

8. Further Study on the Influence of Heat-Treatment and Carbon upon the Solubility of Phosphorus in Steel. By E. D. Campbell and S. C. Babcock.

9. The Action of Certain Bodies on the Digestive Ferments. By Frank D. Simons.

10. The Decomposition of Heptane and Octane at High Temperatures. By A. W. Burwell.

11. Calculation of Calorimetric Values from Analytical Data. By H. W. Wiley.

12. The Chemical Composition of Cement Plaster. By E. H. S. Bailey.

13. Bacterial Products of Hog Cholera and Swine Plague. By E. A. de Schweinitz.

14. Detection of Foreign Fats in Butter and Lard. By C. B. Cochran.

15. Distillation in General. By Leon Labonde.

16. Apparatus for Photometric Determination of Lime and Sulphuric Acid. By J. I. D. Hinds.

17. The Composition of Humus. By Harry Snyder.

18. An Electrical Laboratory Stove. By M. D. Sohon.

P. C. FREER,

Secretary of the Section.

UNIVERSITY OF MICHIGAN.

SECTION D.—MECHANICAL SCIENCE AND ENGINEERING.

Address of the Vice-President: The Ground-work of Dynamics. By Professor John Galbraith, School of Practical Science, Toronto.

1. Development of Engineering Industries by Scientific Research. By Professor W. S. Aldrich, W. Va. University, Morgantown, W. Va.

2. The Cement Laboratory as a Field for Investigation. By Professor F. P. Spalding, Cornell University, Ithaca, N. Y.

3. The Effect of Spark Losses on the Efficiency of Locomotives. By Professor W. F. M. Goss, Purdue University, Lafayette, Ind.

4. A New Apparatus for Testing Indicator Springs. By Professor M. E. Cooley, University of Michigan, Ann Arbor, Mich.

5. Flue Gas Analysis in Boiler Tests. By Professor D. S. Jacobus, Stevens Institute, Hoboken, N. J.

6. Effect of Temperature on the Strength of Steel. By Professor R. C. Carpenter, Cornell University, Ithaca, N. Y.

7. The Properties of Aluminum Alloys. By Professor R. C. Carpenter, Ithaca, N. Y.

8. Analysis of Composite, Concrete and Iron Beams. By Professor J. B. Johnson, Washington University, St. Louis, Mo.

9. Definition of Elastic Limit for Practical Purposes. By Professor J. B. Johnson, St. Louis, Mo.

10. Theories of some Planimeters without the aid of Calculus. By Professor Forest R. Jones, University of Wisconsin, Madison, Wis.

11. The Production of X-Rays by Means of the Planté Accumulator, in which voltage is chiefly concerned, the effect of current being largely eliminated (Illustrated by Stereopticon.) By Professor W. A. Rogers, Colby University, Waterville, Me.

12. A Universal Alternator for Laboratory Purposes. By Professor Henry S. Carhart, University of Michigan, Ann Arbor, Mich.

13. Calculation of the Energy Loss in Armature Cores. By Professor W. E. Goldsborough, Purdue University, Lafayette, Ind.

14. A New Formula for Determining the Width of Leather Belting. By Professor John J. Flather, Purdue University, Lafayette, Ind.

15. A Graphical Solution of Belting Problems. By Professor John J. Flather, Lafayette, Ind.

16. On Engineering Conditions connected with the Mounting of Instruments used on Eclipse Expeditions. By Professor David P. Todd, Amherst College, Amherst, Mass.

JOHN J. FLATHER

Secretary of the Section.

PURDUE UNIVERSITY.

SECTION E.—GEOLOGY AND GEOGRAPHY.

Address of the Vice President: The Pittsburg Coal Bed. By Professor I. C. White, University of West Virginia, Morgantown, West Va.

