dealing with technology; and the International Congress of Applied Chemistry which meets in Washington and New York in September might well institute a movement toward this end.

These plans for international scientific bureaus at the Hague have the cordial support of the government of the Netherlands which is financing the bureaus so far created and the cooperation of the leading European men of science. The Preliminary World Committee includes in a list of several hundred the names of Arrhenius, v. Babes, Bang, Bertillon, Ehrlich, E. Fischer, Flügge, R. Hertwig, van't Hoff, Landouzy, Leduc, Lockyer, Madsen, Metchnikoff, Oppenheim, Ostwald, Ramsay, Richet, Roux, Rubner, Salomansen, Sanarelli, Schuster, Scott-Sherrington and Waldeyer. In the United States he has already secured the adhesion of J. McKeen Cattell, Harvey Cushing, George Dock, E. Dana Durrand, John S. Fulton, George E. Hale, W. G. MacCallum, S. N. D. North, Henry Fairfield Osborn, E. C. Pickering, Ira Remsen, Charles D. Walcott, W. H. Welch and many others.

These efforts deserve the cordial support of American men of science, both for the practical service which the proposed permanent international bureaus would render to their respective sciences and arts and for their beneficent effect upon the movement for peace and for the progressive organization of the world.

C.-E. A. Winslow
American Museum of Natural History,
New York

## *SCIENTIFIC NOTES AND NEWS*

Dr. Simon Flexner, director of the Rockefeller Institute for Medical Research, has sailed for Europe to give the Harben lectures before the London Institute of Public Health and the Cameron lecture at Edinburgh University.

On account of illness Professor Josiah Royce, of Harvard University, has been compelled to give up the course of Bross lectures on "The Sources of Religious Insight" and has been given leave of absence for the present academic year.

Professor W. A. Noyes, director of the chemical laboratories of the University of Illinois, has been granted leave of absence to go to Berlin as the representative of the American Chemical Society at the International Conference of Chemical Societies.

The directors of the Bache Fund of the National Academy of Sciences have voted a grant of $500 to Professor M. A. Rosanoff, of Clark University, in aid of his research on the dynamics of sugar inversion.

The Sarah Berliner research fellowship for women has been awarded to Miss Marie Gertrude Rand, of Brooklyn, a doctor of philosophy of Bryn Mawr College, for her work on the psychology of vision.

Dr. Gustav Hellmann, director of the Meteorological Bureau in Berlin, has been elected a member of the Berlin Academy of Sciences.

Sir Edwin Ray Lankester has been elected an honorary student of Christ Church, Oxford.

Dr. Charles Chilton, professor of biology at Canterbury College, New Zealand, has been granted leave of absence for 1912, and will spend the year in Europe visiting biological laboratories and stations.

Professor Frederic B. Loomis, of Amherst College, Waldom Shumway, '11, and Philip L. Turner, '12, members of the Amherst biological expedition to South America, arrived at Amherst last week from Buenos Aires. The party left this country last July and has been occupied in the exploration of practically unknown territory in southern Patagonia. A large collection of fossil remains has been obtained.

Professor T. A. Jaggar, Jr., of the Massachusetts Institute of Technology, has been granted leave of absence for the remainder of the year that he may perfect the plans for the Vulcanic Laboratory at Halemaumau in the Hawaiian Islands. This observatory has been

in the charge of Professor Perret during the past summer.

PROFESSOR F. O. GROVER, head of the department of botany of Oberlin College, devoted a portion of the summer recess to work on Monhegan Island, Maine, where he discovered several unknown plants and extended the known distribution of other species. His most important find was a specimen of *Carex crinita portereii,* which has not been seen by botanists since its discovery at Moosehead Lake in the early seventies.

PROFESSOR ERICH VON DRYGALSKI, of Munich, leader of the German South Polar Expedition, has been entrusted by the Prussian Academy of Sciences with the continuation of the explorations in China begun by the late Professor Ferd. von Richthoven.

