

and regard in which he is held by all his friends and associates.

#### SCIENTIFIC NOTES AND NEWS

PROFESSOR RALPH STOCKMAN TARR, head of the department of physical geography at Cornell University, known for his important contributions to geology and geography, died on March 21, aged forty-eight years.

THE resignation of Charles Loring Jackson, Erving professor of chemistry at Harvard University, has been accepted to take effect on September 1. Professor Jackson has been on the teaching staff of the university for forty-four years.

DR. HENRY S. CARHART, late professor of physics in the University of Michigan, now retired on a Carnegie grant, has become connected with Throop Polytechnic Institute, in Pasadena, where he has taken up his home. He will have a special laboratory equipped with apparatus for his researches in the institute.

PROFESSOR JOHN F. HAYFORD, dean of the college of engineering of Northwestern University, has been appointed a research associate by the Carnegie Institution of Washington and has received a grant of \$6,000 in aid of his investigation of the laws of evaporation and steam flow.

M. BIGOURDAN, of the National Observatory, Paris, has been elected president of the Paris Bureau des Longitudes for the present year. M. Baillaud becomes vice-president and M. Andoyer, secretary.

THE Entomological Society of America has named Professor J. H. Comstock, Cornell University; Dr. Henry Skinner, Academy of Natural Sciences, Philadelphia; Dr. P. P. Calvert, University of Pennsylvania; Professor Herbert Osborn, Ohio State University; Professor Vernon L. Kellogg, Leland Stanford Jr. University, and Dr. W. J. Holland, director of the Carnegie Museum of Pittsburgh, as delegates to represent the society at the Second International Congress of Entomology, to be held at Oxford, England, from August 5 to 10, 1912.

PROFESSOR WILLIAM H. HOBBS, professor of geology, has been appointed by President Hutchins to represent the University of Michigan at the two hundred and fiftieth anniversary of the Royal Society of London, which will be held from July 16 to 18. Professor Hobbs has leave of absence for the coming year.

M. LIPPMANN, president of the Paris Academy of Sciences, will represent the academy at the celebration of the two hundred and fiftieth anniversary of the granting of the second charter to the Royal Society, which will be celebrated in July.

VICE-PRESIDENT T. J. BURRILL and Professor S. A. Forbes, of the University of Illinois, have been in the east attending the anniversary celebration of the Philadelphia Academy of Natural Science.

DR. ADOLF MEYER, professor of psychiatry in the Johns Hopkins Medical School, sailed on March 16 for Switzerland.

FREDERICK H. BLODGETT, Ph.D. (Hopkins '10), acting professor of biology and geology, has resigned from Roanoke College and assumed the duties of plant pathologist and physiologist at the Texas Experiment Station, College Station, Texas, on February 1. The work interrupted by the sudden death of Dr. Raymond H. Pond last summer will be resumed and some additional attention paid to plant diseases.

PROFESSOR ELLSWORTH HUNTINGTON, of Yale University, delivered three illustrated lectures on the "Desert," at the University of Michigan, beginning on Wednesday afternoon, February 28. In his first lecture he discussed Chinese Turkestan; Thursday, Palestine, and on Friday, March 1, "Historic Changes of the Climate in Relation to Geographical Effects."

ON March 1, Dr. C. F. Hodge, professor of biology in Clark College, lectured before a convocation of the students and faculty of Indiana University, on "Civic Biology." In the evening Professor Hodge addressed the members of Sigma Xi and invited guests on the teaching of biology.

THE Philadelphia section of the American Chemical Society held a meeting at the John Harrison Laboratory of Chemistry, the University of Pennsylvania, on March 22, when Dr. L. H. Baekeland, research chemist of New York City, delivered an illustrated address on "The Theory and Technicology of Baekelite."

THE Chemical Club of the University of Illinois is giving a series of lectures on "The Field of Chemistry," endeavoring to help the younger student in chemistry to "find himself" and to show him the economic or "dollar and cents" situation. Professor A. V. Bleining, Professor Edward Bartow, S. W. Parr and H. S. Grindley will speak on the divisions in which they are interested.

THE twelfth lecture of the Harvey Society series was delivered by Dr. W. S. Thayer, of the Johns Hopkins University, on March 23, at the New York Academy of Medicine, the subject being "Malaria."

A COMMITTEE has been formed to erect a monument in honor of the late Dr. Janssen, the eminent French astrophysicist.

