

on to vesiculation, may be seen in the very earliest stages in the cutaneous area associated with the first lymph gland which shows enlargement (primary bubo) and here may be found abundant bacilli. One of Childe's cases is peculiarly instructive: The small unopened papule with sero-pus in its apex was found exactly upon the mid-dorsal aspect of the glans penis; from it pure cultures of the bacillus were obtained, which injected into a rat, caused its death from plague. In this case the inguinal glands *on both sides* were equally affected and enlarged to the size of walnuts. Hankin has communicated to me a somewhat similar case. Rarely the local reaction at the point of infection is more pronounced and a primary carbuncle with hæmorrhages, necrotic centre and surrounding œdema, has been observed. It would seem that Roux's statement is well based, that the more marked the local reaction, the less virulent the disease and the more favourable the prognosis; the virulent germ is not arrested locally, but is conveyed rapidly to the nearest lymph gland and there sets up the inflammatory reaction which results in the development of the primary bubo.

I am, I take it, wrong in saying the nearest lymph gland, for as in the case of Professor Aoyama, the primary vesicle may be upon the hand, the primary bubo in the axilla (with in his case a somewhat rare intervening lymphangitis). It is indeed not a little remarkable how rare are buboes in the popliteal and cubital spaces. Either the main body of lymph from the extremities does not traverse the glands situated in these spaces, or the different lymph glands exhibit varying reactions to the virus. Certain it is that the glands of the groin and of the axilla are far and away the commonest seats of the primary bubo.

Next most common are the cervical glands, an indication that infection may be through the tonsils, the mouth, or the nasal mucosa. Feeding animals with the pest bacilli leads much more frequently to the development of cervical buboes than to enlargement of the mesenteric glands. I shall refer later to infection through the lungs.

In general, the course of the disease may be described as, (1). Local infection unrecognizable, or if recognizable accompanied by a minimal local reaction. (2). Affection of one or more of the group of lymph glands associated with the area of local infection, which affection at first sets up at most local swelling and pain, but no general reaction, *i.e.*, the moment general symptoms set in the bubo is already a prominent feature. (3). Following rapidly upon this local production of a bubo there is generalization of the disease—diffusion of the bacilli and their products into the blood and supervention of general symptoms.

SYMPTOMATOLOGY.

I may now rapidly note down, the main symptoms of the disease:—