

fall off their feeding. I was called to see them, and found several slightly attacked with pleurisy, pneumonia, and advised that they should be sold. In all, twelve became affected out of the forty; but it is a curious fact that, although they were arranged in pairs, no two in the same stall became affected; and although when those that had become affected were sent off, and their places filled up by closing up the ranks with those that remained in the next stalls, without any preparation, and without any more becoming affected, the remaining twenty-eight were kept in the same byre for nine months, until they were sold off fat, and in sound health and condition. As in this case no means were adopted to prevent infection, it must be allowed that if the disease is propagated by contagion, it took no effect in this case. The animals had, perhaps, been exposed to the causes of the disease before being purchased, and although the byre was well-ventilated and kept clean, this was insufficient to prevent the development of the disease in those contaminated, though operating to protect those that were in sound health.

In the year 1848 and early in 1849, Mr. McCallum, a farmer within 3 miles of Edinburgh who kept a dairy of between 20 and 30 cows, suffered severely from the disease, and notwithstanding everything that I could do it still continued. The byres were badly constructed, being ventilated only by holes at the cow's head, and not drained. I was convinced that nothing but a reconstruction of the byres, with proper ventilation and drainage, would prevent the disease; and having made a statement in writing, which was laid before the proprietors, my suggestions were carried into effect at a considerable expense, and so. about 8 years *not a case* occurred, although the disease had never left other byres in the neighbourhood. In the end of 1856, and beginning of 1857, the disease again made its appearance, and I was requested to investigate the cause. I was naturally much disappointed at the recurrence of the disease in a place where my suggestions seemed to have proved so effectual. On visiting the steading, however, I perceived what appeared to me to be the cause. In one of the byres, where I found two cows recently attacked with the disease, there were three large ventilators with luffer-boards on the ridge of the roof; one of these I found had been stuffed up, while the tiles had all been carefully pointed with lime in the end of autumn so as to make the byre more comfortable during winter, and part of the roof towards the ridge, which had formerly been left open between the tiles to increase the ventilation, had been closed. On a level with the floor behind the cows, there were two ventilators, one of which was closed, while the other was by no means so clear as it ought to have been; added to this, the drain had become choked up, and thus the former state of the byre was in a great measure restored. But it is satisfactory to know that since atten-

tion has again been directed to the cause, these removed, scarcely a case has occurred and these chiefly among the cows at grass—as it were, demonstrating some of the cause and the means of preventing the disease.

I have already stated that exposure in without proper shelter may cause the disease. In like manner cows, standing in byres, there are strong currents of air or drafts through them, readily become affected, an example which occurred about 4 miles south from Mr. Hammerman entered to the farm of Muir in 1811: the steading had been recently erected with a byre for 40 cows. In March, 1851, disease broke out, and by the end of May he lost 24 cows, and during the next six or seven months he lost 150. As the new byres had proved healthy, I was requested to visit them, and consider what could be done to check the disease. I found the steading built on a northern aspect, and the byres exposed to the north and east doors opening in these directions, and the doors all round, the consequence of which that strong draughts of air were almost constantly blowing through the byre, so that a lighted candle was readily blown out. There were no divisions to check these currents, the place was found to be very unhealthy, and I pointed out what I believed to be the cause, and by putting up partitions, dividing the byre into compartments for 16 cows in each, regulating the ventilation, the disease was checked to the extent that he had only a few to lose, and these, it was considered, had been less affected by the state of the byres prior to the alterations. But he further found, although much good was effected by the revision of the byre, even in that state, filled, it was not free of the disease, and, to two empty cottages on his farm, he converted them into two byres, and by placing his bought-in cows there for a time, and by filling up the byres to the full extent, the disease was completely checked, and he is satisfied although he lost in all 174 cows, the disease is not contagious. Circumstances having occurred to prevent his being able to attend to his farm, he has given it up—not, however, from the disease.

Striking illustrations of a similar kind occurred in the case of Mr. Davidson of Dean Park during the autumn of 1845 and early 1846, and again in 1849, lost a great many cows. After I had tried what could be done by treatment, combined with temporary improvements and alterations in the byre, I satisfied myself that drafts were at least in a great measure the cause of the disease, and Mr. Davidson length made such improvements as have prevented it. Mr. Weir, a neighbouring farmer, in consequence of the ventilation not being carried out in all parts of the steading lost 150 cows. He had his byres partially revised, and the disease was checked, but it has since to some degree returned. In his case there