A BUST of Henri de Lacaze-Duthiers, the distinguished founder of the Zoological Station at Roscoff in Brittany, is to be erected upon one of the public squares at Roscoff, near the laboratory and fronting the sea. The execution of the bust, which is to be mounted on a shaft of granite, is to be entrusted to a Breton artist, M. Guilloic. Professor Yves Delage, 16 Rue du Docteur Berger, à Sceaux (Seine), acts as secretary of the committee in charge of the proposed monument.

EDWIN SABINE RENWICK, a well-known consulting engineer, son of James Renwick, professor of chemistry and natural philosophy at Columbia University, has died at the age of eighty-nine years.

THE International Association of Medical Museums will meet at the University of Pennsylvania, Philadelphia, on April 4, and the American Association of Pathologists and Bacteriologists at the same place on April 5 and 6.

THE Washington Academy of Sciences held a conversazione, with an exhibit of new and

interesting apparatus from the U. S. government and other scientific laboratories of Washington, in one of the rooms of the new National Museum on March 28.

PROFESSOR GEORGE D. HUBBARD, head of the department of geology in Oberlin College, has concluded plans for a field expedition for advanced students in connection with the work of the Oberlin Summer School. The party will leave at the close of the college year for West Virginia where New River cuts through the Appalachian Mountains, entering a territory containing examples of an unusually large number of geologic phenomena. Students furnish their own tents and equipment and camp during the entire trip, remaining in the field seven weeks and two days. This year for the first time women students will be admitted to the course. Mrs. Hubbard will accompany the expedition. Dr. Lynds Jones, associate professor of animal ecology, will conduct a field ornithological expedition to Point Pelee on Lake Erie, where special investigations will be made regarding bird migration.

THE twenty-third annual session of the Biological Laboratory of the Brooklyn Institute of Arts and Sciences will be held at Cold Spring Harbor, Long Island, New York, during the summer of 1912. Regular class work begins June 26 and continues for six weeks. Courses are offered in field zoology by Drs. Walter, Davenport and Kornhauser; in bird study by Mrs. Walter and others; in comparative anatomy in charge of Professor H. S. Pratt, Haverford College; cryptogamic botany in charge of Professor H. H. York, of Brown University; training course for field workers in eugenics in charge of Mr. H. H. Laughlin, of the Eugenics Record Office with lectures by Dr. C. B. Davenport. Facilities are offered for investigators. Further details are given in the announcement of the laboratory which may be obtained by addressing the director, Cold Spring Harbor, Long Island, N. Y.

ACCORDING to astronomical bulletins sent by Professor Edward C. Pickering, director of the Harvard College Observatory, the history

of the new star, Nova Geminorum, No. 2, is given below. Results obtained at Harvard are indicated by the letter (H). Sunday, March 10, Nova not visible on a plate showing stars of magnitude 11.5 (H). Monday, March 11, Nova well seen, magn. 5 (H). Tuesday, March 12, Nova discovered by Enebo, at Dombaas, Norway. Magn. 4. Wednesday, March 13, cablegram received at Harvard and distributed throughout America. In evening, Yerkes and (H) find spectrum of class F5, unlike other novæ. Hydrogen lines strong and dark. University of Michigan finds hydrogen lines bright and recession 5 km. from dark lines. Magn. 3.8 (H). Thursday, March 14, Yerkes and (H) find marked change in spectrum, hydrogen lines bright on edge of great wave length, like other novæ. Magn. 3.5 (H). Friday, March 15, photograph through thick clouds show nova faint magn. 5. Hydrogen lines very bright (H). Saturday, March 16, magn. 6, spectrum like normal nova spectrum. Nebulæ lines first seen. A star magnitude 14 in place of Nova on several early plates. A letter received at this observatory from Professor Frost states that a photograph of Enebo's Nova, taken on the evening of March 15, shows that "The bright lines of hydrogen are very broad and there are many other bright bands and dark lines throughout the spectrum. The bright H and K, at about their normal positions, are strong and broad and are crossed by very sharp, dark lines. The helium lines  $\lambda$  4923 and  $\lambda$  5016 are strong, both bright and dark. Helium  $\lambda$  4472 is not conspicuous, but probably present." The following telegram, dated March 19, has been received from Dr. W. F. King, of the Ottawa Observatory: "Spectrum Nova Geminorum by Plaskett March eighteen seven tenths, numerous bright bands, maxima to red, and several narrow absorption lines, calcium, magnesium, iron. Velocity of recession about seventeen kilometers, magnitude about five and a half."

