

symptoms, and has shown further that a considerable proportion of these superficially healthy animals are in reality clinical cases.

As under our present regulations such horses are slaughtered, opportunities for post mortem examination have not been wanting, and in many cases showing absolutely no external symptoms, extensive ulcerations have been found high up in the nasal passages, while the presence in this situation of minute nodular lesions, undoubtedly specific, has been strikingly frequent. These discoveries bear out the opinion which I have long held and frequently expressed regarding the importance, from an infective point of view, of enlarged sub-maxillary glands in reacting animals. There is never smoke without fire, and these glands are not likely to show tumefaction without a definite pathological reason.

Leaving nasal lesions aside, it is well known that in typical reactors glanders nodules are invariably found in the lungs, and not unfrequently in other organs, although the tendency to localization in the lymph nodes, so common in bovine tuberculosis, is much less frequently noted in Glanders.

Again, I would remind you of the days before Mallein was heard of, when, in spite of all our efforts and precautions, case after case, and outbreak after outbreak, of Glanders would occur in the same stable. After each fresh outbreak the most thorough disinfection was practised, and all the surviving horses subjected to careful scrutiny and continued close observation. Six months, or perhaps a year would elapse and then another case or series of cases would occur. We blamed the stables, we thought the contagion, or, as we then called it, the virus, was immortal and indestructible. Now we know that, outside of the animal body, the life of the bacillus mallei is, under the most favourable conditions, limited to three or four months. In the animal body it is a different matter, and the cause of the mysterious recurrent outbreaks was the chronic latent case of Glanders, then unrecognized, but now, through the agency of Mallein, marked down and known as a reactor.

In tracing the origin of primary outbreaks in hitherto uninfected localities, we almost invariably find that the disease has been introduced not by a well marked case of Glanders, but by a non-clinical contact horse, often a reactor, generally purchased by an unsuspecting farmer ignorant of the fact that his new bargain has recently come from an infected district and possibly from a badly infected stud.

Further evidence against the reactor will be incidentally adduced in the notes which I am about to lay before you regarding his close connection, the so-called ceased reactor.

Ceased reactors so called should, in the light of our experience, be divided into three distinct classes:

1. Those which, while not properly reacting to Mallein, are, owing to a slight thermal rise or a septic infection, more or less serious at the point of injection, erroneously classed as reactors by the veterinarian making the test.
2. Actual ceased reactors, comparatively few in number, and almost