Mr. F. W. Hodge is secretary and managing editor, and the editorial board consists of Frank Baker, Smithsonian Institution, Washington; Franz Boas, American Museum of Natural History, New York; Daniel G. Brinton, University of Pennsylvania, Philadelphia; George M. Dawson, Geological Survey of Canada, Ottawa; George A. Dorsey, Field Columbian Museum, Chicago; Alice C. Fletcher, Harvard University, Cambridge; W. H. Holmes, U. S. National Museum, Washington; J. W. Powell, Bureau of American Ethnology, Washington; F. W. Putnam, Peabody Museum, Cambridge. The journal, published quarterly, at a cost of four dollars a year, deserves the support of all interested in anthropology, as it will accomplish much for the science, which is now making such great advances.

The first article in the *American Naturalist* for March is by Professor J. P. McMurrich, on 'The Present Status of Anatomy;' various advances in the study of anatomy are described, and a strong plea made for the study of comparative anatomy as an aid to the understanding of human anatomy. Dr. Erwin F. Smith records 'The Second Annual Meeting of the Society for Plant Morphology and Physiology,' and submits abstracts of the papers presented. Professor J. S. Kingsley and W. H. Ruddick discuss 'The *Ossicula Anditus* and Mammalian Ancestry,' deciding, as the result of their observations, that the incus has been correctly regarded as the quadrate. The probability of an amphibian origin for the Mammals is favorably considered. Professor Harris H. Wilder treats at some length of *Desmognathus fusca* (Rafinesque) and *Spelerpes bilineatus* (Green), two species often confused with each other, particularly in their larval state. The habitat and development of each is described. 'The Poisons Given Off by Parasitic Worms in Man and Animals' are briefly noted by Dr. G. H. F. Nuttall, who considers that this is a fruitful field for research. Dr. Leonhard Stejneger describes 'A Curious Malformation of the Shields of a Snake's Head,' whereby the scutellation was completely changed. Among the editorials one protests against too strict an adherence to the laws of priority. The many readers of the *Naturalist* will note with pleasure that the table of contents is provided with page references.

The leading article of the April *Monist* is on 'The Primitive Inhabitants of Europe,' by Professor G. Sergi, of Rome, and sets forth the criteria which this anthropologist has established for distinguishing race-types. The monumental work of Mr. Shadworth H. Hodgson, 'The Metaphysic of Experience,' is discussed at length by Dr. Edmund Montgomery. Mr. William Romaine Paterson contributes an article on 'The Irony of Jesus,' in which the intellectual and critical side of the great Teacher is emphasized. Dr. Paul Carus has a study in comparative religion, called 'Yahveh and Manitou,' in which he draws a parallelism between Yahveh, the Israelitish God of the desert, and the great deity of the North American Indians. Professor L. Lévy-Bruhl, of Paris, offers a study of 'The Contemporaneous Philosophy of France,' and Lucien Arréat his usual critical review of current French philosophical and scientific literature. The book reviews of the number deal mainly with works on the philosophy of science, mathematics, physics, and so forth.

SOCIETIES AND ACADEMIES.

BIOLOGICAL SOCIETY OF WASHINGTON, 303D REGULAR MEETING, SATURDAY, FEBRUARY 25.

Mr. H. J. Webber spoke of some recent researches in the development of *Cobæa scandens* which exhibited a hitherto unknown method of spindle formation.

The remainder of the evening was devoted to a discussion of the features of the Great Dismal Swamp. Dr. W. H. Seaman described the peculiar method of getting out lumber by digging a small ditch, just large enough to accommodate a single log. He also stated that a sample of the clay underlying the lake showed no diatoms.

Mr. F. D. Gardner presented some further remarks on the soils, saying that the reclaimed land was extremely good for raising corn, as the amount of rainfall during the critical month of August is about twice that of the Western corn belt.

Mr. F. V. Coville noted the importance of

the lake as a feeder for the Dismal Swamp canal and also as a possible source of water supply for Norfolk. The cleared land was said to be well adapted for truck farming, while the cypress and juniper lumber was also available, and the latter, being of rapid growth, could be cultivated.

Mr. William Palmer spoke further on the physiographic features of the region and of the animals, stating that the swamp lay near the northern limit of many Southern species. The Prothonotary Warbler was said to be abundant, and the manner in which the Chimney Swifts bred in the hollow cypresses was described.

Mr. Vernon Bailey noted the occurrence of such Northern forms as the Shrew, Star-nosed Mole and the Lemming Mouse.

Dr. A. K. Fisher spoke of the manner in which the sphagnum pushed out into the ditches, and drew attention to the fact that the removal of the dam at the entrance of the canal feeder would drain the lake, as the canal had been dredged out some distance from the shore.

Professor Lester F. Ward gave an account of a visit to the swamp in 1877.

O. F. COOK,
Recording Secretary.

THE WASHINGTON BOTANICAL CLUB.

THE fourth regular meeting was held at the residence of Mr. A. J. Pieters, March 1, 1899.

Mr. T. A. Williams, in discussing 'New or Interesting Lichens,' exhibited specimens of *Omphalodium Arizonicum* Tuckerm., and reported the collection of this rare lichen in the White Mountains of New Mexico, by Professor E. O. Wooton, this being the second time that the species has been obtained by collectors. The original specimens were discovered by C. G. Pringle in Arizona. The validity of the genus *Omphalodium* was discussed, and the opinion expressed that it was abundantly distinct from *Parmelia*. Specimens were also shown of four new species of lichens belonging to the genera *Siphula*, *Lecanora*, *Gyalecta* and *Omphalaria*, with comments on their distinguishing characters and relationships.

