

teriorate in the presence of other colors or affect these colors, especially those of albumin; a soluble black for dyeing, which will resist the action of light and soap as much as aniline black; a light blue cheap enough to be used to dye wools and not affected by boiling or by light; a blue similar to ultramarine which can be fixed upon cotton by a chemical process; a pure yellow which behaves like alizarin as regards its dyeing properties; a lake-red; a purple; a coloring matter to supersede logwood in its various applications; an assistant especially applicable to wool, capable of being cleared by simple washing, and composed of substances other than tin salts, hydrosulphites, sulphites, and bisulphites; new method of fixing aniline colors; a means of making colors resist the action of soap or of prolonged boiling; a means of producing the sheen of gold and silver upon materials by metallic powders; a manual containing tables showing the densities of as many inorganic and organic compounds as possible, in the crystallized state and in cold saturated solution; the synthesis of a substance having the essential properties of Senegal gum; a substance to supersede egg-white in the dyeing of linen; a colorless blood albumin which can be used instead of egg-white; a manual on the analysis of compounds employed in fabric printing and in dyeing; an indelible ink for marking cotton and similar materials; a practical method of removing grease spots from materials; a memoir on the use of resins in bleaching cotton fiber; a memoir on the bleaching and dyeing of various kinds of cotton; also memoirs dealing similarly with wool and silk; use of hydrogen peroxide for bleaching; improvements in the bleaching of wool and silk; and manuals on the bleaching of cotton, wool, silk, hemp and other fibers.

In connection with fabric printing, medals are offered for an alloy or other substance which has both the elasticity and durability of steel and also the property of not causing any chemical action in the presence of acid colors and colors containing certain metallic salts; a new cylinder machine capable of printing at least eight colors at once; and an application of electricity to bleaching, dyeing or fabric printing.

Among the prize subjects in mechanical arts are: A means of recording by a graphical method the work done by steam engines in a given period (ordinary indicator diagrams do not fulfil the conditions); memoir on the spinning of combed wool; on the force required to start spinning machines; a motor for driving machines used in printing fabrics.

In electricity medals will be awarded for an electric motor the power and driving rate of which can be easily varied; a memoir on the comparative cost of electricity and gas for lighting a town having a population of at least 30,000; and comparative costs of electricity, gas, acetylene and water-gas for lighting an industrial establishment.

Money prizes as well as medals are awarded for some of the subjects, and all the competitions are open to every one, irrespective of nationality. The memoirs, designs or models submitted for the awards should be sent to the president of the Société industrielle de Mulhouse before February 15, 1902.

SCIENTIFIC NOTES AND NEWS.

A ROYAL commission has been appointed in Great Britain to study the relation of bovine and human tuberculosis, consisting of Sir Michael Foster, Dr. Sims Woodhead, Dr. Harris Cox Martin, Professor J. McFadyean and Professor R. W. Boyce.

DR. W. J. MCGEE and Dr. W. H. Holmes were at St. Louis recently to advise in regard to the exhibit of anthropology and ethnology at the exposition in 1903. Very comprehensive exhibits were recommended, of which we hope to give later a detailed account.

PROFESSOR WILLIS L. MOORE, chief of the Weather Bureau, visited the Yellowstone Park last week, with a view to studying the desirability of establishing there a weather station.

MR. H. D. HUBBARD, private secretary to President Harper, of the University of Chicago, has been appointed, as the result of a civil service examination, secretary of the National Bureau of Standards, at a salary of \$2,000 a year.

THE Dutch Academy of Sciences at Harlem has elected to membership H. Haga, professor

of physics] at Gröningen; Ed. Verschaefelt, professor of botany and pharmacognosy at Amsterdam, and S. G. De Vries, of Leiden. Foreign members have been elected as follows: H. Becquerel, professor of physics at the École Polytechnique, Paris; Max Planck, professor of mathematical physics and director of the Institute for Theoretical Physics at the University of Berlin, and Heinrich Dubois, associate professor of physics at the same university.

JOSEPH Y. BERGEN, the author of well-known text-books on botany, has resigned his position in the English High School of Boston. With his family he sailed on September 3 for Naples, Italy, where for the future he will make his home.

THE officers of the Society for the Promotion of Agricultural Science elected at the recent Denver meeting, to serve for next year, are:

President, W. H. Jordon, director of the New York State Experiment Station, Geneva.

Secretary-Treasurer, F. M. Webster, Wooster Ohio.

Members of the Executive Committee, to serve with the president and secretary, W. J. Beal, Agricultural College, Mich.; W. R. Lazenby, Columbus, Ohio; C. S. Plumb, Lafayette, Indiana.

DR. ADOLF FICK, the eminent physiologist, died on August 21, at the age of seventy-one years. He was born at Cassell, and after studying at Zurich became professor at that University in 1876. In 1868 he removed to Würzburg, where he made the laboratory of physiology one of the most important in Germany. He published a well-known compendium of physiology, the third edition of which appeared in 1882, and was also the author of books on the physiology of the senses and on muscular contraction, to which subjects his researches contributed in an important degree.

