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HENRY DRAPER.

Professor Henry Draper, M.D., LL.D., died, after a brief illness, at his residence in this city, November 20. Although Professor Draper's scientific labors have been many and of great value, he was yet comparatively young, and there was every reason to anticipate for him great and brilliant successes in ripe life. He had inherited much of his illustrious father's ability and love for scientific investigation, and was able to carry on his chosen work under the most favorable of material conditions.

He was born in Virginia, in 1837, and was removed to this city three years later, when his father, Professor John W. Draper, accepted the chair of Chemistry in the University of the city of New York. He was graduated in the Medical Department of the University in 1858, and after spending some months in scientific observations and travel in Europe, he joined the medical staff of Bellevue Hospital. In 1860 he was elected to the chair of Physiology in the Academic Department of the University, which position he filled until last winter, when he succeeded his father in the chair of Chemistry.

While yet in school, he began to develop the possibilities of microphotography, and discovered the value of the protochloride of palladium in darkening collodion negatives. On his return from Europe he constructed a 15½-inch reflecting telescope, devising important improvements in methods of grinding, polishing, and testing reflectors. With this telescope he carried on the pioneer work of lunar photography. He subsequently constructed the telescope of 28-inch aperture, which he put to such successful use in photographing the spectra of stars. His beautiful diffraction spectrum, obtained in 1872, remains unexcelled. His admirable work as superintendent of the photographic department of the commission created in 1874 to observe the transit of Venus, was rewarded by a special gold medal, struck in his honor by order of Congress.

Among the later achievements of Professor Draper in the department of spectro-photography, are those leading to the discovery of oxygen in the sun, in 1877, and his studies of the great comet of 1851. Meantime he had added to his list of brilliant successes in celestial photography by photographing the great nebula in Orion.

His observatory at Hastings on the Hudson, and his laboratory in this city, are accounted the best equipped private scientific establishments in the country if not in the world. A fortunate marriage early placed at his command almost unbounded facilities for gratifying his taste for difficult and costly investigations, and the world has reaped the benefit.

Professor Draper's social relations were wide and exceedingly happy. A characteristic illustration of his method in social entertainment was shown on the evening preceding his fatal attack, when he gave a dinner to the members of the National Academy. It was a splendid exhibition of the possibilities of electric lighting artistically developed and applied.

NATIONAL AND INTERNATIONAL EXHIBITIONS IN 1883.

The government of Spain has announced the conditions and regulations of a National Exhibition of Mineralogy and Metallurgy to be held in Madrid, between April 1 and June 30, 1883. Exhibits will be received up to February 15. Applications for space for machinery and special exhibits must be made before October 31, 1882. All other exhibitors, save those of machinery, are granted an additional month for filing applications for space in the main gallery. The exhibition is to include all machinery, utensils, and tools (Spanish or foreign) that are used in mining and metallurgy, in the manufacture of earthen and glass ware, and in the utilization of mineral waters; also all foreign manufactures from Spanish minerals. There is to be no charge for space, and water for hydraulic and steam engines will also be free for machines not exceeding five horse power. Liberal arrangements have been made for transporting and handling exhibits, and for the passage of goods in bond through the custom houses for exhibition purposes.

The increasing value of the markets of Spain and her colonies gives to this exhibition especial interest to a large class of American inventors and manufacturers. As an efficient though indirect mode of reacting on Spanish America, the exhibition may be worth considering.

The general agent for the United States for the international, colonial, and general export exhibition to be held in Amsterdam, Holland, from May 1 to October 31, 1883, has issued a circular, presenting the inducements which the exhibition holds out to American farmers, merchants, manufacturers, railway companies, and land and mine owners. This is the first international exhibition in the kingdom of the Netherlands, and is expected to draw many visitors from northern France, Belgium, Germany, and the Scandinavian countries.

The kingdom, with its colonies, embraces a population of nearly 40,000,000 people, and Amsterdam is one of the richest as well as most progressive commercial centers in Europe. Our trade with Holland and its dependencies has more than trebled during the past seven years, and the coming exhibition should be taken advantage of to greatly extend that trade.

At a meeting of bankers and merchants, held in this city November 21, the general agent, Mr. S. A. Wheelwright, reported favorable indications of State and national interest in favor of an abundant representation of American natural and artificial products at this exhibition.

