THE NEW YORK SECTION OF THE AMERICAN CHEMICAL SOCIETY.

THE last meeting of the season of the New York Section of the American Chemical Society was held on Friday evening, June 7, at the Chemists' Club, 108 West 55th Street. Dr. Charles A. Doremus occupied the chair.

The chairman delivered his annual address on 'The Development of an American School of Chemistry,' in which he urged the advancement of chemical engineering by the development of originality and the assumption of greater responsibilities by chemists.

The secretary's report showed a net gain in membership of sixty during the year, and that twenty-nine papers had been read at the nine meetings which were held.

The election of officers for 1901–1902 resulted as follows:

Chairman—Professor Marston T. Bogert (Columbia University).

Vice-chairman—Durand Woodman (127 Pearl Street, N. Y.).

Secretary-treasurer—Professor J. A. Mathews (Columbia University).

Executive Committee—P. C. McIlhiney (Columbia), Professor E. H. Miller (Columbia), T. C. Stearns (Jersey City).

Delegates to the Scientific Alliance: Wm. McMurtrie, Professor Marston T. Bogert, H. C. Sherman (Columbia University).

Papers were read as follows:

M. T. Bogert and L. Boroschek—'Some Experiments with the Mono-nitro-orthophthalic Acids.'

H. C. Sherman, J. L. Danziger, L. Kohnstamm—'On the Maumené Tests for Oils.'

E. F. Kern—'On the Separation and Determination of Uranium.'

The paper on the 'Maumené Test for Oils' was a brief account of the principal results obtained in a series of experiments on several varieties of oils, with different modifications of the Maumené test. The common practice of diluting oils with petroleum to prevent too violent a reaction was found to give unsatisfactory results, the figures obtained from such mixtures being too high; as was also the case when the oil was dissolved in an equal weight of carbon bisulphide or chloroform. The necessity of taking account of the specific heats of the oils and diluents was noted. In order to avoid the necessity of diluting the oil and the resulting uncertainty in the interpretation of results, the use of a weaker acid was proposed. Sulphuric acid of about 87 per cent. can be added directly to all the common oils and the test can be carried out in exactly the same way for the drying as for the non-drying oils. Even when calculated as 'specific temperature reaction' the results are somewhat influenced by the strength of the acid used, higher figures being obtained with the more concentrated acids. It was, therefore, recommended that the test be always made with acid of such strength as will give with water a rise of 33° to 34° C.

It was announced that the courtesies of the society had been extended to Professor Van't Hoff, and a motion was made and unanimously carried authorizing the chairman and executive committee to take such measures and make such preparations as might be required for entertaining Professor Van't Hoff.

The meeting then adjourned until October.

DURAND WOODMAN,
Secretary.

DISCUSSION AND CORRESPONDENCE.

EBBINGHAUS'S THEORY OF COLOR-VISION.

IN proposing his specialization of Hering's theory of color-vision, Ebbinghaus had for an object to give it a basis in fact by showing a connection between the kind of light which must be absorbed by the colored substances in the retina and the subjection distribution of color throughout the spectrum as revealed by color-equations—especially those of the partially color-blind. The connection was a very forced one from the beginning: the visual yellow could stand very well as the absorbent of the light necessary to the production of the sensation blue, but the visual purple ought to have been *blue* in color to fulfill its function of absorbent of the light that causes the sensation *yellow*, while in reality it is not even purple (in the English sense of the word), but magenta; and the existence of a visual green and a visual red was purely hypothetical. Thus of the four colored absorbent substances to which so

fundamental a rôle was assigned, two (the red and the green) did not exist at all so far as known, and one existed only in a wholly erroneous color, and, moreover, in the fovea where vision is most acute, not even the visual yellow, the sole carrier of so large an assumption, has ever, by the most careful methods, been detected; it would seem to be far simpler to suppose that the objective color of the absorbent medium has nothing to do with the case.

The proof which was furnished by König immediately after the Ebbinghaus theory was proposed that the absorption of the visual purple is exactly what is needed to account for that increment in vision which is gradually acquired upon the oncoming of darkness, rendered the theory, of course, far more untenable still, and in fact Professor Ebbinghaus himself seems to be no longer inclined to insist upon it. He says (*Grundzüge der Psychologie*, I., 261, 262): "Ich habe vor einiger Zeit einen Versuch in dieser Hinsicht gemacht und darauf hingewiesen, dass zwischen der Art, wie die Farbenblinden Gelb und Blau im Spectrum verteilt sehen, und der Lichtabsorption des Sehpurpurs und des Sehgelb (nach der Untersuchungen Kühnes) eine auffellende Aehnlichkeit bestehe. Da nun offenbar die Bewusstseinswirkung der optischen Reize durch eine den Eindrücken entsprechende Absorption der verschiedenen Lichtstrahlenvermittelt werden muss, so nahm ich an, dass eben in dem Sehpurpur die Heringsche Blaugelbsubstanz zu erblicken sei.

"Ich sehe jedoch davon ab, die an diesen Ausgangspunkt angeschlossenen und zum Teil davon gang unabhängigen Gedanken hier zu wiederholen, weil sich bei genauerer Untersuchung des Sehpurpurs durch A. König meine ihn betreffende Annahme nur teilweise bestätigt fand. Das Sehgelb allerdings zeigte in dem einzigen Falle, in dem es erhalten werden konnte, eine mit der Blauempfindung der Farbenblinden annähernd übereinstimnende Lichtabsorption. Die Lichtabsorption des Sehpurpurs selbst dagegen entsprach vielmehr der Verteilung der Helligkeiten in dem Dunkelspectrum des normalen Anges, d. h. also auch in dem Spectrum der total Farbenblinden."

To refrain from reproducing the theory in its author's own text-book of psychology is probably to be regarded as tantamount to withdrawing it.

C. L. FRANKLIN.

SHORTER ARTICLES.

NOVA PERSEI, No. 2.

AN examination of the Draper photographs of the spectra of Nova Persei, No. 2, by Mrs. Fleming, shows that, like other novæ, it has been gradually changing into a gaseous nebula. The resemblance to the nebula N. G. C. 3918 is now so close that in a photograph taken on June 19, 1901, no marked difference was noted, except that the nebular line, 5007, is about eight times as bright as Hα in the nebula, and only equal to it in the nova. The lines 3869, 3970 (Hη), 4102 (Hδ), 4341 (Hγ), 4688, 4862 (Hβ), 4950, and 5007, are common to both and, except the last, have nearly the same relative intensities. Four bright lines between Hγ and Hβ appear faintly in the nova and are not present in the nebula, while one, 4364, is seen in the nebula but not in the nova, perhaps owing to the proximity of Hγ.

EDWARD C. PICKERING.

HARVARD COLLEGE OBSERVATORY,
CAMBRIDGE, MASS., June 25, 1901.

LIME AND MAGNESIA IN PLANT PRODUCTION.

SINCE 1899, the writer, with Dr. O. Loew, of the Division of Vegetable Physiology and Pathology of the U. S. Department of Agriculture, has been carrying on a series of experiments on the relation of lime to magnesia in the growth of plants. Some very interesting results have been attained which are to be published in a Bulletin of the Division to be issued at an early date. It may be of interest to here set forth a few of those results.

It is well known that magnesium salts form some of the more noxious alkali soils of the arid regions. In other sections it has been noticed that the soils well fertilized, especially with certain crude potash salts, after a time fail to respond to the fertilizers applied and either become sterile or their productive capacity is greatly reduced. This is apparently due to the accumulation of magnesia in the soil, it being present in some potash salts to a great