Mr. Frederick V. Coville gave a systematic review of 'The Currants and Gooseberries of Southeastern Oregon,' exhibiting many specimens and explaining the differentiation of species from aggregates, such as *Ribes divaricatum* and *R. lacustre*.

Mr. Pieters exhibited a gigantic specimen of *Lophotocarpus calycinus* from the shores of Lake Erie, commenting on its eastern extension.

CHARLES LOUIS POLLARD,
Secretary.

THE NEW YORK SECTION OF THE AMERICAN CHEMICAL SOCIETY.

THE regular monthly meeting of the New York Section of the American Chemical Society was held on Friday evening, the 10th inst., at the Chemists' Club, 108 West Fifty-fifth street, Dr. Wm. McMurtrie presiding and eighty-five members present. Dr. Doremus made a special announcement of the annual exhibition of the New York Academy of Sciences, and urged any members having new and interesting material to contribute the same to the exhibits.

The following papers were then read:

1. Frederick S. Hyde, 'Preparation of Graphitoidal Silicium.'

2. W. O. Atwater, 'The Conservation of Energy in the Human Body.'

3. Joseph F. Geisler, 'Paraffin as an Adulterant of Oleomargarine.'

4. L. H. Reuter, 'Manufacture of Pure Phenyldimethylpyrazolon-sulphonic Acid.'

5. L. H. Reuter, 'Manufacture of B Naphthalene-sulphonic Acid and Benzoyl-sulphonic Acid for the Manufacture of Ether.'

6. A. Bourgougnon, 'On the Determination of Sulphur in Sulphites.'

While the first paper was before the meeting, the President of the Society, Professor E. W. Morley, of Cleveland, arrived, and was invited to take the chair. He made a few remrks on the interest taken in the Section by its members, as evidenced not only by the full attendance and interesting list of papers to be read at this meeting, but by the uniformly high character and abundance of material announced for each and every meeting.

Professor Atwater stated that the large calorimeter chamber, in which a man can live for a week or more at a time, has been so perfected that an analysis of pure alcohol by combustion can be made in it to within 0.1 per cent. of the

theoretic composition. The results on the calorific value of foods as consumed in the human body agree very closely with the results calculated from experiments with the bomb calorimeter. The chief difficulties at present are in regard to certain constants, as, for instance, the value of the calorie, the latent heat of evaporation of water at different temperatures, etc. The calculation of the observations from a week's run of the calorimeter chamber is itself an arduous and exacting piece of work. Thus far the law of the conservation of energy in the human body is fully demonstrated, within a very small error, which it is hoped to eliminate entirely.

J. F. Geisler exhibited a sample of paraffine extracted from adulterated oleomargarine, which contained about 45 grains of the wax per ounce.

Samples had been purchased in New York and vicinity containing from 5 to 11.75 per cent. paraffine.

DURAND WOODMAN,
Secretary.

SECTION OF ASTRONOMY AND PHYSICS OF THE NEW YORK ACADEMY OF SCIENCES, MARCH 6, 1899.

ANNUAL election of officers was held, and Professor M. I. Pupin elected Chairman, and Dr. W. S. Day, Secretary, to serve for the ensuing year.

Professor J. K. Rees described the great horizontal telescope for the Paris Exposition in 1900. This instrument is to have a focal length of 66 meters, and is placed horizontally, on account of the great difficulty of building and moving a dome large enough for it, if mounted in the usual manner. A plane mirror is mounted so as to be capable of motion in any direction, in order to reflect the light of a star into the tube. The object glass is 49 inches in diameter. A number of lantern views of the Yerkes telescope were shown. This, when the Paris instrument is completed, will no longer be the largest in the world.

Dr. P. H. Dudley read a paper entitled: 'Stresses in Rails due to Thermal Changes,' in which he showed that most fractures of rails occur on a decided fall of temperature, because the rails, held very tight by the bolts in the splice bars, are strained by the contraction beyond their tensile strength; while on a rise of temperature the expansion of the rails puts them under a stress of compression; and apparently the factor of safety of the steel is not so much reduced under compressive as under tensile stresses.

R. GORDON,
Secretary.

THE ACADEMY OF SCIENCE OF ST. LOUIS.

AT the meeting of the Academy of Science of St. Louis on the evening of March 20, 1899, fifty-three persons present, Dr. T. J. J. See delivered an address on the 'Temperature and Relative Ages of the Stars and Nebulæ.' The address, which developed quite fully the temperature equation, was discussed at some length by Professor C. M. Woodward. A paper by Professor L. H. Pammel, on 'Anatomical Characters of the Seeds of Leguminoseæ,' was presented by title.

Two persons were elected to active membership.

WILLIAM TRELEASE,
Recording Secretary.

DISCUSSION AND CORRESPONDENCE.

PLYMOUTH, ENGLAND, AND ITS MARINE BIOLOGICAL LABORATORY.*

PLYMOUTH is a place of great natural beauty and more undulating than any city with which I am familiar. It has a population of about 200,000 and is a seaport of much importance, many of the Oriental and Australian steamships touching here. It contains one of the largest navy-yards and garrisons in England. In one respect it is unique, as far as my experience goes, for the city touches the harbor at its eastern and western extremities only, the central part being separated from the water-front by a high open hill called Hoe Park. The rising face of this hill is tastefully laid out as a park, while on the summit is an asphalt promenade 150 feet wide and extending for half a mile.

* In a recent private letter to a friend, Dr. Edward G. Gardiner gives an account of Plymouth, its Laboratory, its winter climate and other matters, which it is believed many readers of SCIENCE will be glad to have for reference.