DR. MARCUS BENJAMIN, of the U. S. National Museum, has been appointed by the president to serve on the Assay Commission that meets in Philadelphia on February 14.

UNDER the auspices of the College of Sciences, a series of lectures will be given at the University of Illinois by Professor W. Johannsen, of the University of Copenhagen, on "Modern Problems of Heredity." These lectures will be given from February 26 to March 2, 1912. The first lecture at the University of Illinois will be an introductory one on such topics as "The Primitive Conception of Heredity." "'Transmission' of Personal Characters," etc. The second on "The Principle of Pure Lines." The third lecture, "Mendelism." The fourth, "Complications and Exceptions." The fifth, "Mutations." The sixth lecture, "Continuity or Discontinuity in Evolution." From March 4 to 10 a series of five or six lectures will be given, also under the auspices of the College of Science, by Professor W. Kukenthal, of the University of Breslau.

ON January 16 Professor W. Bateson began a course of six lectures at the Royal Institution on "The Study of Genetics."

PROFESSOR V. VOLTERRA, of the University of Rome, is giving a series of lectures at the University of Paris on the extension of the theory of functions, the integro-differential equations and integral equations, with applications.

THE Moissan memorial lecture before the London Chemical Society will be delivered by Sir William Ramsay, on February 29.

PROFESSOR W. JOHANNSEN, of the University of Copenhagen, gave an address on "Problems of Heredity" before the Minnesota chapter of Sigma Xi on the evening of February 10.

PROFESSOR A. V. BLEININGER, of the University of Illinois, delivered a series of lectures on the theory and technology of clays and other silicates, before the classes in economic geology of the University of Chicago, January 22–27.

DR. W. A. HEIDEL, professor of Greek at Wesleyan University, gave an address on "The Beginnings of Science" before the Middletown (Conn.) Scientific Association on February 13.

EDWARD M. EAST, assistant professor of experimental plant morphology, Bussey Institute, Harvard University, lectured at Trinity College on the evening of February 16 on "Influences of Recent Advances in Biology in the Art of Plant Breeding."

PROFESSOR M. A. ROSANOFF, of Clark University, lectured on February 1 and 2 before the industrial research fellows at the University of Pittsburgh on "The Partial Vapor Pressures of Liquid Mixtures."

MR. HAROLD PARKER, on February 9, delivered a lecture on "Contracts and Specifications" before the graduate students in highway engineering at Columbia University.

THE senior class of the Colorado School of Mines has recently been given addresses by professional men of Denver. Mr. Frank E. Shepard, president of the Denver Engineering Works Co., spoke on "Modern Mill Practise" and on "Modern Mill Plant Design"; Mr. John C. Traylor, of the Traylor Engineering Works, spoke on "Jigging," and Mr. W. H. Trask, consulting engineer for the Cen-

tral Colorado Power Co., spoke on "Modern Hoisting Installations."

PROFESSOR W. E. CASTLE has returned from the expedition which he recently made to Peru under the auspices of the Carnegie Institution of Washington, having succeeded in obtaining from two different localities, one in southern and one in central Peru, wild cavies supposed to be closely related to the domesticated guinea-pig. These will be used in breeding experiments at the Bussey Institution. The event is of interest to zoologists as being probably the first introduction of living individuals of the ancestral guinea-pig into North America or Europe. This fact is the more surprising when it is remembered how extensive and important is the use of the guinea-pig in biological investigation and the public health service. Not only is the wild guinea-pig unrepresented in any zoological garden, but even our greatest museums possess scarcely a specimen of it. The transportation of the animals for several thousand miles through a variety of climatic conditions involved some difficulties, which, however, were all successfully met. Small round market-baskets lined with wire netting served as cages, and cucumbers and watermelons for food during transportation through the tropics. Some domesticated guinea-pigs were also obtained from Peruvian natives for comparison with the ordinary European sorts, which probably reached Europe from South America centuries ago.

