

life of the soil may have a great deal to do with the propagation and retention in houses of this germ. For many think and with much show of reason that fleas, ants and flies may be important factors in carrying infection. Thus, if fleas from a rat dying of plague be transferred to healthy rats they will transfer the infection to them. It is not at all likely however that such fleas could transfer the infection to man as they are of different species from those that attack man and it is questionable if they ever attack him. Ogata has demonstrated plague bacilli in flies and ants in plague localities. So that we have a factor of more or less importance in keeping infection alive in the animal life. I have already spoken very fully of the propagation of the infection by rats throughout a community so that I will now proceed to the next question. How does the bacillus obtain entry to the body of man *i.e.* what are its avenues of attack. To answer this question fully one needs to know the clinical history of the disease, including the distribution of the bacillus in the body.

Clinically we meet with plague in two types, *Pestis major* and *Pestis minor*. The latter form is a non-fatal, almost ambulatory form in which we have bubo formation without marked constitutional symptoms, and generally a termination in resolution without suppuration of the buboes. These cases may occasionally develop acute symptoms during the course of a benign attack and then the picture changes to that of the common form of *Pestis major*. Cases of *Pestis minor* are important in that they serve as a connecting link between epidemics of grave character and also they may be an important factor in carrying the disease elsewhere as the disease in this form may be so readily overlooked.

*Pestis major* or true plague presents itself under several different forms such as plague pneumonia, plague septicaemia and the typical bubonic form. In the pneumonic form we have a primary and special localization in the lung without typical bubo formation, though the internal lymph glands are commonly found engorged. In the septicaemic form (Black Death) we have general glandular enlargement with hæmorrhages, etc., while in the typical form we have the appearance of buboes in inguino-femoral or axillary region, followed later by general glandular enlargement. This form may be complicated with nephritis, pneumonia, etc. Pneumonia is always of grave import.