AMONG the changes recommended at the University of Chicago in the recent report of President Judson, is a readjustment of the time element in precollegiate courses by the School of

Education, a tentative scheme being as follows: "From the age of six to twelve, the elementary school; twelve to fifteen, the secondary school; fifteen to eighteen, the college (a junior college); the years following eighteen, the university. From the university at the age of twenty the student might take the baccalaureate degree, at twenty-one the master's degree, at twenty-two or three the various doctors' degrees. At the age of twenty-five or six if he enters on professional life he should be engaged in its practise, and by the time he is thirty he should be well established. In like manner at the age of twenty, if a student desires to enter on business he should be ready to do so, or if on the whole he prefers to enter business immediately from the three years of the college instead of entering the university at all he could do that with good training at the age of eighteen."

THE two federal bureaus engaged in the search for potash—the Bureau of Soils of the Department of Agriculture and the Geological Survey of the Department of the Interior—are in receipt of promising telegraphic news from their field representatives. A potash deposit of apparently great importance has been discovered at Borax or Searles Lake in the northwestern corner of San Bernardino County, California. This lake or playa is the last remaining pocket of a once much greater lake which has almost dried up and its central depression contains a large body of crystalline salts known to consist of common salt and sulphate and carbonate of soda with smaller quantities of borax. This salt body is saturated with brine, and interested persons stimulated by the governmental search for potash recently secured an analysis of old sample material from this brine. The result being significant, the lake was visited jointly by representatives of the Geological Survey and of the Bureau of Soils who took brine samples from six wells distributed over the salt flat. Analyses of these samples have been made by the cooperative laboratory at the Mackay School of Mines, at Reno, Nevada, and show an average of 6.78 per cent. of potassium

oxide ( $K_2O$ ) in solution. The average salinity of the brine is 43.82 grams of solids per one hundred cubic centimeters. Comparison of the results indicates that the brines are nearly uniform throughout the flat. The probable importance of the deposits is due to the occurrence of the potassium salts in soluble form in a natural saturated brine, and under climatic and other conditions especially favorable to its separation and recovery by solar evaporation. Existing data give reasonable assurance that the brine-saturated salt body is at least 60 feet thick and covers an area of at least eleven square miles. Assuming the salt body to contain twenty-five per cent. by volume of the brine, the total amount of potassium oxide is estimated at over four million short tons. This estimate is believed to be very conservative, and the available tonnage may well be expected to exceed ten million tons, which would supply the country, at the present rate of consumption of potash, for thirty years. At any rate it appears that this locality constitutes a very important source of potash in probably readily available commercial form.

As a result of the recommendations recently made by a joint committee of the South African Association for the Advancement of Science and the Royal Society of South Africa, a general committee, says *Nature* quoting from *The South African Journal of Science*, has been constituted for the purpose of considering applications received for grants. Five grants, amounting in all to £250, were made at the first meeting of the committee held towards the end of last year. The grants were: (1) £40 to Professor W. A. D. Rudge, of Grey University College, Bloemfontein, to obtain a continuous record of the variations in the atmospheric gradient at various places, and to ascertain the relation between potential gradient and altitude, and between the diurnal variation of the gradient and the variation in the atmospheric pressure; (2) £45 to Professor A. Young, of the South African College, Cape Town, to investigate the occurrence of semi-diurnal, diurnal and spring and neap

tides observed in connection with an artesian well in the Cradock district; (3) £75 to Miss D. F. Bleek, to proceed to the Kalahari, so as to obtain phonographic records of the spoken language of the Bushman tribes north of the Orange and Vaal rivers; (4) £50 to Mr. R. N. Hall, to visit localities in Rhodesia, where Bushman paintings exist; (5) £40 to Mr. W. T. Saxton, of the South African College, Cape Town, for the purpose of studying the fungus diseases of trees in the Transkeian forests, investigating the ecology of the typical formations of the Transkeian territory, investigating a reported occurrence of the typical western province flora at St. John's, and to collect material for the study of the two genera of South African cycads, *Stangeria* and *Encephalartos*.

