nosed, the cases in question having been diagnosed as tumor of brain and locomotor ataxia, respectively, and their true nature revealed only by the autopsy. The proceedings of the Philadelphia Neurological Society for November 22, 1904, are reported, and the 'Periscope' contains numerous abstracts.

SOCIETIES AND ACADEMIES.

THE AMERICAN MATHEMATICAL SOCIETY.

The one hundred and twenty-second regular meeting of the American Mathematical Society was held at Columbia University, on Saturday, February 25, 1905. The attendance at the two sessions was about fifty, including forty-two members of the society. The vice-presidents, Professors Pierpont and E. W. Brown, presided at the morning and afternoon sessions respectively. The council announced the election of the following persons to membership in the society: Miss A. F. Becker, Yeatman High School, St. Louis, Mo.; Professor C. H. Beckett, Purdue University; Professor W. De W. Cairns, Oberlin College; Professor S. C. Davisson, Indiana University; Dr. J. S. French, Jacob Tome Institute; Mr. F. H. Hodge, Clark University; Mr. A. E. Joslyn, Armour Institute of Technology; Dr. J. W. Lowber, Austin, Texas; Mr. J. H. Maclagan-Wedderburn, University of Chicago; Mr. G. A. Plimpton, New York City; Mr. E. W. Ponzer, University of Illinois; Mr. H. W. Reddick, University of Illinois; Miss M. E. Sinclair, University of Nebraska; Dr. A. W. Smith, Colgate University. Ten applications for membership were received.

Professor E. B. Van Vleck was elected a member of the Editorial Committee of the *Transactions*, to succeed Professor T. S. Fiske, who retires with the completion of the present volume.

The following papers were read at this meeting:

L. D. Ames: 'The theorem that a closed simple surface is bilateral.'

C. L. Bouton: 'Note on isothermal curves and one-parameter groups of conformal transformations in the plane.'

E. W. Brown: 'Note on the variation of the arbitrary and given constants in dynamical equations.'

O. E. Glenn: 'Determination of the abstract groups of order p^2qr.'

F. R. Sharpe: 'The stability of the motion of a viscous liquid.'

James Pierpont: 'Note on infinite products.'

Charlotte A. Scott: 'The elementary treatment of conics by means of the regulus.'

A. W. Smith: 'The symbolic treatment of differential geometry.'

A. M. Hiltebeitel: 'Note on a problem in mechanics.'

R. B. Allen: 'Hypercomplex number systems with respect to a domain of rationality.'

L. P. Eisenhart: 'Note on the deformation of surfaces of translation.'

A meeting of the San Francisco Section of the society was also held on February 25, at Stanford University. The next meeting of the society falls on Saturday, April 29. The Chicago Section will meet at the University of Chicago, April 22. The summer meeting of the society will be held at Williams College, Williamstown, Mass., September 7–8.

F. N. Cole,
Secretary.

THE NEW YORK ACADEMY OF SCIENCES.
SECTION OF GEOLOGY AND MINERALOGY.

At the meeting on March 6 the following paper was read by title:

On the Absence of Helium from Carnotite: Dr. E. P. Adams.

The following paper was presented in full:

Notes on the Minnewaska Region, Ulster Co., New York: F. Wilton James.

The stripping of the grit from the crest of the second anticline of the Shawangunk* appears to be due to a slight cross fold by anticlinal fracture and erosion, as the rocks at the southwest end of the eroded area show an upward pitch. Through this depression the Peterskill probably flowed while its own valley and Coxing Clove were dammed by the front of the ice sheet, and cut then the Paltz Gap in the crest of the first anticline, 200 feet deep, through which the road to New Paltz now runs.

* Darton, Rep. 47, N. Y. State Mus.

The basin of Lake Minnewaska is vertical-walled except at the southwestern end. The cliffs are highest under Cliff House, where they stand 160 feet above the surface of the lake and 65 feet below it. The grit is probably about 230 feet thick here. The walls are pierced by four crevasses now filled with drift—the remains of two fissures crossing each other at the deepest point in the lake, 74 feet deep. There is no drift in the lake basin, not even under the south-facing cliffs, although the fissure running S. 25° W. is filled, and the transverse breach is blocked to 150 feet above the lake. The glaciation is here S. 10° W. The cause of the absence of drift is not clear; elsewhere the cliffs are heavily skirted.

Lake Awosting lies along a vertical fault plane drift filled at both ends. The fault has not been studied. The north wall of the Palmaghat is a vertical fault of 200 feet throw. Both these faults seem to be derived from the overthrown anticline of the Coxingkill escarpment. Mr. Darton is in error in declaring the absence of extended faults.

The next paper was by Dr. A. A. Julien on the 'Determination of Brucite as a Rock Constituent.'

