

## Professional Review.

### PLAGUE IN INDIA.

A most interesting and instructive paper on Plague in India was read a short time since by Dr. Charles Creighton, whose History of Epidemics in Britain is already well known, before the Indian Section of the Society of Arts. The paper, by permission of the Leigh-Browne Endowment, has now been reprinted by Messrs. George Bell and Sons, York House, Portugal Street, E.C., price 3d., and should be studied by all whose work or interests bring them into contact with the disease or its effects.

In his opening remarks, the lecturer states that in 1898 the Government of India, alarmed at a threatened invasion of the whole country, appointed a Commission of five to conduct an investigation of a scientific character into origins and ways of spreading, as well as into the mode of treatment by serum inoculation, and the mode of prevention by inoculating a solution of dead bacteria. The scientific character of the Commission was, we are told, ruined by two causes—(1) the two medical members who wrote the Report put aside such evidence as did not come within their bacteriological point of view, and (2) because the two departmental members were disinclined to look into the errors or omissions of sanitation which had prepared the way for plague, especially in Bombay city. Nevertheless it contained much that was valuable and interesting.

#### THE MORTALITY IN INDIA.

The number of deaths from plague in India may well cause earnest search to be made into its origin, and methods of prevention and cure. The deaths from this disease last year were no less than a million, 400,000 of which came from the villages of the Punjab, and 300,000 from the Bombay Presidency. This enormous prevalence of plague, steadily from year to year, is, Dr. Creighton says, perhaps the most remarkable phenomenon in his science to the epidemiologist; all the more remarkable because India has never been regarded as a great seat of plague, such as were Lower Egypt and Syria during many centuries of Mohammedan rule, and the disease was beginning to be regarded as a thing of the past; indeed, in an article on "Quarantine," written twenty years ago, Dr. Creighton himself remarked of plague that "for many years it has ceased to have any practical interest in this connection," and in 1887 the Bombay Sanitary Commissioner wrote in his Report "Plague or yellow fever have never to my knowledge existed in Bombay, and are not in present circumstances ever likely to be there met with."

#### A NOVEL ELEMENT.

The outbreak in Bombay nine years ago surprised everybody, and the greatest surprise of all has been the endemic settlement of the infection in the plains. "This," says Dr. Creighton, "is a real novelty of the present situation to epidemiologists, as well as a very serious practical matter; but, for the rest, plague is a very ancient disease, and I take leave to say very well known in its type and in its habits to those who are competent in such matters.

"There is just as little mystery about plague, and just as much, as there is about cholera, or yellow fever, or typhus, or enteric; and there is actually less mystery about it than about those everyday domestic incidents, measles and scarlatina. What then is the

meaning of the claptrap about 'our ignorance of plague?' So far as I can understand, it has arisen from the fashion of thinking bacterially about diseases, which the public and the newspapers have adopted. Bacteriologists, when asked to explain plague, are found to be not so lucid as usual; they are at fault in the pursuit of the bacillus outside the body; it runs to earth and gets lost in a crowd of other bacteria in the soil, or disguises itself as a saprophytic mould, or perishes outright in the struggle for existence, although there is no doubt about the infection remaining in the ground all the same. Hence, perhaps, the impression that more bacteriology is necessary before anything practical can be done."

The only variety of plague which has been found to be contagious from person to person is the pneumonic variety; therefore, we are told, the interest must centre in the infection outside the body. "No one can deny, although some would if they could, that the regular way of receiving the infection of plague is by the breath." Other theories are that as by puncturing the skin of rats and inserting a culture of bacilli they can be made to take plague, or something like it, so the infection may enter through wounds of the feet, as the people of India so often go barefoot, but this theory is inapplicable to European plague, such as the Great Plague of 1665. The fleas which infect rats infected with plague have also come in for their share of attention as conveyers of the disease, and it is indeed said that a scientific expedition is about to proceed to India to settle various debated points in the matter of flea bites!

Another suspected insect is the mosquito, but the Austrian Plague Commission of 1897 considered this subject, and found that mosquitoes in the Bombay plague hospitals, in which they abounded, did not carry plague infection, as for example from patient to nurse, although everyone was bitten.

#### PLAGUE LOCALITIES.

The chief seats of plague in India have been proved by experience to be the Bombay Presidency, the plains of the North West, and the alluvial valleys of the Deccan and Gujarat. The Madras Presidency has been almost entirely free, as has also Orissa, Lower Bengal, and Assam.

Dr. Creighton's investigations led him to believe that plague is most prevalent where houses are built of mud, while the localities where stone is employed, and a more open plan for the villages adopted, appear to escape, although they may be in constant communication with infected centres.

In one village near Belgaum the aggregate loss in seven years has been two-fifths of the population. In this village it was the unanimous belief that the infection always began in a certain quarter, the high ground on the northern side next the high road; which was the particular quarter of the Mohammedan butchers and cattle dealers. Slaughtering of cattle, curing of meat, dressing of hides, &c., were the chief industry of that quarter of the village. There was no regular slaughter-house, but each householder used his own house or the surrounding space for killing in. The whole soil of this corner of the village was saturated with blood and offal, and swarmed with rats.

Again, in the North West, which is now, we are told, by far the worst seat of plague there is a uniform type of village, namely, a "compact fort like aggregate of mud walls and flat roofs"; the houses are often huddled together, with narrow winding lanes

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