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Action of cold on the voltaic arc.—According to M. D. Tommasi, the voltaic arc is considerably enfeebled if, by means of a current of water, the electrodes between which it is produced, are cooled. Its brilliancy is then not intense and the least breath extinguishes it. Its temperature also is relatively but little elevated. These facts are evident *à priori*. The magnet displaces and extinguishes it. It is the same on the approach of an inflamable body.

Molecular Physics.—M. Fizeau sent a communication relative to the variation in length of a bar of zinc brought to an even temperature after having undergone different actions. The application which these facts will receive is immediately seen in point of view of the construction of metallic measures.

The accents of the deaf and dumb.—It is known that the deaf and dumb can be taught to speak so that we can converse with them very nearly as well as with men who have possession of both of these senses. M. Félix Hément announces the fact that the individuals who can thus speak, are affected by the particular accent of their native province. As they have not acquired this accent by imitation, since they are deaf, the author thinks that the reason must be sought in the arrangement of the phonetic apparatus, special to each race.

Mechanics.—It is in a special way that M. Bertrand announces a memoire by M. Lévy, relative to the transportation of force to a distance by electricity. It is known that calculus demonstrates that a 16 horse-power engine can transmit force to a distance of 10 to 50 kilometres. M. Lévy states that a much superior result can be obtained.

INFECTED PORK.

It is not only Trichinæ which is to be dreaded in the hams exported by the United States; in one of the recent meetings of the Medical Congress, Dr. E. Ballard and Mr. E. Klein called the attention of the public to another still more dangerous parasite in the same meat. The *Journal of Hygiene* makes the following remarks on this subject:

In 1880, on the estates of the Duke of Portland, at Welbeck, twenty persons were taken seriously ill, after a dinner in which boiled ham had been served, with pork imported from America. Four persons died; others felt no evil effect. The morbid symptoms showed nothing very characteristic (choleric diarrhœa, vomiting, pains in the muscles, great prostration); the autopsy only revealed pulmonary congestion. In a piece of kidney, examined under the microscope, there were found traces of inflammation of the parenchyma, and in the capillaries of the Malpighian tufts, incrustations formed by masses of Bacilli.

In passing over the field of the microscope, particles of the raw ham and of the boiled ham which was infected, a species of Bacillus with its spores was found; the bacillian threads and the spores adhered closely to the muscular fibres and to the intermuscular tissue.

Experiments were made on animals: 1. By feeding and by inoculation, or by the two methods combined. 2. By inoculation after cultivation of the bacillary matter in the incubator. In every case sickness was caused, and at the autopsy, lesions of pneumonia or pulmonary hemorrhage were established.

A second series of observations was made on fifteen persons who felt serious symptoms after having eaten a leg of pork, roasted in the oven, bought at a second-class cookshop. One of them having died, Bacilli were found, at the autopsy, in the blood of the heart, in the blood pressed out of the pulmonary tissue, and in the blood extravasated around the pulmonary alveoli. The tissues of the stomach, the ileum, the spleen, and the kidneys, also contained Bacilli.

Experiment by inoculation with different liquids, on animals, caused morbid and often mortal symptoms. Bacilli were also found in the blood, and in the different tissues of the animals. Unfortunately, in this case, the suspected food could not be examined.

In the face of these facts, Messrs. Ballard and Klein do not hesitate to admit an acute specific affection, not to this day defined, and presenting marked characteristics, in point of view of the morbid phenomena, with the known cases of poisoning by damaged or trichinated meat.

Dr. Tripe, of London, recalled two febrile maladies which he had observed in his medical circumscription. In the first, sixty-six persons showed alarming morbid symptoms, after a dinner in which sausage containing a mixture of beef and pork fat, had been served. In the second it was pork fat alone which was the immediate cause of the sickness. Dr. Buchanan mentions cases of diseases, in which beef and mutton constituted the infected substances.—*La Nature*.

THE COMPARATIVE ACTION OF DRY HEAT AND SULPHUROUS ACID UPON PUTREFACTIVE BACTERIA.*

Pieces of woolen and cotton cloths and wadding were dipped in a solution of putrefying flesh and slightly dried; and after being shown to be infected by causing discoloration and development of bacteria in a Pateur solution, one portion was subjected to dry heat, and the other to the influence of a definite quantity of sulphurous acid. When these agents had operated for a certain time, the substances were brought into a developing liquid and again observed.

These experiments, which were conducted by Dr. Wermch, were as follows:

First. Fragments of the materials above referred to, treated as mentioned and dried, produced in sixteen experiments an exceptionably rapid disturbance of the test liquid. In four experiments with wadding this was somewhat retarded. It took place most rapidly in tubes which had been inoculated with woolen thread.

Second. After inoculation with the material which had been exposed one or two minutes to a dry heat of 284° to 300° F., clouding took place in four of eight experiments; but only after from two to three days. With material which had been exposed from ten to sixty minutes to a a heat of 230°–244° F., in five out of six experiments a development of bacteria took place after the end of twenty-four hours.

Third. Substances which were exposed five minutes to a heat of 257° to 302° F. produced no infection whatever in ten experiments. The test liquid remained clear for eleven days from the time of inoculation.

Fourth. When the objects were exposed under a bell glass to the action of a percentage, by volume, of 1.5, 2.2, and 3.3 of sulphurous acid, in eight out of nine experiments a bacterial clouding was developed in the sulphurized material, whether the application had continued for one hour or twenty-two.

Fifth. In fifteen experiments, in which sulphurous acid constituted 4.6 and 7.15 per cent. by volume, of the contents of the bell glass, the introduction of the sulphurized material produced no cloudiness, when the experiment continued six hours and more. On the other hand an exposure of 20, 40, 60, and 200 minutes was followed by the development of bacteria.

In conclusion, the fact was considered especially interesting that the different fabrics gave up the infection concealed in them with different degrees of rapidity, the woolen fiber the quickest, the linen less easily, and the wadding with the greatest difficulty of all.

* From the proceedings of United States National Museum.