

to membership: Prof. E. D. Cope, University of Pennsylvania; Prof. C. S. Minot, Harvard Medical School; Mr. J. E. Lough, Harvard; Dr. E. A. Singer, Harvard; Dr. N. Wilde, Columbia; Dr. C. H. Bliss, University of the City of New York; Dr. Franz Boas, New York; Mr. Warner Fite, Williams College; Prof. J. E. Creighton, Cornell; Dr. H. Austin Aikins, Western Reserve; Dr. W. G. Smith, Smith College.

The report of the Secretary and Treasurer showed a membership of sixty-five and a balance in the treasury of over \$290. A vote of thanks for the hospitality received was unanimously passed. The fixing of the time and place of the next meeting was left in the hands of the incoming President in coöperation with the Presidents of the other Societies. It was voted that any members attending the meeting of the International Psychological Congress in Munich next summer should, on notification to the Secretary of the Association, be empowered to act as delegates from the Association.

Between the morning and the afternoon sessions on Saturday an informal meeting of those interested in the formation of a Philosophical Society, or the organization of a Philosophical section within the Psychological Association, was held, and at the afternoon meeting the matter was brought before the Association and by vote referred to the Council with full power to act.

EDMUND C. SANFORD,  
*Secretary for 1895.*

CLARK UNIVERSITY.

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*TENTH ANNUAL MEETING OF THE IOWA  
ACADEMY OF SCIENCES.*

THE Iowa Academy of Sciences met for its tenth Annual session in Des Moines, January 1st, 2d and 3d, 1896, in the Horticultural rooms at the Capitol Building. The attendance and interest at this meeting surpassed all previous gatherings of the Academy and were very encouraging.

Prof. H. W. Norris in his address as retiring President took for his subject 'Needed Changes in Scientific Methods.' The address was full of excellent suggestions, both for scientific workers and for the public, who look to scientific investigation for assistance in economic problems.

'The Homologies of the Cyclostome Ear,' read by Prof. Norris, presented evidence that the ear of Cyclostomes, though differing so markedly from that of ordinary vertebrates, is still capable of being homologized perfectly with the ear in other orders.

Prof. C. C. Nutting read a very interesting paper on 'Origin and Significance of Sex,' setting forth the theory of Geddes and Thompson as presented in their work on the evolution of sex and detailing some very interesting studies of his own on the development and determination of sex in Hydroids.

Prof. T. Proctor Hall presented papers on 'Unit Systems and Dimensions of Units,' 'Gravitation,' 'A Mad Stone.' In the last paper he described a peculiar absorptive power of the rock, being able to absorb one-half more water by volume than the rock itself.

Prof. L. W. Andrews presented the following papers: 'The Influence of Moisture on the Ignition Point of Sulphur,' and 'The Reduction of Sulphuric Acid as a Function of the Temperature.'

Prof. W. S. Franklin presented a paper on 'A New Electrical Generator for Oxygen and Hydrogen.' Prof. L. A. Youtz gave an account of the Indianola clay and pottery works.

Prof. L. H. Pammel gave an account of the flora of Western Iowa, calling attention to peculiar Western plants found on the bluffs along the Missouri river. In a second paper with Prof. F. Lamson-Scribner, he enumerated the grasses found between Jefferson, Iowa, and over the Rocky Mountains—the gradual change from blue grass

in Iowa to blue stem and game grasses of the plains.

Mr. F. C. Stewart and G. W. Carver presented a paper on 'Inoculation Experiments with *Gymosporangium Macropus*,' in which it was shown that different varieties behave quite differently with respect to the fungus.

Prof. L. S. Ross, in a paper on 'Preliminary Notes on the Iowa Entomostraca,' showed that this interesting and economic group of animals is much neglected. His collections were made at Lake Okoboji and Spirit Lake.

Prof. T. H. McBride, in a paper on 'Forest Distribution in Iowa and Its Significance,' laid special stress on the distribution of trees in Iowa on the loess. The various theories advanced to account for the absence of trees in Iowa have some foundation and only partially explain the absence of trees. There is much in the theory of Prof. McGee on the relation of the loess to the distribution. In a second paper on 'County Parks' he advocated the establishment of county parks for the purpose of retaining some of the many wild plants once common in Iowa, and for the purpose of giving the people needed recreation.

'Recent development in the Dubuque lead and zinc mines,' by A. G. Leonard. The production from this region in 1895 was 750,000 pounds of lead and 3,500 tons of zinc. The increase is due to better mining and the recovery of ore from the 'fourth opening.'

'Some facts brought to light by deep wells in Des Moines county,' Iowa, by F. M. Fultz, detailed the discovery of certain deeply buried river channels which leads to the inference of a later origin of the drainage than previously argued by the author.

'Recent discovery of glacial scorings in southeastern Iowa,' by F. M. Fultz. Marks of the presence of the Illinois ice, in a set of striae bearing S. 79% W., have been noted by Mr. Leverett and the author.

'The Buchanan gravels, an inter-glacial deposit in Buchanan county,' by Samuel Calvin, describes a series of gravel beds lying between the Kansan and Iowan drift-sheets and located near Independence.

'The Le Claire limestone,' by Samuel Calvin. The local variations in thickness and dip are referred to the conditions of deposition and are regarded as due to cross-bedding.

'Variations in the position of the nodes of the axial segments of the pygidium of a species of *Encrinurus*,' by W. H. Norton. The small classificatory value of the characteristic is shown.

'A Theory of the Loess,' by B. Shimek. The æolian origin of the deposit is advocated from a study of the loess-fossils, the timber distribution and certain field relations.

Prof. J. L. Tilton presented two papers, one on the 'Slate area of near Nashua, N. H.,' and the other 'Notes on the Geology of the Boston Basin.'

