Mr. President: In behalf of the academic council I have the honor to present for the honorary degree of Doctor of Laws Dr. William Crawford Gorgas, colonel in the Medical Corps of the United States Army, member of the Isthmian Canal Commission and chief sanitary officer of the Isthmian Canal Zone, formerly president of the American Medical Association, physician and sanitarian of the highest eminence, who by his conquests over pestilential diseases has rendered signal service to his profession, to his country and to the world.

With high administrative capacity and with full command of the resources of sanitary science Colonel Gorgas has given to the world the most complete and impressive demonstration in medical history of the accuracy and the life-saving power of our knowledge concerning the causation and mode of spread of certain dreaded epidemic and endemic diseases. He it was who, by application of the discoveries of Major Reed and his colleagues of the Army Yellow Fever Commission, was mainly instrumental in freeing Cuba of yellow fever, and he it is who, in spite of obstacles and embarrassments, has made the construction of the Isthmian Canal possible without serious loss of life or incapacity from disease—a triumph of preventive medicine not surpassed in importance and significance by the achievements of the engineer.

In the conquests of science over disease, in the saving of untold thousands of human lives and human treasure, in the protection of our shores from the once ever-threatening scourge of yellow fever, in the reclamation to civilization of tropical lands—in results such as these are to be found the monuments of our laureate, his victories of peace, to which this university now pays tribute by such honor as it can bestow.

SCIENTIFIC NOTES AND NEWS

THE honorary degree of doctor of laws has been conferred by the University of Illinois on Vice-president Thomas J. Burrill and Comptroller Samuel W. Shattuck, both of whom retire at the end of the academic year after an active service of over forty years.

OXFORD UNIVERSITY has conferred its doctorate of science on Mr. A. P. Maudslay, president of the Royal Anthropological Institute of Great Britain and Ireland.

DR. E. RUTHERFORD, F.R.S., Langworthy professor of physics at Manchester, has been elected a corresponding member of the Imperial Academy of Sciences, Vienna.

DR. L. A. BAUER has been invited to deliver the Halley lecture on "Terrestrial Magnetism" at the University of Oxford, England, in May, 1913. He was elected a fellow of the American Academy of Arts and Sciences at the annual meeting in May.

AT the sixth annual meeting of the British Science Guild, held on May 17, a silver plate was presented to Sir Norman Lockyer, inscribed as follows: "Presented to Sir Norman Lockyer, K.C.B., LL.D., D.Sc., F.R.S., by members of the British Science Guild, on his seventy-sixth birthday, May 17, 1912, as a token of their esteem and as a recognition of his patriotic labors to promote the application of scientific principles to industrial and general purposes." Sir Norman was unfortunately prevented by ill-health from being present.

WE learn from *Nature* that Dr. D. H. Scott, F.R.S., president of the Linnean Society, has been elected a foreign member of the Royal Danish Academy of Sciences and Letters, and of the Royal Society of Sciences, Upsala.

IT is reported that Professor Lanfranchi, of the University of Parma, who has been engaged for several years in the study of sleeping sickness, has been infected by the disease in a severe form, and has been taken to the Pasteur Institute in Paris for treatment.

PROFESSOR MAYVILLE W. TWITCHELL, head of the department of geology in the University of South Carolina, has resigned to accept the position of assistant state geologist of New Jersey. He will reside in Trenton where he will take up his new duties early in July.

AT the meeting of the New York Section of the American Chemical Society, held on June 7, Professor Herbert R. Moody, of the College of the City of New York, was elected chairman of the section for the coming session to take the place of chairman-elect A. B. Lamb, who is going to Cambridge. The New York Section increased its membership over

a hundred during the past year, giving it a total of nearly a thousand members (962).

Edwin B. Frost, director of the Yerkes Observatory, has sailed for England and will probably remain in Europe until next spring. In his absence, correspondence for the Yerkes Observatory should be addressed to Mr. S. B. Barrett, *secretary*. The duties of managing editor of *The Astrophysical Journal* have been assumed by Professor Henry G. Gale, of the department of physics, University of Chicago.

Professor F. R. Moulton, of the University of Chicago, is sailing for Europe, where he will attend the International Congress of Mathematicians at Cambridge, England.

Professors R. Burton-Opitz and Frank H. Pike, of the department of physiology of Columbia University, have sailed for Europe. The former has a leave of absence until February, while Professor Pike will spend the summer abroad. Mr. Ernest L. Scott, of the University of Kansas, goes to Columbia as instructor in physiology.

Professor Francis H. Herrick, of Western Reserve University, will be absent on leave during the coming year in Europe.

