

In a paper in the *Revue Mensuelle* of the Paris School of Anthropology, for September, he undertakes to locate the period of the final disruption of the two continents more accurately than heretofore.

He carefully considers the pleistocene fauna of both areas, compares the states of the earliest arts, and especially lays stress on the time and manner of the disappearance of the reindeer in France, and the sudden change of climate from arctic to temperate conditions which that indicates. The cause of this change was the altered direction of the current of the Gulf Stream owing to subsidence of the land areas. His article entitled 'L'Atlantide et le Renne' will be found highly suggestive.

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SCIENTIFIC NOTES AND NEWS.

AMERICAN MATHEMATICAL SOCIETY.

THE annual meeting of the American Mathematical Society will be held on Wednesday, December 29th, in Room 301 of the Physics Building of Columbia University, New York City. In accordance with the provisions of the constitution of the Society, the annual election of officers will be held at this meeting, and a presidential address, 'On the Philosophy of Hyperspace,' will be delivered by President Simon Newcomb. The sessions will begin at 10:30 a. m. and 2:30 p. m., and the Council will meet at 2 p. m.

The following is a list of papers thus far entered for presentation at the meeting:

Morning Session.

(1) 'On the differential equations defining the Laplacian distribution of density, pressure and acceleration of gravity in the earth,' PROFESSOR R. S. WOODWARD, Columbia University; (2) 'The theorems of oscillation of Sturm and Klein,' PROFESSOR MAXIME BÔCHER, Harvard University; (3) 'On some points in the theory of functions,' PROFESSOR A. S. CHESIN, Johns Hopkins University; (4) 'Point transformation in elliptic coördinates of circles having double

contact with a conic,' DR. EDGAR ODELL LOVETT, Princeton University; (5) 'Certain invariants of a plane quadrangle by projective transformation,' DR. EDGAR ODELL LOVETT, Princeton University.

Afternoon Session.

(6) Presidential address: 'The philosophy of hyperspace,' President SIMON NEWCOMB, Washington, D. C.; (7) 'Limits of transitivity of substitution groups,' DR. G. A. MILLER, Chicago, Ill.; (8) Some theorems in n -dimensional space,' MR. C. J. KEYSER, Columbia University; (9) 'The orthogonal group in a Galois field,' DR. L. E. DICKSON, University of California.

The Chicago Section of the Society will hold its second meeting on Thursday and Friday, December 30th and 31st, at Northwestern University, Evanston, Ill. Regular meetings of the Society will be held in New York on February 26th and April 30, 1898. The summer meeting will be held next year at Boston, Mass., in connection with the meeting of the American Association for the Advancement of Science.

The membership of the Society now exceeds 300. The November number of the *Bulletin* (Vol. VII., No. 2) contains, besides the 'Notes' and 'List of New Publications,' an account of the International Congress of Mathematicians held at Zürich last August; a report by the Secretary, Professor James McMahon, of the proceedings of Section A at the Detroit meeting of the American Association for the Advancement of Science; 'Quaternions as Numbers of Four Dimensional Space,' by Professor Arthur S. Hathaway; 'Note on the Invariants of n Points,' by Dr. Edgar Odell Lovett; 'Note on the Fundamental Theorem of Lie's Theory of Continuous Groups,' by Dr. Edgar Odell Lovett; 'A Geometrical Locus Connected with a System of Coaxial Circles,' by Professor Thomas F. Holgate; 'Condition that the Line Common to $N-1$ Planes in an N Space may Pierce a Given Quadric Surface in the Same Space,' by Dr. Virgil Snyder, and a review of Lamb's *Hydrodynamics* by Professor Ernest W. Brown.

The December number of the *Bulletin* (Vol. VII., No. 3), which has just appeared, contains an account of the October meeting of the Society, by the Secretary; 'Note on Hyperel-

liptic Integrals,' by Professor A. S. Chessin; 'Certain Classes of Point Transformations in the Plane,' by Dr. Edgar Odell Lovett; 'Continuous Groups of Circular Transformations,' by Professor H. B. Newson; a review of Plücker's *Collected Papers*, by Professor Charlotte Angas Scott, and 'Notes' and 'New Publications.'

