

largely, partly by the better nutrition of the well-paid man and his improved strength and spirits and ambition. He states that the engineers building the railway from Paris to Rouen made the experiment of furnishing the same nourishing and plentiful diet to their French laborer as was demanded by and habitually supplied to the Englishman working beside him, with the result that, after a short time, the product of the two men became the same. The four cases above were selected from among establishments doing substantially the same sort of work and marketing practically the same quality of product.

"On ne peut expliquer ces faits que par la productivité élevée de l'ouvrier américain qui possède plus d'activité, plus de vigilance, plus d'application au travail que ses concurrents. Il est effectivement placé dans des conditions supérieures au point de vue matériel, intellectuel et moral."

Rankine, in his 'Prime Movers,' makes substantially the same enunciation of a principle, recognized by every experienced manager of works, when, referring to the physical working effect of men and beasts, he states that the daily product depends upon the "health, strength, activity and disposition of the individual," and on the "abundance and quality of food and air, the climate, and other external conditions."

R. H. THURSTON.

SCIENTIFIC NOTES AND NEWS.

MR. DEAN C. WORCESTER, assistant professor of zoology and curator of the Zoological Museum at the University of Michigan, has been appointed a member of the new Philippine Commission. Professor Bernhard Moses, of the chair of political economy of the University of California, has also been appointed a member of the Commission.

THE Paris Academy of Sciences has elected as foreign correspondents, Dr. C. Zittel, professor of paleontology in the University of Munich, and Professor Wilhelm Pfeffer, professor of botany at the University at Leipzig.

DR. A. SMITH WOODWARD, of the Department of Geology of the British Museum, will

visit the United States in the spring to study the cretaceous vertebrates in American museums.

MR. J. B. WOODWORTH, instructor in geology at Harvard University, has been appointed assistant on the New York Geological Survey to study glacial features of New York. Mr. Woodworth will begin his studies in the lower Hudson Valley in the season of 1900.

PROFESSOR O. C. FARRINGTON, of the Field Columbian Museum, has been appointed on the staff of the Commissioner General of the United States to the Paris Exposition, and will spend two months in Paris supervising the installation of the United States mineralogical exhibit.

DR. EDWARD EHLERS, of Copenhagen, will go next month to Crete to make arrangements for the segregation of the lepers on the island. There are about 2000 of these and they will be placed on a small island off the north coast.

IT is announced in *Nature* that Dr. C. L. Griesbach, the director of the Geological Survey of India, has gone for a tour in the famine districts of the Central Provinces, Bombay and Rajputana, with a view to examining into the practicability of sinking artesian wells.

THE Faculty of Medicine, of Würzburg, has awarded its Rinecke Prize of 1000 Marks and a silver medal to Professor J. v. Kries, for his researches in physiology.

THE adjudicators of the Hopkins prize, University of Cambridge, for the period of 1891-94, have awarded the prize to W. D. Niven, M.A., F.R.S., formerly Fellow of Trinity, for his memoir on 'Ellipsoidal Harmonics' (*Philosophical Transactions*, 1891) and other valuable contributions to applied mathematics.

WE regret to record the death of Dr. Oliver Payson Hubbard, in New York City, on March 9th. He was born in Pomfret, Conn., in 1809 and graduated from Yale University in 1828. He acted as assistant to the elder Silliman whose daughter he married. He was appointed professor in Dartmouth College in 1836, having charge of chemistry and geology, and has since 1883 been emeritus professor. Dr. Hubbard was one of the founders of the American Association for the Advancement of Science.

PROFESSOR F. L. HARVEY, who held the

chair of natural history in the University of Maine, committed suicide on March 6th. Mental depression resulting from overwork is assigned as the cause. He was born in 1850, graduated from the Iowa Agricultural College in 1868 and was appointed professor in the University of Maine in 1886. He was also botanist and entomologist to the Maine Experiment Station.

THE death is announced of Senator Beltrami, professor of mathematical physics in the University of Rome and president of the *Accademia dei Lincei*.

HERR DAIMLER, the inventor of the motor car bearing his name, has died at the age of 66 years. His gasoline motor may be regarded as the starting point of the automobile.

PROFESSOR E. B. FERNOW of Cornell University, lectured at Lehigh University on March 9th, his subject being 'The Evolution of the Forest.'

MR. H. F. NEWELL, hydrographer of the United States Geological Survey, delivered an address before the Engineering Society of Harvard University, on March 7th, on the investigations being made by the division of hydrography.

A BRONZE medallion with a relief portrait of Pasteur has been placed on the house in Strassburg in which he lived in 1852.

