

THE October number of *The American Journal of Science* contains the following articles:

B. B. BOLTWOOD: 'Ultimate Disintegration Products of the Radioactive Elements.'

C. P. FLORA: 'Use of the Rotating Cathode for the Estimation of Cadmium taken as the Sulphate.'

A. J. MOSES: 'Crystallization of Luzonite and other Crystallographic Studies.'

F. E. WRIGHT: 'Determining of the Optical Character of Birefracting Minerals.'

C. BARUS: 'Groups of Efficient Nuclei in Dust-Free Air.'

T. HOLM: 'Studies in the Cyperaceæ.'

P. F. SCHNEIDER: 'Preliminary Note on Some Overthrust Faults in Central New York.'

F. N. GUILD: 'Petrography of the Tucson Mountains, Pima Co., Arizona.'

*The American Chemical Journal* for October contains articles, as follows:

C. LORING JACKSON and LATHAM CLARKE: 'Bromine Addition-Compounds of Dimethylaniline' (Contributions from the Chemical Laboratory of Harvard College).

HARRY C. JONES and H. P. BASSETT: 'The Approximate Composition of the Hydrates Formed by a Number of Electrolytes in Aqueous Solutions, Together with a Brief General Discussion of the Results Thus Far Obtained.'

#### SOCIETIES AND ACADEMIES.

##### AMERICAN MATHEMATICAL SOCIETY.

THE twelfth summer meeting of the American Mathematical Society was held at Williams College, Williamstown, Mass., on Thursday and Friday, September 7-8. Twenty-eight members were in attendance. Two sessions were held on Thursday, and a third on Friday morning. Professors Morley and Ferry filled the chair. The council announced the election of the following persons to membership in the society: Lieutenant-Colonel C. P. Echols, U. S. Military Academy; Professor G. B. Guccia, University of Palermo; Professor H. B. Evans, University of Pennsylvania; Dr. A. M. Hiltebeitel, Princeton University; Dr. J. M. Poor, Dartmouth College; Professor J. E. Williams, Virginia Polytechnic Institute. Eight applications for membership were received. The

total membership of the society is now nearly five hundred.

At the close of the Thursday morning session the members were conducted through the grounds and buildings of Williams College and the collection of mathematical models were shown. On Friday afternoon the members assembled at the house of President Hopkins and through the courtesy of the college were taken in carriages on an excursion over the Berlin Mountain, whose less accessible regions were traversed on foot. Several foot tours were also made on Saturday. The hospitality of the college authorities was appropriately recognized by appreciative resolutions at the close of the meeting.

The following papers were read at the meeting:

W. H. BUSSEY: 'Galois field tables for  $p^n \leq 169$ .'

EDWARD KASNER: 'A geometric property of the trajectories of dynamics.'

G. A. BLISS: 'A generalization of the notion of angle.'

W. B. FITE: 'Irreducible linear homogeneous groups.'

SAUL EPSTEIN: 'Note on the structure of hypercomplex number systems.'

MAURICE FRÉCHET: 'Sur l'écart de deux courbes et sur les courbes limit.'

RICHARD MORRIS: 'On the expressibility of the automorphic functions of the group  $(0, 3, l_1, l_2, l_3)$  in terms of theta series.'

J. I. HUTCHINSON: 'On certain hyperabelian functions which are expressible by theta series.'

N. J. LENNES: 'Concerning real functions of one real variable which are completely determined over an interval by the values of the function and its derivatives for one value of the independent variable.'

W. A. MANNING: 'On the arithmetic nature of the coefficients in groups of finite monomial linear substitutions.'

MAX MASON: 'On the boundary value problems of linear ordinary differential equations of the second order.'

G. A. MILLER: 'On the possible number of operators of order 2 in a group of order  $2^n$ .'

FRANK MORLEY: 'On two cubic curves in triangular relation.'

