

BUFFALO

Society of Natural Sciences, December 9, 1869.—Annual meeting.—The president, G. W. Clinton, in the chair. The following officers were elected for the ensuing year:—President, Geo. W. Clinton, LL.D.; vice-presidents, A. T. Chester, D.D., Everard Palmer, and Henry A. Richmond; treasurer, James Sweeney; librarian, Otto Bessar. Dr. Bird, of Sioux City, Iowa, and Johnson Pettit, of Grimsby, Ontario, were chosen corresponding members.

BOSTON

Society of Natural History, December 15, 1869.—The following paper was presented:—"Notes on the mammals of Iowa." By Mr. J. A. Allen.

The list of the mammals given in this paper is based mainly upon notes gathered during three months spent in the state of Iowa in the summer of 1867, for the purpose of collecting and studying its animals and plants. A few species have been inserted upon the authority of other authors, while a few others are given from their known occurrence in nearly all the adjoining states, though not, to the author's knowledge, yet reported from this. The whole number enumerated is forty-eight, and probably but two or three remain to be added to perfect the list of the indigenous mammals of the state. Attention is also called to such others as are most likely to occur. If three or four northern ones be found to reach the northern parts of the state, the whole number, including the introduced house-rats and mice, may be increased to about fifty-five or fifty-six, which is a number somewhat greater than is found in many of the Atlantic states, excluding the marine species, the seals and cetaceans. Iowa being situated in a prairie region, it necessarily differs considerably in the general character of its fauna, and especially in respect to its mammalia, from that of the wooded portion of the United States to the eastward, as all who have given attention to the geographical distribution of animals must be aware. Yet we do not in this state fairly enter upon the so-called Middle Province of the continent, which differs so markedly, both in fauna and flora, from the Eastern Province. A great change in the fauna and flora is met with, however, at the point of junction of the wooded and woodless regions of the eastern half of the continent, which in the latitude of Iowa occurs more than a hundred miles to the eastward of that state. At this point as great and as abrupt a change occurs as usually takes place between two contiguous faunal districts, one of which lies to the north or to the south of the other, or where the line of division is an isothermal one, separating different climatic and zoological zones. A few only, if any, of the species embraced in this list seem to find their eastern limit of distribution in this state; but, with two or three exceptions, they range through southern Wisconsin, Illinois, and even into north-western Indiana and southern Michigan, or to the eastern limit of the prairies. Also, with very few exceptions, none are restricted to it in either their northward or southward range. A few of the more northern species, whose southern range is restricted to the southern border of the Alleghanian fauna, may reach the northern counties of Iowa, as a few essentially southern species may approach, or even be found occasionally within its southern borders. Iowa is hence mainly embraced within the Carolinian fauna, at least so far as its mammals, birds, and reptiles are concerned, though generally heretofore supposed to belong, in great part, at least, to the Alleghanian. Among the strictly prairie mammals represented, are at least four rodents (*Spermophilus tridecemlineatus*, *S. Franklinii*, *Geomys bursarius*, *Hesperomys michiganensis*), two carnivores (*Canis latrans*, *Taxidea americana*), and at least one insectivore (*Scalops argentatus*). Only one eastern species, the red squirrel (*Sciurus hudsonius*), appears to find at the prairie line its western limit, if, as some have supposed, it be true that this animal does not range across the continent. Hence the difference between the mammalian fauna of the prairies of the Upper Mississippi valley and that of the forest region to the eastward consists in the addition of a number of species peculiar to the prairies. Since all the larger species of mammalia are everywhere rapidly disappearing before the revolutionising influences of civilisation, and since great and general changes occur in the faunal and floral features of every country when brought under cultivation, it becomes a matter of unusual interest to preserve as correct a record as possible of the primitive conditions of our own country in this respect, for comparison with its subsequent altered status, as well as a history of the change.

DIARY

THURSDAY, FEBRUARY 17.

ROYAL SOCIETY, at 8.30.—On a Distinct Form of Transient Hemipisia: Dr. Hubert Airy.—Account of the Great Melbourne Telescope, from April, 1868, to its commencement of operations in Australia in 1869: A. Le Sueur.
LINNEAN SOCIETY, at 8.—On the Tree Ferns of British Sikkim: Mr. Scott.
CHEMICAL SOCIETY, at 8.
ZOOLOGICAL SOCIETY, at 4.
ANTIQUARIES, at 8.30.—On Some Monastic Inventories: Rev. M. E. C. Walcott.—On Some Roman Antiquities: S. Sharp.
ROYAL INSTITUTION, at 3.—On the Architecture of the Human Body: Prof. Humphry.

FRIDAY, FEBRUARY 18.

ROYAL INSTITUTION, at 8.—Theories of the Physical Forces: Mr. W. K. Clifford.
PHILOLOGICAL SOCIETY, at 8.30.
GEOLOGICAL SOCIETY, at 1.—Anniversary Meeting.

SATURDAY, FEBRUARY 19.

ROYAL INSTITUTION, at 3.—Science of Religion: Prof. Max Müller.

MONDAY, FEBRUARY 21.

VICTORIA INSTITUTE, at 8.—Spontaneous Generation, or the Problem of Life: Rev. Prof. Kirk.
LONDON INSTITUTION, at 4.
MEDICAL SOCIETY, at 8.
ENTOMOLOGICAL SOCIETY, at 7.
ROYAL ASIATIC SOCIETY, at 3.

TUESDAY, FEBRUARY 22.

ETHNOLOGICAL SOCIETY, at 8.—On Recent Archaeological Discoveries in Yorkshire: C. Monkman, Esq.—On the Natives of Naga, Philippine Island: Dr. Jagor.
INSTITUTION OF CIVIL ENGINEERS, at 8.
ROYAL MEDICAL AND CHIRURGICAL SOCIETY, at 8.30.
ROYAL INSTITUTION, at 3.—On the Architecture of the Human Body: Prof. Humphry.

WEDNESDAY, FEBRUARY 23.

ARCHAEOLOGICAL ASSOCIATION, at 8.
GEOLOGICAL SOCIETY, at 8.—Additional observations on the Neocomian Strata of Yorkshire and Lincolnshire, with notes on their relations to the Beds of the same age throughout Northern Europe: By Mr. J. W. Judd.—On Deep-mining with relation to the Mineral-bearing Strata in the S.W. of Ireland: By Mr. Samuel Hyde. Communicated by Mr. R. Etheridge.—On the Structure of a Fern-stem from the Lower Eocene at Herne Bay, and on its allies, recent and fossil: By Mr. W. Carruthers.
SOCIETY OF ARTS, at 8.—On Economy of Fuel for Domestic purposes: Mr. D. Galton, C.B.

THURSDAY, FEBRUARY 24.

ZOOLOGICAL SOCIETY, at 8.30.—On the Classification of the Capitonidae: Messrs. Marshall.—On the White Wag-tails of China: Mr. R. Swinhoe.—On the Deer living in the Society's Menagerie: Mr. Selater.

BOOKS RECEIVED

FOREIGN.—Les Oiseaux décrits et figurés d'après la Classification de Georges Cuvier mise au courant des progrès de la science, 72 Planches, les espèces remarquables et les caractères, génériques tirés du bec et des pattes: texte explicatif; Figures Coloriées.—Pétrifications remarquables des Alpes Suisses, le Corallien de Winimis; W. A. Ooster; avec une Introduction Géologique et 24 Planches des Fossiles: C. de Fischer-Ooster.—Monographie der Molluskengattung Venus: Linné; Dr. Edward Römer.—Fossile Flora der jüngsten Steinkohlenformation und des Rothliegenden im Saar-Rhein Gebiete: Ch. Ernst Weiss. (Williams and Norgate.)

CONTENTS

	PAGE
THE MEASUREMENT OF GEOLOGICAL TIME.—A. R. WALLACE, F.R.G.S. (With Diagram)	399
FARADAY.—By Dr. J. H. GLADSTONE, F.R.S. (With Illustrations)	401
OUR BOOK SHELF	403
ON THE DAILY LABOURING FORCE OF THE HUMAN HEART.—By Rev. Prof. S. HAUGHTON, F.R.S.	404
LETTERS TO THE EDITOR:—	
Scientific Queries.—F. R. S.	405
Haze and Dust.—A. L.	405
The Solution of the Nile Problem.—Dr. CHARLES BEKE	405
Analogy of Colour and Music.—Supernumerary Rainbows.—JAMES STUART; W. F. BARRETT	406
Sensation and Perception.—Rev. W. G. DAVIES	407
Transcendent Space.—Dr. C. M. INGLEBY	407
THE NEWALL TELESCOPE. (With Illustrations.)	408
NOTES	410
MAGNETIC AND SUN-SPOT PHENOMENA FOR 1870	412
SCIENTIFIC SERIALS	412
INDIAN GEOGRAPHICAL NAMES	413
SOCIETIES AND ACADEMIES:—	
LONDON—Royal Society; Ethnological; Entomological	413-415
EDINBURGH—Royal Physical	415
DUBLIN—Royal Irish Academy; Royal Geological Society of Ireland; Institution of Civil Engineers of Ireland	415
GLASGOW—Geological Society of Glasgow	415
NORFOLK—Norfolk and Norwich Naturalists	416
PARIS—Academy of Sciences	416
BERLIN—Royal Prussian Academy of Sciences	416
VIENNA—Imperial Geological Institution	416
PHILADELPHIA—Academy of Natural Sciences	417
BUFFALO—Society of Natural Sciences	418
BOSTON—Society of Natural History	418
DIARY, BOOKS RECEIVED	418