MR. CHARLES WHITEHEAD, who has acted as technical adviser to the British Agricultural Department of the Privy Council, and subsequently to the Board of Agriculture, during the past fifteen years, has been compelled to resign that appointment owing to ill health.

DR. FRIDTJOF NANSEN expects to leave Christiania on May 15th in a specially constructed vessel to carry out hydrological investigations around Iceland for the Norwegian Government. The expedition will return in the autumn.

THE case of Professor Neisser, of Breslau, accused of making vaccination experiments on human subjects, was again brought up in the Prussian Diet last week. It was reported for the Minister of Education, that the question had been taken up by the state attorney, but

that prosecution was barred by the statute of limitation. Disciplinary proceedings were, however, in progress.

WE have already noted that Mrs. Caroline Brewer Croft bequeathed \$100,000 for researches into the cause and cure of cancer. This bequest was originally made to Drs. H. K. Oliver and J. C. Warren. They have turned over the bequest to Harvard University, and the medical school has organized the work to be prosecuted. Dr. E. H. Nichols, '86, goes to Europe to study cancer abroad.

IN 1891 Mr. J. W. Charles de Soysa offered a bacteriological institute for Ceylon, but his gift was at the time declined. The offer was, however, repeated in 1897 and then accepted. The Institute, which is very well equipped, was opened by the Governor on January 31st. Dr. Marcus Fernando has been appointed the first director.

THE Brooklyn Institute of Arts and Sciences has been granted an appropriation of \$300,000 for the erection of a new wing for the Museum.

THE estimates for the British Museum have been reduced £1000 for the coming financial year, but the trustees have petitioned Parliament to reconsider this decision.

A COLLECTION of Irish antiquities, formed during the last seventy years by Mr. T. R. Murray, of Edenderry, has been acquired for Cambridge University by Professor Ridgeway.

THE *Ithaca Daily News*, for March, 6th devotes a number of columns to the publication of letters from leading naturalists and educators, advocating the establishment by the New York Legislature of a State Biological Station.

MR. R. HORTON-SMITH, Q.C., M.A., of St. John's College, Cambridge, has offered to the University a fund of about £600 for the establishment of a prize for medicine and pathology, in memory of his son Raymond Horton-Smith, M.B., who, after a distinguished career in the university and at St. Thomas' Hospital, died in October, 1899, in his 27th year. The prize is to be awarded annually for the best thesis for the M. D. degree offered by candidates who have taken honors in one of the Triposes. The prize thesis is to be printed, and copies are to

be sent to various officers and libraries of the university and the Royal College of Physicians.

THE late Professor D. E. Hughes bequeathed £400 to the Paris Academy of Sciences for the establishment of a prize for the most important discovery in physical science, preference being given to a discovery in electricity or magnetism.

UNDER the direction of Professor A. A. Wright of Oberlin College, systematic excavation has been commenced in Brownhelm, Ohio, near Lake Erie and about twelve miles from Oberlin, to recover mastodon remains, the first of which were discovered several years ago. The jaws and head, both tusks, together with a number of ribs and vertebræ have been obtained in a good state of preservation. The bones are much scattered and lie upon a clay hardpan at the bottom of a muck bed four feet deep.

THE Royal Meteorological Society, London, will celebrate its 50th anniversary on April 3d. The Council has arranged for a commemoration meeting to be held at 3 p. m. at the Institution of Civil Engineers, at which the president will deliver an address, and delegates from other societies will be received. In the evening a *conversazione* will be held at the Royal Institute of Painters in Water Colors. On the following day, April 4th, the Fellows will visit the Royal Observatory, Greenwich, and in the evening will dine together at the Westminster Palace Hotel. In view of this jubilee celebration, Mr. G. J. Symons, F.R.S., was elected president at the annual meeting of the Society on January 17th, but owing to illness he has since been obliged to resign this office. Under these circumstances the Council at their last meeting appointed Dr. C. Theodore Williams as the president of the Society.

THE Committee of the Liverpool School of Tropical Diseases has decided to send out next month, under the direction of Dr. Annett, another expedition to West Africa. The expedition will make its headquarters in Old Calabar and carry on researches in southern Nigeria. If time and opportunity permit the upper Niger will be visited.

AT a meeting of the British Astronomical Association on February 28th, Mr. Maunder announced that sufficient names had not been

handed in to justify chartering a steamship to visit the Mediterranean at the time of the solar eclipse in May. A large number of names had been withdrawn owing to the war.

