

rendered possible operations which, a few years ago, it would have been considered criminal to attempt. What was known as the antiseptic system of surgery was practised by the leading surgeons in every country in the world, and Sir Joseph Lister was recognized throughout the civilized world as one of the greatest benefactors of humanity. The first actual disease of animals to which Pasteur devoted his attention was anthrax, or malignant pustule. In 1850 it was discovered that the blood of animals affected with disease contained a number of little hair-like bodies, but it was not until some thirteen years later Dr. Devine, in the light of Pasteur's researches, bethought him that possibly these little bodies might be ferments which caused disease. He discovered by numerous experiments that these little germs were inseparably connected with the disease, and the following remarkable sequence of facts established the necessary connection between the germ and the disease. In the first place, these minute bodies were found in the blood of infected animals, but never in healthy blood. In the next place, the inoculation of healthy animals with these minute bodies caused the unaffected animals to become affected with the same disease, and the blood to swarm with identically minute germs. Thirdly, blood taken from the infected animals after infection, but before the appearance of these minute bodies, and inoculated on healthy animals, failed to produce disease. Fourthly, healthy blood inoculated on healthy animals never produced disease. Fifthly, blood might be disinfected or even filtered and thus freed from the germs, and then when inoculated would be quite harmless. The method which Pasteur devised, and experimentally tested, was simply beautiful and conclusive. The essayist then described the "flask experiment." Pasteur also discovered that it was possible by proper methods of culture to deprive infectious germs of a portion of their virulence, and that in their debilitated condition they may be propagated from generation to generation and reproduce themselves. He further learnt that these attenuated or weakened bacilli might be inoculated upon an animal, giving it a mild form of disease, which, however, would prevent it from contracting disease in its most severe form. The protective inoculation against anthrax was not, unfortunately, permanent. Pasteur's researches into chicken cholera and various

other diseases were referred to, and the remarkable induction by which Pasteur obtained an attenuated protective virus by which this disease could be avoided, was also alluded to. The greatest experiment which Pasteur ever performed was that to test the efficacy of his protective virus on anthrax, and this experiment was lucidly detailed. In conclusion, Dr. Hime said that the bearing of that important theory upon public health was of very wide extent, and opened up to them an horizon, the extent of which exceeded anything ever dreamt of. If they really had ascertained the specific cause of consumption, anthrax, pneumonia, diphtheria, typhoid fever, and a number of other of the greatest plagues of humanity, more than the first step had been taken towards successfully combatting those diseases. But they could not hope for rapid progress in this country while they were hampered by measures which entirely prevented the possibility of scientific research, and which, while it rendered perfectly legal the killing of rats and other vermin with the wanton intention of merely getting rid of them, rendered it a penal crime to inoculate a rat or a mouse with the object of saving human life.

CONSUMPTION—ITS CONTAGIOUSNESS— THE TUBERCULAR BACILLUS.

Three recent meetings of the Royal Medical and Chirurgical Society of London, England, have been occupied in discussing a paper by Dr. Kidd relating to the relative preponderance of tubercle bacilli at the various stages of the progress of phthisis. The discussion took a wide range. There appears to be no longer any doubt as to the direct relation, as cause and effect, of the bacilli to consumption. This appears to have been the general opinion of those at the meetings. In commenting on the meetings, the *Lancet* says, "we may take it, then, as established that in the lesions of the phthisical there are to be found, in varying quantity, the bacilli discovered by Koch in tubercular products. Here, then, we have valuable aid on a diagnostic point, by seeking for these micro-organisms in the expectoration. . . . The doctrine harmonises well with the facts, spoken to on all sides, as to the relative prognostic significance of an abundance or paucity of bacilli in the sputa. How, then, does the acceptance of this doctrine affect the whole question of the nature of phthisis? It