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cent. greater in the cities than in the country ; while in the whole temperate zone 10 per cent. of the population die of phthisis. In the city of New York the ratio increases to 14, in Boston to 15, and in Marseilles, with its lowlying scaboard, to 25 per cent. In elevated cities with good drainage the mortality is below the average.

Malhygienic conditions promote the development of consumption to a large extent in crowded cities. Impure air, poor food, defective sunlight, deficient clothing, lack of cleanliness, debilitating fevers, which prevail to so large an extent among the poor, operate indirectly and directly in promoting the ravages of this disease; and it is they who suffer to such a large extent from phthisis. According to D'Espié it produces 68 deaths in 1000 among the rich, and 223 among the poor. Prof. Wilson says the quantity of oxygen is diminished even in the streets in large cities ; and Prof. Tyndall has proved by the electric light, that the whole atmosphere is polluted to a more or less extent with suspended organic and inorganic matter. To illustrate the importance of pure atmosphere, I might mention that in the barracks of the Footguards of London, only 331 cubic feet were allowed for each soldier, and the mortality from phthisis was 13.8 per 1000; while in the Horse Guards 572 cubic feet were allotted to each man, and the mortality from phthisis was only 7.3 per 1000.

The London Lancet of Feb. 9th of present year, in a notice of James' new book on the etiology, pathology and treatment of phthisis, speaks of the importance of nutrition as a factor in its evolution. James says that "phthisis is due to a condition of deficient nutrition, permitting the growth and reproduction in lung tissue of a lower form of organized life." The disease is most apt to occur when growth passes into maturity; and the excessive nutritive power necessary to growth being expended, the lung tissue is least able to resist the inroads of the bacillus. He also says that "the importance of the bacillus as a factor, in the etiology of phthisis, is subordinate to that of tissue nutrition."

As the bacillus tuberculosis is believed by many at the present time to be the sole exciting cause, it may be as well to examine briefly upon

what data this theory is based. Experiments' have proved that the inoculation of rabbits, guinea-pigs, monkeys, etc., by the insertion of tubercle beneath the skin would produce miliary tubercle in the lungs and other organs of the animals infected. Later observers have devoted much time and care to the culture of the bacillus, and even when the culture has been removed several generations from the original bacilli, they have, upon injecting it into animals, produced well-marked tuberculosis. The results, when scientifically conducted, have been uniformly the same. In like manner a watery or oleaginous spray of tubercle containing bacilli, when applied to the respiratory tract of the lower animals, has likewise produced the disease. George Cornet, in American Journal of Medical Sciences for the present month, following out Esmaich's plan, has collected the dust from the walls of an apartment occupied by tuberculous patients, and in oculating it into guinea-pigs, in some cases produced tuberculosis. In the January number of the Journal of Laryngology, Apmann, of Dresden, states that he has examined the excrement of flies, taken from the rooms of tuberculous patients, and found numerous bacilli in From it and portions of the flies' intestines, it. he got cultures sufficient to inoculate rabbits. And still further, Eugenic de Mattei, in the February number of the Canada Lancet, is reported to have obtained numbers of bacilli from the skin of a tuberculous patient.

But there is a reverse side to this shield. Many experiments have proven, that in guineapigs and rabbits, tubercle can be produced by inoculations of pus, putrid muscle, diseased liver, etc., taken from subjects entirely free from Burdon Sanderson produced tubertubercle. culosis in a guinea-pig by passing a cotton thread beneath the skin. Dr.Sanderson also affirms that in injecting pus into rabbits, where the death occurred within forty-eight hours, it arose from pyamic abscesses, while in the cases of prolonged life, tuberculosis was the cause. Naegeli proved that micro-organisms are incapable of passing from liquid media into the air; and later observers have proved that air expired by phthisical patients is free from the tubercle bacillus. Although Cornet, in the case related, found some bacilli on the walls of the

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