

and  $1/\lambda = 2992$  intervals of 90 units are present, at  $1/\lambda = 3304$  intervals of 106 units, and at  $1/\lambda = 3571$  intervals of 77 units, but these series of shorter intervals do not include as large a total number of bands as the series of longer intervals.

There appears, however, to be an entirely different scheme of classification, which is offered the reader as an alternative plan. It is found that several well-filled groups of bands can be arranged in pairs about a few centers. These centers take on more interest when it is found that they coincide with lines of the mercury spectrum. Occasional pairs from the Geissler tube spectrum of iodine can be arranged about the same centers, such lines being connected by dotted arcs in Spectrum No. 3. It is understood that Spectrum No. 3, like Spectrum No. 2, is a replica of Spectrum No. 1, which was plotted from the reciprocals of McLennan's values. The arcs in Spectrum No. 3 show how the bands can be grouped in concentric pairs.

In Table II. is given the frequency numbers of the mercury centers with the appertaining fluorescence bands, as well as the differences in frequency between bands and mercury center. Positive differences indicate that the bands are of smaller frequency and negative differences that the bands are of larger frequency than the frequency of the center. Although it is evident that the pairs are not always equally spaced about the centers the errors are no greater than those observed in the first method of classification. The mercury line or pair of lines which serves as a center is generally a fairly prominent line in a group of mercury lines, an exception being the first center,  $1/\lambda = 2287$ , or  $\lambda = 4372$ , which is a dim satellite of  $\lambda = 4359$ .

It is of interest to observe, in comparing the two plans of classification, that the second is not so universal in its application as the first, while the use of mercury centers suggests something akin to resonance, which is contrary to Professor McLennan's observations.

H. L. HOWES

PHYSICAL LABORATORY OF CORNELL UNIVERSITY,  
October 30, 1917

## THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

### SECTION G—BOTANY

THE only meeting of Section G for reading of papers took place at 2 P.M., Saturday, December 29, 1917, at the school of applied science, Carnegie Institute as a joint session with the Botanical Society of America and the American Phytopathological Society. The program consisted of the Vice-Presidential address followed by a Symposium on War Problems in Botany as outlined in the printed program. Dr. Bailey was prevented by war work from presenting his paper on the National Research Council. Dr. Coulter was not present, but his paper was read by Dr. H. C. Cowles. Dr. Smith was not present and his paper was not presented.

At the business meeting following the reading of papers, D. T. MacDougal was elected member of council, R. A. Harper member of Sectional Committee for 5 years and A. B. Stout member of general committee.

It was moved and carried that a committee be appointed by the chair to report to a later business meeting of the section on two considerations: (a) The organization of American botanists to forward the project of a pathological survey as suggested in the invitation paper of Dr. G. R. Lyman; (b) the possibility of assignment of drafted men of technical training and ability to scientific work of national importance and a recognition in some way that they are engaged in war service. The committee appointed by the chair consisted of G. R. Lyman, L. H. MacDaniels and C. L. Shear.

It was moved and carried that the business meeting adjourn till 9 A.M. Monday, December 31.

At the meeting of the Sectional Committee, December 29, the following members were present: Gager, Livingston, Blakeslee, Selby, MacDougal, Newcomb, Bartlett, Cook, Shear. A. F. Blakeslee was nominated for vice-president of the section for the ensuing year and Mel T. Cook for secretary for five years.

At the request of a group of botanical

editors the president and secretary of the section met with representatives from other botanical organizations to make plans for the publication of a journal of botanical abstracts.

At the business meeting 9 A.M., Monday, December 31, the committee on war activities of botanists reported resolutions which were adopted. These have already been placed in the hands of the permanent secretary.

A request was received from the organization committee of *Botanical Abstracts* for the election of two representatives from Section G on the board of control of *Botanical Abstracts*. B. T. Livingston was elected representative for four years and A. F. Blakeslee representative for two years.

A. F. BLAKESLEE.

Secretary

#### AMERICAN MATHEMATICAL SOCIETY

THE twenty-fourth annual meeting of the society was held at Columbia University on Thursday and Friday, December 27-28, 1917, extending through two sessions on Thursday and a morning session on Friday. The attendance included forty-six members. Professors R. G. D. Richardson, of Brown University, and J. W. Young, of Dartmouth College, presided. The council reported the election to membership in the society of Dr. J. W. Campbell, Wesley College, Winnipeg; Dr. Mary F. Curtis, Western Reserve University; Mr. C. H. Parsons, Columbia University; Mr. J. B. Rosenbach, University of New Mexico; Mr. H. M. Terrill, Columbia University. Five applications for membership were received.

Committees were appointed to arrange for the summer meeting of the society at Dartmouth College in 1918 and for the summer meeting and colloquium at the University of Chicago in 1919.

The total membership of the society is now 735, including 77 life members. The total attendance at all meetings, including sectional meetings, during the past year was 338. The number of members attending at least one meeting during the year was 198. At the annual meeting 116 votes were cast for officers. The Treasurer's report shows a balance of \$9,762.98, including the life membership fund of \$6,333.13. Sales of the society's publications during the year amounted to \$1,474.19. The Library now contains 5,475 volumes, excluding unbound dissertations.

At the annual election, which closed on Friday morning, the following officers and other members of the council were chosen: Vice-presidents, J. L.

Coolidge and D. R. Curtiss. Secretary, F. N. Cole. Treasurer, J. H. Tanner. Librarian, D. E. Smith. Committee of publication, F. N. Cole, Virgil Snyder, J. W. Young. Members of the council to serve until December, 1920, R. C. Archibald, Dunham Jackson, D. N. Lehmer, J. B. Shaw.

The following papers were read at this meeting:

F. L. Hitchcock: "The coincident points of two algebraic transformations."

W. B. Carver: "The conditions for the failure of the Clifford chain."

C. J. Keyser: "The rôle of the concept of infinity in the work of Lucretius."

C. J. Keyser: "Concerning the number of possible interpretations of any system of postulates."

W. H. Wilson: "Systems of functional equations which define hyperbolic sine, hyperbolic cosine, sine and cosine uniquely."

C. H. Forsyth: "Tangential interpolation of ordinates among areas."

W. B. Fite: "Concerning the zeros of the solutions of certain differential equations."

R. L. Moore: "Concerning a set of postulates for plane analysis situs."

C. A. Fischer: "Integral equations involving Stieltjes integrals."

O. E. Glenn: "Preliminary report on a new treatment of theorems of finiteness."

C. L. E. Moore: "Rotations in hyperspace."

G. M. Green: "Mémorial on the general theory of surfaces and rectilinear congruences."

J. F. Ritt: "On the iteration of rational functions."

Olive C. Hazlett: "On rational integral invariants and covariants of the general linear algebra."

Anna J. Pell: "Systems of linear equations."

Norbert Wiener: "Internal isomorphisms of complex algebra."

T. R. Hollcroft: "A classification of general (2, 3) point correspondences between two planes."

W. F. Osgood: "Singular points of analytic transformations."

M. T. Hu: "Linear integro-differential equations with a boundary condition."

Frank Morley: "Some general projective invariants of the algebraic plane curve."

Abstracts of the papers will appear in the March number of the *Bulletin* of the society.

The Chicago Section of the society met at the University of Chicago on December 28-29. The next regular meeting of the society will be held at Columbia University on February 23.

F. N. COLE,  
Secretary