Dr. Aleš Hrdlička, curator of the division of physical anthropology, U. S. National Museum, has gone to the Upper Yenisei region of Siberia, to carry on studies and collections for the museum and the California Exposition. From Upper Yenisei he will go to Irkutsk, and such other parts of Mongolia and Turkestan as he may have time to visit. After leaving Siberia he will visit Kiachtata in Chinese Turkestan, Mongolia, and then follow the road to Urga, whence he will proceed along the old caravan route to China proper.

Dr. Riley D. Moore, aid division of physical anthropology, U. S. National Museum, and Mr. John B. Harrington, ethnologist, of the School of American archeology, Santa Fé, New Mexico, will make a trip to St. Lawrence Island, Alaska, to make observations on the tribe of Eskimo which occupies that island. The data and material gathered are to be incorporated in the exhibits of the U. S. National Museum at the California Exposition in 1915.

Dr. D. B. MacMillan, of the Crocker Land Expedition, and Mr. A. C. Bent, of the Smithsonian Institution, have left in the power boat *George Borup* for the coast of Labrador on an ornithological and ethnological expedition. It has been erroneously announced in the newspapers that Mr. MacMillan has sailed for Crocker Land, the expedition to which will be undertaken next year.

The University of Illinois has celebrated the fiftieth anniversary of the passing of the Land Grant Act by unveiling the portrait of Jonathan B. Turner in the Illinois Farmers' Hall of Fame. President James in his commencement address on the Life and Labors of Professor Turner said: "All honor to Justin S. Morrill! But great as is the honor due to Mr. Morrill, the real credit for originating the plan incorporated in the Land Grant Act belongs to an Illinois farmer and professor, Jonathan B. Turner." The portrait of Professor Turner was presented by his daughter, Mary Turner Carriel, who was present as the guest of the university.

Major General E. R. Festing, F.R.S., known for his researches in physics and at one time director of the Science Museum, London, died on May 16, aged seventy-three years.

Mr. B. J. Austin, lecturer in physiology and hygiene at University College, Reading, and latterly emeritus professor of botany, died on June 2, aged eighty-three years.

The U. S. Civil Service Commission announces an examination on June 5, 1912, to fill a vacancy in the position of agricultural propagator in the Philippine Service, at a salary of $1,600 per annum, and of xylotomist, at $1,000 per annum, in the Forest Service, at Madison, Wis.

The annual meeting of the Swiss Association of the Natural Sciences will be held at Altdorf on September 9 and 10. A cordial

invitation is extended to American men of science to be present.

THE first International Congress of Comparative Pathology will be held in Paris, from October 17 to 22, under the presidency of Professor Roger.

THE proceedings of the International Radiotelegraphic Convention, at which thirty-five states are represented, were opened on June 4 at the Institution of Electrical Engineers, London.

INFORMATION has been transmitted to this government through the customary diplomatic channels, that the International Congress of Hydrology, Climatology and Geology, originally appointed to be held at Madrid from October 15 to 27 of the present year, has been postponed to the same dates (October 15 to 27), 1913. The participation of American scientists, scientific associations and higher institutions, is earnestly solicited by the Organizing Committee.

THE secretary of state for India has appointed a committee to inquire and report as to the facilities available for Indian students for industrial and technological training in Great Britain, with special reference to the system of state technical scholarships established by the government of India in 1904. The committee is constituted as follows: Sir Theodore Morison, K.C.I.E. (chairman), and Sir Krishna Gupta, K.C.S.I., members of the Council of India; Mr. J. H. Reynolds, M.Sc., lately principal of the Municipal School of Technology at Manchester, and Professor W. E. Dalby, M.A., professor of civil and mechanical engineering at the Imperial College of Science and Technology at South Kensington. The secretary of the committee is Mr. P. H. Dumbell, of the India Office.

THAT the forest cover of the White Mountains has a distinct and measurable effect upon the navigable streams which head in that region is the statement of the United States Geological Survey. The director of the survey has filed his preliminary report on the White Mountains with the National Forest Reservation Commission, and, as earlier announced, the findings are favorable to the purchase of lands under the Weeks law. The report is based on the results of investigations and specific field tests which have been carried on during the last year. While the survey has been subjected to criticism owing to its refusal to submit a perfunctory report assuming that a known and definite relation exists between forests and stream flow in the White Mountain region, the outcome of its investigations precludes the possibility of criticism by those who have opposed the acquisition by the government of any forest lands, on the theory that forest preservation does not affect stream flow. The hydrometric showing presented in the preliminary report covers results on two small, almost exactly similar drainage basins of about 5 square miles each, on the east branch of Pemigewasset River, one largely clothed with virgin timber and the other deforested and burned. Measurements of precipitation over the areas and of the run-off of the respective streams show that not only was the snow held better in the forested area, but that during a period of 17 days in April, including three extended storms, the run-off of the stream in the deforested area was a comparative flood—practically double that of the stream flowing through the forested area.

