

research in the relations of science to agriculture and the mechanic arts.

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OFFICE OF EXPERIMENT STATIONS,
U. S. DEPARTMENT OF AGRICULTURE.

SCIENTIFIC NOTES AND NEWS.

PROFESSOR ERNEST RUTHERFORD, of McGill University, has been appointed Silliman lecturer at Yale University for 1905. The previous Silliman lecturers have been Professor J. J. Thomson, of Cambridge University, and Professor Charles S. Sherrington, of Liverpool University.

THE newly elected officers of the American Physiological Society are: *President*, Professor Wm. H. Howell, of Johns Hopkins University; *Secretary*, Professor Lafayette B. Mendel, of Yale University; *Treasurer*, Professor Walter B. Cannon, of Harvard University. Additional members of the council are Professor R. H. Chittenden and Dr. S. J. Meltzer.

AT the seventh biennial convention of the Society of the Sigma Xi, held in Philadelphia, December 29, 1904, the following officers were elected: *President*, Professor Edward L. Nichols, Cornell University; *Vice-President*, Professor T. H. Macbride, Iowa State University; *Recording Secretary*, Professor William Trelease, Missouri Botanical Garden; *Corresponding Secretary*, Professor H. B. Ward, University of Nebraska; *Treasurer*, Professor L. M. Underwood, Columbia University.

THE Royal Danish Geographical Society has conferred its gold medal on Captain Robert F. Scott, R.N., the leader of the recently returned Antarctic Expedition.

THE council of the Geological Society of London has this year made the following awards of its medals and funds: The Wollaston medal to Mr. J. J. H. Teall, director of the Geological Survey of the United Kingdom; the Murchison medal to Mr. E. J. Dunn, director of the Geological Survey of Victoria; the Lyell medal to Dr. Hans Reusch, director of the Geological Survey of Norway; the Bigsby medal to Dr. J. W. Gregory, lately professor at Melbourne and now professor of

geology in Glasgow University; the Wollaston fund to Mr. H. H. Arnold Bemrose for his researches in the geology of Derbyshire; the Murchison fund to Mr. H. L. Bowman for his mineralogical work, while the Lyell fund is divided between Mr. E. A. N. Arber, in recognition of his work in paleobotany, and Mr. Walcott Gibson for his geological work in the Midland Counties of England.

PRESIDENT ELIOT, of Harvard University, has been elected a corresponding member of the Academy of Moral and Political Sciences of the Institute of France.

SIR NORMAN LOCKYER has been elected a corresponding member of the St. Petersburg Academy of Sciences.

DR. GEORGE A. DORSEY, of the Field Columbian Museum, and Dr. Alex Hrdlicka, of the U. S. National Museum, have been elected corresponding members of the Society of Anthropology of Paris.

SIR JOHN BURDON-SANDERSON, who recently retired from the regius professorship of medicine at Oxford, celebrated his seventy-sixth birthday on December 21.

MR. JOHN F. CROWELL, director of the Buffalo Botanical Garden, will visit Panama during February and March as an agent of the New York Botanical Garden, which will undertake botanical explorations in cooperation with the engineers of the Panama Canal Commission.

REUTER'S AGENCY is informed that Mr. J. J. Harrison has left London for Khartum on his second expedition to the Congo. He intends to travel along the west side bordering on the Nile and Ituri district. He hopes to be able to secure an okapi in the forest region. Mr. Harrison has obtained leave in Brussels to bring home some pygmies.

ASSOCIATE PROFESSOR FREDERICK STARR, of the Department of Sociology and Anthropology, of the University of Chicago, returned on December 28 from three months in Mexico. It was his fifteenth journey to that country.

PROFESSOR RUSSELL H. CHITTENDEN, director of the Sheffield Scientific School of Yale University, has just announced the make-up of

the Thirty-Ninth Sheffield Lecture Course for 1905, as follows:

January 20: 'A Journey in Turkestan,' Professor William M. Davis.

January 27: 'Reconnaissance Methods of Exploration in a Mountainous District,' Mr. Howard W. DuBois, M.E.

February 3: 'Powerful Discharges of Electricity,' Professor John Trowbridge.

February 10: 'Bahaman Bird-Life, with special reference to the Nesting Habits of the Flamingo,' Mr. Frank M. Chapman.

February 17: 'The Relation of the Engineer to Society,' Colonel Henry G. Prout.

