fulfilled that function, remaining as associate editor.

In a reprint of articles on early American ballads, contained in Nos. 47 and 49 of the same *Journal*, Mr. W. W. Newell traces the history of certain ballads produced in Massachusetts. One of these, called 'Isaac Orcutt,' and belonging to the end of the eighteenth century, recited the manner in which that youth met his death from a falling tree; the piece was sung as a dirge at the funeral, being chanted by six young women dressed in white. Similar was the origin of 'Springfield Mountain,' produced in 1761, in memory of the son of a Lieutenant Merrick, of Wilbraham. The ballad attained extraordinary popularity in the United States, being sung with numerous variations; it abdicated its local character, took on a love situation, and survives as a comic song. These examples are the more curious inasmuch as the custom of chanting dirges over the dead seems not to be recorded in English folk-lore.

The Popular Science Monthly for April opens with a sketch of the work of "Malpighi, Swammerdam, and Leeuwenhoek,' by William A. Locy. Paul H. Hanus discusses 'Two Contemporary Problems in Education,' What shall we do about the elective system of studies and how shall we bridge the gap between the high school and the lower grade? Incidentally Professor Hanus advocates studying some modern language for two or three years before commencing Latin. Havelock Ellis continues 'A Study of British Genius,' this instalment being devoted to heredity and parentage, and the favorite topic of 'Suicide and the Weather,' is treated in some detail by Edwin G. Dexter. Charles H. Cochrane gives a résumé of 'Recent Progress in Aërial Navigation,' and 'The Foreign Trade of the United States,' is treated at some length by Frederic Emory, who, while noting its recent great increase, calls attention to the fact that in the near future we may be obliged to struggle to retain it. Finally Solon I. Bailey tells of 'The Planet Eros,' which for various reasons, among them its importance for determining the solar parallax, is for the moment of more interest to the astronomical world than the greatest planet. The various departments contain articles of interest and the number contains the index for Vol. LVIII.

SOCIETIES AND ACADEMIES.

SECTION OF BIOLOGY OF THE NEW YORK ACADEMY OF SCIENCES.

AT a regular meeting of the section held on March 11, 1901, the following program was offered:

H. F. Osborn: 'Systematic Revision of the American Eocene Primates and of the Rodent Family *Mixodectidæ*.'

O. P. Hay: 'The Composition of the Shell of Turtles.'

M. A. Bigelow: 'Some Comparisons of the Germ-Layers in Entomostraca Crustacea.'

Professor Osborn stated that the only fossil primates at present known are those in the Eocene. The supposed Oligocene genera described by Marsh and Cope have proved to belong to the Artiodactyla. Associated throughout with the discovery and literature of the primates is the family Mixodectidæ, including *Mixodectes* of the basal Eocene or Torrejon beds; Mathews has suggested that this animal is a rodent. Careful comparison of this type with the supposed primates *Cynodontomys* of the middle Eocene and *Microcyops* of the upper Eocene proves that these animals also belong probably with the rodentia; they represent a primitive stock with strong affinities to the Tillodontia, which are thus brought nearer to the ancestral rodents. This conclusion removes all these animals from the primates where they have hitherto been placed. This leaves three families of monkeys, as follows: Hypsodontidæ, including *Hypsodus* and *Sarcolemur*, animals of medium size, retaining the typical series of 44 teeth; a second family, the Notharctidæ, including *Pelycodus* and *Notharctus*, animals of larger size, with teeth reduced to 40 by the loss of 4 incisors, and like the foregoing comprising long-jawed types; and a third family, the famous Anaptomorphidæ of Cope, short-jawed, very progressive types, with 36 to 32 teeth, the premolar series being reduced. The identification of these families with the Eocene *Adapidis* or with *Necrolemur* of Europe is not sustained. The Hypsodontidæ and Notharctidæ are well

distinguished by sexituberculate superior molars.

Dr. Hay called attention to the fact that for a long time there has been much discussion regarding the origin of the elements entering into the shell of turtles. As to the bones known as costal plates, the great majority of anatomists have held that they have resulted from the union of dermal bones with underlying ribs: the neural plates from the union of dermal bones with the neural arches. Recently Goette has studied the development of the costals and neurals in the young of *Chelone squamata*. He finds that the whole costal plate develops continuously from bone which appears beneath the perichondrium of the cartilaginous ribs. No part of either the costal or neural plates arises in the skin. While accepting Goette's results as established, the speaker did not accept his conclusion. Neither did he accept the other view that the costals and neurals are composed of dermal bones united with those of the internal skeleton. The speaker held that there were originally three strata of bones on the dorsal surface of turtles. One of these was in the skin, and is represented by the mosaic found in the skin of *Dermochelys*. Another layer was sub-dermal, and this united with elements of the third stratum, namely the ribs and neural arches. This union has become so complete that the bones arise from the same centers. These three strata of bones on the dorsal surface correspond to those which are found in the ventral wall of the caiman, viz: true ribs, 'abdominal ribs,' and bony dermal scutes.