A COMPREHENSIVE project for research on the Cactaceae has been organized by the department of botanical research of the Carnegie Institution of Washington. Dr. J. N. Rose, of the U. S. National Museum, who has explored much of the region inhabited by these plants in Mexico and the United States and published extensively on the family, has been appointed research associate. He has been granted a furlough from the museum, which also furnishes working quarters and facilities for handling the living collections. Dr. N. L. Britton, who began organizing a collection of cacti in the New York Botanical Garden in 1900, and has since made extensive studies of the group, has also been appointed research associate, without salary. By the action of the scientific directors of the garden he will be given some respite from other duties to enable him to participate in this work. The garden also contributes its extensive collections, and some of its explorational effort to the project. Dr. D. S. Johnson, of Johns Hopkins University, will spend several in 1911 on the morphology and physiology of the fruits of the group, and Professor J. G. Brown, of the University of Arizona, will continue his studies on the general morphology of *Opuntia* and *Carnegiea* begun while acting as assistant at the Desert Laboratory. Other contributions will be made by the members of the staff and cooperators of the Desert Laboratory.

THE fifth annual meeting of the Illinois Academy of Science will be held at Bloomington, Illinois, Friday and Saturday, February 23 and 24, under the auspices of the McLean County Academy of Science. The sessions will begin at 2:00 P.M. on Friday and will continue through Saturday afternoon. A symposium on Conservation will be given at the Saturday morning session, the speakers and their subjects being as follows:

"Conservation of Our Coal and Oil," F. W. DeWolf, director, Illinois State Geological Survey.

"Water Pollution," Edwin O. Jordan, professor of bacteriology, University of Chicago.

"Conservation Ideals in the Improvement of Plants and Animals," Herbert J. Webber, professor of plant breeding, Cornell University College of Agriculture.

"Conservation of Our Forests," Henry C. Cowles, associate professor of ecology, University of Chicago.

"Conservation of Our Fauna," S. A. Forbes, director, Illinois State Laboratory of Natural History.

"Conservation of the Human Race," J. N. Hurty, secretary, Indiana State Board of Health.

A banquet will be given at the Illinois Hotel on Friday evening, after which the president, Professor W. A. Noyes, will address the academy, the subject being "The Electron

Theory." Many papers of scientific and educational interest will be presented during the sessions.

A COURSE of six lectures under the auspices of the Chicago Nature Study Club is being given at the Academy of Science, Lincoln Park, on Saturday afternoons at 1:30 as follows:

February 10—"Schoolroom Aquaria," Frank C. Baker, curator, Academy of Science.

February 17—"Window Gardening," Aaron H. Cole, Chicago Teacher's College.

February 24—"Beautifying the Schoolyard," Jens Jensen, landscape architect.

March 2—"Trees for the Schoolyard, Street and House, How to Select and Care for them," J. H. Prost, city forester.

March 9—"The Enemies and Diseases of Trees," J. H. Prost, city forester.

March 16—"Birds as Guardians of Trees and other Plants," R. M. Strong, University of Chicago.

WE learn from *Nature* that it is proposed to establish in Dartmouth a permanent memorial to Thomas Newcomen, known for his work in connection with the steam engine, who was born in that town in 1663. A meeting of those interested in the matter has been held in the Dartmouth Guildhall. The mayor of Dartmouth, Mr. Charles Peek, and Mr. T. F. Caston, the honorary secretary to the Newcomen Memorial Committee, will welcome suggestions as to the best manner of perpetuating the memory of the inventor and his invention, and be glad to receive contributions.

THE late Dr. A. S. Packard, of Brown University, planned a series of illustrated volumes on the bombycid moths of North America, to be published by the National Academy. Two volumes were issued during his lifetime. Materials for a third volume, on the large silk-producing moths, were left and these have been placed in the hands of Professor Cockerell, of the University of Colorado, who is editing them for publication.