After a brief review of the life of Dr. Archibald Bruce, of New York City, the discoverer of the mineral, the fact of its wide distribution was set forth, both in limestones and serpentinoids, either in its unchanged condition or in the form of its derivatives, especially magnesite and hydromagnesite, as maintained by Volger in 1855. The following are its most marked characteristics for recognition as a rock constituent.

1. In addition to the known basal cleavage, two other systems may be distinguished on plates or folia; that of the hexagonal prism, often becoming rhombohedral, intersecting at 60° or 120°; and that of the hexagonal pyramid, intersecting at 90°.

2. Nemalitic structure or fibration, commonly occurring in brucite within serpentinoids subjected to dynamic stresses. The major axis of elasticity always lies parallel to the direction of the fibers.

3. Refractive index 1.57, sufficient, when the associated minerals are pure, to distinguish it by the Becke method from serpentine on the one hand and from amphiboles, dolomite, etc., on the other.

4. Birefringence ($\gamma - a = 0.020$), presenting interference colors of the upper first order up to sky blue of lower second order, in plates or sections of the usual thinness.

5. Characteristic strain phenomena; particularly by disturbance of the interference figure, examined by convergent light in basal cleavage plates or folia; also by a variable, small extinction angle in sections parallel to the vertical axis.

6. Optically positive character of the uniaxial figure, in distinction from talc, serpentine, etc.

7. Occasional twinning, observed in crystals enclosed in limestone.

8. Certain chemical tests, in confirmation of the optical diagnosis.

A. W. GRABAU,
Secretary.

COLUMBIA UNIVERSITY.

THE TORREY BOTANICAL CLUB.

THE meeting was held at the New York Botanical Garden, February 22, 1905, Professor L. M. Underwood in the chair and twenty-one members present.

A contribution to the local flora by Mrs. Livingston and Miss Crane was communicated by W. A. Murrill and read by Professor Underwood. The authors had worked on the fungi, and had identified 195 species in 82 genera and 17 families, all from Scarsdale, N. Y. The balance of the program consisted of remarks on the genus *Lycopodium,* being some of the results of the joint labors of Professor F. E. Lloyd and Professor L. M. Underwood, which will soon be published in the *Bulletin,* Professor Lloyd spoke from a morphological standpoint and Professor Underwood from a more general one.

Professor Lloyd called attention to the differences which were found to be diagnostic, that were brought out by the wet method used for the investigations, differences not distinguishable in dried material. The lycopods fall naturally into two physiological groups as shown by their morphological characters, de-

pendent upon habit—a radially symmetrical type for those species which are erect or pendent, and a bilaterally symmetrical type which may be purely physiological due to a twisting of leaves or stems or to the development of dimorphism in the leaves. Many interesting features were brought out with the aid of the blackboard.

Professor Underwood spoke of the number of new species brought to light by recent exploration, and comparative study of material from the American tropics, scarcely any of which are common to the United States. The lycopods which in our latitude are inconspicuous and comparatively infrequent, in the tropics occasionally become weeds of large size and great beauty, growing especially in high altitudes, in fact most of the more interesting tropical Pteridophyta are found above the 5,000-foot level. Many specimens were exhibited.

Edward W. Berry,
Secretary.

THE PHILOSOPHICAL SOCIETY OF WASHINGTON.

The 597th meeting was held February 18, 1905.

Mr. J. W. Spencer, of the Hydrographic Office, presented a number of physiographic charts showing drowned river valleys and continental slopes in various parts of the ocean, and from these argued 'On the Physiographic Improbability of Land at the North Pole.'

The continental shelf north of Eurasia is now known to attain a breadth of 300–350 nautical miles, with its border reaching to a general depth of 300 feet, though there is a lower platform (to 1,200–1,500 feet in Barentz Sea). Beyond this edge, Nansen discovered the great continental slope down to 12,000 feet. This discovery precluded the occurrence of land until islands should be found on the American shelf, the position of which has not been observed. From the occurrence of fjords reaching from 1,200 to 4,000 feet on the eastern side of the American archipelago; of others to over 2,400 feet on the northern side, at a point even 200 miles within the line of the archipelago, and from the occurrence of deep fjords on three sides of Beaumont Sea to the west, it may be concluded that the continental shelf will be found at 50–100 miles north of the present known line of islands. This would correspond with the general characteristics of continental shelves trenched by deep fjords and valleys off the coast of Norway, Greenland and elsewhere. Accordingly, from all physiographic analogies, there is no reason to expect land within 300 miles of the pole or a little more. When explorers shall have reached a point north of Grant Land, where the depth is even less than 2,000 feet, they will have established the fact that there is a sea extending to the Siberian side, and scientifically their work will have been completed in the polar region.

Dr. Harris, of the Coast Survey, urged briefly that these conclusions were irreconcilable with the conclusions he had presented some months ago based on the study of tides and currents in the Arctic Basin.

