

smallpox, and he was the only one who had never been successfully vaccinated, the remaining 699 had been protected by vaccination.

*The Effect of Sanitation Upon the Spread of Smallpox.*

It is frequently stated by those who do not study the subject that the decrease in smallpox has been due to sanitation. If such an argument were true in respect to this particular disease, why should the rule not be equally applicable to scarlatina, measles and whooping cough. Perhaps no two diseases are more contagious than measles and smallpox. But what are the actual conditions as learned from the reports of the Registrar-General of England, we find that during the same period that in smallpox, the mortality has declined 72 per cent.; that of measles has fallen only 9 per cent., and during the same period, notwithstanding the great strides made in sanitary improvements of all kinds whereby the masses and the classes of England have benefitted the death rate from all causes has only fallen 9 per cent.

Again the reader is reminded that the death rate in smallpox has been limited to persons below 15 years of age, the age group in which scarlatina, measles and whooping cough are most prevalent; while the mortality of children, of this same age group, does not differ very materially from what it was one hundred years ago.

Perhaps one of the strongest replies to this argument of sanitation occurs in the report of the German Vaccination Commission, 1884. "The remarkable and persistent decline (of smallpox) in Prussia since 1875 can only be due to the vaccination laws of 1874, because all other con-occurs in the report of the German Vaccination Commission, 1884. "The only difference is that in Prussia the revaccination of all school children at the age of 12 years was made compulsory in 1874."

*Inoculation.*

To complete the history of the disease a slight divergence must be made to refer to the introduction into Europe of a practice which had prevailed for some time in portions of the Orient known as "inoculation," which consisted in the careful inoculation, either by means of an inoculation needle or lancet or the abrasion of the skin by means of blisters, and the subsequent impregnation of the raw surface with smallpox virus. The object sought for and obtained was the protection of these persons so inoculated with smallpox against an attack of the disease, which in those days was generally of a severe type.

Owing to the fact that the inoculated smallpox possessed the infectivity and, therefore, a certain degree of danger, this practice, although possessing some points to commend itself, yet because of the dangers attendant upon the procedure, has been altogether discarded as a recognized medical procedure. The lessons, however, derived from its temporary adoption have been to strengthen the recognized theory of immunity and to confirm the practice of vaccination by calf lymph.

*First Use of Vaccine Obtained from Cowpox by Jenner.*

In the year 1796, Edward Jenner, an English physician, first inoculated an eight-year-old boy with vaccinia obtained from a case of cowpox in another human subject, and as a result the boy developed a typical attack of cowpox, and upon being subsequently inoculated with variola the results were negative, thus proving that in one case human-