1. Stylolites. By Professor T. C. Hopkins, State College, Centre Co., Pa.

2. A Suggestion in Regard to the Theory of Volcanoes. By Professor William North Rice, Wesleyan Univ., Middletown, Ct.

3. The Ores and Minerals of Cripple Creek, Colorado. By H. P. Parmelee, Charlevoix, Mich.

4. Observations on the Genus *Barrettia*. By Professor R. P. Whitfield, American Museum of Natural History, New York, N. Y.

5. Changes of Level in Mexico. By Dr. J. W. Spencer, Washington, D. C.

6. An Account of the Researches relating to the Great Lakes. By Dr. J. W. Spencer, Washington, D. C.

7. Lake Chicago and the Chicago Outlet. By Frank Leverett, U. S. Geological Survey, Denmark, Iowa.

8. The Lower Abandoned Beaches of Southeastern Michigan. By Frank B. Taylor, Fort Wayne, Ind.

9. Recent Earth Movement in the Great Lake Region. By G. K. Gilbert, U. S. Geological Survey, Washington, D. C.

10. Pre-glacial Topography and Drainage of Central-Western New York. By Professor H. L. Fairchild, University of Rochester, Rochester, N. Y.

11. Progress of Hydrographic Investigations by the U. S. Geological Survey. By F. H. Newell, U. S. Geological Survey, Washington, D. C.

12. The Geological Age and Fauna of the Huerfano Basin in Southern Colorado. By Professor Henry F. Osborn, Columbia University.

13. A Supplementary Hypothesis respecting the Origin of the American Loess. By Professor T. C. Chamberlin, University of Chicago.

Other papers will be read before the Geological Society of America.

C. H. SMYTH, JR.,
Secretary of the Section.

HAMILTON COLLEGE.

SECTION F.—ZOOLOGY.

Address of the Vice-President: The Spread of Species by the Agency of Man, with especial reference to Insects. By Professor L. O. Howard, Department of Agriculture, Washington, D. C.

1. On the Relationships of the Nematognaths. By Professor Theo. Gill, Columbia University, Washington, D. C.

2. Remarks on the Distribution of Scale-insect Parasites. By Dr. Leland O. Howard, Department of Agriculture, Washington, D. C.

3. On a collection of Cephalopoda from the 'Albatross' Expedition. By Professor William E. Hoyle, Owens College, Manchester, England.

4. On the Characters of the Brains of Nematognaths and Plectospondyls. By Dr. Benjamin T. Kingsbury, Ithaca, N. Y.

5. The Insect Fauna of *Cereus giganteus*. By Henry Guernsey Hubbard, Washington, D. C.

6. On the Sarcostyles of the Plumularidæ. By Professor C. C. Nutting, State University of Iowa.

7. Skeletons and Restorations of Tertiary Mammalia. By Professor Henry F. Osborn, Columbia University, New York.

C. C. NUTTING,
Secretary of the Section.

UNIVERSITY OF IOWA.

SECTION G.—BOTANY.

Address of the Vice-President: Experimental Morphology. By Professor George F. Atkinson, Cornell University, Ithaca, N. Y.

1. *Trillium grandiflorum* (Michx.) Salisb.; its Variations, normal and teratological. By Professor Chas. A. Davis, Alma College, Alma, Mich.

2. Contributions on Wild and Cultivated Roses of Wisconsin and Bordering States. By J. H. Schuette, Green Bay, Wis.

3. A Discussion of the Structural Characters the Order *Pezizineæ* of Schroeter. By Dr. E. J. Durand, Cornell University, Ithaca, N. Y.

4. The Taxonomic Value of Fruit Characters in the Genus *Galium*. By K. M. Wiegand, Cornell University, Ithaca, N. Y.

5. Changes during winter in the Perithecia and Ascospores of certain *Erysipheæ*. By B. T. Galloway, Department of Agriculture, Washington, D. C.

6. The *Erysipheæ* of North America: A preliminary account of the distribution of the species. By B. T. Galloway, Department of Agriculture, Washington, D. C.

7. Some Contributions to the Life-History of *Hæmatococcus*. By Professor L. R. Jones, University of Vermont, Burlington, Vermont.