INSTITUTIONS IN THE UNITED STATES.

Amherst College, Amherst, Mass.
Beloit College, Beloit, Wisconsin.
Carleton College, Northfield, Minn.
Case School of Applied Science, Cleveland, Ohio.
Clark University, Worcester, Mass.
Clarkson School of Technology, Potsdam, N. Y.
Colorado College, Colorado Springs, Colo.
Columbia University, New York City.
Cornell University, Ithaca, N. Y.
Dartmouth College, Hanover, N. H.
George Washington Univ., Washington, D. C.
Hamilton College, Clinton, N. Y.
Harvard University, Cambridge, Mass.
Hobart College, Geneva, N. Y.
Johns Hopkins University, Baltimore, Md.
Knox College, Galesburg, Ill.
Iowa College, Grinnell, Iowa.
Lawrence University, Appleton, Wis.
Lehigh University, S. Bethlehem, Pa.
Leland Stanford Univ., Stanford Univ., Cal.
Marietta College, Marietta, Ohio.
Mass. Inst. Tech., Boston, Mass.
Middlebury College, Middlebury, Vt.
Mt. Holyoke College, S. Hadley, Mass.
New York University, New York City.
Oberlin College, Oberlin, Ohio.
Polytechnic Institute, Brooklyn, N. Y.
Princeton University, Princeton, N. J.
Radcliffe College, Cambridge, Mass.
Ripon College, Ripon, Wisconsin.
Smith College, Northampton, Mass.
Stevens Institute Technology,[1] Hoboken, N. J.
Trinity College, Hartford, Conn.
Tulane University,[1] New Orleans, La.
Union College, Schenectady, N. Y.
University of Pennsylvania, Philadelphia, Pa.
University of Vermont, Burlington, Vt.
Vassar College, Poughkeepsie, N. Y.
Wabash College, Crawfordsville, Ind.
Washington University, St. Louis, Mo.
Wellesley College, Wellesley, Mass.
Wells College, Aurora, N. Y.
Western Reserve University, Cleveland, Ohio.
Williams College, Williamstown, Mass.
Western Univ. of Penn., Pittsburg, Pa.
Yale University, New Haven, Conn.

INSTITUTIONS IN CANADA.

Dalhousie University, Halifax, N. S.
McGill University, Montreal, Canada.

[1] On the basis of entrance requirements of 1907.

SCIENTIFIC NOTES AND NEWS.

Dr. Ernst Mach, of Vienna, has been awarded the Bavarian Maximilian order for science and art.

Oxford University conferred, on June 20, the honorary degree of doctor of science on Dr. John Milne, F.R.S., known for his researches in seismology.

The Technical Institute of Berlin has conferred on Mr. George Westinghouse the degree of doctor of engineering.

The University of Vermont has conferred the degree of doctor of science on Mr. C. G. Pringle, keeper of the herbarium of the university.

Dr. William W. Keen, professor of surgery in the Jefferson Medical College, Philadelphia, has been elected a trustee of Vassar College to fill the vacancy caused by the death of Dr. Edward Lathrop.

M. Charles Trépied, director of the Astronomical Observatory of Algiers, has been elected a corresponding member of the Paris Academy of Sciences.

Dr. E. Ludwig, professor of medical chemistry in the University of Vienna, has been elected an active member, and Dr. J. Herzig, professor of chemistry, a corresponding member, of the Vienna Academy of Sciences.

Dr. Cannizzaro, professor of chemistry at Rome, and director Dr. H. Th. Böttinger, of Elberfeld, have been elected honorary members of the German Bunsen Society.

Dr. G. Kraatz, the Berlin entomologist, has celebrated the fiftieth anniversary of his doctorate.

Dr. T. P. Anderson Stuart has been elected president of the Royal Society of New South Wales.

The international celebration of the Coal-Tar Color Jubilee will be held on July 26 and 27. There will be a meeting at the Royal Institution at 11 o'clock on July 26 for the presentation to Dr. Perkin of the portrait, bust and addresses, and there will be a banquet at the Whitehall Rooms at 7 o'clock, at which many distinguished guests are expected to be present. On July 27 a visit will be paid

to the original works at Greenford-green where mauve was first manufactured, and there will be a garden party at Dr. Perkin's house. At 8:30 there will be a *soirée* at the Leathersellers' Hall, at the invitation of Dr. and Mrs. Perkin. The subscriptions to the memorial fund already received amount to over £2,000. Dr. Perkin was elected an honorary member of the American Chemical Society at the Ithaca meeting.

