make the tables valuable for short courses or for field work. A. J. Moses.

SCIENTIFIC JOURNALS AND ARTICLES.

The July number (volume 5, number 3) of the *Transactions* of the American Mathematical Society contains the following papers:

E. B. Van Vleck: 'The convergence of algebraic continued fractions whose coefficients have limiting values.'

W. Findlay: 'The Sylow subgroups of the symmetric group.'

E. W. Brown: 'On the smaller perturbations of the lunar arguments.'

E. V. Huntington: 'Sets of independent postulates for the algebra of logic.'

H. F. Blichfeldt: 'On the order of linear homogeneous groups (second paper).'

J. B. Shaw: 'Algebras defined by finite groups.'

O. Veblen: 'A system of axioms for geometry.'

The contents of the *American Journal of Science* for July are as follows:

B. B. Boltwood: 'Ratio of Radium to Uranium in some Minerals.'

F. M. McClenahan: 'Constitution of Hydrous Thallic Chloride.'

E. H. Sellards: 'Study of the Structure of Paleozoic Cockroaches, with Descriptions of New Forms from the Coal Measures.'

W. A. Parks: 'Remarkable Parasite from the Devonian Rocks of the Hudson Bay Slope.'

C. R. Eastman: 'Asterolepid Appendages.'

A. B. Plowman: 'Electrotropism of Roots.'

O. C. Lester: 'Oxygen Absorption Bands of the Solar Spectrum.'

The Journal of Nervous and Mental Diseases of July, 1904, contains two articles dealing with Multiple Sclerosis, one by Drs. W. G. Spiller and C. D. Camp of Philadelphia containing a report of two cases and some general observations on the nature of the condition, and the other by Dr. Smith Ely Jelliffe, of New York, on the occurrence and etiology of multiple sclerosis, as observed since the opening of the Neurological Department in the Vanderbilt Clinic of New York City. The interesting fact is brought out that this disease is less frequent than in foreign countries. There is also a discussion of Uremic Hemiplegia, by Dr. T. H. Weisenburg, of Philadelphia, in which he gives reports of several cases, and the results of various experiments. The Periscope contains extended abstracts from *The American Journal of Insanity, Revue de Psychiatrie and Nouvelle Iconographie de la Salpêtrière,* as well as miscellany and reviews of the latest psychiatrical and neurological books, published in this country and abroad.

SOCIETIES AND ACADEMIES.

THE AMERICAN CHEMICAL SOCIETY.

NEW YORK SECTION.

At the last meeting of the season, held June 10, at the Chemists' Club, 108 West 55th Street, the section elected as officers for the ensuing year:

Chairman—Wm. Jay Schieffelin.

Vice-Chairman—F. D. Dodge.

Secretary-Treasurer—F. H. Pough.

Additional Members of Executive Committee—E. H. Miller, M. T. Bogert, Wm. McMurtrie and T. J. Parker.

The following papers were read:

Alloys (Illustrated): William Campbell.

This paper gave the results obtained in a continuation of the work reported at the January meeting. The work will appear in full in an early number of the *Journal of the American Chemical Society.*

The Optical Rotation of Some Cyclic Compounds: F. D. Dodge.

Dr. Dodge called attention to the fact that many of the constituents of the volatile oils contain ring-nuclei of three, four, five or six atoms, with varying degrees of saturation. These compounds are most frequently asymmetric; which is shown by the optical activity.

The questions as to how far the observed rotation phenomena are in harmony with the formulæ which have been proposed, and as to whether the van't Hoff hypothesis is universally applicable, were discussed. It is shown that in single ring nuclei, racemism is generally theoretically possible, and often observed. In the cases of some double nuclei (as the camphor group) racemism appears to be impossible owing to the peculiar molecular structure. The exceptional optical properties of *menthone* were discussed, and a possible explanation found in a peculiar isomerism

of the hexamethylene ring. 'Dextro' and 'lævo' menthone are shown to be not true optical isomens. Several other cases of rotation change were noted, and found to be due in general to chemical alteration of the nucleus.

The author emphasized the value of geometric formulæ, and especially a modification of the Kekulé-Baeyer tetrahedral models, and showed that certain plane formulæ, which have been seriously discussed, are impossible of construction by the models, and must be considered as, at least, improbable.

The Determination of Formaldehyde: R. H. WILLIAMS.

The author gave the results of a critical study of four of the more commonly used methods for the determination of formaldehyde. Two of these, the 'iodimetric' and the 'hydrogen peroxide' being oxidation methods, while the other two, the 'potassium cyanide' and Leglers's 'ammonia' methods, are based upon condensation reactions. The oxidation methods were found in all cases to give noticeably higher results than the condensation methods. Test analyses made with the addition of alcohol, aldehydes and acetone indicated that the difference was not due to the influence of other substances present in the formaldehyde solution, but to the reactions on which the methods are based. Paraformaldehyde may be determined as readily as formaldehyde, with any of the four methods mentioned. The formation and properties of the hexamethylene-tetramine, on which the ammonia method depends, will be studied further.

H. C. SHERMAN,
Secretary.

DISCUSSION AND CORRESPONDENCE.

ASYMMETRON LUCAYANUM IN BERMUDA.

BESIDES establishing the fact that *Amphioxus caribæus*—known since 1876 to exist at the Flatts—is found in numerous localities in these islands, the work of the station this year has resulted in the discovery that another representative of this very interesting group of Chordates—*Asymmetron lucayanum*—is also found in these waters. Especial credit for the discovery of this more rare animal is due to Mr. Louis L. Mowbray, a young Bermudian naturalist in the employ of the station.

E. L. MARK,
Director.

BERMUDA BIOLOGICAL STATION,
FLATTS, BERMUDA, July 22, 1904.

THE ASCENT OF WATER IN TREES.

TO THE EDITOR OF SCIENCE: It would not be necessary to notice at all the note on 'The Ascent of Water in Trees,' published in your issue for July 22, were plant physiologists and physicists alone to be considered. A single remark, for the benefit of those who might be misled, will suffice to show the futility of the theory proposed. The structures at the lower end of the conducting tissues are essentially identical with those at the upper end. If at the upper end the 'water ducts are protected from direct atmospheric pressure by their structures,' they are equally shielded from it below.

C. R. BARNES.

THE UNIVERSITY OF CHICAGO.

CONCERNING SPECTACLES.

RATHER an extensive literature exists on the question raised by Dr. C. Barck in his paper on 'The History of Spectacles' (SCIENCE, XX., July 8, 1904, p. 50) as to whether Nero was near-sighted and viewed gladiatorial combats with glasses. The passages in Pliny's 'Natural History' which have furnished food for this discussion occur in xi. 54, and xxxvii. 16; and the best interpretation thereof known to the writer of the present paragraph is found in Dr. August Nies's interesting thesis 'Zur Mineralogie des Plinius,' pp. 18–20 (Mayence, 1884). The claims of other alleged inventors of spectacles besides those mentioned by Dr. Barck are considered more or less fully in Beckmann's 'History of Inventions,' and in J. Fiedler's 'Geschichte der Erfindung der Fernröhre.'

C. R. E.

SPECIAL ARTICLES.

THE FORMATION OF TOXIC PRODUCTS BY VEGETABLE ENZYMES.

No subject in the domain of plant chemistry has aroused more discussion of late than the physiological rôle of the various enzymes.