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Guarding America Against Plague Ravages



Why is it we have feared rats through all ages?

The rat is typical of all that is low and mean, and we would rather be left alone in a dark room with a Black Hand murderer than with a rat. For ages the wise men of the world have laughed at the fear of rats. The fear was only an instinctive one, and we were told to get rid of our instinct and listen to reason.

Today it is the wise ones who are urging us to kill the rat. As usual, instinct was right. We feared the rat without knowing why and now find he is a deadly enemy of man. He is the agent of the bubonic plague.

The other day the medical experts were alarmed with the news that two cases of bubonic plague or suspected plague had broken out in New Orleans. Surgeon General Rupert Blue of the Government Health Service was rushed to New Orleans to combat the possibility of the plague spreading all over the United States.

America is a land practically free from disease. Seldom, indeed, do the terrible Asiatic scourges cross

have to watch for invasion.

Bubonic plague has its original home in Siberia, the land of Russian exiles. It lives among the prairie dogs of that extensive land and they keep it continually alive. The only way the disease can be forever stamped out is to kill the prairie dogs of Siberia. From Siberia the disease from time to time crosses the frontier into the western bounds of China. Last year it is estimated by officials of the Chinese Republic that 175,000 persons died of bubonic plague.

It frequently goes west and crosses into Europe by way of Russia. There are strict quarantines against the bubonic plague centers of Siberia, however, and it rarely breaks across the frontier.

The disease is transmitted to Europeans and Americans by the rat through the agency of the flea. The question naturally arises, why the plague does not kill the rats. The fact is that every rat is like "Typhoid Mary," who was a culture for the typhoid bacillus, but did not get seriously ill herself. The rat and other rodents are plague cultures, but they are not seriously ill. The

early stages of illness could pass the examinations when boarding the steamer, they would have more difficulty at this end of the journey, where the disease would be further developed. It is customary for an examination to be made at the European port because a steamship line has to take the passengers back to Europe free of charge if they bring them to this side of the water in a diseased condition.

The examinations on shipboard are often very picturesque. Many of the great liners reach port early in the morning and many of the first class passengers go to the physician for examination before they have dressed for breakfast. They are anxious to have the ordeal of examination over. Men of all kinds and women, too, can be seen on such a morning going for their examination.

The fact that bubonic plague germs were found in America recently indicates failure of some physician on board a vessel to make perfect examination of the patients or else a rat was allowed to enter the port.

When news of possibility of dis-

How Surgeons at Sea Inspect Everybody Before Landing at Port, and How the Battle Against Invasion of Foreign Rats Goes On In Every Harbor



CLINEDINST, WASH. D.C.



ABOVE—Surgeon General Rupert Blue. Below—An early morning medical inspection on shipboard, as the vessel is about to enter port.

the ocean and invade our shores. We have been able to keep them out by rigid inspection at the ports and by fighting the germs of foreign plagues when they have gained a foothold in this country.

Prior to the Civil War the United States was invaded by Asiatic cholera, which swept the country, carrying death in its path. It struck villages remote from the great population centers, where the entire population was swept away.

After the war there were yellow fever ravages. The United States is not the home of yellow fever. With the coming of winter the disease would retreat to Cuba or Central America and wait for another year to invade our shores. We have conquered yellow fever and driven it from almost every part of the American continent. The old world is the seat of the most deadly plagues, and it is from these we

germs are transmitted from the rat to man by means of the flea.

If there were no fleas and rats there would be no danger from the deadly scourge in America. Man cannot give the plague to his neighbor. Care of those sick from bubonic plague is simple because the nurses will not get the disease unless they are bitten by fleas, which in turn have bitten rats. The disease needs the rat for one stage of its development, and that stage is not fatal. It is fatal as the second stage is reached, and that stage is reached in man.

PASSENGERS EXAMINED WHEN NEARING PORT.

Persons with such a disease as the plague are not allowed to enter the United States. In coming to America they are examined before reaching port. The advantage of an examination just before reaching port is evident. While a person in

ease in New Orleans was given out, health authorities did not wait for the sickness to develop and spread while they were making discoveries. They first started to kill all rats in sight. The home of the Volunteers of America was put under quarantine and the house where they were supposed to have contracted the disease was rat proofed and burned.

With the home as a radius of a zone extending four blocks in every direction, the plans were for the construction of a concrete barrier around the entire area and for a rat drive towards the center.

Other barriers were erected as the warfare progressed, so that when the final onslaught was made every rodent within the infected area was destroyed. Poison and traps were used in the work of extermination; drain pipes were screened to prevent the escape of a single rat, and every expedient of scientific rat kill-

ing employed to prevent a spread of the infection to other parts of the city.

UPPER RIVER CITIES WARNED OF DISEASE.

Upper river cities were warned of the possibilities of the spread of the disease, and there campaigns were started against the rat.

Plague kills the victim quickly. It sometimes takes a month for the disease to run its course. At other times the victim dies in a few hours. The average time is three days. It is not always fatal, but the course is so quick that physicians have little time to fight the disease. Until recent years the victims were allowed to die. It was not known the

flea was a necessary contributor to the spread of the disease, and when one person had it all the others fled and left him there. None wished to run the risk of caring for him. It is the most fatal of all diseases.

In one of the ravages of Europe it killed every person who took the disease in Southern Russia. In Baghdad at the time of one epidemic, 55 per cent of the victims died. It is supposed that the number of fatalities in civilized countries has been more than 50 per cent. But in the last decade the disease has had little chance to spread. As soon as it is discovered in a civilized port the precautions are taken which insure its annihilation.

The disease has been known from the time of the Caesars. It swept Armenia at the time of Christ. Marcus Aurelius tells how it destroyed the inhabitants of Athens. The descriptions of the disease, as he writes it, are similar to those we now know.

A moderately high temperature is necessary to the best development of the disease. Plague is unknown in the tropics.

It has been heard of in Egypt, but never crossed the plains of India to the southern portions of the peninsula in historic times. A temperature of more than 85 degrees usually checks the epidemic. It flourishes under that temperature, but when the thermometer drops to freezing it quickly dies out. In 1875, however, it raged in Moscow in the middle of a severe winter. In dry weather the temperature can go higher than in damp weather. It flourishes in the Asiatic deserts at a temperature of 15 degrees.

Until the discovery of bacteriology a few years ago several heroic physicians made post-mortem examinations of victims of the dead in Europe. Prior to their examinations it was supposed that to handle a dead person meant death. It became almost impossible to get a burying squad to take up the work of caring for the dead, so terribly frightened were the people. Burying squads often worked in London at the point of the bayonet. The fact that those who did the burying were poor people, living in unsanitary surroundings, accounts for the disease being conveyed to them. They doubtless lived where there were fleas, according to present day notions. The flea carried the dis-

ease to them from rats. They did not get it from the dead.

When physicians in their efforts to study the causes of the disease began to make post-mortem examinations, they expected to die. They thought that they might be able to learn something and tell of their discoveries before they died, and they heroically set to work. To their surprise they did not die. They came to the conclusion that their sanitary surroundings were responsible for their continued good health. When they did get the disease they noticed their families did not get it.

THOSE LIVING WITH RATS ARE KILLED.

The plague evidently was a respecter of persons. Those with money who lived in clean houses and could afford to kill the rat did not get the plague. Those who lived among the rats and fleas got the disease. It took a long time to associate the disease with rats and fleas, but physicians long ago associated it with uncleanness.

Then the germ was discovered. It is a vegetable growth like the yellow fever germ. As the yellow fever needs a mosquito to transmit it, the plague needs something to trans-

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