THE United States Civil Service Commission announces that in view of the needs of the service all persons who have been examined within the past six months and have failed to attain eligible averages in the following named examinations will be permitted re-examination this spring upon filing new applications. These examinations will be held at various places throughout the country, beginning April 17, 1800: Acting Assistant Surgeon Marine Hospital Service, Aid Coast and Geodetic Survey, Assistant Department of Agriculture, Assistant Examiner Patent Office, Assistant Topographer, Civil and Electrical Engineer, Copyist Ship Draftsman, Farmer, Fish Culturist, Hospital Steward, Industrial Teacher, Meat Inspector, Kindergarden Teacher, Manual Training Teacher, Matron, Mechanical and Electrical Engineer, Physician, Register and Receivers Clerk, Seamstress, Superintendent of Construction, Surveyor General's Clerk General Land Office Service, Teacher, Topographic Draftsman, Trained Nurse.

AN International Congress of Medical 'Electrology and Radiology' will be held at Paris from the 22d of July to the first of August. Professor Weiss of the University of Paris, is president and the general secretary is Professor Doner, University of Lille.

THE Italian Government has decided to establish a bacteriological laboratory for the study of bubonic plague in the island of Pianosa.

WE learn from the *British Medical Journal* that M. Fleury-Ravarin, Member of the Chamber of Deputies for the Rhône Department, has brought in a bill providing for the creation of a national antituberculous institute. The proposed institute is to be devoted to the study of the treatment of tuberculosis and experimental researches on the means to be employed for that purpose. The Société Lyonnaise des Tuberculeux Indigents has undertaken to build the institute at its own cost, and proposes to make it an annex of the free sanatorium which it is about to open at Hauteville, in the mountains

of the Bugey district. M. Fleury-Ravarin asks the State to associate itself with this philanthropic work by conferring on the institute the title of 'National,' and granting it an annual subvention of £600.

A MEETING of the Organizing Council of the British Congress of Tuberculosis was held at house of the Royal Medical and Chirurgical Society on February 22d.

THE plague has appeared in Sydney, New South Wales, and on the Island of Cozumel, off the coast of Yucatan. A case has occurred in San Francisco. Deaths are still reported from Honolulu. There is no abatement in India, the deaths at Calcutta being 411 for the last week of which news is at hand.

RECENT issues of the *British Medical Journal* and *Nature* recommend the appointment of Professor William Osler, of Johns Hopkins University, to the chair of the practice of physic, vacant by the death of Sir Thomas Grainger Stewart. *Nature* says:

The desire has been widely expressed in University circles in Edinburgh that the Curators of Patronage, with whom the appointment to the chair of medicine rests, should offer the post to Professor Osler, of the Johns Hopkins University, who is well known as a teacher and clinician of the highest scientific eminence, and whose acceptance of it would greatly strengthen both the systematic and clinical teaching in the University. It would appear, however, that the Curators have no choice in the matter, but are bound to advertise every vacancy, so that the far more satisfactory and dignified method of appointment by invitation is necessarily excluded. Nevertheless, it is confidently hoped that Professor Osler may be induced to send in a formal application for the chair, since it is certain that his claims would receive every consideration from the present Board of Curators, who have more than once, on recent occasions, shown that they are superior to merely local considerations, and that they have regard in making these appointments solely to the best interests of the University. Professor Osler is a Canadian by birth, and although he has for many years successively occupied the important chairs of medicine in Philadelphia and Baltimore, he has, we believe, never renounced his British nationality. His appointment to Edinburgh, although it would be felt as a serious loss by our kinsfolk on the other side of the Atlantic, would doubtless be considered by them, and especially by our Canadian fellow-subjects, as a graceful recognition that we are one people bound

together in science, as in politics, by common interests, and that we are prepared to welcome the best man from whichever side of the water he may hail. Applications for the post, with testimonials, must be lodged with Mr. R. Herbert Johnston, Secretary to the Curators, at 66 Frederick Street, Edinburgh, on or before April 14th."

