

Anatomy,' and Horace D. Arnold one on the 'Weight of the (Normal) Heart in Adults,' the conclusion being that the average weight for males is 290 grams and for females 260 grams. The final article, 'A Study of the Encapsulated Bacilli,' by Lawrence W. Strong, finds that the gas production of these bacilli affords a valuable aid for their study and identification.

THE *Electrical World* and the *Electrical Engineer* will be issued, hereafter, as one publication, to be known as the *Electrical World and Engineer*, under the editorship of T. Commerford Martin and W. D. Weaver. W. J. Johnston, former editor of the *Electrical World*, has retired.

DR. W. P. WYNNE, F. R. S., has been elected editor of the Journal of the British Chemical Society.

SOCIETIES AND ACADEMIES.

THE ANNUAL MEETING OF THE NEW YORK ACADEMY OF SCIENCES, FEBRUARY 27, 1899.

AFTER the reading of the minutes of the last annual meeting, the reports of the officers for the year just closed were called for by the President, Professor Henry F. Osborn.

The Corresponding Secretary reported briefly that he had succeeded in correcting and revising the list of honorary and corresponding members, after a considerable amount of correspondence, and that the corrected list would be published in Part I. of the volume of *Annals* for 1899. The Recording Secretary then presented the following report, summarizing the progress and work of the Academy during the preceding year:

The last year of the Academy has been extremely satisfactory, and its affairs are in a much more promising condition than heretofore. Interest in our meetings has increased during the year, and the number of people cooperating in our work is much larger than ever before.

During the last fiscal year there have been thirty-one meetings of the several sections, three public lectures and one public reception. The sections now organized are those of Astronomy and Physics, Biology, Geology and Mineralogy, and of Anthropology, Psychology and Philology. The latter section has been

divided into two sub-sections, for economy of effort. Particular mention should be made of the good work and increased interest in the sub-section of Anthropology and Psychology, largely due to the personal and persistent efforts of Dr. Boas.

During the year a total of ninety-four papers has been presented before the Academy, thirty-seven new members have been elected, twelve have resigned, leaving a total of three hundred and thirty-five on the Secretary's list, including six new life members. The Fifth Annual Reception held in April last was in some ways the most successful in the history of the Academy. During the year the by-laws have been very completely revised, simplified and made workable, particularly in such a way as to give the individual sections and sectional officers more importance in the program, and so as to reduce the number of business meetings at which the Academy must be formally organized for general business to one each month. The public lectures have been more firmly established than heretofore, and have been assigned to the various sections so that each department may be popularly represented. The printed program of the year's meetings has been announced in advance, and has been found very helpful.

The publications of the Academy have been greatly improved as to quality, appearance and dignity, by the change incorporated in January last, when the Transactions were abolished. The thanks of the Academy are certainly due to our enthusiastic and very careful editor, Mr. van Ingen, for the great amount of work and care that he has put upon the publications. It is through the publications only that we are known abroad in the world, and it is very necessary that we should thus appear in the most favorable manner possible.

The Academy is in great need of more money for publication, and our efforts should be devoted as fully as possible to the securing of contributions for such work. We are continually obliged to decline valuable scientific papers by our members because of a lack of funds for printing. This is a condition of affairs which should not be allowed to continue long.

It is a great pleasure to the Academy to feel that certain of the scientific wants of the city are soon to be met, owing to the encouragement given by one of our Patrons, who has always been interested in the Academy. I refer particularly to the gift to the Scientific Alliance, of which the New York Academy of Sciences is the original member, of \$10,000 for a scientific building, donated by Mrs. Herrman. During the coming year it is hoped to bring the several sections in touch, so as to have a uniform policy of procedure, and the manner of printing the proceedings will be simplified and unified.

The report of the Treasurer showed the finances to be in a promising condition, but that the expenses too nearly equalled the income, and that endowments are very necessary if the work is to be increased as it should be.

One of the most interesting features of the meeting was the report by the Editor of the *Annals* concerning the details of his work during the last year in printing the volume just finished according to the new plan as to typography, pagination, illustration and general form, which was adopted a year ago and which has proved extremely successful and gratifying.

The last official report was a brief one by the retiring Librarian concerning the present condition of the library, which is now housed in a large room in Schermerhorn Hall, of Columbia University, and available for reference by all working scientists and members of the Academy.

The following list of honorary and corresponding members was then elected, and seventeen resident members were made Fellows because of their attainments in scientific work:

HONORARY MEMBERS.

Lord Rayleigh, M.A., D.C.L., LL.D., F.R.S., Royal Institution of Great Britain, Albemarle St., Piccadilly, N. W., London.

George Howard Darwin, M.A., F.R.S., Trinity College, Cambridge, Eng.

CORRESPONDING MEMBERS.

Dr. Louis Dollo, Musée d'Histoire Naturelle, Brussels, Belgium.

Dr. Otto Jaekel, Kgl. Museum für Naturkunde, Invalidenstr. 43, Berlin.

