"Expectorants," by V. E. Henderson and A. H. Taylor.

SPECIAL ARTICLES

ELLIPTIC INTERFERENCE IN CONNECTION WITH REFLECTING GRATING

IN my earlier papers[1] and in a forthcoming theoretical account of the subject, I have shown the practical advantages obtained by associating the interferences of thin plates with the diffractions of the transparent grating—a subject originally suggested to me by the phenomenon of coronas, in which a marked interference phenomenon was also superposed on the diffractions. These elliptic fringes may, however, be evoked in other ways than those discussed, and it is to some of these that I venture to refer here.

Let the oblique mirror in Michelson's apparatus, for instance, be the usual plate of glass and replace the two opaque mirrors M and N by identical small reflecting gratings, set at the angle of diffraction of the spectrum, symmetrically to the incident rays. Here the elliptic interferences will be seen in the telescope at right angles to the rays issuing from the collimator. This adjustment is virtually the same as the plan of returning the diffracted spectra normally to the oblique transparent grating, discussed in the preceding paper in this JOURNAL. The fringes are rings.

Again, in a simple spectrometer adjustment for grating spectra, suppose the grating (either transmitting or reflecting) to be separated into two halves by a division parallel to the ruling. Then on displacing one of the halves, micrometrically, parallel to itself from its original coplanar position, elliptic interference must show itself in a way which is perhaps more direct than any of the methods hitherto treated. The fringes are straight.

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THE AMERICAN SOCIETY OF NATURALISTS

THE twenty-eighth annual meeting of the American Society of Naturalists was held in the auditorium of the New York State College of Agriculture at Cornell University on December 29 and 30. The eastern branch of the American Society of Zoologists so arranged its program that members were enabled to attend the Naturalists' meeting. Many of the members of the Association of Anatomists and American Society of Bacteriologists which were meeting in Ithaca also attended the program. Although the Botanical Society of America met elsewhere a number of botanists came instead to the meetings of the Naturalists. It may fairly be said, judging from the number present at both sessions, that the Naturalists' symposium was the chief feature of general interest at the entire Ithaca meetings.

The one cause of general regret was the unavoidable absence of the president, Dr. D. T. MacDougal, who was ill in the Johns Hopkins Hospital. President MacDougal had so carefully planned the program and had done so much to instill enthusiasm into the entire arrangements that all felt the pronounced success of the occasion to be the result of his efforts.

Dr. MacDougal's well-thought-out and richly suggestive address on "Organic Response" was read at the annual dinner of the society by the vice-president, Professor H. S. Jennings.

At the meeting of the executive committee and at the business session of the society there was a general expression of the feeling that the present affiliation of the biological societies was highly desirable. The Anatomists, Bacteriologists, Zoologists and Naturalists which met at Ithaca might meet comfortably at many of the universities of the country which are situated, as Cornell is, in a small town. It was also felt that there was a far more favorable opportunity for personal discussions and exchange of ideas at a smaller meeting than at a more general one.

The Anatomists, Zoologists and Naturalists had a joint smoker at the Ithaca Hotel on Wednesday evening.

The Naturalists' dinner was given on the following evening at the Ithaca Hotel and was well attended. After the dinner the president's address was read.

The scientific program was given on Thursday afternoon and on Friday both fore- and afternoon.

The central topic of the discussions was the pure line conception in the study of inheritance and evolution. Most of the papers in the first part of the program seemed to support the views of Professor Johannsen, while several of the later papers on the program seemed to strongly suggest that selection and a modified Lamarckian view were yet to account for important factors in the

[1] SCIENCE, XXXII., 1910, p. 92; *Am. Journal of Science*, XXX., 1910, p. 161.

production of new species. The valuable feature of the program was the forcible way in which the opposing evidence and ideas of species formation were presented by the several participants. Professor Johannsen, of Copenhagen, who has so strikingly expounded the principles of pure lines and genotypes in the study of inheritance, sent a most suggestive paper to be read before the symposium.