THE AMERICAN SOCIETY OF NATURALISTS AND AFFILIATED SCIENTIFIC SOCIETIES.

THERE is every indication that there will be an unusually full attendance at the Ithaca meeting beginning on Tuesday of next week. The following is a list, revised to December 21st, of those who have already signified their intention of being present.

New York City and Columbia University: Dr. H. F. Osborn, Dr. E. B. Wilson, Dr. G. S. Huntington, Dr. F. S. Lee, Dr. J. McK. Cattell, Dr. S. J. Meltzer, Dr. L. Farrand, Dr. J. A. Blake, Dr. R. Hunt, Mr. N. R. Harrington, Mr. H. E. Crampton, Jr., Dr. Franz Boas, Mr. C. A. Strong, Mr. S. I. Franz, Professor L. M. Underwood, Mr. Lloyd, Dr. C. L. Bristol, Brother Chrysostom.

Harvard University: Dr. G. H. Parker, Dr. G. W. Fitz, Dr. H. M. Richards, Dr. C. B. Davenport, Dr. C. R. Eastman, Miss Ida H. Hyde, Dr. H. P. Bowditch, Professor Chas. S. Minot, Professor W. T. Porter, Professor Josiah Royce.

Philadelphia and University of Pennsylvania: Dr. E. G. Conklin, Dr. J. M. Macfarlane, Dr. John W. Harshberger, Dr. Adeline F. Schively, Dr. Martha Bunting, Dr. Hobart C. Porter, Miss Caroline Thompson, Dr. A. P. Brubaker, Professor G. S. Fullerton.

New Haven and Yale University: Professor W. H. Brewer, Professor R. H. Chittenden, Dr. W. C. Sturgis, Professor L. B. Mendel, Professor Graham Lusk, Professor Herbert E. Smith, Dr. A. W. Evans, Dr. H. B. Ferris.

Baltimore and Johns Hopkins University: Dr. E. A. Andrews, Dr. Ross Granville Harrison, Dr. F. P. Mall, Mr. Charles W. Green, Dr. W. H. Howell, Dr. M. M. Metcalf, Mrs. Christine L. Franklin, Professor E. H. Griffin, Mr. G. Lefevre.

Brown University: Dr. A. D. Mead, Mr. F. P. Gorham, Miss A. G. Wing, Dr. W. G. Everett, Dr. E. B. Delabarre, Dr. H. C. Bumpus.

Princeton University: Professor A. T. Ormond, Professor H. C. Warren, Professor J. G. Hibben, Professor J. Mark Baldwin, Dr. M. W. Urban, Professor William Libbey, Dr. W. M. Rankin.

Washington: Dr. Frank Baker, Professor D. S. Lamb, Dr. W. J. McGee, Dr. A. McDonald, Professor Chas. W. Stiles.

University of Chicago: Professor C. O. Whitman, Professor Jacques Loeb.

University of Michigan: Dr. J. P. McMurrich, Dr. F. R. Lillie, Dr. W. P. Lombard, Professor J. E. Reighard.

Smith College: Dr. H. H. Wilder, Dr. W. F. Gannon, Dr. W. C. Smith.

McGill University: Professor D. P. Penhallow, Professor E. W. McBride.

Wellesley College: Professor Clara E. Cummings, Dr. Grace C. Cooley.

Middlebury College and University of Vermont: Professor E. A. Burt, Professor D. Irons.

Williams College: Professor S. F. Clarke, Professor J. I. Peck.

Massachusetts Institute of Technology: Dr. R. P. Bigelow, Dr. Theodore Hough.

Syracuse University: Professor C. W. Hargitt, Dr. G. P. Clark.

Tokyo: Professor K. Mitsukuri.

Amherst College: Dr. G. E. Stone.

Rutgers College: Professor John B. Smith.

