechnoides* Hooker, *Hemitelia grandifolia* Spreng., *Hemitelia Guianenses Parkeri* Hooker, *Aspidium meniscioides* Willd. and *Antrophyum subsessile* Kze.

A discussion followed on the heterogeneous character of the elements at present included in the genus Gymnogramme, and it was agreed that the new species was naturally a Polypodium and that its necessary reference to Gymnogramme was due to artificial genus-limits.

Dr. H. H. Rusby described a new genus from Bolvia, in the family *Icacinaceæ*, illustrating by specimens and blackboard drawings. Its structural relations to the other groups of the family and to the associated genera were carefully pointed out. The communication was discussed by Dr. Britton.

A communication from Miss S. B. D. Lewis on the species of Nymphea found in Raquette Lake was beautifully illustrated by colored drawings. The form of *Pontederia cordate*, with cream flowers, was also reported by Miss Lewis. An animated discussion of the communication was participated in by Dr. Britton, Prof. Lloyd, Mr. Rydberg, Mrs. Britton and the Secretary.

Dr. Allen remarked on his collections and observations in the far North, and exhibited a number of interesting specimens.

H. H. Rusby,
Recording Secretary.

THE ACADEMY OF SCIENCE OF ST. LOUIS.

At the meeting of November 2, 1896, Mr. Colton Russell spoke of 'what an entomologist can find of interest about St. Louis,' illustrating his remarks by numerous pinned specimens of insects, giving particular attention to the butterflies, and speaking at some length of the phenomena of periodicity, migration, polymorphism, etc., as illustrated by these insects, his paper embodying the result of a large amount of field work performed during the past ten years. Resolutions opposing the passage of the anti-vivisection bill now before the United States Senate were adopted. Three persons were elected to active membership.

Wm. Trelease,
Recording Secretary.

TEXAS ACADEMY OF SCIENCE.

At a meeting of the Texas Academy of Science, held at the University of Texas on October 2d, Dr. George Bruce Halsted gave an account of his recent travels in Russia. At a regular meeting of the same association, held on November 6th, Prof. T. U. Taylor, C. E., gave an abstract of a somewhat extended paper on Roads in the Black Waxy Lands of Texas, in which he discussed the best methods of construction, the cost of labor, results already attained, etc. Dr. Frederic W. Simonds also presented an important paper at this meeting, a tribute to his friend and teacher, Prof. Ch. Fred. Hartt, M. A., the first Professor of Geology at Cornell University, who died in 1878, when Chief of the Geological Commission of Brazil. This sketch will be published in full in one of the leading scientific journals.

NEW BOOKS.

The Cell in Development and Inheritance. Edmund B. Wilson. London and New York, The Macmillan Co. 1896. Pp. xvi + 371. $3.00.

The Survival of the Unlike. L. H. Bailey. New York and London, The Macmillan Co. 1896. Pp. 515. $2.50.

The American Commonwealth. (Abridged edition.) James Bryce. New York and London, The Macmillan Co. 1896. Pp. xiii + 547. $1.75.

The Story of the Mine. Charles Howard Shinn. New York, D. Appleton & Co. 1896. Pp. vii + 272. $1.50.