Mr. Bigelow compared the germ-layers of various Crustacea with special reference to the Cirriped *Lepas*. It was pointed out that in the cleavage leading to the segregation of the germ-layers there are very many resemblances between *Lepas* and other Entomostraca. *Lepas* resembles most other Crustacea in respect to the position of the blastopore, and the extension of the entoblast and mesoblast from that region as a starting point. In *Lepas* also the mesoblast and entoblast originate from cells which, speaking in general terms, lie at first in the blastoderm and later migrate into the cleavage cavity. But among these immigrating mesentoblastic cells one can distinguish the individual cells of entoblast and two varieties of mesoblast, entomesoblast and ectomesoblast. There are observations indicating that similar conditions exist in other Crustacea.

Henry E. Crampton,
Secretary.

Section of Astronomy, Physics and Chemistry of the New York Academy of Sciences.

A regular meeting of the section was held on April 1, 1901. The first paper was by Mr. H. C. Parker, on some 'Experiments on Standards of High Electrical Resistances.' The author briefly described the usual methods employed in the measurement of high resistances and then gave an outline of Professor Rood's electrometer method (*American Journal of Sciences*, Vol. X., October, 1900, pp. 285–294). By this method it seems possible to measure resistances as great as 1,000,000,000 megohms, while by the direct deflection method the practical limit was stated to be about 100,000 megohms.

The author gave the results of a series of measurements made on a new form of standard high resistance, devised by Professor Rood. This form of standard consists of oxide of manganese on cobalt glass. It gives a convenient means for obtaining resistances of from one to ten thousand megohms. Most of the measurements were for the purpose of determining the best protective insulating material with which to coat the above resistances. The author stated that the work was still in progress.

Professor J. K. Rees then presented a paper on 'Temporary Stars, with Especial Reference to the New Star in Perseus.' Professor Rees explained the present classification of variable stars and gave illustrations of each of the six classes. A history of the discovery of the new star in Perseus was given and photographs of its spectrum were exhibited. Brief mention was made of the various collision theories proposed to account for the evidence of two light sources which appear involved. The light curve of the new star was referred to, showing how rapidly the star increased to the 0 magnitude,

from which it has slowly decreased to, at present (April 1st), the 5th magnitude.

The paper was discussed by Professors Hallock and Herring, Dr. Day, Mr. C. A. Post and others.

Professor Rees then gave 'An Exhibition of some of the Photographs of Nebulæ taken with the Crossley Reflector of the Lick Observatory,' by the late director, J. E. Keeler. Professor Rees remarked that Columbia University had lately received a series of beautiful photographs of nebulæ from the director of the Lick Observatory. After a brief description of the Crossley reflector, and of the remarkably successful work of Dr. J. E. Keeler in the photographic study of nebulæ, the illustrations named below were thrown upon the screen.

Orion nebula, taken November 16, 1898; exposure, forty minutes.

51, M. Canum Venaticorum, taken May 10, 1899.

Dumbbell nebula in Vulpecula, taken July 31st, 1899; exposure, 3 hours.

Trifid nebula in Sagittarius; exposure, 3 hours.

The Pleiades, showing nebulosity.

Ring nebula in the Lyra.

Crab nebula in Taurus.

Small nebula in Andromeda.

Spiral nebula M. 74, in Pisces.

Spiral nebula in Pegasus.

Spiral nebula in Triangulum.

Spiral nebula in Ursa Major.

Net work nebula in Cygnus.

M. 13, in Herculis, star cluster.

Reference was made to Keeler's determination of radial velocities of nebulæ and to the distances of these masses. In conclusion an enthusiastic tribute was paid to the late Director Keeler.

F. L. TUFTS,
Secretary.

THE ONONDAGA ACADEMY OF SCIENCE.

At the regular monthly meeting held at the Medical College, Syracuse, N. Y., on February 15th, Dr. L. M. Underwood, of Columbia University, New York, addressed the Academy on the subject of 'Botanical Gardens.' His paper was a history of the great Botanical Gardens at Kew, Java, Berlin, etc, together with a description of the Gardens planned for New York in connection with the University. The address was very fully illustrated with a fine collection of slides.

The following officers were chosen for the ensuing year: *President*, Dr. W. M. Beauchamp; *Vice-President*, Dr. C. W. Hargitt; *Corresponding Secretary*, Philip F. Schneider; *Recording Secretary*, Horace W. Britcher; *Treasurer*, Miss L. W. Roberts; *Librarian*, Mrs. L. L. Goodrich.

On March 15th, the meeting was held at the Historical Rooms. The program consisted of the reports of the officers and sections for the year.

Mr. C. E. Wheelock read the report of the Geologic Section giving a detailed account of the various meetings and conferences. Two new cephalopods, undescribed as yet, were reported from the Goniatite Limestone, making seventeen organisms discovered in this formation.