Venezuela proposes to celebrate the centenary of the birth of Simon Bolivar, the South American liberator, by opening a national exhibition at Caracas, July 24, 1883. The Venezuelan Chargé d'Affaires in this city announces that he is authorized to extend a welcome to all authors, inventors, manufacturers, and artisans who may wish to make their productions known in Venezuela. He adds:

"Considering that Venezuela exports \$6,000,000 every year to the United States and only imports some \$2,000,000 from them, it will be readily perceived that the commerce of this enterprising nation with our country is far behind what is due to its gigantic production and inventive genius; or, in other words, that there is a market in South America for the products of this country not sought for by its commerce to the extent that it might advantageously do so. The exposition at Caracas offers a favorable opportunity to all who may desire to obtain a new and profitable outlet for their goods."

ROMANCE AND REALITY OF ANIMAL MOTION.

Mr. E. Muybridge, whose success in catching and fixing by instantaneous photography the attitudes of animals in motion is so well known to our readers, gave an illustrated lecture upon the romance and reality of animal motion in this city, November 16. By means of a zoopraxiscope the instantaneous views were thrown upon a screen singly, in rapid succession, and in combinations, giving startlingly life like representations of the postures and movements of live animals.

Though the principal attention was given to the horse, the motions of other animals and men were also reproduced and described. After explaining the method by which series of instantaneous views of moving animals were obtained, Mr. Muybridge showed how greatly the reality of animal positions varied from the positions represented in sculpture and painting. Photographs of famous sculptures and paintings were thrown upon the screen, and the impossible attitudes represented were contrasted with views of live horses under the conditions which the artists intended to represent. When describing the walking motion of a horse, Egyptian, Assyrian, and Roman pictures were shown to demonstrate that an erroneous idea of this motion prevailed in the earliest attempts at art. It was perpetuated in the famous statue of Marcus Aurelius, which has been the model of almost all equestrian statues to the present day, and is as conspicuous in the equestrian statues of Washington in Boston and in Union Square as in any of the old Egyptian or Assyrian pictures. It is not possible for a horse to walk in the way there depicted. Meissonier had a correct idea of a horse's walk when he painted his great picture of Napoleon in 1814, but the critics ridiculed it and pronounced it incorrect. Now he has the satisfaction of knowing that he was right and they were all wrong. Miss Thompson also was correct, and the critics derided her for being so.

Later the lecturer showed photographs of Egyptian and Assyrian models of the running horse—models blindly followed by artists ever since—in which the animal is presented poising himself on both hind feet extended far behind, with his fore feet stretched far out ahead of him together. The North American Indians had a much more correct idea of the motion of a horse, as was demonstrated by their rude pictures upon a buffalo robe that Lafayette bought when in this country and took back with him to Paris.

When all the varied paces of horses had been described and illustrated, the jumping horse was shown in a series of brilliant and sometimes comical views. These were followed by illustrations of the gaits of oxen, a bull, a Newfoundland dog, a hound, deer, a goat, and the hog.

The goat runs like a horse and the deer like the hound, bounding rather than running. In one part of the deer's stride its attitude was very near to that which artists have so long inaccurately made as that of the running horse.

Views were given of the walking, running, and jumping attitudes of Hazeel, whose unrivaled ungracefulness proved a surprise even to the champion himself. Other athletes were shown boxing and tumbling.

The lecture closed with a beautiful series of pictures of pigeons and sea-gulls in flight. But two peoples—the Egyptians and the Japanese—ever represented birds as seen in some of the photographs with the wings down.

"Vaccination" for Chicken Cholera.

Mr. W. H. Griffith, of Zanesville, O., says that during the past two years he has vaccinated 2,000 fowls in yards badly smitten with chicken cholera, and of this number only 11 died. Of fowls in the same yards not vaccinated all died. The proper procedure in such cases is as follows:

"Vaccinate a hen, and in eight days her system will be thoroughly inoculated; then cut off her head and catch all the blood in some vessel, then pour the blood on paper to dry; a half drop of this blood is sufficient to vaccinate a fowl, and the blood of one hen will vaccinate your whole flock. Catch the fowl you wish to vaccinate, and with a pin or knife make a little scratch on the thigh (just enough to draw blood), then moisten a little piece of the paper with the dried blood on, and stick it on the chicken's leg where you scratched it, then let the fowl run, and you need have no fear of chicken cholera."

In the course of his experiments Mr. Griffith has dried enough blood to vaccinate 10,000 fowls. He offers to send, free of charge, to such as wish to try the cure, enough blood to start with. All he asks is that application be made soon (as the blood loses its virtue by long keeping), and that experimenters report results.