DR. FRANCISCO P. MORENO, member of the chamber of deputies, Argentina, has introduced a motion in the congress of Argentina for the acquisition by the government, for the Museo Nacional at Buenos Aires, of the great private paleontological collection of Florentino Ameghino.

MR. JOHN D. ROCKEFELLER has given $11,000 toward the purchase of the house in which Pasteur was born in the village of Dôle.

PROFESSOR HENRY WILLIAMSON HAYNES, known for his investigations in archeology, died at his home in Boston on February 15, aged eighty years.

DR. HENRY TAYLOR BOVEY, F.R.S., from 1887 to 1909 professor of civil engineering and applied mechanics in McGill University, first rector of the reorganized imperial College of Science and Technology in London, died on February 2, aged fifty-eight years.

SIR HENRY TRENTHAM BUTLIN, Bart., a leading English surgeon and pathologist, died on January 24, aged sixty-six years.

SIR JOHN CHARLES DALRYMPLE HAY, Bart., F.R.S., admiral (retired) of the British navy and the author of books on naval topics, died on January 28, at the age of ninety years.

M. T. DURAND, member of the Royal Academy of Belgium, director of the State Botanic Garden and general secretary of the Royal Botanic Society of Belgium, died on January 12.

THE death is announced of Dr. L. Pič, the noted Bohemian archeologist, in charge of the unsurpassed archeological collection of the Museum Regni Bohemiae, Prague.

DR. OTTO LIEBMANN, formerly professor of philosophy in the University of Jena, has died at the age of seventy-one years.

THERE will be a New York State civil service examination on February 24, the positions opened including that of first assistant veterinarian in the Department of Agriculture at a salary of $1,800 to $2,400, and bacteriologist in the Health Officers' Department, Quarantine, New York, at a salary of $1,500. The latter position is for women.

THE most notable map publication of the year is the large geologic map of North America just issued by the United States Geological Survey. It represents an exceptional

type of engraving and lithographic color work and is printed in four sheets which fitted together and mounted make a map 6 feet 5 inches high by 5 feet wide, the largest piece of work ever issued by the survey. The scale is 1 to 5,000,000, or 80 miles to the inch, and the plan of projection is in harmony with the universal world map on a scale of 1 to 1,000,000, in that it shows the units of publication of the world map, each of which embraces four degrees of latitude and six degrees of longitude. The color scheme of the map is a striking one. In all there are 42 color distinctions, varying from a brilliant red to pale tints approaching white. These were produced by 14 separate printings from lithographic stones, requiring in many places two or three combinations of color to produce the desired effects. If the weight of paper and heavy stones lifted back and forth in the printing of this job were to be computed it would run into the hundreds of tons. The accuracy of the "register," or fitting together of the color blocks in small areas throughout the map, is remarkable. The work was done in the survey's own engraving and printing plant, and it is believed that there are few if any other establishments in the United States capable of turning out such a production. The 42 color distinctions represent as many divisions of rock strata. Thus the rocks of seven divisions of the Paleozoic era are each represented by a color, besides three separate colors for undifferentiated rocks, and there are other colors for the division of the Mesozoic, the Tertiary and the Quaternary. The coloring of the map is both effective and pleasing. The scheme is systematic in that the colors range in prismatic order from yellow in the upper portion of the geologic column through greens, blues and purples to pinks and browns at the base. The colors for the igneous rocks, both plutonic and volcanic, are mostly bright red. Viewed as a wall map, the map of North America shows only the larger geologic units, as the smaller divisions are represented by different shades and tints of the same or closely allied colors which are indistinguishable at a moderate distance.

THE *Journal* of the American Medical Association quotes from the *Journal Officiel* data of the vital statistics in France for the first semester of 1911. There were almost 14,000 fewer births than during the corresponding semester of 1910. Last year the births, which were few enough already, amounted to 399,669. This year there were not more than 385,999. While births diminished, deaths increased. They increased from 378,480 during the first semester of 1910, to 404,278 during the first semester of 1911, an increase of 25,798. During the six first months of the current year the deaths exceeded the births by 18,279. The number of marriages has decreased in a slightly less proportion. There were about 156,761 last year. There are not more than 153,931 this year. Divorces, which last year amounted to about 6,303, in 1911 have increased to 6,374.

