

causes which conspire to lower the tone of the system in general, and of the lungs in particular. One source of structural weakness which has especially impressed me is that the waste products circulating through the organism are oftentimes not properly oxygenated on account of defective respiration, and these form an attractive field for the harmful bacteria; whereas, a thorough daily bath of the tissues in well-purified blood consumes the ptomaines, and by keeping the cells of the body in a sound condition starves the germs that have chanced to gain admission. Furthermore, in my opinion, some of the undefiled animal fluids alone are the best germicides. An illustration of the probable truth of these suppositions is the marked infrequency of phthisis in those who lead active outdoor lives as compared with persons of sedentary habits, and, while it is partly to be explained by the increased danger of infection in the latter, still, the other element in the causation is not always sufficiently appreciated.

I must devote a moment, in passing, to the very ingenious and interesting interpretation of one of the supposed functions of the white blood-corpuscles. They are thought to exercise a sanitary supervision throughout the frame, and, whenever poisonous ptomaines or disease-producing germs lodge therein, these guardians of the vital economy rush to the place of danger, and there, closing about the intruders, endeavor to destroy them, and thus protect the system from noxious invasion. Whereas, opposing this ingenious answer to a very perplexing question, follows the assertion that these leucocytes do not kill the bacteria, but that an innate though varying germicidal power exists in the healthy blood-serum, while the white corpuscles are, in a limited degree, the scavengers, as it were, rather than the custodians of the tissues, and this belief is more in harmony than the former one with the theory which I previously advanced.

Now let us consider what would naturally

follow if this little micro-organism is, what many believe it to be, the exciting cause of phthisis. It is found almost constantly in large numbers, among the material coughed up by diseased subjects, and it is known to retain its vitality for varying periods after desiccation; consequently, there is every reason to suppose that the bacteria floating in a fine dust about the air, more especially of a room, would find their way by inhalation into the lungs. Also, they might fall upon an abraded surface and be carried into the circulation. Likewise, they would settle upon articles of nutriment and be taken into the stomach, and thence, by absorption, into the system. Further, tuberculosis taints some of the many animals utilized by man as food, and the bacilli are found in the milk of infected cows. Therefore, these germs might be introduced into the system with underdone meat and in milk that has not been boiled.

Wherever the population is most dense, there the disease ought to prevail, and particularly among the poor and the ignorant of our community.

Again, conversely, what has been revealed day by day, to verify these inductions? Long before the discovery and cultivation of the micro-organisms, pulmonary consumption was conveyed to the lower animals by inoculation.

Dust taken from the walls of rooms in private houses and public hospitals, occupied by phthisical patients, in the same manner, has been productive of tuberculosis with these helpless victims of scientific investigation. Then of a number of dogs made to inhale the dried sputa of consumptives, a few became infected within three weeks, and, ultimately, all gave evidence of the malady. What is more, the disease has been induced in rabbits, lambs and swine by milk from diseased cows, and several animals have been contaminated through feeding upon meat that was tuberculous. Finally came the isolation and tillage of the specific bacillus already noted, which still