

sufficiently with physiology. Mr. Lawes had truly stated that the question was, commercially speaking, whether giving cooked food would in reality pay. They ought not to be surprised to find that cooked foods were not so well calculated to build up the animal and obtain a good quality of flesh. It had been shown that it, technically speaking, boiled away, and the reason given, no doubt, was the just one, that if food was given containing a large quantity of water, more water was absorbed in the organization of the animal than if dry food were given. Speaking as a pathologist, he believed that a great number of the diseases of the lower animals were to be traced to the bad quality of blood, arising from an excess of water and a deficiency of nitrogenised food. The practical farmer knew very well that in the lambing season if the ewes eat too much wet turnips or wet tops a bad quality of blood was produced, and the ewes would become diseased and die unless a large quantity of dry nitrogenised food were given. There was another question with reference to cooked food. Admitting for a moment that it was an advantage to the animal, and that it accumulates a large quantity of flesh in a short space of time, and that they regarded that, for argument sake, as so much gain, he was inclined to think that it arose from the facility it gave for the digestion of the food by anticipating a part of the process which it underwent from the action of the gastric juice. — For a simple stomached animal like the horse, they knew very well that the food would be at once converted into a fibrous mass; a chemical change took place, and that pulpy material on passing into the intestinal canal became mixed with various secretions, including bile; another chemical change took place, and the chyme was separated from the chyle, and the latter being the nutritious portion of the food, was absorbed into the blood. The question was, whether in giving an animal, and especially a ruminant animal, cooked food, they did not to a considerable extent supersede mastication; if so, they would supersede insalivation, and thus interfere with one of the first processes of nature, and do harm. What was the action of the saliva on the food? Without going into the intricacies of the question, they had the amylaceous parts of the food first converted into sugar or gummy matter, which was a soluble material chemically allied to sugar, and, as has been stated, it was only after a sufficient quantity of carbon had been obtained that an animal ceased to feed. A provision was made in the ruminant animal for stirring up, if he might so express it, the food; and a chemical change took place in its character before it passed into the true digestive stomach. There was a re-mastication and a re-insalivation; and, inasmuch as the secretions coming from the rumen were very analogous to those with which the food was mixed in the mouth, it remained not only mixed

with saliva a much longer time, but was mixed with a much greater quantity of saliva. It then, by the use of cooked food they dispensed with part of the operations of nature and sent the food quicker into the intestinal canal, they would dispense with the process of re-mastication and re-insalivation, and he could easily understand why, although a large increase might take place in bulk, the quality of the animal might become bad. For the same reason it was objectionable to pulp food too fine, but they might with advantage soften chaff that was four or five inches long, so as to commence the process of converting the amylaceous part of the food into sugar without interfering with the functions of the rumen. There was no doubt in the world that they could induce animals to eat a larger quantity of food by imparting a relish to it, which they could do by throwing a small quantity of cooked oil cake over it, but on the whole he was not in favor of the so-called cooking of food either as a means for the preservation of the health of animals or of promoting the process of digestion. He was inclined to think, physiologically speaking, that by pulping food, cutting straw, and mixing it with a solution of oil cake, they would gain their point at a much lower expense, and in a much better manner for the animal economy.

The discussion closed with Professor Simonds' valuable remarks; and we need scarcely remind our readers that the question of cooked food is one which has been frequently agitated, and which still remains, as Mr. Lawes' observations show, in a somewhat uncertain state. That cattle will not pay if fed solely on cooked food, although they fatten more quickly than those fed entirely on raw food, has been long known to experienced feeders; but it has also been shown that a portion of the food may be cooked with advantage. This has been proved by several cases, the details of which have been laid before the public: at the same time, it is likely that pulping will, as a general rule, supersede cooking, being less troublesome and less expensive, especially when the pulping machine is driven by steam or water power.

Liquid Manure Farming at Myre-Mill, Scotland.

The glory of Myre-Mill has departed. The engine for the most part stands idle on the hill; the wooden covering of the mouths of the monster tanks are broken or rotting, and the manurial contents are hardly thought worth the expense of distribution.

Of course, everybody interested in farming pursuits has heard of Myre-Mill, where liquid manure farming was long supposed to be carried on to the greatest perfection and profit. It was first brought prominently before the public in the "Minutes of Information" re-