February 24: 'The Destruction of Pompeii as interpreted by the Cataclysm of Martinique,' Professor Angelo Heilprin.

March 3: 'Alchemy,' President Ira Remsen.

March 10: 'Impressions of Spanish America,' Dr. Rudolph Schwill.

March 17: 'Infectious Disease and Immunity,' Dr. Simon Flexner.

March 24: 'The Physical Constitution and Properties of the Earth,' Professor Robert S. Woodward.

THE thirty-second annual meeting of the American Public Health Association was held last week in Havana under the presidency of Dr. Carlos J. Finley.

DR. ARTHUR V. MEIGS has been elected president of the College of Physicians of Philadelphia.

THE twenty-ninth anniversary of the foundation of the Johns Hopkins University will be celebrated on February 22, when Dr. William Osler will deliver the principal address.

IN a recent issue we stated that Professor Barnard, of the Yerkes Observatory, was to spend the next few months in photographing the sun, at Mt. Wilson, Cal. The observatory is primarily for solar research, but Professor Barnard's work will be the photography of the milky way and the different nebulosities in the heavens, for the observation of which the Bruce photographic telescope is especially designed.

At the annual meeting of the board of managers of the New York Botanical Garden, held last week, a report on behalf of the scientific

directors was presented by Professor L. M. Underwood, chairman, which recommended the erection of four life-size statues on the piers at the front entrance of the museum building, as provided in the original plans of the architect. These statues are to commemorate the work of Samuel Latham Mitchell, David Hosack, John Torrey and John Strong Newberry as the pioneers of botanical science in New York city. The recommendation was approved, and the making of arrangements to carry it into effect was referred to a committee composed of Mr. Charles F. Cox, chairman; Judge Addison Brown and Professor Underwood.

PROFESSOR JAMES WEIR MASON, professor of mathematics at the College of the City of New York from 1879 to 1903, died on January 10 at the age of sixty-nine years.

THE trustees of the Elizabeth Thompson Science Fund announce that income for grants is now available. Applications should reach, before February 14, 1905, the Secretary of the Board of Trustees, Dr. C. S. Minot, Harvard Medical School, Boston, Mass., U. S. A. The trustees are disinclined, for the present, to make any grant to meet ordinary expenses of living or to purchase instruments such as are found commonly in laboratories. Decided preference will be given to applications for small amounts, and grants exceeding \$300 will be made only under very exceptional circumstances.

THE U. S. Civil Service Commission announces an examination on February 15, 1905, to fill two vacancies, at \$1,000 to \$1,200 per annum each, in the position of hydrologic aid, Geological Survey, and vacancies as they may occur in any branch of the service requiring similar qualifications.

The New York Medical Record states that the commission appointed by Harvard University, under the terms of the bequest of \$100,000 by Mrs. Caroline Brewer Croft, to study cancer has prepared a report of its labors during the past four years. This report, which is now in the hands of the printer, will, if the advance statements of its contents are correct, contain little that is new. Its

conclusions are said to be that cancer is neither hereditary nor contagious, that it is not of parasitic origin, and that excision is the only cure except in the case of certain superficial growths which may be cured by radiotherapy.

THE British postmaster-general has made arrangements with the Marconi Company for the acceptance and prepayment at telegraph offices of telegrams for transmission from wireless stations on the coast to ships at sea.

PRESIDENT ROOSEVELT has sent a message to congress urging the passage of the bill, now before that body, for the reorganization of the medical corps of the army. He says he is satisfied that the medical corps is much too small for the needs of the present army, and therefore very much too small for its successful expansion in time of war.

THE local chamber of commerce at Grenoble has opened an industrial museum or permanent exposition of the special products and diverse industries of this region. This is to be supplemented later by an agricultural museum and bourse to show the progress of science as applied to soil cultivation and the best implements for field work, and to facilitate business transactions on the part of farmers and cultivators.