Professor Dr. Eberhard Fraas, Kgl. Naturalien Kabinet, Stuttgart, Germany.

Professor Dr. Charles Depéret, Faculté des Sciences, Lyons, France.

Dr. C. W. Andrews, British Museum of Natural History, London, England.

Dr. Max Schlosser, Palaeontologische Sammlung des Staates, Alte Akademie, Munich, Germany.

G. H. Boulenger, British Museum, London, England.

Professor G. B. Howe, Normal College of Science, S. Kensington, London, England.

Dr. Walter Innes, School of Medicine, Cairo, Egypt.

Dr. A. Liversidge, Sydney, New South Wales.

Professor Mansfield Merriman, Lehigh University, South Bethlehem, Pa.

Dr. Stuart Weller, University of Chicago, Chicago, Ill.

Professor Ludwig Boltzmann, University of Vienna, Vienna, Austria.

Professor P. LaCroix, Musée d'Histoire Naturelle, Paris, France.

Dr. A. Smith Woodward, British Museum of Natural History, London.

Professor Dr. Fried. Kohlrausch, Physikalisch Technische Reichsanstalt, Charlottenberg, Marshstrasse 25, Berlin.

Professor R. H. Traquair, Museum of Science and Art, Edinburgh, Scotland.

Professor W. C. Brögger, Christiania, Norway.

J. G. Baker, Royal Gardens, Kew.

Professor Wilhelm Ostwald, University of Leipzig, Leipzig, Germany.

The list of officers given below was then elected by ballot:

President, Henry F. Osborn.

1st Vice-President, James F. Kemp.

2d Vice-President, Chas. L. Bristol.

Corresponding Secretary, William Stratford.

Recording Secretary, Richard E. Dodge.

Treasurer, Charles F. Cox.

Librarian, Bashford Dean.

Councillors, Franz Boas, Charles A. Doremus, William Hallock, Harold Jacoby, Lawrence A. McLouth, L. M. Underwood.

Curators, Harrison G. Dyar, Alexis A. Julien, George F. Kunz, Louis H. Laudy, William D. Schoonmaker.

Finance Committee, Henry Dudley, John H. Hinton, Cornelius Van Brunt.

The formal work of the evening was followed by the annual address of the President. Professor Osborn took for his title 'The Succession of Mammalian Fauna in America, compared with that in Europe during the Tertiary Period.'

The formal meeting was followed by refreshments and a social gathering, which lasted until a relatively late hour.

RICHARD E. DODGE,
Recording Secretary.

THE PHILOSOPHICAL SOCIETY OF WASHINGTON.

THE 497th meeting of the Society was held on March 4th, at 8 p. m., in the assembly room of the Cosmos Club. The first paper was by Professor F. H. Bigelow on 'The Influence of Electricity on Vegetation.' It was stated that vegetation under the Aurora belt shows remarkable developments, due not to the length of the summer day, but to the electric currents. Experiments indicate that static electricity, supplied by machines, when applied to plants increases their growth about 40 per cent. Extensive trials in many places and under different conditions generally confirmed this result.

The second paper was by Surgeon-General Sternberg on 'Some Sanitary Lessons of the Late War.' An abstract of this very interesting and instructive address has not yet come to hand.

E. D. PRESTON,
Secretary.

GEOLOGICAL SOCIETY OF WASHINGTON.

At the 89th meeting of this Society, held in Washington, D.C., on March 8, 1899, Mr. Arnold Hague, U. S. Geological Survey, exhibited a geological relief map of the Yellowstone Park and of the Absaroka Range, in northwestern Wyoming, showing some of the physical features of the latter region by means of lantern illustrations. The map is constructed on the scale of one mile to an inch, the area represented being approximately 75 miles square. The base of the model is taken at 5,000 feet above sea level, from which rise several dominating peaks showing elevations of over 12,000 feet above sea level. It requires about forty distinct colors to represent the different geological formations into which the sedimentary and igneous rocks have been divided. All the geysers and hot springs areas are delineated, together with the regions of extinct hydro-thermal action. In the model a sharp contrast between the rhyolite plateau of Yellowstone Park of

Pliocene age and that of the eroded and dissected plateau of the Absarokas of Miocene age is clearly brought out. Mr. Hague stated that he hoped the map would be sent to the Paris Exposition next year. The lantern slides were selected to illustrate the manner in which the Absarokas were built up by the gradual accumulation of breccias, agglomerates and basalt flows, forced upwards from numerous fissures and vents during a long period of time, and the elevation of the range by the intrusion of powerful stocks of gabbro, syenite, diorite, diorite-porphry and granite-porphry. The character of the different breccias, the incisive trenching of the deep canyons, and the stocks, together with their associated sheets and network of dikes, were discussed.

Mr. F. B. Weeks, U. S. Geological Survey, gave some observations made last summer in the course of a reconnaissance in Jackson Basin, northwest Wyoming.