Clark University: Dr. C. F. Hodge.

Adelbert College: Dr. F. H. Herrick.

University of Wisconsin: Dr. Joseph Jastrow.

Northwestern University: Dr. William A. Locy.

Rhode Island College: Dr. Geo. W. Field.

Union College: Dr. Chas. S. Prosser.

Bryn Mawr College: Dr. T. H. Morgan.

University of Indiana: Professor C. H. Eigenmann.

Wesleyan University: Dr. C. H. Judd.

Allegheny College: Dr. E. L. Rice.

Dartmouth College: Dr. Wm. Patten.

Missouri Botanical Garden: Professor Wm. Trelease.

GENERAL.

It has for some time been known that Senator Elkins, the 'boss' of the Republican party organization in West Virginia, has been urging the President to appoint as Fish Commissioner a person named Bowers, from Martinsburg, W. Va. The daily papers now contain the statement that this appointment has been definitely settled. The papers consequently charge the President with intending to break the law, which is explicit in regard to the qualifications for the office. We have recently expressed our opinion as to the value and reasonableness of the law, and have every reason to believe that the President would not wish to have it altered. That he should break the law is incredible.

It is expected that the American Society of Naturalists and the affiliated scientific societies meeting at Ithaca will accept an invitation to

meet next year in New York. It is hoped that the Geological Society, at the approaching Montreal meeting, will also decide to hold its next winter meeting in New York.

THE ninth annual meeting of the American Folk-Lore Society will be held at the Johns Hopkins University, Baltimore, on December 28th and 29th.

THE chair in the section of chemistry of the Paris Academy of Sciences, vacant through the death of M. Schützenberger, has been filled by the election of M. Ditte, professor of chemistry at the Sorbonne.

DR. NANSEN will sail from New York on February 19th, and will return directly to Christiania.

PROFESSOR E. JADERAN has proposed to the Swedish Academy of Sciences that an expedition be sent next summer to Spitzbergen to make preparations for the measurement of a degree of latitude in the polar regions. It is then proposed that Russia should be invited to coöperate in the final measurement of a degree in 1899 and 1900.

WE learn from *Nature* that the French government, through its embassy in London, has presented to Sir Archibald Geikie a handsome vase of Sèvres porcelain in recognition of the services rendered by him to the Geological Survey of France.

ACCORDING to the recently published proceedings of the German Zoological Society it contains 205 members, of whom only one, Professor Leuckhart, of Leipzig, is an honorary member.

MR. V. H. BLACKMAN, Hutchinson Research Student of St. John's College, Cambridge University, and Mr. W. Morley Fletcher, Fellow of Trinity College, have gained the Walsingham Medals for biological research.

A COMMITTEE has drawn up a memorial to be presented to the New York Park Board, suggesting that the services of the late William A. Stiles be commemorated by giving his name to one of the newly projected parks in the city.

THE death is announced of Dr. Anthony Brownless, Chancellor of Melbourne University and founder of the medical school of the

University, and a distinguished physician and man of science.

MR. JAMES BATEMAN, the botanist and horticulturist, died at Worthing, England, on November 27th, aged 86 years. He was one of the large group of Englishmen of wealth and leisure to whom science in Great Britain is so greatly indebted. In 1833 he sent the collector Colley to Demerara and Berbice to collect plants, and procured many orchids from Guatemala and elsewhere. In 1837 Mr. Bateman commenced the publication of his work on the 'Orchidaceæ of Mexico and Guatemala,' which he completed in 1843; this book, in atlas folio, comprised the most remarkable series of colored plates which had up to that time appeared, each of the plates costing over £200. His 'Monograph of Odontoglossum' appeared between 1864 and 1870.

DR. VON MARZ has presented to the Munich Academy of Sciences the original spectrometer of Fraunhofer, together with his prisms and his manuscripts. As an acknowledgment of this gift the Academy has conferred its gold medal on Dr. von Marz.

MR. ALFRED HARMSWORTH has loaned *The Windward*, the steamship used by the Jackson-Harmsworth expedition to Franz Josef Land, to Lieutenant Peary for his expedition next year.