A CORRESPONDENT writes to the *London Times*: The Carnegie Dunfermline trustees have endeavored to provide secondary and technical education at cheap rates, yet of a quality equal to that supplied in the largest educational centers, and by means of bursaries to bring university education within the reach of all capable and diligent students. They have appointed a musical director, Mr. David Stephen, who superintends the arrangement of concerts and directs the study of music both in the schools and by supplementary classes. They have also charge of a gymnasium and public baths, built at a cost of between £40,000 and £50,000, especially staffed and equipped for the development of physical culture. The trustees engage lecturers of repute and award prizes for the best-kept gardens. They have acquired by purchase the

old parish glebe adjoining the southeastern extremity of the Pittencrieff, and have thus foreshadowed the construction of a new approach to the glen. By arrangement with the Crown they have taken charge of the palace ruins, the pathways to which they have greatly improved, and the superintendence of Queen Margaret's Cave Oratory has been transferred to them by the town council. So far the only building contemplated by the trustees is a library with a museum, the present Carnegie library being defective as regards accommodation.

THE secretary of agriculture says in his annual report that "during the past year the main building of the Weather Bureau Observatory has been completed, while the power plant, the building from which balloon ascensions and kite flights are to be made, and the magnetic building are being constructed. The physical laboratory for electrical and radioactive effects is being planned, the erection of which will take place in another year. Finally, a comprehensive physical observatory for photographing the sun directly and through the spectrum, for measuring radiation energy by actinometry and bolometry, with their allied equipment, will be required. This complex institution must grow up slowly as plans can be matured along the best modern lines. When the equipment is ready we shall make and send out apparatus for the exploring of the atmosphere to altitudes of from 3 to 10 miles. It is probable that many balloons will be simultaneously liberated from different stations so as to get records of storms and cold waves from their four quadrants. With observations from the magnetic, the electric and the solar physics observatories, opportunity for study will be given to those who believe that the cyclonic and anticyclonic whirls that constitute storms and cold waves are mainly the result of changes in the amount or intensity of some form of solar radiation. It is the purpose to make the research at Mount Weather catholic in its broadness."

THE *London Times* states that the annual *conversazione* of the Royal College of Science and Royal School of Mines was held at the college in South Kensington, on December 21.

These annual social gatherings are organized by the Students' Union, of which Professor Gowland is the president, and they form a kind of reunion for old students, many of whom were present at the gathering, which, notwithstanding the fog, was attended by about 500 guests. The company included Sir Norman Lockyer, Sir Arthur Rücker, Mr. Morant, Professor Judd (the dean), Professor Tilden, Professor Perry, Professor Callendar, Professor Gowland and Mr. G. W. C. Kaye (secretary). There were many interesting exhibits in the various departments in chemistry, physics, astrophysics, mechanics, metallurgy, mining, geology and biology, under the direction of their respective professors. The Solar Physics Observatory was open by permission of Sir Norman Lockyer, and a cinematograph exhibition was given, while the college company of the Corps of Electrical Engineers showed a searchlight. Dr. W. Watson, F.R.S., delivered a lecture during the evening on 'Radium and 20th-Century Alchemy,' and this was followed by a concert.

WE learn from the London *Times* that the committee appointed by the British Association for the Advancement of Science to consider the probability of ankylostoma (miner's worm) becoming a permanent inhabitant of coal mines in the event of its introduction has presented an interim report. The committee consists of Messrs. G. H. F. Nuttall, M.D., Ph.D., F.R.S. (chairman), G. P. Bidder, M.A. (secretary), A. E. Boycott, M.D., J. S. Haldane, M.D., F.R.S., and A. E. Shipley, M.A., F.R.S. The following is the summary of the committee's report:—There are many channels by which ankylostoma might be introduced into British coal mines. The conditions found underground in these mines are such that the worm would, in many cases at any rate, probably become firmly established. In view of the expense and difficulty of eradicating the worm from any mine in which it has become established, it is of the greatest importance that preventive measures should be undertaken without delay. Complete eradication does not yet appear to have been ever accomplished. The necessary prevention is best accomplished by the provision of proper

sanitary accommodation in the main roads underground and at the pit's mouth, by regulations to prevent pollution of the pit by human faeces, and by the establishment of a limited quarantine system for workpeople from infected areas, with compulsory notification of cases to the home office.