The Jackson Basin, he said, occupies a depression within the Rocky Mountains, of Wyoming, of 5 to 8 miles in width and 45 miles in length. The Teton range forms a lofty, precipitous barrier along its western side. The valley has an elevation of 6,200 to 6,800 feet, and the Tetons rise 7,000 feet above it. The Tetons are noted for their wonderful Alpine scenery. Jackson Lake and several smaller lakes occur within the valley—all of glacial origin. The northeastern portion of the basin is covered with numerous morainal ridges and hillocks. The eastern side is buried beneath a great mass of material brought down by glacial streams. They have the forms of huge deltas, spreading out from the foothills in fan-shaped areas, several miles long and as many miles in width where they reach the Snake River. Along some of the main streams terracing has been well developed. The streams flowing over these deltas follow well defined courses, but have a tendency to spread laterally instead of widening and deepening their beds. The Upper and Lower Gros Ventre buttes are prominent outliers of the Gros Ventre range. They are formed, in large part, of Paleozoic rocks, and are probably directly connected with the main range. The heavy mantle of débris makes it impossible to trace a definite connection.

The meeting closed with some remarks by Mr. W. Lindgren, U. S. Geological Survey, on the Boise Folio (No. 45, of the Geol. Surv.), recently published.

WM. F. MORSELL.

DISCUSSION AND CORRESPONDENCE.

ON THE MAKING OF SOLUTIONS.

TO THE EDITOR OF SCIENCE: A remark in a recent paper by Professor Macloskie calls my attention afresh to a curious error which, so far as I know, is universally current in our zoological laboratories. Professor Macloskie remarks (*SCIENCE*, Vol. IX., p. 206) "a 1% solution of cane sugar in water, * * * that is 342 grams, * * * dissolved in 34,200 grams of water." In other words, a 1% solution is made by mixing 1 part of the substance to be dissolved with 100 parts of the solvent. In this conception the zoologists appear to be at one. It is sufficient to refer to any of the well-known text-books: Marshall and Hurst, 'Practical Zoology,' 4th ed., p. 464; Gage, 'The Microscope,' 6th ed., p. 179; Dodge, 'Elementary Practical Biology,' p. 391. Like many other text-books, Huxley and Martin's 'Practical Biology' (revised ed., p. 496), does not directly commit itself to the error, but gives directions to make the 'normal saline solution' by mixing 7.5 grams of salt with a liter of water. That the normal saline solution is a $\frac{3}{4}$ % solution is directly stated by Whitman ('Methods of Research,' etc., edition of 1885, p. 207), and Lee (The Microtome, 4th ed., p. 263.).

These citations abundantly prove that Professor Macloskie's conception of a 1% solution corresponds with that of other zoologists. If, however, we ask a chemist how such a solution is made, the reply will be: "Dissolve one part of salt, sugar, or whatever the substance may be, in *ninety-nine* parts of the solvent." And that this is logically correct becomes self-evident upon a moment's thought. A 1% solution of HCl, as all will agree, consists of one part of the acid to ninety-nine parts of water. Why should the fact that in one case we deal with a solid, in the other with a liquid, alter the case?

It would seem that unless, or until the zoologists come into agreement with the chemists,

every investigator in publishing his researches should make a point of preventing ambiguity by stating whether his 1%, 5%, 20% solutions of solids are compounded on the logical or the zoological plan.

M. A. WILLCOX.

WELLESLEY COLLEGE, March 6, 1899.

THE ORIGIN OF NIGHTMARE.

OVER and over again when a child I was for years the victim at night of a certain form of mild nightmare, so that it came to be to my fearful imagination no insignificant part of my unpleasant experiences. This nightmare always took the form of a great wave of something gradually rolling towards me and finally engulfing and oppressing me to a painful extent. It would roll up a huge shapeless mass of no particular material, but always irresistibly towards me helpless and overwhelmed. Most often it finally appeared to be a huge soft pillow or even formless feather bed, but without color or other qualities save that of engulfing and terrifying. At its worst on various occasions this mass as it rolled up became a huge fat boar, defined as such, however, only subconsciously, but always dreadful in its power to overwhelm me. All this was years ago.

One night recently, as I was falling asleep in bed in a lighted room, I became gradually aware of that sensation which compression of a nerve produces, a vague and quite indefinite sense of discomfort localized only in the region about my head and arms, but in my state of somnolence only a growing sensation of discomfort pressing on my consciousness. Increasing steadily, it finally began to awaken me, and I then became distinctly conscious of the well-remembered nightmare of my childhood beginning to approach. With the noise in the room I was now sufficiently awake to be interested in this familiar visitor, and I lay still deliberately. Gradually the mass rolled up towards me exactly as of yore, with no terror in its coming now, until finally it was upon me and all about me oppressively. I very slightly moved my arm (upon which my head was lying), and the nightmare was for the moment lost sight of in the sensations now localized there. I opened my eyes and instantly the whole experience vanished, closed them and it instantly returned