THE fourth report of the royal commission on university education in London deals with the housing of London University. According to the London *Times* the commissioners state that it had become clear, as the inquiry proceeded, that the inception of any scheme which they might be able to recommend and which parliament might sanction would be seriously delayed unless some steps had previously been taken to provide for the university, as reconstituted, a site and buildings more convenient and adequate than those it now occupied. They think that whatever its future constitution might be, it was a matter of national importance that the University of London should be recognized and adopted as a great public institution; and that it was fitting and right that such an institution should have for its headquarters permanent buildings appropriate in design to its dignity and importance, adequate in extent and specially constructed for the purpose, situated conveniently for the work it had to do, bearing its name, and under its own control. The University of London, it is stated, must depend, like other universities, to a large extent, for the liberal support necessary for its full development upon the endowment of private benefactors. The commissioners thought such benefactors

were to be found; and the inquiry had impressed them so forcibly with the almost unlimited possibilities of the university in the future, that they could not easily conceive a more splendid opportunity than its endowment and the provision of a noble and suitable building for its home afforded for the liberality of the citizen.

ATTENTION is called in the London *Times* to the fact that every year the London Zoological Gardens are visited by large numbers of school children, accompanied by their teachers. The price of admission for these is one penny, and the time spent on the visit is counted as school attendance. The council of the society desired to make these visits more useful, and last year arranged with the education committee of the London County Council for a series of demonstration lectures to school teachers. The Zoological Society arranged the courses, provided the lecture-room and lantern and allowed the teachers free admission to the gardens, while the education authority made a grant towards the expenses. The course, which was repeated three times last session to three separate sets of 150 school teachers, consisted of three lectures illustrated by lantern slides and a demonstration in the gardens, for the latter the teachers being divided into parties of 25. This session it was considered advisable to increase the number of demonstrations in the gardens, and the education committee has increased their grant to make this possible. The syllabus has been made very simple and is devised to cover only such subjects as may be made interesting to school children. In the case of mammals the main types, such as carnivores and herbivores, are considered in relation to their food and modes of obtaining it, their weapons of offence and defence and their chief adaptations to their environment. Birds are similarly treated, but the nesting habits and the care of the young are discussed more fully. The coloration of animals in relation to deserts, snow and so forth are dealt with, and salient examples of mimicry and warning patterns and colors are pointed out. In the demonstration tours in the gardens examples of the questions discussed in the lectures are pointed out. The first lecture for the season was attended by nearly 150 teachers, while four parties of 25 teachers were taken for a demonstration tour in the gardens by the lecturer, Mr. J. L. Bonhote, and his assistant, Mr. J. T. Cunningham. To suit the convenience of teachers, all the lectures and demonstrations are given on Saturday mornings, and the three courses now arranged for will last well on into the early summer of next year.

THE first All-Slav Congress and Exposition of Social Medicine and Hygiene will be held in St. Petersburg during the week commencing May 28, 1912. There will be five sections, the first of which (president, V. O. Gubert), will deal with medicine and hygiene of the masses; the second (president, J. F. Zemackij), with gymnastics and exercises tending towards the better development of the body; the third (president, M. M. Kovalevskij), with social ethics; the fourth (president, A. V. Vasiljev), with the development and health of the child, and the fifth (president, D. O. Ott), with the woman. More in detail, Section 1 will deal with regulation of the medical aid; hygiene of houses and cities; housing problems; nourishment, with price of food; social and hygienic protection of workingmen; combat of prevalent diseases; protection of the mental health of the population; medical education and activities, and cure establishments, springs, etc., with balneotherapy. Section 2 embraces physical exercises; the Sokols (the great Slav gymnastic organization); athletic contests and sports; touristic, and bathing, with swimming. Section 3 deals with abuse of alcoholic beverages; dissipation and specific diseases; suicide, and criminality. Section 4 extends to development of the child; health in infancy; infant mortality; training of the child before school age; school hygiene, and mental development of the child. Section 5, finally, embraces everything relating to the functions and health of the woman.

