

the urine in a few cases. Diphtheritic inflammation of the pelvis of the kidney may occur. It was present in three of my cases, in one of which the tips of the papulae were also affected. Catarrh of the bladder is not uncommon. Diphtheritic inflammation of it may also occur. Orchitis is occasionally met with.

The anatomical changes in the *respiratory organs* are not very numerous. Ulceration of the larynx occurs in a certain number of cases; in the Munich series it was noted one hundred and seven times. It may come on at the same time as the ulceration in the ileum, but the bacilli have not yet, I believe, been found in the ulcers. They occur in the posterior wall, at the insertion of the cords, at the base of the epiglottis, and on the ary-epiglottidean folds. In the later periods catarrhal and diphtheritic ulcers may be present.

Oedema of the glottis was present in twenty of the Munich cases, in eight of which tracheotomy was performed. Diphtheritic laryngitis is not very uncommon. It occurred in a most extensive form in two of my cases. In one the membrane was chiefly in the pharynx, and extended only upon the epiglottis; in the other there was a uniform membrane which extended into the trachea and in the tubes of the second dimension. In eight cases in my series there was lobar pneumonia. Hypostatic congestion and the condition of the lung spoken of as splenization are very common. Gangrene of the lung occurred in forty cases in the Munich series; abscess of the lung in fourteen; hæmorrhagic infarction in one hundred and twenty-nine. Pleurisy is not a very common event. Fibrinous pleurisy occurred in about six per cent of the Munich cases, and empyema in nearly two per cent.

**Changes in the Circulatory System.**—Endocarditis is rare. It was not present in any of my cases, and existed in eleven only of the Munich autopsies, in which also there were fourteen cases of pericarditis. Myocarditis is not very infrequent. Dewevre,\* in a series of forty-eight cases, found in sixteen granular or fatty degeneration, and in three a proliferating endarteritis in the small vessels. It is remarkable that even in cases of death from heart-failure, with intense fever, the cell-fibres may present little or no observable change. The *arteries* are not infrequently involved in typhoid fever. Barié distinguishes an acute obliterating arteritis and a partial arteritis, and states that they both occur most commonly in the arteries of the lower extremities. They are responsible, no doubt, for certain of the cases of blocking of the arterial trunks. This arteritis may affect the smaller vessels, particularly those of the heart. In the veins, thrombi are not infrequently found, particularly in the femoral veins, and more rarely in the cerebral sinuses.

**Nervous System.**—There are very few coarse changes met with. Meningitis is extremely rare. It was not present in any one of my autop-

\* Archives générales de Médecine, 1887, 2.