THE newspapers some weeks since contained the announcement of the discovery of a billion tons of iron ore in Fulton County, Pennsylvania, specifying red, brown and carbonate ores, ranging from 57 to 63 per cent. of iron, and found in Dickey's Mountain, Lowrie's Knob and the Meadow Ground. The geology of Fulton County is well known from the reports of the State Geological Surveys, and the impossibility of the case is apparent to any one who will read these reports and study the maps for a moment. A billion tons of iron would occupy a volume nearly equal to the mass of the three "mountains" named, and carbonate of iron when chemically pure contains only 48 per cent. of iron, and brown ore less than 60 per cent. Nevertheless, to ascertain what might have given rise to the reports, Director Smith, of the United States

Geological Survey, sent Geologist George H. Ashley into Fulton County to make an investigation. He reports that undoubtedly these hills contain several million tons of low-grade red iron ore and may contain a small amount of high-grade brown ore and more low-grade brown ore. Mr. Ashley found that three drill holes have been sunk into a shallow, canoe-shaped basin of red shale forming the "Meadow Ground." The basin is readily measured in length, breadth and depth. If all ore, it would hardly contain 30 million tons. The rocks are well exposed and show practically no iron except the iron coloring the rocks. Lowrie's Knob, if a solid hill of ore, would contain only about 100 million tons. The rocks here are likewise well exposed. A pocket of brown ore has been worked out on the east side by the old Hanover furnace, yielding about 75,000 tons of ore (46 per cent. iron). The "cove" fault runs through Lowrie's Knob and Dickey's Mountain, so that the rocks forming them stand on edge and locally are crumpled. Dickey's Mountain contains some low-grade sandy iron ore on the west side, possibly five million tons, as the bed cuts off against the fault. A little brown ore, 14 inches by 2 feet thick (38 per cent. iron), was dug for the Hanover furnace, but abandoned as impossible. The black shales of the Devonian are present in the region, but no suggestion of carbonate ore was seen.

A U. S. Weather Bureau station has been installed at the University of Notre Dame, Notre Dame, Ind., by Mr. J. H. Armington, of the Chicago Station. Among the instruments located in the Science Hall, there is a triple register for wind velocity, wind direction, rainfall or sunshine as received on the roof by the anemometer, wind vane, tipping bucket rain gauge or sunshine recorder respectively. There are also two mercurial barometers and their barograph as well as complete equipment in the way of tables, record-books, report-books, etc., a few duplicate instruments and a snow gauge. There are on the roof, in a sheltered tower, wet and dry bulb, and maximum and minimum temperature thermometers with their thermograph. Professor Thomas A. Irvin, Ph.D., of the department of physics, has charge of this station which, in conjunction with the university observatory, posts on the Science Hall Bulletin complete daily reports of meteorological and astronomical observations.

Sir William Hartley has presented to the University of Liverpool a wireless installation designed mainly with a view to experimental and research work of an advanced nature. For transmitting purposes a short aerial about 100 feet above ground has been erected on the roof of the electrical laboratory, and in connection with this a standard Marconi receiver has been arranged such as is used on board ship, and this combination forms a small standard power station. This has been licensed by the post office, and time and meteorological messages are received twice daily from the Eiffel Tower in Paris. The transmission range is only about 40 or 50 miles, save under very favorable conditions, as the post office regulations limit the amount of power that can be sent out of a station to one third horse-power. Professor Marchant, of the electrical engineering laboratories, is at present engaged in testing detectors, but later in the year he proposes to hold wireless classes for ships' captains and others interested.

UNIVERSITY AND EDUCATIONAL NEWS

Mr. Walter Morrison, of Baliol College, has given $10,000 to Oxford University as the nucleus of a pension fund for professors.

J. Carleton Bell, Ph.D. (Harvard), managing editor of the *Journal of Educational Psychology,* and director of the psychological laboratory in the Brooklyn Training School for Teachers, has been appointed professor of the art of teaching in the University of Texas. Dr. Bell will devote his attention chiefly to the experimental investigation of problems of teaching.

In the College of Medicine of the University of Virginia, as we learn from the *Journal* of the American Medical Association, Dr. Jacob Michaux, one of the original members