THE *American Museum Journal* states that in revising the installation of the New Guinea material in the South Sea hall, Dr. Lowie is making extensive use of the sketches secured

by the museum with the Finsch collection. Dr. Otto Finsch, the celebrated naturalist and traveler, provided with the collection a very full series of illustrations accurately picturing many phases of native life. These are highly desirable, as many aspects of aboriginal culture, such as house and boat types can not always be readily transported or even secured in model specimens, although often they form the most characteristic elements of the culture of a tribe. This applies even more emphatically to social and ceremonial life, which can be studied very inadequately, if at all, from museum specimens. It also applies in large measure to objects of personal adornment and clothing. For instance, it would not be at all obvious to the average visitor how the aborigines wore a profusely decorated heart-shaped object conspicuously exhibited in one of the New Guinea cases. A glance at the sketch now beside the specimen shows it to be a warrior's breast ornament. Similar results have been accomplished with other articles of dress which otherwise could not readily be understood except with the aid of long explanatory labels.

THE London *Times* states that in the old parish church of St. Mary, Teddington, a tablet has recently been dedicated to the memory of the Rev. Stephen Hales, D.D., a former vicar of the parish and one of the most distinguished men of science of the eighteenth century. A number of eminent living *savants* have for a long time been endeavoring to discover his burial place, in order to preserve his memory, and at length the stone recording his death was found in the floor of the porch of the church with nearly the whole of the lettering obliterated. The new tablet has been placed on the wall of the west porch beneath the tower of the old church, and bears the following inscription:

Beneath is the grave of Stephen Hales. The epitaph, now partly obliterated, but recovered from a record of 1795, is here inscribed by the piety of certain botanists, A.D. 1911. "Here is interred the body of Stephen Hales, D.D., Clerk of the Closet to the Princess of Wales, who was minister of this parish 51 years. He died 14th January, 1761, in the 84th year of his age."

Mr. Francis Darwin has written for the current number of the *Parish Magazine* an interesting account of Dr. Hales, in the course of which he says: "Stephen Hales has been called the 'father of physiology,' and he deserves this title in regard both to animals and plants. His experiments on the blood pressure of animals are second only to Harvey's work on the circulation. In the domain of plant physiology he is equally great. In all his researches he combined a belief in the design of the Creator with a passionate desire to understand the mechanism of living things. Thus he treated the manifestations of life as things to be weighed, measured and analyzed in the laboratory. It is this point of view that gives his work so modern a character and entitles him to be considered one of the founders of a rational science of biology. Although he loved science for its own sake, it is equally clear that he was dominated by a permanent desire to use his knowledge for the benefit of his fellow-creatures. Water supply, ventilation, the distillation of potable water at sea, the preservation of food on long voyages, the treatment of at least one disease—the stone—and especially the harm arising from intemperance in the use of alcohol, all received attention. It is impossible to read his works without mingling personal affection with the respect inspired by his intellect."

## *UNIVERSITY AND EDUCATIONAL NEWS*

AFTER long preparation, ground has been broken for the first Reed College buildings on the campus of eighty acres. The college will open next September in the permanent buildings, and on the endowment foundation of about $3,000,000 provided by Mr. and Mrs. Simeon G. Reed, of Portland. Three buildings, in addition to residences for the faculty, will be ready—the arts building, the dormitory and the gymnasium. All the buildings will be in the collegiate-gothic style of architecture. The material will be Indiana limestone and mission brick. The arts building and dormitory will be of steel and concrete structure, fireproof throughout. The buildings will run against the wooded ravine and lake, which