

dual to another. When in the more recent literature there are so many instances of the great benefit of sanitation, it is surprising that we should still hesitate to adopt vigorous measures.

When we know that tuberculosis carries off a seventh part of the human race, that its ravages are certainly greater than those of any known disease, we should put forth every effort to stamp it out so far as that can be done.

In Russia, during the present year, where the cholera victims have been numbered by the thousands, tuberculosis will cut off also its thousands, and continue to do so year after year.

The general prophylaxis I shall take up under two heads: (1) The destruction of the bacilli outside of the body, (2) Placing the individual in such a condition that he can successfully withstand the onset of the disease.

While we still continue to believe in the possibility of the direct transmission of the affection from parent to child, a belief which has been confirmed by the recent investigations of (1) Schmolz and Birsch Herschfeld, yet statistics prove that in the great majority of cases the virus is conveyed either through the air, by food, or by direct inoculation, and that its transmission through the air in the form of dried particles of sputum is by far the most frequent way.

The bacilli do not grow outside of animal products. The disease is rarely if ever communicated by inhaling the breath. It is therefore only necessary to properly dispose of the sputa.

Aronson (2) stated that in the orphanage at Nürnberg there are a large number of children here-litarily predisposed to tuberculosis, but that by attention to cleanliness, ventilation, and outdoor exercise, not a single case of that disease has occurred during the last eight years.

In the Johns Hopkins Reports, an instance is given of a child four months old in whom tuberculosis developed after the family had lived in a room in which a tubercular patient died three weeks before.

One of the most remarkable instances of house infection is given by Engelmann (3) who relates the history of a dwelling which for eight years after its erection remained free of tuberculosis. Then two of the inmates died of that disease after some months' illness. From that time onward for the period of twelve years the dwelling was inhabited

by a number of different families in succession, and was scarcely at any time free from consumptive patients. Thirteen fatal cases occurred in the twelve years.

Marfour (4) gives the history of an epidemic in an office in Paris. Thirteen of the clerks died in four years. He attributed the succession of cases to the practice of spitting on the floor.

A startling account of an epidemic of tuberculosis was given at the Paris Congress of 1890. Of thirty-five workmen in a certain factory, twenty-seven suffered from tuberculosis. Four had the disease previous to admission, and twenty-three became affected in the factory. The average period of incubation was two months.

An illustration of the great benefit of attention to general sanitation is given in the history of the Laiback Prison as related by Dr. Keesbacker (5). The rooms were damp, badly ventilated, and overcrowded. The building itself was old and a favourable place for the development of tuberculosis. The prisoners were required to work hard and had insufficient food. Previous to 1884 a large number of the prisoners died of consumption.

During 1884 the whole prison was cleansed and disinfected, and means for proper ventilation were introduced. The prisoners were compelled to use spittoons which were plentifully provided and partly filled with a disinfectant solution. At the same time the work was somewhat lessened, and some improvement was made in the character of the food. The percentages of deaths during the following years afford a positive proof of the great benefits arising from the changes made: In 1884, 8.12 per cent.; 1885, 5.12; 1886, 2.98; 1887, 3.58; 1889, 2.18.

It is true that instances have been reported of prisons where improved sanitary conditions were not followed by a lessening of the mortality from tuberculosis. In these, however, some other circumstances may have influenced the result.

A consideration of these examples at once leads us to the question, Should not our sanitary boards take more decided steps in the prevention of this disease? Why should not all cases of tuberculosis be reported in the same way as scarlatina or typhoid fever? Why should not our health authorities inspect those houses in which consumptive patients live, to find out the cause of the disease,