ALTHOUGH only ten years had elapsed since Messrs. Whitman Cross and R. A. F. Penrose, Jr., of the United States Geological Survey, made a careful study of the geology of the Cripple Creek district of Colorado, the people of that state were last year so strongly impressed with the economic importance of a scientific examination of the ground opened by mining operations during that period that they urgently requested a resurvey, agreeing to bear half the expense of the work. The re-examination began accordingly with a thorough revision of the topographic map of Cripple Creek by Mr. R. T. Evans, who acted under the supervision of Mr. E. M. Douglas. The study of the geology and mines of the district was undertaken jointly by Messrs. Waldemar Lindgren and Frederick Leslie Ransome, who were assisted by Mr. L. C. Graton. The examination began in June, 1903, and the field work was concluded in April, 1904. Practically every accessible mine in the district was examined in greater or less detail. A preliminary report on the work, prepared by Messrs. Lindgren and Ransome, has just been published. It is issued in advance of the final laboratory examinations and is a summary of those facts that bear upon the economic development of the region and are of immediate importance to the miners.

THE *Medical Record* states that the construction of the new government laboratory building at Manila has advanced sufficiently far to permit of its being occupied by a number of branches of the Bureau of Government Laboratories. The bureau is composed at present of the following divisions: (1) A serum laboratory at which are manufactured vaccine virus, rinderpest serum, etc. (2) A library in which are to be stored and catalogued all the scientific books in possession of the government. (3) A well-appointed chemical laboratory. (4) An entomological divi-

sion, which has already done good work in the study of the insects which were destroying the cacao plants of the islands. (5) A biological laboratory, which gives much promise for the future. (6) A botanical division. The large number of plants which remain unidentified gives this division a large field in which to work. There are a number of other branches of this bureau, but they can scarcely be dignified by the name of division, as for instance the branch which takes the photographs for all departments of the government. It has also been proposed to incorporate a division of weights and measures, the necessity for which has already been felt.

MR. EDGAR SPEYER, the chairman of this fund, which carries on its work in the National Hospital for the Paralyzed and Epileptic, having been asked by the Hon. Stephen Coleridge, on behalf of the National Anti-Vivisection Society, whether the researches involve experiments on living animals, has sent the following reply:—"Dear Sir,—As you are already aware, the National Hospital is not a place licensed under the Act for experiments on living animals. I am informed, nevertheless, that your society endeavored to prevent subscriptions being sent to it on the ground that some members of the medical staff, in their private capacities, are licensed under the Act. The Nervous Diseases Research Fund is an endeavor to provide funds for research into the origin and cure of those diseases. It will be conducted in the hospital under the advice of the medical staff. That being so, your past treatment of the hospital shows that it has nothing to expect from your society in the way of support. As this removes the only *locus standi* you might otherwise have to interfere, I do not think it necessary to enter further into the subject of your letter. Yours truly, Edgar Speyer. December 14, 1904."

UNIVERSITY AND EDUCATIONAL NEWS.

It is announced that Mr. Andrew Carnegie has given \$100,000 to Tufts College for the erection of a library building and \$50,000 to St. Lawrence University at Canton, N. Y., for a science building.

At the convocation of the University of Chicago on December 20, President Harper announced that Mr. John D. Rockefeller had signified his willingness to contribute to the University for the year beginning July 1, 1905, the sum of \$245,000 for current expenses, this being the same sum that he has contributed during the present year. Mr. Rockefeller has also contributed this year \$60,000 for the enlargement of the heating plant of the university.

By the will of Mr. Henry Norris, of Philadelphia, the University of Pennsylvania, the University Hospital and Haverford College each receive \$5,000.

THE will of Macy S. Pope of Brookline gives \$25,000 each to the Massachusetts Institute of Technology and the Washington Academy of East Machias, Me.

MR. MICHAEL JENKINS, of Baltimore, has given to the board of directors of the Maryland Institute a site on Mount Royal Avenue, 200 feet wide and 250 feet deep, for the erection of the building. It will be remembered that Mr. Andrew Carnegie agreed to give \$263,000, equal to the assets of the institute, for a building, provided the city supplied the site.

MR. EUGENE G. BLACKFORD has bequeathed to the Brooklyn Institute of Arts and Sciences \$5,000, together with his apparatus and books on zoology.

THE Rev. Albert Watson, fellow of Brasenose College, Oxford, has bequeathed £4,000 to the college.

It is said that Harvard University and the University of Berlin have practically arranged a method by which a temporary exchange of professors will occur. It is further reported that a similar arrangement has been made between the Massachusetts Institute of Technology and the Berlin Institute of Technology.

MR. W. E. ALLEN, professor of biology in Epworth University, Oklahoma City, has resigned to accept a graduate fellowship in zoology at the University of Nebraska, Lincoln.