

NOTABLE EPIDEMICS.

THE HAMBURG EPIDEMIC OF CHOLERA IN 1892.

Before an account is given of the epidemic of cholera in Hamburg in 1892, it is well to go back to 1883 and to relate how the cause of cholera was discovered. When the disease broke out in Egypt in this year and certain of the Mediterranean ports, the alarm spread to the neighbouring countries, for it had long been known that cholera travels rapidly. Robert Koch, already famous for his bacteriological studies and his discovery of the bacillus of tuberculosis, was requested by the German Government to take charge of a scientific expedition to investigate the causes of the outbreak in Egypt. He soon incriminated the germ, now identified with cholera. In order to verify his conclusions, he proceeded to India, where he took his life in his hands in his search for information in the most squalid huts.

In spite of the clear case Koch had made out, many doctors refused at first to accept his views. They implied quarantine, isolation, expensive disinfection, and other measures calculated to cause great inconvenience for all concerned. It was not till the Hamburg epidemic of 1892 that his contention that cholera is a water-borne disease dependent on a specific germ was proved up to the hilt.

In the previous year, *i.e.*, in 1891, an epidemic of cholera had occurred in Bengal, India. It ravaged Kashmir and Kabul, and travelled rapidly through Persia and Central Asia, whence it spread to Northern and Central Europe. All the public health authorities of the world were alarmed, particularly the medical officers of the large ports. In Hamburg, in the summer of 1892, the port medical authorities instituted a medical examination of all emigrants on their arrival. They were kept under close medical supervision to the time of embarkation, and special precautions were taken with Russian emigrants. It was hoped by these and other measures that Hamburg, which had in the past suffered severely from recurrent epidemics of cholera, would this time be spared.

The first case of cholera was recognised on August 11th. In a few weeks almost 17,000 of Hamburg's population of 600,000 fell ill, and 8,600 died. The city of Altona, which adjoins Hamburg, remained almost completely immune. This immunity was most striking in those streets which formed the junction of the two towns; there were certain streets one side of which was in Hamburg while the other side was in Altona, and while numerous cases of cholera occurred on the Hamburg side of such streets, there were hardly any on the Altona side.

Why this striking difference between two towns whose inhabitants apparently lived under precisely the same conditions? The answer was a remarkable confirmation of Koch's theory that cholera is a water-borne disease. For the water supply of Hamburg was drawn from the Elbe, without adequate precautions being taken to purify it. Altona also drew its water supply from the Elbe, but under conditions which provided for adequate filtration and purification before the water reached the consumer. This remarkable state of affairs constituted one of the greatest natural experiments in bacteriology and public health.

From Hamburg, cholera passed to 268 other communities. The German Government sent experts to study the disease locally, and basing their action on Koch's theory, these experts took the necessary precautions. During 1893, cholera cropped up in 114 different areas in Germany, but only about 300 patients died. Wherever the disease appeared, the germ described by Koch was found, and his theory was thus most effectively confirmed. By 1895, the disease had been stamped out in Germany, and whereas earlier

epidemics had lasted an average of ten years, this epidemic was mastered in three years.

The Hamburg epidemic disclosed a state of affairs which at that time puzzled the investigators but which is now well understood in connection with the theory of "carriers." It was shown that the germ of cholera was demonstrable in the stools of many persons who, though exposed to infection, remained apparently healthy. Between the two extremes—these masked cases and fatal cases—there was a wide range of intermediate cases, the only feature common to all being the presence of the cholera germ in the stools.

The person who harbours this germ but does not develop the symptoms of cholera is often responsible for starting a new epidemic, for he is free to travel where he likes, and if his stools pollute a given water supply, the susceptible persons who drink it may develop violent and often fatal cholera wholesale.

The story of the Hamburg epidemic is incomplete without a reference to the remarkable achievement of Dr. Herman M. Biggs, who, in 1919, played so great a part in the creation of the League of Red Cross Societies at the Cannes Conference of that year. He had just returned to New York from a visit to Europe in 1892 when news reached him of the outbreak in Hamburg. He was informed that there were thousands of cases of cholera in Hamburg, and that infected ships were on their way from this port to New York. The Chamber of Commerce appointed a cholera committee and gave Biggs almost unlimited powers. The first infected ship arrived on August 31st, and five others followed in rapid succession. Yet, thanks to the measures Biggs and his associates had put into operation, only ten definite cases of the disease broke out in the U.S.A. although 76 deaths had occurred on the ships sailing from Europe to America, and 44 more deaths had occurred after these ships had reached port.

Much of the security certain large ports, such as New York, now enjoy in the matter of public health are more or less indirectly due to the Hamburg epidemic which enabled public health experts such as Biggs to put into operation measures which, without such an alarm, the municipal authorities would not have consented to pay for. As the late Professor George C. Whipple has written, "only a striking and dramatic catastrophe will, as a rule, persuade the citizens of a republic to take any precautions for their own safety."

(Communicated by the Secretariat of the League of Red Cross Societies.)

THE PASSING BELL.

We regret to record the decease of the following members of Q.A.I.M.N.S. :—

Miss D. D. Tripp, retired Acting Matron, Queen Alexandra's Imperial Military Nursing Service, died at Belfast on December 30th, 1937.

Miss Tripp became a member of the Army Nursing Service in 1894, and was appointed Sister, Q.A.I.M.N.S., in 1903. She served in Egypt and in various stations at home and in 1916 was promoted to the rank of Acting Matron. Owing to ill-health, she retired from the Service in 1919.

Miss M. B. Smith, A.R.R.C., retired Sister, Queen Alexandra's Imperial Military Nursing Service, died suddenly at Streatham, London, S.W., on December 31st, 1937.

Trained at Poplar Hospital, *Miss Smith* was appointed Staff Nurse, Q.A.I.M.N.S., in 1913, and promoted to the rank of Sister in 1918. She served at home and for short periods at Malta, Gibraltar, and Egypt, until 1933, when she retired on account of ill-health. She was awarded the decoration of the Royal Red Cross, 2nd Class, in 1917.

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