'Observations on the Cicadidæ of Iowa,' by Herbert Osborn, included a list of the known Iowa species of this family and discussion of the distribution of *Cicada septendecem* in the State.

Other papers presented or in some cases read by title were: 'Perfect Flowers in *Salix*,' by Prof. B. Shimek; 'Some Anatomical studies of *Sporobolus* and *Panicum*,' by Miss Emma Pammel and Miss Emma Sirrine; 'Contributions to a Knowledge of the Thripidæ,' by Miss Alice M. Beach; 'A Review of the Genus *Clastoptera*,' by Mr. E. D. Ball; 'Notes on Chromogenic Bacteria,' by L. H. Pammel and Robert Combs; 'A Brief Study of a Curious Water Organism,' by F. M. Witter; 'A Comparative Study of the Spores of North American Ferns,' by C. B. Weaver; 'Two Remarkable Cephalopods' and 'Note on the Nature of Cone in Cone,' by C. R. Keyes. 'Biologic Notes on Certain Iowa Insects,' by H.

Osborn and C. W. Mally; 'Anatomy of *Sphærium sulcatum*,' by Gilman Drew; 'Fungus Diseases of Plants at Ames,' by L. H. Pammel and G. W. Carver; 'Notes on the Remains of *Elephas* and *Mastodon*,' by S. W. Beyer.

These papers will, with few exceptions, appear in the Academy proceedings which will be issued at as early a date as possible. The Academy is in a very flourishing condition, having now something over one hundred members. Its proceedings are published by the State and it is incorporated under State law. Its library and exchanges have grown rapidly in recent years, and there is every season to believe it will have a decided influence in advancing the cause of scientific research in the State.

The following officers were elected for the coming year: President, T. Proctor Hall; 1st Vice-President, W. S. Franklin; 2d Vice-President, T. H. Macbride; Secretary and Treasurer, Herbert Osborn; Additional members of the Executive Committee, W. S. Hendrixson, M. F. Arey, W. H. Norton.

HERBERT OSBORN,  
Secretary.

#### CALIFORNIA SCIENCE ASSOCIATION.

THE second annual meeting of the California Science Association was held in Oakland, January 3 and 4, 1896. President Jordan, of Stanford University, delivered the annual address as President of the Association on 'The Foundation of Belief.'

The following list of papers was read:

1. *A Memoir of Dana*: JOSEPH LE CONTE.
2. *The Action of Anhydrous Ammonia and Anhydrous Aluminium Chloride*: J. M. STILLMAN.
3. *A Quantitative Separation of Iodine from Chlorine*: M. ADAMS.
4. *A Plea for an Aero-Physical Observatory on Mt. Tamalpais*: A. MCADIE and W. H. HAMMON.
5. *Notes on the Accuracy of refractive Index Determinations*: D. W. MURPHY.
6. *The Manufacture of Artificial Food Products*: S. W. YOUNG.
7. *The Maintenance of Constant Temperatures*: S. W. YOUNG.
8. *A Modification of the Bunsen Ice Calorimeter*: F. SANFORD.
9. *A Relief Map of California*: N. F. DRAKE.
10. *A Relief Map of Oregon*: S. SHEDD.
11. *Some Lecture Experiments in Chemistry*: W. B. RISING.
12. *On Micro-chemical Analysis*: W. B. RISING.
13. *Use of Hydro-bromic Acid in the Estimation of Mercury and Cinnabar*: W. B. RISING and V. LENHER.
14. *Chemical Behavior of Liquid Hydroiodic Acid*: F. G. COTTRELL and R. S. NORRIS.
15. *The Criterion of Continuity*: IRVING STRINGHAM.
16. *Logarithmic Orthomorphosis*: IRVING STRINGHAM.
17. *The Nine-Point Rectangular Hyperbola*: A. V. SAPH.
18. *Simplification and Extension of Gauss's Third Proof of the Fundamental Theorem of Algebra*: M. W. HASKELL.
19. *Note on Fermat's Theorem*: M. W. HASKELL.
20. *Notes on the Imaginaries in Plane Coördinate Geometry*: R. L. GREEN.
21. *Note on Partial Differential Equations*: R. E. ALLARDICE.
22. *Notes toward the Life History of the 'Water Dog' or California Newt (*Diemyctylus torosus*)*: W. E. RITTER.
23. *A few Observations on the Hydroidea of San Francisco Bay, particularly concerning their Reproduction*: W. E. RITTER and H. B. TORREY.
24. *Respiration in Women*: MISS C. D. MOSHER.
25. *Effect of Variation of Temperature on Muscle Irritability*: R. L. WILBUR.
26. *Refractory Period in an Isolated Strip of Cardiac Muscle of the Turtle*: MISS E. BRIGGS.
27. *Note on the Structure of the Brain of Embryo of *Gerrhonotus**: A. B. SPAULDING.
28. *The Development of the so-called Phosphorescent Organ of *Porichthys notatus**: C. W. GREENE.
29. *Note on the Function of the Air Bladder of *Porichthys notatus**: C. W. GREENE.
30. *Latitude and Vertebrae in Fishes*: D. S. JORDAN.
31. *Distribution of Trout in California*: D. S. JORDAN.
32. *Some points in Plant Geography*: E. W. HILGARD.
33. *A New California Liverwort*: D. H. CAMPBELL.
34. *Some Facts concerning California Tunicata*: F. W. BANCROFT and W. E. RITTER.
35. *The Mallophaga*: V. L. KELLOGG.
36. *Explorations of the U. S. Fish Commission in 1895*: O. P. JENKINS.
37. *A new form of Microtome*: O. P. JENKINS.

The officers elected for the ensuing year are: Chas. H. Keyes, *President*; Irving