THE death is announced of Admiral Jonquières, the well-known French geometer.

PROFESSOR SAMUEL PORTER, a widely known teacher of the deaf and dumb, died at his home in Farmington, Conn., on September 2, at the age of ninety-one. He was a son of President Noah Porter, of Yale College, and graduated from that institution. He began the instruction of the deaf and dumb at Hartford, where he

remained till 1836. In 1846 he went to New York and in 1866 was made professor of mental science and English philology at Gallaudet College, Washington. He became professor emeritus in 1884.

DURING the present season the biological laboratory of the United States Fish Commission at Wood's Holl, Massachusetts, has been under the personal direction of Dr. H. M. Smith, of the Commission staff. The former director, Dr. H. C. Bumpus, owing to his new duties at the American Museum of Natural History, was unable to continue his services, much to the regret of Commissioner Bowers. Among those who have occupied tables and pursued investigations during the summer are Dr. Robert P. Bigelow, Massachusetts Institute of Technology; Dr. Gary N. Calkins, Columbia University; Dr. Otto Folin, McLean Hospital (Waverly, Mass.); Dr. Caswell Grave, Johns Hopkins University; Mr. Karl Kellerman, U. S. Department of Agriculture; Dr. F. T. Lewis, Harvard Medical School; Dr. H. R. Linville, DeWitt Clinton High School; Professor W. J. Moenkhaus, Indiana University; Professor George H. Parker, Harvard University; Dr. H. W. Rand, Harvard University; Dr. R. M. Strong, Harvard University; Dr. F. B. Sumner, College of the City of New York; Dr. W. T. Swingle, U. S. Department of Agriculture, and Professor R. W. Tower, Brown University.

Two vacancies in the position of assistant computer in the Nautical Almanac Office will be filled by civil service examination on October 8 and 9.

A NEW YORK State civil service examination will be held on or about September 28, to fill certain positions, including that of electrical engineer, at a salary of \$900, and of instructor in various manual arts in the State reformatories and institutions.

AT the approaching annual reception and opening of the American Museum of Natural History, New York, the Tiffany collection of gems, recently presented to the museum by Mr. J. Pierpont Morgan, will be on exhibition; part of the Bement collection of minerals will also be exhibited.

THE library of natural history, which the Park Department has fitted up in the Swedish schoolhouse on the West Drive near the Metropolitan Museum, is used by fifty to one hundred people daily. It will be kept open during the winter, and it is expected that it will be used by children from the schools. The library is dependent on gifts, and books or journals bearing on natural history will be gladly received.

MR. ANDREW CARNEGIE has offered \$20,000 and \$15,000, respectively, to Riverside, Cal., and Chatham, N. Y., for public libraries.

THE New York City Board of Health has adopted resolutions requiring public institutions to report cases of malaria and requesting physicians to do the same.

IN harmony with the vote of the executive committee, the eighteenth annual meeting of the Association of Official Agricultural Chemists will be held in Washington, D. C., beginning Thursday, November 14, and continuing over Friday and Saturday, 15 and 16, or until the business of the Association is completed. The authorities of the Columbian University have extended the courtesy of the use of the University lecture hall for the various sessions. The following order of business will be observed: The president's address; reports of the referees on nitrogen, on potash, on phosphoric acid, on soils, on ash, on foods and feeding stuffs, on liquor and food adulteration, on dairy products, on sugar, on tannin, on insecticides; reports of special committees (abstract committee, food standards, fertilizer legislation, volumetric standards).

THE following preliminary program of subjects for the proposed International Conference on Plant Breeding and Hybridization, to be held in the fall of 1902, is announced by the Horticultural Society of New York. The exact dates for the meetings are not yet decided upon, and the program as given is subject to alteration:

Results of Hybridization and Plant Breeding in Canada. (Illustrated by specimens.) William Saunders, director of the Central Experimental Farm, Ottawa, Canada.

Notes on Plant Breeding in California. E. J. Wick-

son, horticulturist, Agricultural Experiment Station, University of California.

Plant Breeding in New Jersey. (Illustrated by specimens.) B. D. Halsted, professor of botany in Rutgers College, New Brunswick, N. J.

Hybrid Plums. F. A. Waugh, horticulturist, Vermont Agricultural Experiment Station.

Variations in Hybrids not appearing in the First Generation, but Later. E. S. Goff, horticulturist, Agricultural Experiment Station, University of Wisconsin.

Results in the breeding of Species of Ricinus. E. Mead Milcox, botanist, Oklahoma Agricultural Experiment Station.

On Orchid Hybrids. (Illustrated by specimens of the parents and progeny.) Oakes Ames, Ames Botanical Laboratory, North Easton, Mass.

The Wild Hybrids of the North American Flora. (Illustrated by specimens of the parents and progeny.) David George, museum aid, New York Botanical Garden.

Hybrid Beans. R. A. Emerson, horticulturist, Agricultural Experiment Station, University of Nebraska.