Mrs. L. L. Goodrich read the report of the Botanical Section. Monthly meetings and weekly classes are held. At one of these meetings on the grounds of the Hon. C. E. Smith, Syracuse, a hybrid chestnut tree, which he had raised, was seen, upon which over a hundred humming birds had congregated to gather honey, a truly remarkable sight. Three new plants, one a fern, have been added to the list from this county. The ferns now number 41.

Dr. C. W. Hargitt gave the report of the Zoological Section. During the past year they have been working largely upon the lower forms, especially the bacteria, of local streams. Variations in local shells have also been recorded. Three new batrachians and 25 spiders have been added to lists from the county, and cyclops and branchippus described and identified.

The annual report of Secretary E. M. Patte^{e} showed 40 active, 17 associate and 3 corresponding members. It also recorded the loss by death of Professor J. A. Dakin, the noted ornithologist, during the year. Miss L. W. Roberts, treasurer, reported a balance of $87. Dr. Wm. M. Beauchamp, president-elect, then read his inaugural address. It was a clear and scholarly address, carefully defining his posi-

tion, and teeming with helpful suggestions and plans for the year.

PHILIP F. SCHNEIDER,
Corresponding Secretary.

THE ACADEMY OF SCIENCE OF ST. LOUIS.

AT the meeting of the Academy of Science of March 18, 1901, forty-three persons present, Professor E. H. Keiser delivered an address showing the progress made in the science of chemistry during the nineteenth century. This address will be published in a subsequent number of SCIENCE.

Professor F. E. Nipher exhibited pieces of pine board a foot square, showing the tracks of ball lightning discharges upon them like those formerly described by him in No. 6, Volume X., of the *Transactions* of the Academy. The discharges formerly described had been formed on a photographic film. The balls were very small, and wandered over the plate, leaving a track of metallic silver in their wake. In the present instance the balls were much larger, and they burned a deep channel in the wood. They are formed at the secondary spark gap of a coil. The terminals are pointed and are under control, so that the gap may be changed in length. To start the balls, the pointed terminals are put upon the wood surface, so near that the spark carbonizes somewhat, after which the gap is made longer. These balls travel in either direction, when a direct current is used, with a Wehnelt interrupter. This differs from the results reached on the photographic film with the Holtz machine. There the balls came from the cathode. Even when they originated at isolated points on the film, they traveled away from the cathode.

In the present results, the balls have been caused to originate at isolated points, and two balls have started in opposite directions. Wood which gives little flame shows the phenomenon to best advantage, but the balls preserve their identity and travel slowly along even when completely surrounded by flames of the burning wood.

Three persons were elected to active membership in the Academy.

WILLIAM TRELEASE,
Recording Secretary.

DISCUSSION AND CORRESPONDENCE.

RESIGNATIONS FROM THE SCHOOL OF PEDAGOGY, NEW YORK UNIVERSITY.

OWING to long-continued dissatisfaction with the administration of the Department, the following professors of the faculty of the School of Pedagogy of New York University announce their resignation from the University:

SAMUEL WEIR,
Professor of History of Education and Ethics.
EDWARD F. BUCHNER,
Professor of Analytical Psychology, and Secretary of the Faculty.
CHARLES H. JUDD,
Professor of Experimental Psychology.

THE PROPER NAME OF THE ALPINE CHOUGH.

TO THE EDITOR OF SCIENCE: I should like to state the reasons why I cannot agree with Mr. W. J. Fox's proposal made in SCIENCE for February 8 (N. S., Vol. XIII., p. 232) to adopt the name '*Monedula pyrrhocorax*' for the Alpine chough. In the first place, as Mr. Fox allows, Hasselquist's '*Iter Palastium*,' being dated 1757, has no claim to recognition, even by those who take Linnæus's tenth edition (1758) as the commencement of zoological nomenclature. It seems to me, therefore, that the mere republication of his names in a German translation of that work in 1762 is not sufficient to give them validity. But what is still more important is that, as Mr. Fox will find, I think, on reading the original description carefully, it is by no means certain that Hasselquist's *Monedula pyrrhocorax* was based on a specimen of the Alpine chough, though it was referred to that species by Linnæus in his edition of 1758. Hasselquist gives 'Lower Egypt' as the place where his *Monedula pyrrhocorax* was discovered, but, according to the best authorities (see Schelley's 'Birds of Egypt,' p. 161), no such bird as the Alpine chough is known in Egypt, and it is indeed a very unlikely species to occur there, though it is found in the high rocky mountains of Algeria. Under these circumstances I maintain that we should not be justified in changing the familiar name *Pyrrhocorax alpinus* to *Monedula pyrrhocorax*.

P. S. SCLATER.

3 HANOVER SQUARE, LONDON, W.,
March 15, 1901.