

another, and die; but the other members of the family, who left home early in life, and have lived under more favorable conditions, escape. The heredity was the same. The environments differed. The dust in the house contained dried and pulverized sputum, and so spread the disease. In proof of this, I need only mention the researches of Dr. Nuttall of Johns Hopkins, who showed that the number of bacilli thrown off from the lungs of an ordinary case daily amounted to from one and a half to four and a third millions. Dr. Bollinger has shown that he could produce rapid consumption in guinea pigs by injecting 800 bacilli. A feature of the life history of these bacilli is their vitality. Desiccation, putrefaction, freezing and thawing of the substance containing them do not destroy their infective power.

Occupation is another matter of prime importance in a discussion of consumption. Those occupations are specially bad where the workmen are forced to inhale a dusty atmosphere, to work in a stooping posture, are exposed to frequent changes of temperature, and where the ventilation is bad. These conditions develop disease and irritation in the lungs that afford a good soil for the germ to grow in. The investigations of Dr. Hirt show that out of every hundred sick in the following occupations the result would stand thus with regard to consumption: Flint-workers, 80 per cent.; needle polishers, 68; file cutters, 62; lithographers, 50; brushmakers, 49; grindstone makers and grinders, 40; stone cutters, 36. This is a frightful increase over the death rate from consumption in the general community. Apart from all other conditions, the fatality from this disease increases with the crowding together of people. Any occupation, where too many persons are crowded together; where ventilation is bad; where the men have to work in a stooping position, which interferes with respiration;

and where there is much dust, especially of a hard, angular character, will yield a high death-rate from consumption. In Great Britain, during the past thirty years, the deaths from this cause alone have fallen over thirty per cent. This is due almost entirely to an improved condition in workhouses, the army, and other places where people are grouped together. The evil effects of bad drainage and ventilation are well seen by a study of the British army. At one time the death-rate was about 25 per 1,000 from consumption alone. After the proper drainage and ventilation of the barracks, the death-rate fell as low as 6 per 1,000 from the same disease. To Dr. MacCormac, of Belfast, the armies of the world owe an immense debt of gratitude. He repeated incessantly the statement that, wherever there was overcrowding and impure air, there would be an excessive death-rate from scrofula and consumption.

What has just been said with regard to the workhouse, the barrack and the prison, is equally true of the private dwelling. Breathing over and over again the same air in a bad room is responsible for many a case of chronic lung trouble. Many a time I have known a husband, wife and child to sleep in one bed, and close by, in another bed two or three other children. The room, not more than ten or twelve feet square, had no open window or ventilator whatever. The only opening in the room was the door, and, as there was no counter opening, the air in the room became, towards morning, frightfully vitiated. Under these circumstances, the parents tried to restore their energies for another day's work, and the children made the attempt to grow. It is from such children that the great majority come who die of phthisis between the ages of 15 and 35.

Race is an important factor in the causation of consumption. The disease is very severe in its ravages on the Negro. This may be largely due to