C. H. SISAM: 'On the determination of the nodal curve on a ruled surface.'

A. S. CHESSIN: 'On the strains and stresses in a rapidly revolving circular disc.'

L. E. DICKSON: 'On the quaternary linear homogeneous groups modulo  $p$  of order a multiple of  $p$ .'

L. E. DICKSON: 'On finite algebras.'

VIRGIL SNYDER: 'On a type of rational twisted curves.'

E. J. TOWNSEND: 'Arzelà's condition for the continuity of a function defined by a series of continuous functions.'

H. S. WHITE: 'Rational plane curves as related to Riemann transformations.'

F. R. MOULTON: 'A class of periodic solutions of the problem of three bodies.'

C. N. HASKINS: 'Note on the differential invariants of a surface and of space.'

E. V. HUNTINGTON: 'The continuum as a type or order: an exposition of the modern theory.'

The next meeting of the society will be held at Columbia University, on Saturday, October 29. The San Francisco section meets at the University of California, on September 30. The annual meeting of the society for the election of officers will be held on Thursday and Friday, December 28-29.

F. N. COLE,  
Secretary.

#### DISCUSSION AND CORRESPONDENCE.

##### THE PROBABLE ORIGIN OF CERTAIN BIRDS.

IN a recent article in SCIENCE,<sup>1</sup> Mr. W. E. D. Scott attempts to apply the 'mutation' theory of de Vries to the origin of certain puzzling forms of North American birds, his conclusion being:

In the light of the evidence set forth [in the preceding pages of his article] only one answer can be made to the question as to the part the process defined by de Vries as 'mutation' is playing among higher animals to-day. Beyond doubt we have witnessed the birth of new species of birds during the past seventy years. Moreover, some of these new species have flourished so as to have become a salient part of the bird fauna in the region where they occur and where they were unknown to skilled ornithologists, who carefully studied these regions in the early part of the last century.

The birds here considered by Mr. Scott are nine in number, all from the 'Hypothetical

<sup>1</sup>'On the Probable Origin of Certain Birds,' by William E. D. Scott, SCIENCE, N. S., Vol. XXII., No. 557, Sept. 1, 1905, pp. 271-282.

List' of the American Ornithologists' Union Check-List of North American Birds, and, in the order of discovery, are as follows: Small-headed warbler (*Muscicapa minuta* Wilson, 1812), Blue Mountain warbler (*Sylvia montana* Wilson, 1812), carbonated warbler (*Sylvia carbonata* Audubon, 1831), Cuvier's kinglet (*Regulus cuvierii* Audubon, 1832), Townsend's bunting (*Emberiza townsendii* Audubon, 1834), Cooper's sandpiper (*Tringa cooperi* Baird, 1858), Brewster's linnet (*Acanthis brewsterii* Ridgway, 1872), Lawrence's warbler (*Helminthophaga lawrencei* Herrick, 1874), Brewster's warbler (*Helminthophaga leucobronchialis* Brewster, 1876). The first four of these birds are known only from the descriptions and figures given of them by Wilson and Audubon; of each of the next three, the original and still unique type specimen is preserved. The remaining two, both forms of *Helminthophila*, are known from numerous examples, they being of more or less frequent occurrence (if we reckon the variants of each) over a limited area in southern New England (mainly the lower Connecticut Valley), the lower Hudson Valley and northern New Jersey.

Mr. Scott comments on the first seven very briefly, but states, in concluding the enumeration, that he is compelled 'to consider these forms as mutations (which were not perpetuated) from species still existing.' About seven pages are then devoted to the remaining two forms, *Helminthophila leucobronchialis* and *H. lawrencei*, in which he gives a partial list of the known captures of each, mostly in footnotes in small type, with more or less extended extracts from the records relating to them, and often a summary of the opinions that have been expressed regarding the status and relationships of the two forms. The number of specimens of *H. leucobronchialis* at present extant is estimated to be 'at least 150,' and of *H. lawrencei* 'between 20 and 25.'

These two forms are discussed separately, at some length. Under *H. leucobronchialis* (l. c., p. 278), he expresses his conclusions respecting them as follows: