from the University press, edited by J. Mark Baldwin and containing two articles reprinted from the Psychological Review: I. General Introduction—Psychology, past and present, by the editor; and II. Freedom and Psycho-genesis, by A. T. Ormond.

THE *Programme of the Department of Geology* of the University of Chicago for 1895–96 bears witness to the great strength of the department. Thirty-one courses are offered by the following officers of the department: Thomas C. Chamberlin, Head Professor of Geology; Rollin D. Salisbury, Professor of Geographic Geology; Joseph P. Iddings, Professor of Petrology; Richard A. F. Penrose, Jr., Professor of Economic Geology; William H. Holmes, Professor of Archæologic and Graphic Geology; Charles R. Van Hise, Non-resident Professor of Pre-Cambrian Geology; Oliver Cummings Farrington, Instructor in Determinative Mineralogy; Edmund C. Quereau, Tutor in Palæontologic Geology.

SOCIETIES AND ACADEMIES.

BIOLOGICAL SOCIETY OF WASHINGTON.

AT the meeting of June 1st Dr. C. Hart Merriam presented a paper on the Short-tailed Shrews of North America, stating that an examination of many specimens showed that the described species were only four, *Blarina brevicauda, B. carolinensis, B. parva and B. Berlandieri.* He discussed these and their distribution at some length, saying that each species was characteristic of one of the zoölogical divisions of North America.

Dr. G. Brown Goode made some remarks on the Location and Record of Natural Phenomena by a Method of Reference to Geographical Coördinates.

Dr. Gill presented a communication on The Relations of the Ancient and Modern *Ceratodontidæ.*

He commented on the unusual degree of interest connected with the Ceratodontids. The statement has been frequently made that *Ceratodus* is the oldest living generic type of fishes, and the identity of the living fishes so-called with the mesozoic species has been especially insisted on. The speaker, however, had denied such generic identity as early as 1878 on account of the difference in the form and plication of the dental plates, and had revived for the recent genus the name *Neoceratodus* given in mistake by Castelnau to a specimen of the genus. A new name, *Epiceratodus*, has recently been given by Teller to the same genus and must be abandoned. But Teller has given us useful data respecting the cranial characters of the mesozoic species, and we now have information sufficient at least to offer hints as to the relations of the ancient and modern forms. We can affirm positively that the recent Ceratodontids are very different from the mesozoic species; that consequently they should bear the name *Neoceratodus*, unless a still earlier one is applicable, and further that the differences between the living and long extinct species are enough to ever differentiate the two as distinct sub-families, the *Ceratodontinæ* including only extinct species and the *Neoceratodontinæ* being a recent type. The distinguishing characters of the two were given at length and derived from the dermal bones, the modification of the posterior region of the head, and the protrusion of the jaws. The ancient forms themselves belong to at least two genera: *Ceratodus*, typified by *C. Kaupii*, and *Anticeratodus*, typified by *C. Sturii*, of Teller. The latter is distinguished by the contiguity of the two palatine plates and their extended inner walls.

Professor Lester F. Ward exhibited specimens of the rhizomes of the Gama Grass, *Tripsacum dactyloides*, obtained at Great Falls, Md., on April 27th, which bore a striking resemblance to fossil forms described under the name of *Caulinites*, Brongn., and especially to *C. parisiensis*,

Brongn., from the Eocene of the Paris Basin. He exhibited figures of that species to show this resemblance.

The genus *Caulinites* was first figured by Desmarest, who supposed it to be a polyp and named it *Amphitoites parisiensis* in Nov. Bull. de Sci., Société Philomathique, tom. II., pl. 2. This figure was reproduced by Cuvier and Alex. Brongniart in Essai sur la Geographie Minéralogique des Environs de Paris, pl. II., figs. 10 A. and 10 B., 1811, and has been repeated in all later editions. A large number of very fine specimens were collected subsequently, and Adolphe Brongniart had no doubt but that it represented the impression of a plant. In his 'Tableau,' 1849, p. 86, he placed it under a plant genus which he renamed *Caulinites*, from the genus *Caulinia*, of de Candolle, a name antedated by *Posidonia*, Kön., an aquatic plant related to the river-weeds, *Potamogeton*, and sea wracks, *Zostera*, in the *Naiadaceæ*. When Watelet, in 1866, undertook the elaboration of all the material in the Paris Museum from the Eocene of the Paris Basin he devoted several plates to illustrating this and other species of the same genus.

Prof. Ward stated that when he saw the rhizomes he was forcibly struck with their resemblance to the figures of Desmarest and Watelet. A comparison of them showed that in many respects they were not only similar but practically identical, although among Watelet's figures are some which deviate considerably from this type. A large number of similar forms have been found in various deposits, chiefly Tertiary, throughout the world, and more than 50 species of *Caulinites* have been named, many of which will, of course, prove to be synonyms, while others depart so widely from the normal type that they will require to be excluded.

Prof. Ward said further that in 1887, Prof. Lesquereux described a species collected by Mr. Geo. F. Becker at Clear Lake, Cal., under the name of *C. Beckeri*. Proc. U. S. Nat. Mus. Vol. X., p. 36, pl. I, fig. 3, pl. II, figs. 1–4. Mr. Becker stated that he had supposed these rhizomes to belong to the common Tule, *Phragmites phragmites*, (L.) Karst., the deposit being a very recent one in the bed of a dried-up pond where the Tule was supposed to have grown as it now grows in those regions.

Prof. Ward remarked in conclusion that he had found other, similar, rhizomes washed up along the Potomac, but was unable to say to what plant they belonged, but enough is now known to make it certain that a considerable number of grasses, and perhaps rushes and other monocotyledonous plants, possess rhizomes with short joints resembling or practically identical with those of the genus *Caulinites*.

The Society then adjourned until October.

F. A. Lucas, *Secretary*.

ENTOMOLOGICAL SOCIETY OF WASHINGTON.

The 109th meeting was held June 6. Mr. Wm. H. Ashmead read a paper on the discovery of Elasmosoma Ruthe in America. This remarkable monotypical Microgasterine genus, the type species of which (*E. berolinense*) was collected in Europe many years ago in company with an ant, is supposed to be parasitic upon ants. Mr. Ashmead has found three species in America, one collected at Washington in 1889 by E. A. Schwarz; one at Fort Collins, Col., by C. F. Baker, and the third near Washington by Th. Pergande. The last species was found flying about the nest of *Camponotus melleus*, and the genus may be parasitic either upon ants or upon myrmecophilous beetles.

A paper by F. M. Webster entitled 'Notes on the Distribution of some Injurious Insects,' was read by the corresponding secretary. In this paper Prof. Webster criticised some of the details brought out by Mr. Howard in his paper on the geographical

distribution within the United States of certain insects injuring cultivated crops (Proc. Entom. Soc. Wash. III., No. 4), particularly in regard to the spread of injurious species into Ohio and their distribution in that State.

Mr. H. G. Hubbard exhibited specimens of the borings of Xyleborus and Platypus, Scolytid beetles, in orange wood. He described the habits of these beetles and showed that Platypus is capable of making extensive galleries of its own in hardwood trees. The nature of the food of these timber beetles was discussed. In addition to reviewing and confirming the observations of European writers, Mr. Hubbard described the so-called Ambrosia which nourishes the young, as welling up through the pores of the wood which are cut by the galleries, in the shape of minute white buttons, giving a tesselated appearance to the walls of the passages. The substance sometimes accumulates in the galleries, and when puddled by the larvæ resembles half-melted snow or slush. A growth of fungus forms upon the Ambrosia, and closing the mouth of the galleries causes them to fill up and suffocate the inmates. This method of treatment was found useful in Florida, to save from further injury the budded portion of trees killed back by the severe frost of February last. A piece of wire was pushed into the burrows as far as it would go and then cut off and left there.

As to the nature of Ambrosia, Mr. Hubbard made the conjecture that it is a ferment set up in the sap of the tree and augmented by the presence of the animals.

Mr. O. Heidemann exhibited specimens of *Coriscus flavomarginatus*, a brachypterus Nabid new to North America, which was collected at St. John's, New Brunswick, by the late Dr. Marx. Mr. Howard exhibited a female Scolia sent from Texas by Mr. E. A. Schwarz, and which had become, in some manner, impaled upon a sharp thorn, the thorn entering the middle of the face. It was a question whether the insect became so impaled by flying violently against the sharp point of the thorn, or whether it had been stuck there by a shrike. Mr. Frank Benton exhibited a comb of *Apis florea* which he had collected in Ceylon. This is the smallest species of Apis known. Curiously enough, the only two species of Apis which build in the open air, namely, *Apis florea* and *A. dorsata*, are the smallest and the largest species of the genus.

L. O. HOWARD,
Recording Secretary.

NEW YORK ACADEMY OF SCIENCE.

AT the meeting on May 27th Prof. Cattell described *Bodily and Mental Tests made on members of the Freshman Class of Columbia College* by him in conjunction with Dr. Farrand. About twenty-five observations and measurements were made on students entering college in 1894, and these will be repeated at the middle and end of the course. In describing the experiments especial attention was given to those of a more purely psychological nature, such as memory, accuracy of perception, sensitiveness to pain, reaction-time, rate of perception, imagery, etc., and some of the experiments were made on those present. Such experiments are of value to the individual student, as they give him information concerning his bodily and mental condition, and the effect of his college course upon these; they are also of use in increasing our exact knowledge of mental processes and their relation to bodily conditions.

Professor Rees exhibited a *Geodetic Theodolite* made by Wanschaff, of Berlin, for use in the Summer Class of Practical Geodesy at Columbia College. The telescope was 19½ inches in focal length with 2½ inch objective. The horizontal circle was 8 inches

in diameter and was read to single seconds of arc by two micrometer-microscopes. The graduations on the circle were microscopic and were seen easily in the reading microscopes. The telescope was provided with a small vertical circle 6¼ inches in diameter and reading by verniers to single minutes. The instrument was arranged for observations on Polaris for azimuth work.

J. F. KEMP, *Secretary.*

THE WISCONSIN ACADEMY OF SCIENCES, ARTS AND LETTERS.

THE Wisconsin Academy of Sciences, Arts and Letters held its Summer meeting, on June 6th to 8th, 1895, at Milwaukee, Wis., under the auspices of the Natural History Society of Wisconsin, and the Presidency of Professor Charles R. Van Hise. In addition an address by President C. K. Adams and a number of other historical and sociological papers, the following were presented:

Address of Welcome: GEORGE W. PECKHAM, President of the Natural History Society of Wisconsin.

Opening address, 'Reforms in Germany after the Napoleonic Wars: C. K. ADAMS, President of the University of Wisconsin.

The relation of pooling to some phases of the transportation question: A. M. SIMONS.

The legal aspects of trusts: EDGAR F. STRONG. Read by title.

The forms spontaneously assumed by folk-songs: J. COMFORT FILLMORE.

Negro suffrage in Wisconsin: J. G. GREGORY.

Some Observations on the Lateral Moraines at Devil's Lake: D. P. NICHOLSON.

Geology of Mts. Adam and Eve, Orange County, N. Y.; G. L. COLLIE.

Certain Uses of Topographical Maps: G. L. COLLIE.

The Production of Electrical Energy Directly From Carbon: A. J. ROGERS.

A Contribution to the Mineralogy of Wisconsin: WILLIAM H. HOBBS.

Some New Occurrences of Minerals in Michigan and Montana; WILLIAM H. HOBBS.

On a Diamond from Kohlsville, Wisconsin: WILLIAM H. HOBBS.

From Pinene to Carvacrol: EDWARD KREMERS.

A Dredge for Collecting Crustacea at Different Depths: C. DWIGHT MARSH.

Method of Determining the Coefficient of a Plankton Net: E. A. BIRGE.

The Pelagic Crustacea of Lake Mendota During the Winter and Spring of 1894–1895: E. A. BIRGE.

The Biological History of nia Hyalina, Leydig: E. A. BIRGE.

The Periodic System as a Didatic Basis: EDWARD KREMERS. Read by title.

Observed and Computed Precession: D. P. BLACKSTONE. Read by title.

THE TEXAS ACADEMY OF SCIENCE.

The Law of Hypnotism: PROF. R. S. HYER.

County Roads: CHARLES CORNER, C. E.

On the Glycerine Method of Preserving Specimens for the Anatomical Museum: DR. WM. KEILLER, F. R. C. S.

Texas Soils; a Preliminary Statement and Classification: E. T. DUMBLE.

Simultaneous Quadratic Equations: I. H. BRYANT.

NEW BOOKS.

Geological Survey of Michigan. LUCIUS L. HUBBARD, State Geologist. Vol. v. 181, 1893. pp. x+179. xxiv+100.

The Theory of Light. THOMAS PRESTON. 2nd Edition. London and New York, Macmillan & Co. 1895. Pp. xvii+566. $5.00.

A Monograph of the Order of Oligochæta. FRANK EVERS BEDDARD. Oxford. Clarendon Press, New York, Macmillan & Co. 1895. Pp. xii+769. $12.50.

Report of the International Meteorological Congress Held at Chicago, Ill. Part II. Edited by OLIVER L. FASSIG. Washington, Weather Bureau. 1895. Pp. xvi+583.