

would in the morning have a droopy wing and soon die, and then others would soon become affected in the same way, die off rapidly, and the loss would be considerable, and nothing would seem to do them any good. On examining their mouths a small whitish patch could be seen under the tongue, and by looking carefully similar small pin points of patches could be seen on the roof of the mouth. These patches are pathognomonic of roup.

I recently, in company with Dr. Niven, visited a poultry yard where the owner had only two birds left out of a flock of fifteen, and five out of another flock of eighteen. The owner thought that the birds had died from cold, but on picking up one of the remaining sick birds this membrane was present under and along the sides of the tongue and on the roof of the mouth. Of this the owner was ignorant.

The first symptoms of roup are not manifest for several days after the bird has been infected by the germ which causes disease. On examining the mouth of the chicken which has been infected, a few minute patches not larger than a pin's point may be seen, and the temperature, if taken per rectum, generally shows a rise of half to one degree, and sometimes the temperature may be as high as 107 degrees, the hen going around apparently well and feeding well all this time. In a few days it gets mopish and the eyes may swell, and, shaking its head, it gives a sound like "pit." In some cases it may appear to affect the eyes only, the lids become œdematous, and the eye is closed and may even be destroyed, as in a case of last month Dr. Niven had to remove the eye of an infected bird, the eye having been destroyed by the growth of the membrane, but after removal the bird recovered. In others the membrane creeps down the trachea, up into the nose, and from there it may affect the eye.

In young chicks, roup is the cause of death in about eighty per cent. of chicks that die. In reading almost any poultry journal the reader is struck with the great number of roup specifics advertised, and if they will all cure, as they are all claimed to do, and presuming that they are all different, at least all that I have tried are, and none of them are of any account what a very variable disease roup is; but it is not. It is a disease that presents the same clinical picture in nearly all of

the cases. The symptoms in the main are the same, though some may have the foul-smelling discharge and others may be without it. Even poultrymen differ as to what roup is, and in asking poultrymen to bring me chickens affected with roup, some brought in those without the offensive foul-smelling discharge as roup; while others brought those with the offensive discharge as canker; and some said they had some cases of roup which had become canker, because the offensive discharge had appeared. Some birds affected with roup have a very disagreeable odor, but the odor has nothing to do with the disease, for the germ that causes this odor will produce the same odor when placed in blood serum tubes. This odor soon penetrates a whole incubator. This germ has nothing to do with the recovery of the chicken, but it is generally found in most acute cases, and the birds recover more quickly under treatment, probably because this discharge draws attention to their condition sooner.

Temperature—As to temperature, I think 105 degrees is the normal temperature for a fowl. Chickens affected with roup have a temperature of 107 degrees generally, but the temperature may run anywhere between 105 and 108 degrees.

Sequelæ Paralysis—In quite a few cases paralysis results. Many chickens which have recovered from roup seem to retain the symptoms of a snuffling from the nose, as it did when affected with roup, but this is not due to the disease being not cured, but to a paralysis of the palate muscles. This effect will pass off in time.

Leg Weakness in Fowls—This is another form of paralysis which sometimes occurs. In 1892 I had a black Minorca cock that was troubled with what is called "leg weakness," and finally became so paralyzed that he could not stand, and died from starvation. The post-mortem showed a neuritis of the nerves of the legs. Since then one other case has occurred with me which is described below. I have seen leg weakness in other coops from the same cause. I believe that nearly all cases of leg weakness are due to roup where they are not due to an injury.

Contagion—As to affection from one fowl to another, it is a very communicable disease by the drinking dishes and feeding troughs, even after the birds