PUBLICATION OF PAPERS

The address of the president and all papers read before the society will appear in series in the forthcoming numbers of *The American Naturalist*.

The importance and scope of the papers read are shown by the following titles:

H. J. Webber, Cornell University, "What is a Genotype or Biotype?"

H. S. Jennings, Johns Hopkins University, "Pure Lines in the Study of Genetics in Lower Organisms."

E. M. East, Bussey Institute, "The Genotype Hypothesis and Hybridization."

W. Johannsen, University of Copenhagen, "The Genotype Conception of Heredity."

Geo. H. Shull, Carnegie Institution, "The Genotypes of Maize."

T. H. Morgan, Columbia University, "The Application of the Conception of Pure Lines to Sex-limited Inheritance and to Sexual Dimorphism."

J. Arthur Harris, Carnegie Institution, "The Biometric Proof of the Pure Line Theory."

R. A. Emerson, University of Nebraska, "Some Genetic Correlations in Maize and their Relation to the Formation of New Genotypes through Hybridization."

R. Pearl, Maine Agricultural Experiment Station, "The Inheritance of Fecundity in the Domestic Fowl."

W. E. Castle, Harvard University, "Are Unit Characters Subject to Modification by Selection?"

F. B. Sumner, United States Fisheries, "Some Effects of Temperature upon Growing Mice and the Persistence of such Effects in a Subsequent Generation."

J. H. Gerould, Dartmouth College, "Polymorphism and Inheritance in *Colias Philodice*."

S. Hatai, Wistar Institute, "On the Mendelian Ratio and Blended Inheritance."

M. F. Guyer, University of Cincinnati, "The Nucleus and Cytoplasm in Inheritance."

Many of the papers were followed by interesting discussion, but unfortunately the program proved to be too long to allow full time for this desirable feature.

Several valuable demonstrations were displayed by members of the society.

NEW MEMBERS

The following were elected members of the Naturalists: J. F. Abbot, Washington University; R. A. Emerson, University of Nebraska; A. W. Gilbert, Cornell University; L. Griggs, Dartmouth College; A. Gulick, University of Toronto; J. A. Harris, Carnegie Institution; S. Hatai, Wistar Institute; H. E. Jordan, University of Virginia; A. E. Lambert, Massachusetts State Normal School; C. C. Little, Bussey Institute; H. H. Love, Cornell University; S. O. Mast, Goucher College; G. T. Moore, Washington University; J. C. Phillips, Bussey Institute; R. E. Sheldon, University of Pittsburgh; A. F. Shull, Columbia University; W. J. Spillman, U. S. Department of Agriculture; H. B. Torrey, University of California; G. Wagner, University of Wisconsin; H. J. Webber, Cornell University; E. N. Wentworth, Iowa State College; D. D. Whitney, Wesleyan University.

The following officers were elected for 1911:

President—Professor H. S. Jennings, Johns Hopkins University.

Vice-president and Chairman of Eastern Branch—Dr. Geo. H. Shull, Carnegie Institution.

Treasurer—Professor E. M. East, Bussey Institute.

Secretary—Professor C. R. Stockard, Cornell University Medical School.

Additional Members of Executive Committee—Professor W. L. Tower, University of Chicago, and Dr. B. M. Davis, Cambridge, Mass.

CHAS. R. STOCKARD,
Secretary

THE AMERICAN CHEMICAL SOCIETY

THE forty-third general meeting of the American Chemical Society, held at Minneapolis, December 28–31, was attended by 275 members and guests and, like all recent meetings of the society, was simply an echo of the general enthusiasm that pervades its membership.

Owing to the fact that over 175 papers were presented, it was necessary to hold meetings of all of the divisions and the meetings of the Division of Agricultural and Food Chemistry, Division of Fertilizer Chemistry, Division of Pharmaceutical Chemistry, Division of Industrial Chemists and Chemical Engineers, Division of Physical and Inorganic Chemistry and Division of Organic Chemistry, were well attended.

A point especially worthy of note was the