Interesting memorial addresses were read, one by Dr. W. H. Dall on Marcus Baker, a past president of the society, the other by Mr. H. G. Ogden on Adolphus Lindenkohl, late the chief map draftsman of the Coast and Geodetic Survey.

Mr. Edwin Smith then spoke on 'The New Transpacific Longitude Determinations.' The probable error of the longitude of Manila *viâ* the United States is .059 sec.; the new determination agrees with the mean of the older ones *viâ* Asia (which are not wholly corrected for personal equation) within the error stated. The results have already appeared in Science.

Mr. E. G. Fischer exhibited and described the 'Rapid Recording Sounding Apparatus' of the Coast Survey. In this a weight hung from a wire wound on a reel operated by hand is allowed to drop to the bottom; the wire runs over a measuring wheel with printing attachment operating on a paper strip; a time stamp of ordinary type is placed to record on the strip close by the wheels. When the operator feels that the weight touches bottom he reverses the reel and this operation causes all the printing devices to make their records; these are correct to 0.2 foot and may be made very rapidly.

Charles K. Wead,
Secretary.

THE CONFERENCE OF NEUROLOGY AND VERTEBRATE ZOOLOGY OF CORNELL UNIVERSITY.

AT the conference of the department of neurology and vertebrate zoology at Cornell University, February 7, Alfred C. Weed, '05, presented the results of his study of the Brazilian Siluridæ or cat-fishes in the museum. They were collected in 1870 by Charles Frederick Hartt, the first Cornell professor of geology and paleontology; he was a pupil of the elder Agassiz, whom he accompanied on the Thayer expedition in 1865; in 1870 he organized the Morgan expedition from Cornell University, and in 1878 died in Brazil of yellow fever. Among the numerous valuable specimens obtained by Hartt and his associates were ninety siluroids. Some years ago they were sent for identification to Professor C. H. Eigenmann, of the Indiana University, with the privilege of retaining some duplicates and describing the new species. There were found two new species, described by Kindle in 1894 as *Hassar wilderi* and *Hemiancistrus longipinnis*. Of the latter, through inadvertence, but one example was sent. In the Cornell museum, in addition to a mounted specimen that had been mounted so as to display the tufts of interopercular bristles and the tail, 'obliquely trancated, the lower lobe produced,' Mr. Weed has found two alcoholic examples; one will be sent to Dr. Eigenmann and the other to the Museum of Comparative Zoology at Cambridge.

BURT G. WILDER.

THE AMERICAN CHEMICAL SOCIETY.
NORTHEASTERN SECTION.

THE fifty-eighth regular meeting of the section was held on Friday evening, February 24, in the Lowell building, Massachusetts Institute of Technology, with President Norris in the chair. About seventy-five members were present.

Mr. Charles A. Kraus, of the Massachusetts Institute of Technology, gave an experimental lecture on 'The Chemistry of Liquid Ammonia Solutions,' in which he described the solubility of various bodies in liquid ammonia which possesses a high solvent power for many substances, especially those containing carbon, with many of which it gives brilliant colored solutions. Electrolytic dissociation in ammonia solutions was discussed, and it was shown that ammonia was a much weaker electrolytic agent than water, the ions traveling 2.8 times faster in it than in the latter solvent. The alkali metals sodium and potassium are very soluble in NH_3, and the solutions conduct electricity like a metallic conductor.

ARTHUR M. COMEY,
Secretary.

DISCUSSION AND CORRESPONDENCE.

LITERARY PRODUCTION ABOVE FORTY.

TO THE EDITOR OF SCIENCE: Your making available, by quotation in the last issue of SCIENCE, the precise form of Professor Osler's much discussed 'obsessions' concerning the comparative uselessness of men above 40 years of age suggested an inquiry into the period of production in the lives of American men of letters, literature being one of the fields of achievement from which, Dr. Osler believes, we could well spare the work done by men above 40.

Even in poetry, where there might be especial reasons for the view, the case is doubtful. Bryant, indeed, wrote his most noted poems before 40, but wrote others quite as good at 70. Poe and Lanier died at 40 and 39, so their evidence is inconclusive. But Longfellow wrote 'Evangeline' at 40, 'Hiawatha' at 48, and 'Miles Standish' at 51; Whittier wrote 'Snow Bound,' his best and most characteristic poem, at 59; Whitman had done but little before his first considerable volume at 41. Lowell, alone of the more noted American poets, produced practically all of his best verse before 40; practically all of his best prose was written afterwards.

In prose, everything goes to disprove an age limit of 40. Except Jefferson's draft of the 'Declaration of Independence' (written at 33), Irving's 'Sketch-Book' (at 36), Thoreau's 'Walden' (at 37), Cooper's best novels, and, for the reason given above, all of Poe's prose, almost every notable piece of American prose was written after its author had reached 40. Some came much later—Edwards's 'Freedom of the Will' at 51,