DR. G. D. THOMSON, of Canton, writes the *Geographical Journal* an account of some caves in the south of the Kwang-tung province, which, he says, have never yet been described by a European traveler. They lie about 250 miles southwest of Canton, by the route followed by boat. This involves the descent of the Canton River to the sea, and a coasting voyage west to the mouth of the Yeung-Kong River, which is ascended to the city of the same name. Here it is necessary to change boats, taking a native craft, pulled or poled by native men and women when the wind is contrary. In this way the walled city of Yeung-chou is reached, and the caves are situated a mile or more to the west of it. The chief cave is of large size and very beautiful. The hills in the immediate neighborhood rise abruptly from the plain in jagged rocky cliffs of totally different formation from the surrounding hills and mountains. At the entrance and on ledges high up the cliff there is a Buddhist monastery and shrines, presenting a gaudy appearance. From the outer chamber, which is beautified with stalactites and stalagmites, a flight of steps leads up to a second, cathedral-like cavern, not visible from the first. In this there is a stone table and stools, and shrines around the walls in niches, but the whole upper part is untouched by

man. At the far end a passage lets in the daylight from the opposite side of the hill. Dr. Thomson proposes to call this group of limestone caves by the name of Lord Kinnaid, in gratitude for the kindness shown to him and his brother during their college days. He refers also to various other groups of caves in the same province, which make of this part of China a veritable cave country. Though they have been described by Dr. Henry in his book called "Ling Nam," they are far from being generally known. They include the "Cathedral cave" (so named by Dr. Noyes, of Canton) and others to the north of that city on the Lien-chow and North rivers; and those in the neighborhood of Shiu-hing on the north bank of the main Si-kiang or West River.

IN connection with the graduate course in Highway Engineering at Columbia University, the following illustrated lectures have been given during the month of March by non-resident lecturers in highway engineering at 8:30 P.M.

March 4—"Sand-clay Roads and Oil-cement-concrete Pavements," Logan W. Page, director, United States Office of Public Roads, Washington.

March 8—"Mixing Plants for Bituminous Pavements," Francis P. Smith, chemical and consulting paving engineer, New York City.

March 11—"Comparison of Pavements," George W. Tillson, consulting engineer to the president of the Borough of Brooklyn, New York City.

March 15—"The Construction and Maintenance of Park Roads," John R. Rablin, Massachusetts Metropolitan Park Commission, Boston.

March 25—"The Organization of the State Highway Department of New York," John A. Bensel, New York State Engineer, Albany.

March 27—"Asphaltic Crude Oils and their Use in Highway Construction," Dr. Albert Sommer, Consulting Chemist, Philadelphia; or

"The Construction and Maintenance of European Roads," Arthur H. Blanchard, professor of highway engineering, Columbia University.

SEVENTY departments of the University of Wisconsin will be represented in the first exposition held at a university, which will

take place at that institution on April 19 and 20. Dr. Hermon C. Bumpus, business manager of the university, formerly director of the American Museum of Natural History, and Professors Stephen W. Gilman, of the course in commerce, C. K. Leith, of the geology department, and K. L. Hatch, of the college of agriculture, will comprise the faculty committee that will cooperate with 300 senior students in preparing for this exhibition. The engineering school will be represented by over 50 mechanical devices shown by its various departments. Among the interesting exhibits of the college of agriculture will be a model dairy and a model barn. Regular milking time will be announced so that visitors to the exposition can see mechanical milking machines in operation. The university bacteriological department will have an exhibit showing how many germs are afloat in the air of Madison, Milwaukee and Chicago. Plates will be put on the street corners in these cities for ten minutes and then will be put on exhibition to show the vast number of germs present in city air. Germs of hydrophobia and tuberculosis will also be on exhibition to be viewed through the microscope. How disease is transferred by handshaking will be shown by having a student with a germ-laden hand shake hands with fifty clean hands and then show the resulting contamination through the microscope. The home economics department of the university will be represented in the exhibition by a booth showing how to design and fit dresses and how to distinguish between good and bad taste in house decoration and furniture selection.

#### UNIVERSITY AND EDUCATIONAL NEWS

THE Harvard Graduate School of Applied Science has received from an anonymous donor a gift for a high-tension electrical laboratory. It will be built near the Jefferson Physical Laboratory. It is expected that the laboratory will have at its disposal an alternating current of 1,000,000 volts and a direct current of 100,000 volts.