DR. D. E. SALMON, from 1884 to 1905 chief of the Bureau of Animal Industry, has accepted the offer of the government of Uruguay to organize a Bureau of Animal Industry for that country. Dr. Salmon, who is at present engaged in scientific work in Montana, will start for South America about December 1.

ACCORDING to a press despatch from Washington, Secretary Wilson, of the Department of Agriculture, has decided not to enter upon his annual vacation until he has completed the organization necessary to put into operation the new meat inspection law. He will give practically his entire time to this work for the next two months. The new pure food law also will require attention, but he intends to leave this almost wholly to Dr. H. W. Wiley, chief of the Bureau of Chemistry.

SIR FREDERICK NICHOLSON is at present in the United States in order to study our fisheries on behalf of the government of India.

WE learn from *Nature* that Sir Daniel Morris, K.C.M.G., the British commissioner of agriculture for the West Indies, has arrived in England on a short visit, and will attend the forthcoming International Conference on Hybridization and Plant Breeding to be held in London under the auspices of the Royal Horticultural Society at the end of July.

W. J. MORSE, assistant professor of bacteriology at the University of Vermont, has accepted the position of state botanist at the Maine experiment station in Orono.

MR. W. J. MEAD, of Plymouth, Wis., has been awarded the Science Club medal at the University of Wisconsin for the best baccalaureate thesis on a scientific subject. His thesis was on 'The redistribution of elements involved in the formation of sedimentary rocks.' The Science Club medal is of bronze, and has been executed by Mr. T. Moring, London.

MR. E. MASCHKE, of the geological department of Göttingen University, is desirous of obtaining fossil cephalopods, from all formations, especially from the paleozoic of North America. He wishes to exchange or to purchase them, offering in exchange German fossils and minerals. Secondarily, he wishes to obtain crinoids and trilobites.

DR. HENRY A. WARD, president of Ward's Natural History Establishment at Rochester, N. Y., was killed by an automobile on July 4. He was born at Rochester in 1834, and, after studying at Williams College and Rochester University, became an assistant of Louis Agassiz. From 1860 to 1865 he was professor of natural sciences at Rochester University. Dr. Ward's establishment rendered an important service to science by supplying specimens to museums and other institutions, and in it were engaged a number of assistants who subsequently became eminent men of science.

DR. FRITZ SCHAUDINN, recently appointed head of the parasitological department of the Institute for Tropical Diseases of Hamburg and well known for his work on the protozoa, died on June 22 from septic infection at the age of thirty-six years.

THE deaths are announced of Dr. Ludwig Brakebusch, professor of geology at Hanover, at the age of fifty-seven years; of Dr. Ledebur, professor of metallurgy at the School of Mines at Freiburg, at the age of sixty-nine years; of Dr. Robert Craik, for many years professor of hygiene and dean of the medical faculty of McGill University, on June 28, at the age of seventy-seven years, and of Dr. William Ramsden, lecturer on sanitary chemistry at Manchester University, on June 29, at the age of 29 years.

SIR JOHN BRUNNER, M.P., has given £5,000 towards the completion and equipment of the additional buildings for engineering, metrology and metallurgy now in course of erection at the National Physical Laboratory, Teddington.

A NATIONAL dairy congress is to be held at The Hague, in 1907. Among the subjects to be discussed are unification of chemical methods for the examination of milk, butter and cheese, and of milk, butter and cheese control, etc.

Nature states that a banquet was given by the Institution of Electrical Engineers on June 25 in honor of the delegates from kindred institutions in Canada, France, Germany, Italy, Switzerland and the United States who were visiting England. Mr. John Gavey, C.B., president of the institution, presided, and there were about 450 guests and delegates present. The toast of the visiting delegates, proposed by the president, was responded to by Professor J. L. Farny, representing the Association Suisse des Électriciens; Mr. P. J. B. E. Auzépy, consul-general of France; Professor E. Budde, president, Verband Deutscher Elektrotechniker; Dr. Emil Naglo, representing the president of the Elektrotechnischer Verein; Mr. S. S. Wheeler, president of the American Institute of Electrical Engineers; and Mr. Guido Semenza, honorable general secretary of the Associazione Elettrotecnica Italiana, who during his response presented to the institution, in the name of the Associazione Elettrotecnica, a bust of Alessandro Volta. A conversazione in honor of the visitors was held at the Natural History Museum on the evening of the twenty-sixth.

