corps to Tunis in 1881, consisting of 20,000 men, had 4,500 cases of typhoid, with 884 deaths.

Dr. Brouardel concludes by affirming that if vaccination and re-vaccination were rendered obligatory in France, and if the towns were everywhere supplied with pure water, the country would save from 25,000 to 30,000 lives annually, and these, for the most part, of young persons of marriageable age. He therefore proposes to the academy to adopt the following conclusions: "that the sanitary law in preparation ought to render vaccination obligatory; it ought to furnish sufficient authority to the municipalities, or in their default the prefect or the government, to secure the public health against the dangers which result from using polluted water."

In the discussion which followed Dr. Brouardel's communication many important points were elicited. One speaker drew attention to the evils which arose from cheap lodging-houses. Another insisted upon the superiority of supplying pure water to any methods of filtration. At Angoulême filtration was tried with some advantage, but the provision of a pure supply proved much more successful.

We may learn something from the anxieties of our neighbors. If the outcry against compulsory vaccination now prevailing in some quarters in this country should unhappily effect any slackening in our vigilance in this matter, we shall surely pay the penalty in a heavier mortality from one of the most loathsome of diseases. The example of Germany in this matter is admirable, and cannot be too widely known or too carefully followed. The provision of an absolutely pure supply of water to our large cities is a much more difficult problem than the thorough enforcement of vaccination, but it is at least the ideal towards which our efforts must be directed. It is an immense gain to know positively both the source of danger and the means of averting it, and we must never rest content so long as an acknowledged source of disease, misery, and national weakness is permitted to exist in our midst.

MEAT-PRESERVATION.

DR. HANS BEU points out that nearly all the newer methods of preparing preserved meats have had to give way before the older methods of boiling, drying, salting, and smoking, which, along with freezing, preserve the taste and digestibility of meats better than any of the chemical methods that have more recently been recommended. As stated in the *British Medical Journal*, all these old methods hinder decomposition, and keep meats eatable for a longer or shorter period. Cold acts by preventing putrefactive changes in meat, 2° to 4° C., with good ventilation, preventing the development of most organisms. Boiling, with subsequent exclusion of air, is, of course, good, but can only be carried out in large establishments and under specially favorable conditions. Drying gets rid of the water, without which micro-organisms cannot develop; but, although there is no loss of albuminoid or salts when this method is used, the taste is somewhat impaired. Salt also acts by removing water, but it also removes the extractives, and interferes with the delicate flavor of both meat and fish. Smoke acts partly by drying, the heat at which it is generated rendering this necessary, but partly, also, by the action of the small quantities of the antifermentative constituents, such as creosote, carbolic acid, and even volatile oils, which appear to have a direct action on the vitality of putrefactive organisms.

The author agrees with Förster, that salt has little or no effect upon most pathogenic organisms, but it undoubtedly interferes with the development of the cholera bacillus and of anthrax bacillus that contains no spores, and probably, also, of some of the non-pathogenic but putrefactive forms.

As the result of his experiments on a very large number of food-materials, such as ham, bacon, pork, various kinds of sausages, and fish, Beu comes to the conclusion that most meats are salted not only to preserve the taste, but also to withdraw a large proportion of the water from flesh; that smoking also withdraws a considerable quantity of water, that it hides the salty taste, and that, being able to penetrate dried flesh, it is better able to exert its antiputrefactive action than on fresh meat. Salted lean flesh, exposed to the action of smoke at from 22° to 25° C. for forty-eight hours, no longer contained liquefying organisms, which had been present in considerable numbers before the smoking operation was commenced, but non-liquefying organisms disappeared only on the ninth day of smoking. Salt bacon salted for ten days, and then exposed to the action of smoke for forty-eight hours, also showed no liquefying organisms with a fragment from near the centre taken with the most strict precautions, and broken up in liquid gelatine, which was afterwards allowed to solidify. All non-liquefying organisms had disappeared on the seventh day of smoking. Bacon salted for five weeks contained no organisms after seven days' smoking. Fresh unsalted meat contained both kinds after six days of smoking, and sausage also contained both at the end of twelve days; this being exactly in accordance with what would be expected from the large amount of water that it contained, from the nature of the meat used, and from the many manipulative processes through which it has to go before the smoking is commenced. Fish may be preserved for a short time by smoking only, but it could not be kept permanently. Hams and larger sausages require a longer period of smoking than do similar smaller articles of diet.

THE MAHOGANY TRADE OF HONDURAS.[1]

THE Republic of Honduras, as well as the territory known as British Honduras, have long been celebrated for their forests of mahogany and other fine-grained woods. Belize, the capital of the British possessions in Central America, now a city of considerable commercial importance, owes, says the United States consul at Ruatan, its origin and wealth to the mahogany-cutters. During the first half of the present century, princely fortunes were quickly accumulated in the business; but, since iron and steel have taken the place of wood in the construction of vessels, the mahogany trade has decreased to a notable extent, although it is still large and profitable. The mahogany cuttings of British Honduras require at present more capital to carry them on than formerly. The expense and difficulty of getting out the wood has greatly increased, as but comparatively few trees can now be found near to the banks of rivers and streams of sufficient depth of water to float the logs to the coast. In Spanish Honduras, and especially within the limits of the consular district of Ruatan, there are still forests abounding in mahogany and other precious woods, where foreign industry and capital might be safely and profitably employed.

The following is the system employed in manipulating the mahogany and in felling the trees, and in hewing, hauling, rafting, and embarking the logs in Honduras. Having selected and secured a suitable locality, and arranged with one of the exporting-houses of Belize to advance the means in provisions and money to carry on the works, the mahogany-cutter hires his gang of laborers for the season. Nearly all labor contracts are made during the Christmas holidays, as the gangs from the mahogany-works all congregate in Belize at that period. The men are hired for a year, at wages varying from twelve to twenty dollars a month. They generally receive six months' wages in advance, one-half of which is paid in goods from the house which furnishes the capital. The cash received by the laborers is mostly wasted in dissipation before they leave the city. Early in January the works are commenced. Camps, or "banks" as they are called, are organized at convenient places on the margin of some river in the district to be worked. Temporary houses, thatched with palm-leaves, are erected for the laborers, and a substantial building for the store aad dwelling of the overseer. The workmen are divided into gangs, and a captain appointed over each gang, whose principal duty is to give each man his daily task, and see that the same is properly done.

All work in mahogany-cutting is done by tasks. The best laborers are out at daybreak, and generally finish their task before eleven o'clock. The rest of the day can be spent in fishing, hunting, collecting India-rubber and sarsaparilla, or in working up mahogany into dories, paddles, bowls, etc., for all of which a ready market is found. The mahogany-tree hunter is the best paid and the most important laborer in the service. Upon

[1] From the Journal of the Society of Arts, London.