A RESOLUTION has been introduced in the House of Representatives appropriating \$20,000 for the representation of the United States at the International Fisheries Exposition to be held at Bergen, Norway, from May to September of next year.

THE bill passed by Congress prohibiting pelagic sealing by citizens of the United States contains a provision as follows: Section 9. That the importation into the United States, by any person whatsoever, of fur-seal skins taken in the waters mentioned in this act, whether raw, dressed, dyed or manufactured, is hereby prohibited, and all such articles imported after this act shall take effect shall not be permitted to be exported, but shall be seized and destroyed by the proper officers of the United States.

PROFESSOR S. B. BROWN, of West Virginia University, is preparing for the State Geological

Survey Commission a bibliographical and historical sketch of all the work that has been done for the study of geology, biology and the resources of West Virginia by public and private effort.

At a meeting of the Board of Managers of the New York Zoological Society, on December 14th, it was announced by Professor Henry F. Osborn, Chairman of the Executive Committee, that subscriptions amounting to \$65,000 had so far been received for the zoological gardens in Bronx Park. New subscriptions to the fund include \$5,000 subscribed by J. Pierpont Morgan, \$2,500 by Tiffany & Co., \$2,500 by F. Augustus Schermerhorn, \$2,500 by Philip Schuyler, \$1,000 by George Crocker, \$1,000 by Jacob H. Schiff, and \$500 by Eugene G. Blackford. The Society now has 540 members.

A ZOOLOGICAL Society has been established in West Australia with a view of founding a zoological garden at South Perth.

MONEY has been appropriated by the trustees of Amherst College for the purchase of a new telescope to replace the old instrument in use at present, and the bequest of \$18,000 for the purchase of a site for a new observatory will be expended as soon as the various plans for a new location have been carefully considered.

THE Iron and Steel Institute of Great Britain will hold its annual meeting at Stockholm in August of next year.

DR. ANNINGSON, Dr. Donald MacAlister and Professor Kanthack will represent Cambridge University at the Madrid International Congress of Hygiene and Demography in April, 1898.

At the 284th regular meeting of the Biological Society of Washington, on Saturday, December 18th, officers for 1898 were elected, as follows: *President*, L. O. Howard; *Vice-Presidents*, B. E. Fernow, Richard Rathbun, F. V. Coville, Chas. D. Walcott; *Recording Secretary*, Charles Louis Pollard; *Corresponding Secretary*, F. A. Lucas; *Treasurer*, F. H. Knowlton; *Councillors*, W. H. Ashmead, C. W. Stiles, E. L. Greene, F. W. True, M. B. Waite.

At the statutory annual meeting of the Royal Society of Edinburgh, held on November 22d,

the following office-bearers were elected for the ensuing session: *President*, The Right Hon. Lord Kelvin, F.R.S.; *Vice-Presidents*, The Hon. Lord McLaren, F.R.S., the Rev Professor Flint, Professor McKendrick, M.D., F.R.S., Professor Chrystal, Sir Arthur Mitchell, K.C.B.; Sir William Turner, F.R.S.; *General Secretary*, Professor P. E. Tait; *Secretaries to Ordinary Meetings*, Professor Crum Brown, F.R.S.; Mr. John Murray, LL.D.; *Treasurer*, Mr. Philip R. D. MacLagan, F.F.A.; *Curator of Library and Museum*, Mr. Alexander Buchan, M.A., LL.D.

AN International Congress of Balneology will be held in Vienna in March, 1898. Further information regarding the Congress may be obtained from the General Secretary, Dr. Brock, of Berlin.

MR. WRAGGE, the meteorologist, who established and worked the first observatory on Ben Nevis, and who is now Meteorological Observer of Queensland, has arrived on the summit of Mount Kosciuszko, the highest mountain in Australia, for the purpose of establishing an observatory there.