THE third International Conference on Plant Breeding will be held in London, from July 30 to August 3, under the auspices of the Royal Horticultural Society. Conferences on this subject were held in London in 1899 and New York in 1902. The president of the forthcoming conference will be Mr. W. Bateson, F.R.S.

THE Royal Institute of Public Health has fitted up a laboratory for the study of parasitology. Dr. Sambon has been appointed director of the parasitological department, and Dr. Giordani and Dr. Bonelli are working with him. Systematic investigations have already been started, and many interesting specimens of parasites can be seen at the laboratory. Attention is in particular being given to parasites conveyed by domestic animals, by cattle and by rats.

WE learn from the *Scottish Geographical Journal* that an Oceanographical Museum has been established at Berlin in connection with the Institut für Meereskunde. The formal opening took place on March 5, in the presence of the Emperor and the Prince of Monaco, just five months after the death of Baron von Richthofen, to whose initiative the new museum owes its origin. The museum is divided into four sections: (1) A collection illustrating the imperial navy, containing pictures and models of warships, and specimens of guns, torpedoes, etc.; (2) a popular and historical collection illustrating the progress of navigation, with models of modern and primitive vessels, life-saving apparatus, and so forth; (3) a collection of instruments, etc., used in the study of the ocean and its contents, with numerous models showing the height of the continents and the depth of the ocean, the weight and volume of land and sea, respectively, in relation to those of the whole earth, the amount of salt in the sea, and so forth; (4) a collection illustrating the biology of the ocean and the fisheries, with examples of the products of economic value.

THE second International Congress of the Association for the Promotion of Hygiene and Salubrity in Dwellings will be held at Geneva from September 4 to 11. The program of the congress is as follows: A, dwelling houses; B, lodgings and places of assembly; C, movable and temporary dwellings; D, art and decoration in relation to the wholesomeness of houses; E, sanitary administration. The general secretary is M. Albert Waurin, 1 Rue des Moulins, Geneva.

AT the meeting of the London Zoological Society, held on June 21, the report of the council for the month of May was read by the secretary (Dr. P. Chalmers Mitchell), in which it was stated that 391 additions had been made to the society's menagerie during that month, of which 169 had been acquired by presentation, 14 by purchase, 25 by birth in the gardens, four received in exchange, and

179 received on deposit. The report further stated that the number of visitors to the society's gardens during the month of May had been 61,692, making the total for the first five months of the year 255,280, or an increase of 33,418 visitors as compared with the corresponding period in 1905.

WE learn from *The British Medical Journal* that at the last meeting of the Paris Academy of Sciences, MM. Calmette and Guérin made a communication on a new method of vaccination against tuberculosis, with good hopes of its ultimate applicability to the human subject. From numerous experiments, conducted with another object in view, they found that tubercle bacilli killed by heat or treated by different reagents pass through the intestinal wall with the same ease as living bacilli, and are found in the mesenteric ganglia, and even in the lungs. They therefore experimented to see if young animals (calves and kids), given by the mouth, at an interval of forty-five days, two doses of 5 and 25 centigrams of bacilli, either dead or modified in their vitality and virulence by various methods, could with impunity support a meal of 5 centigrams of fresh bovine tubercle, certainly infective for control animals. They have been able to convince themselves that bovine tubercle bacilli, killed by five minutes' boiling or simply heated for five minutes at 70° C. and ingested in given conditions, protect completely for four months at least against virulent infection by the digestive passages; how long the protection endures is not yet possible to state. Details of the actual experiments will shortly be published, but at the present time MM. Calmette and Guérin have proof that young calves can be vaccinated by simple intestinal absorption of bacilli modified by heat, and that this method of vaccination does not present any kind of danger. The experiments must be repeated in a sufficient number of animals to justify the application of the system to the prophylaxis of bovine tuberculosis. M. Roux, after this communication, announced that he is conducting experiments in collaboration with M. Vallée of Alfort on the same lines as MM. Calmette and Guérin, and that the results obtained agree in a remarkable way with those of the experiments of MM. Calmette and Guérin.

WE learn from *Nature* that in the course of an address before the annual meeting of the Linnean Society of New South Wales, held in March 28, Mr. T. Steel, the president, alluded to a proposed method of destroying rabbits by means of an infectious disease, the precise nature of which is not yet disclosed. The idea, it appears, originated in Paris, and since the necessary funds have been subscribed by stock-owners and agriculturists it is proposed to commence the experiment on a small island selected for the purpose. After discussing the arguments for and against the proposal, the president considered it highly undesirable that any such disease should be wilfully communicated to any species of animal, by means of which it might be disseminated throughout the country. As to the extermination of the rabbit, that is considered an impossible contingency; but means ought, and can, be found to keep the species in check without recourse to infectious diseases, which may be a danger to the community. In the course of the same address Mr. Steel alluded to the necessity of special efforts if the native Australian fauna and flora are to be saved from destruction. Poison spread for rabbits is responsible for the destruction of a large number of indigenous mammals and birds.