Cytological Aspects of Hybrids. W. A. Cannon, Columbia University, New York City.

Correlation between the Fruit and other Parts of the Plant in Form, Color and other Characteristics. (Illustrated by specimens.) S. A. Beach, horticulturist, New York State Experiment Station, Geneva, N. Y. Other papers, the titles of which have not yet been communicated, are also promised from the following: Delegates representing the Royal Horticultural Society of England; Luther Burbank, Santa Rosa, Cal.; J. Craig, Cornell University, Ithaca, N. Y.; K. C. Davis, West Virginia Agricultural Experiment Station; S. B. Green, Agricultural Experiment Station, University of Minnesota; H. C. Price, Iowa Agricultural Experiment Station; W. van Fleet, M.D., Little Silver, N. J.; J. C. Whitten, Agricultural Experiment Station, Columbia, Mo.; C. W. Ward, Queens, N. Y.; H. J. Webber and others representing the United States Department of Agriculture.

THERE was held at Glasgow last week an international engineering congress under the auspices of the leading British engineering societies. Lord Kelvin was the honorary president and Mr. James Mansergh the president. The sections in which the congress met were as follows:

Section I.—Railways. Chairman, Sir Benjamin Baker.

Section II.—Waterways and Maritime Works. Chairman, Sir John Wolfe Barry, K.C.B., F.R.S.

Section III.—Mechanical Engineering (Institution of Mechanical Engineers). Chairman, Mr. W.H. Maw.

Section IV.—Naval Architecture and Marine Engineering (Institution of Naval Architects). Chairman, the Right Hon. the Earl of Glasgow.

Section V.—Iron and Steel (Iron and Steel Institute). Chairman, Mr. William Whitwell.

Section VI.—Mining (Institution of Mining Engineers). Chairman, Mr. James S. Dixon.

Section VII.—Municipal Engineering (Association of Municipal and County Engineers). Chairman, Mr. E. George Mawbey.

Section VIII.—Gas Engineering (Institution of Gas Engineers). Chairman, Mr. George Livesey.

Section IX.—Electrical (Institution of Electrical Engineers). Chairman, Mr. W. E. Langdon.

THE Department of State has received from the Russian Embassy, Washington, under date of August 12, 1901, notice of the International Exposition and Congress of Fisheries, to be held in St. Petersburg in 1902. An invitation is extended to the United States to participate in the exposition and to send official delegates and experts to the congress. The exhibition is open to Russian and foreign exhibitors. Its objects consist in: (a) Determining the actual condition of sea and fresh-water fisheries, and of other similar pursuits; (b) acquainting producers and consumers with the various products of fisheries and with methods of preparing and preserving the same; (c) exhibiting the gradual development and actual state of artificial fish breeding, as likewise the various aspects of amateur fishing and angling; (d) promoting scientific research pursued in the interests of fisheries.

DR. CALMETTE, the director of the Pasteur Institute at Lille, and the discoverer of a curative serum for the effect of snake-bite, was, as a correspondent to the *Lancet* reports, recently severely bitten on the hand by a trigonoccephalus. Dr. Calmette without delay gave himself an injection of his anti-venomous serum, but nevertheless the hand swelled up and acute fever set in; but by the afternoon of the same day Dr. Calmette was sufficiently recovered to attend a sitting of the Conseil-Général of the

Department, at which he argued in favor of a grant in aid of the sanatorium which he has undertaken to found at Lille. On the following day he was perfectly well, having thus afforded in his own person, albeit unwillingly, a convincing proof of the efficacy of his excellent remedy.

UNIVERSITY AND EDUCATIONAL NEWS.

It appears that German soldiers are still occupying the buildings of the University at Tien-Tsin, and the question has been brought to the attention of our Department of State, the institution being conducted under American auspices.

THOMAS L. WATSON, Ph.D. (Cornell), assistant state geologist of Georgia for the past four years, has been elected professor of geology and botany at Denison University, Granville, Ohio.

PROFESSOR F. C. VAN DYCK, who holds the chair of electricity and mechanics at Rutgers College, has been made dean of the faculty.

E. B. HOLT, M.A. (Columbia), Ph.D. (Harvard), has been appointed instructor in psychology in Harvard University, succeeding Dr. Robert MacDougall, recently called to the chair of psychology in the School of Pedagogy, New York University.

MR. FRANK NICHOLAS SPINDLER has been elected professor of psychology and pedagogy in the State Normal College, at Stevens Point, Wisconsin.

MR. A. H. YODER, of the University of Indiana, has been appointed professor of pedagogy at the University of Washington.

A. L. KROEBER, Ph.D. (Columbia), has been appointed instructor in Indian anthropology in the University of California.

AT Brown University, Mr. G. F. Parmenter and Dr. N. A. Dubois have been appointed instructors in chemistry.

MR. S. Y. WARA has been awarded a teaching fellowship in chemistry in the University of Missouri.

DR. RUDOLPH ZUBER has been promoted to a full professorship of geology at the University at Lemberg.