THE bequest of the late Sir William McKinnon to the Royal Society for the purpose of furthering natural and physical science, including geology and astronomy, and for the furtherance of original research and investigation in pathology by prizes and scholarships, which we announced last week, will, it appears, amount to more than \$80,000.

The Kansas University Quarterly for October contains two important articles by Professor Williston, one on the 'Range and Distribution of the Mosasaurs, with Remarks on Synonymy,' and the other on a Labyrinthodont from the Kansas Carboniferous. This, as Professor Williston remarks, is of particular interest, for while Professor Marsh had described the footprints of Labyrinthodonts from the Upper Carboniferous the tooth noted came from the Lower Carboniferous, or from an earlier horizon than noted elsewhere.

Appleton's Popular Scientific Monthly for January will contain a translation of the important address given by Professor His, of Leipzig, in memory of his friends Ludwig and Thiersch.

BEGINNING with January, 1898, the *American Geologist* will contain an alphabetical author catalogue of articles relating to the geology of North America. Each month's issue will include titles of articles received up to the 20th of the preceding month. Sheets containing this catalogue will be mailed monthly to libraries or individuals at \$1.00 per year, provided a sufficient number of orders are received to cover the expense.

THE London *Times* states that the inaugural general meeting of the Automobile Club of Great Britain took place on December 8th, at the Club premises, 4 Whitehall Court, Mr. Roger W. Wallace being in the chair. The objects for which this institution has been established are described as the encouragement and development of the motor and allied industries in England, and one of its leading characteristics is that it is to be essentially a members' club, conducted quite independently of any personal interests. It aims at affording its members support in the protection and defence of their rights where menaced and at being a social club where they may obtain information and advice on all matters appertaining to motor vehicles. At the meeting yesterday the chairman gave a brief review of the position and policy of the Club, and certain routine business was transacted in connection with its organization and the formal opening of its premises for the use of members. Afterwards there was a display of various types of motor vehicles, which conveyed members and their friends for trial runs along Whitehall Court and the Thames Embankment.

UNIVERSITY AND EDUCATIONAL NEWS.

SIR W. C. McDONALD, whose gifts to McGill University have already been very generous, has just given an additional two hundred and fifty thousand dollars to the institution. Fifty thousand dollars of this sum is to be used as an endowment in strengthening the law faculty, and the remaining two hundred thousand dollars is for the scientific departments.

A TRAVELLING fellowship, of the value of \$500, has been established at Haverford College, through a gift of some of the alumni.

THE contest over the will of the late William Lampson, bequeathing about \$500,000 to Yale University, has been dismissed by the lower courts, but it is said that the case will be carried to the Supreme Court.

THE will of the late Mrs. Julia B. H. James makes the Massachusetts Institute of Technology and the Boston Museum of Arts her residuary legatees.

ON the early morning of December 18th Pardee Hall, the building containing most of the scientific departments of Lafayette College, was destroyed by fire, with the exception of the east wing. The loss on the building is probably covered by insurance, but valuable collections have been lost. The original building was erected at a cost of over \$200,000, the gift of Mr. Ario Pardee, and was completely destroyed by fire in 1879.

THE registration in the University of Michigan is reported as follows:

Literary.....	1,297
Law.....	723
Medical.....	431
Engineering.....	274
Dental.....	220
Pharmacy.....	77
Homœopathic.....	60
Total.....	3,083

THE registration in the different schools of Columbia University on November 7, 1895, 1896 and 1897, respectively, was 1806, 1796 and 2033, exclusive of students of Barnard College and auditors. The college of Columbia University is small, containing only 312 students, but the graduate and professional schools have about the same number of students as the corresponding schools of Harvard University—namely, 1,762 at Harvard and 1792 at Columbia. The entrance classes in Columbia have decreased this year—582 as against 651 in 1896, the loss being in the Medical and Law Schools.

THE Cornell University Register, of which we have received an advance copy, shows a gain in numbers, the total to date being 1,790 as against 1,763 at this time last year. The University now shows the largest registration ever reached at this point in the academic year, and with the usual growth during the year it will have be-