ACCORDING to the report in the London *Times* Mr. C. B. Marlay presided on June 22 at a meeting of the Royal Botanic Society, held in the museum of the society. Mr. J. S. Rubinstein protested against the system of reelecting members of the council as a matter of course; it was the result of that system that the society was in so unsatisfactory a state. The management of the society was deplorable, and he instanced the inadequate way in which its fête had been advertised. There ought, he urged, to be a properly qualified superintendent of the gardens. Prebendary Barker also spoke. He said that the chairman had not kept his promise, made at the last meeting, to send an official reply to the report drawn up by the committee ap-

pointed at the meeting held on January 24. The council had not wished the committee to receive the reply. The chairman said there had been a misunderstanding in the matter, as he had not made such promise. After a long discussion, Mr. Pembroke Stephens, K.C., announced that the reply would be sent on condition that it was kept secret until the meeting, and, on the suggestion of Mr. Cecil Raleigh, the meeting was fixed for the following Friday at 4:30, when the council met the committee. The chairman, on being asked whether the fellows were liable for the debts of the society, stated that the question was open to doubt, but he believed that in any case the liability of the individual would not be more than £15. Mr. Cecil Raleigh asked that legal opinion should be taken on the subject; at present the position was so bad that the society could not meet a demand for £500 for debentures, which had for sixteen days been ignored. The situation was precarious and serious, not only for the fellows, but for those who in the future might be elected. The accounts ought to be made up and placed upon the table. The chairman, in reply, said that the money was in the bank to meet the present call, and promised that a financial statement should be presented at the next meeting. Mr. Goodsall stated that but for the action of Prebendary Barker, Mr. Cecil Raleigh and Mr. Rubinstein, the extra guinea subscription would have been passed, and the society's finances put on a satisfactory basis.

UNIVERSITY AND EDUCATIONAL NEWS.

The extensive and valuable collection of fossils and minerals made by James Hall, for more than fifty years state geologist of New York, has been presented to the University of Chicago by Mr. John D. Rockefeller.

At the annual meeting of the alumni of Hamilton College, Clinton, N. Y., $20,000 was raised for the completion of New South College. Towards this sum Secretary Root, Chauncey A. Truax and Henry Harper Benedict, of New York, each contributed $3,000.

At the Johns Hopkins University the following appointments have been made: Joseph C. W. Frazer, Ph.D., now assistant, to be associate in chemistry; Solomon F. Acree, Ph.D., now Johnston scholar, to be associate in chemistry; Edward W. Berry, to be assistant in paleontology; August H. Pfund, Ph.D., to be assistant in physics; Arthur S. Loevenhart, M.D., now associate, to be associate professor of pharmacology and physiological chemistry; William W. Ford, M.D., now associate, to be associate professor of bacteriology and lecturer on hygiene; Max Broedel, now instructor, to be associate professor of art in its relation to medicine; Arthur W. Meyer, M.D., now assistant, to be instructor in anatomy; Robert Retzer, M.D., now assistant, to be instructor in anatomy; George H. Whipple, M.D., now assistant, to be instructor in pathology; J. A. English Eyster, M.D., now assistant, to be instructor in physiology; Ralph Stayner Lillie, Ph.D., Johnston scholar in physiology, and Robert Ervin Coker, Ph.D., Bruce fellow in biology.

The following appointments have been made at the University of Wisconsin: Seth E. Moody, instructor in analytical chemistry; Dr. Caleb A. Fuller, instructor in bacteriology; A. R. Johnson, assistant in organic chemistry; Charles T. Vorhies, assistant in zoology.

By the resignation of Professor E. H. Gregory, who has been the head of the department, the chair of anatomy in the Northwestern University Medical School has been recently made vacant. It is likely that this professorship, which embraces embryology and histology, will be filled during the summer.

Dr. William Shirley Bayly has resigned his position as instructor in geology at Lehigh University, to accept the position of assistant professor of geology in the University of Illinois.

On account of the resignation of Professor L. C. Hodson, who has accepted a position in the Iowa State College, the position of associate professor of mining at the University of Kansas is vacant.