In his annual report President Eliot writes of the observatory: "The director reports that the Harvard Observatory, which in 1892 had the second largest income among the great observatories of the world, in 1898, had only the fifth largest, the observatories at Washington, Paris, Greenwich and Pulkowa surpassing it in income and expenditure. This fall is occasioned by the decline in the rate of interest on the funds of the observatory. The observatory is now so well organized and so active and efficient that it will be a great pity if its resources, and, therefore, its powers of usefulness, are permitted to decline. It is the only observatory which maintains a station in the northern hemisphere and in the southern; and its collection of photographs of the entire sky gives it unique means of studying the recent history of the stellar universe. The photographic plates are now kept in a fireproof building; but the library of the observatory, which has become very valuable, is in a wooden building and is, therefore, exposed to complete destruction by fire. A fireproof building, which need not cost more than \$15,000 or \$20,000, ought to be provided for the safe keeping of this collection." Four volumes of the *Annals* have been in process of publication during the larger part of the year, and more than 30 volumes of the *Annals* have been published during the last 20 years—a rate of publication that is truly astonishing. "On November 28, 1898, Mrs. Williamina Paton Fleming was appointed Curator of Astronomical Photographs, and in that capacity her name appeared in the university catalogue for 1898-99. It is believed that Mrs. Fleming is the first woman who has held an official position in Harvard University. She is well known to astronomers as the discoverer of a remarkable number of new variable stars."

MR. SIMON W. HANAUER, Vice-Consul of the United States at Frankfurt, writes to the Department of State that nothing has been said of

the San José scale for months in German papers. It has not yet made its début in a live condition in Germany, thus confirming the opinion of experts that the climatic conditions of Germany are not suited to its perpetuation; but, while the false alarm concerning the introduction and ravages of the San José scale has vanished, its ill effects in the nature of administrative measures against the import of American fruit have continued, and the hardship of these proscriptive ordinances are making themselves so acutely felt that German trade circles and consumers are beginning to protest. The chamber of commerce of the city of Hamburg (one of the most important trade bodies of Germany), in its lately published annual report, says on this subject: "The station which last year was opened in this city for the purpose of investigating the presence of the San José scale on American fruit has a laboratory where two scientifically trained experts, with fourteen assistants, have steadily pursued these investigations in the most circumspect manner. While there may not be any objection to examining 'raw fruit,' the continuation of investigations in regard to 'dried fruits' must be considered an utterly unnecessary hindrance to trade. The sanitary experts, whom the imperial German department of health, as well as the Belgian Government, sent last year to California, have fully confirmed the statements made by German fruit importers that the drying methods in use in the United States effectually kill the insects. Therefore, the scales found on dried fruit from America were dead. The trade suffers great damage from the examination, stricter here than elsewhere, and this chamber of commerce regrets that this unnecessary annoyance and harmful practice was not at once discontinued when the facts became known."

UNIVERSITY AND EDUCATIONAL NEWS.

NEW YORK UNIVERSITY has received a gift of \$100,000—it is reported from Miss Helen Gould—for the erection of a 'Hall of Fame for Great Americans.' Colonades overlooking the Harlem river will be erected containing 150 panels on which will be engraved inscriptions commemorating eminent Americans.

COLUMBIA UNIVERSITY has received from

Mrs. Robert Goelet the gift of a bronze statue to cost about \$25,000. It will represent 'Alma Mater' and will be erected in the court before the library.

OBERLIN COLLEGE has received a gift of \$50,000 from Dr. and Mrs. Lucien C. Warner, of New York, for a men's gymnasium.

A BEQUEST of £20,000 has been made to the New College, Hampstead (now a constituent college of London University), under the will of the late Mr. Henry Vaughan.

A DAUGHTER of the late Professor Hughes Bennet, of the University of Edinburgh, has offered the University a sum of money to establish an addition to the physiological laboratory for the purposes of research.

THE Chicago College of Physicians and Surgeons was three years ago affiliated with the University of Illinois. An agreement has now been made effecting a more complete consolidation which is to last 25 years, and allowing the University of Illinois to secure complete control of the College.

DR. HARRIS HANCOCK, A.B. (Virginia and Johns Hopkins) and Ph.D. (Berlin), has been elected professor of mathematics at the University of Cincinnati to fill one of the chairs recently declared vacant by the Board of Directors. Dr. Hancock has published papers on the Abelian functions, on the calculus of variation and other subjects. He is at present at Paris.

AT Oberlin College, Simon F. MacLennan has been appointed professor of psychology and pedagogy, and Frederick O. Grover, professor of botany.

PROFESSOR R. S. LAWRENCE, of Emporia College, Kans., has accepted the chair of mathematics in Hanover (Ind.) College.

PROFESSOR JULIUS HANN, of Gratz, has been called to the professorship of cosmical physics, at Vienna. Dr. August Gutzmer has been made full professor of mathematics in the University of Jena. Dr. v. Schmidt, of Dorpat, has qualified as docent in histology and embryology in the University at Jena.

DR. TH. M. FRIES, professor of botany in the University of Upsala, has retired.