

You doubtless wish that I would express my opinion upon fumigations with vinegar, sulphur, tobacco, gunpowder, tar, leather, horn and other ingredients, which in burning throw out a bad smell. Upon this let us consult experience, and we shall find that all these means have been fruitlessly employed.

I have already remarked in passing that the ancients, such as Columella, Cato, Vegetius, and others, have made much use of salt, whole eggs, honey, garlic, onions, &c., without succeeding in curing the disease. To-day we speak of these same remedies as new discoveries, and we administer them with as little success as formerly.

All the antidotes, all the specifics, so esteemed against the pestilence have been tried, such as theriaca, diascordium, &c.; and all these remedies prove to be hurtful, on account of the opium in them, which, as we know, is injurious to the action of the intestines upon the food, and is besides an obstructive. The opium, which can have no good effect, ought then to be considered as positively hurtful for those animals which have naturally a good constitution, and which consequently we may hope to cure. Some doctors, who attribute all diseases to worms, think that sulphur, tobacco, and mercurial remedies, are the most efficacious. I will only remark here that these remedies, although they may not be in other cases bad, cannot penetrate into the blood, at least unless we administer them before the disease has broken out.

I have already said that bleeding must be avoided; but what can we hope from blisters which have so often been employed in vain? The inflammation, the sphacelus of the intestines and the lungs, does not depend upon the matter, which, at the crisis of the disease, falls upon some part from which it may be diverted; there is an entire inflammation of the blood, which affects the intestines from the beginning of the disease. Purgatives as well as emetics are absolutely useless during all the time that the intestines are inert. Injections may be useful in order to clear the rectum and to prevent gangrene; they afford also some relief to the animal, but do not contribute anything to its cure. The owner loses then, besides his cattle, all the money which he spends for these remedies.

The removal of excrement from the rectum, with the hand anointed with grease, as Engelmann recommends, was already known to Columella,* and there are none of our farmers, so to say, who are ignorant of it. But this remedy, which with cattle has the same effect as the injection, cannot be used with young calves. The cows with calf suffer more, as I have already said, because they almost always miscarry. There are some who, according to the statement of Gœlicke,† have employed abortives; but he does not say with what success. I think that they would serve as little purpose with animals as with women, because we do not know any such remedies in nature. Perhaps it would not be wrong to cause the cows to miscarry, by introducing the hand into their body the moment we perceived the first symptoms of the disease; one might at least make a single trial of it. Puzos, and several others who

have written upon the science of Obstetrics, speak of it with praise, although I look upon it as impossible with women.

Shall we perforate, as Engelmann proposes, the abdomen of the animals, in order to let out the wind?‡ I do not think that this can be of any service, for this symptom is a sign of approaching death, and a proof that all is putrid and corrupt in the paunch. If, however, we wished to make a trial of it, the most suitable place would be the left flank, exactly below the short ribs, on account of the situation of this part of which I have already spoken.§

I conclude then, firstly; That the horned cattle of our provinces do not of themselves take the distemper; nor should we attribute it to damp, or to cold, nor to any other local cause; but that it comes to them from some other place by contagion. Secondly; That, after daily experience, we know that the animals which have once been cured of this disease, are never again attacked by it. Thirdly; That young subjects have for the most part been cured in the meadows, according to the very accurate observations of Engelmann,|| especially during the months of August and September.¶ Fourthly; Finally that it is more than probable that this contagious disease will become endemic and constant in this country; or in other words, it has already been naturalized here a long time, as the small-pox and measles are among men.

Considering then the small success of all these remedies, in order to avoid useless expense, and to attain with some certainty the end that we propose, which is to preserve the cattle, we must take the part of inoculating, not the cows or the oxen, but the young calves, because these, not being yet with young, we risk only their lives; and if we succeed in curing them, the sexual parts are not injured, but become even stronger in the end; and more than this observant farmers have remarked, that bearing cows, although cured of the disease, often calve with difficulty. Besides, a sucking calf which has been cured of the contagion, is more valuable to its owner.

But I abuse your patience. I shall now recapitulate, in a few words, what has been accomplished in this way. I ought at first to remind you of the gratitude which Messieurs Nozeman, Agge Kool and Tak, have deserved from their fellow-citizens, for having made at their own expense, in 1755, experiments in inoculating cattle. They had, I admit, the example of Dodson in England; but being the first to imitate that example for the good of society was doubtless a great merit. Of seventeen horned cattle which they inoculated, they saved only three, of these, two which appeared to be convalescent for fifteen days, died afterwards of most violent distemper.

Professor Schweneke says, in his letter, which has already been mentioned, that of six cattle inoculated in 1757, at the age of one and two years, none perished in the operation.

The trials made at Brunswick in 1746 had quite a happy success; the animals which favourably underwent inoculation were not any further attacked with the contagious disease. The experiments of Layard, in 1757,

* Ibid, vol. VII., page 333.

§ See plate XXVIII., fig. 2, EFGHK.

|| Ibid, page 347, No. 1.

¶ Ibid, page 348.

who, out of eight inoculated animals, saved at least three, and of which he had the fourth killed, in order to examine its internal condition, form a medium between the experiments of Nozeman, Kool and Tak, and those of Professor Schweneke. The Bishop of York had five animals inoculated, of which he saved four, among them were two cows in calf, which, however, did not miscarry;* and Surgeon Bewley saved three others which had also been inoculated.

But the trial of Grashuys seem to destroy all hope; for six animals which had been perfectly cured of inoculation, were afterwards attacked naturally by the distemper, and four of them died, the other two recovered.† He did not, however, lose hope of succeeding better, when repeated experiments should have pointed out more efficacious means.

All this must not then frighten us. When at the beginning of this century they undertook to inoculate for small-pox in England, many children died from it; others suffered a long time from abscesses or other similar evils. They used too much variolic matter, and made the incisions too deep. At the present time we know, by unquestionable evidence, what little matter it requires, and how small the wounds should be; we also know the danger there is in keeping the patients too warm and too much shut up. We can then truly say that inoculation is now a mathematically calculated guarantee against this terrible scourge of mankind.

If it is true, as we must acknowledge, that of the thousands of persons inoculated, some die in consequence, there is room to believe that it must be ascribed to some hidden cause. Let us then inoculate the calves with little matter, making slight incisions in the skin. Let this be done in the spring, during the summer and autumn, chiefly upon young subjects; but this should be only after their stomachs have been purged, and the animals fed with soft food, and which requires little rumination. And let all persons in easy circumstances in this country unite in order to bring to perfection this interesting subject, by constantly renewed trials; and that they reciprocally communicate the observations which they may be able to make, in order to preserve as much as possible the horned cattle, which form the chief wealth of our provinces.

* Phil. Trans., vol. 1, page 535.

† Uitgezogte Verhaedelingen, part III., page 256.

LUNENBURG AGRICULTURAL SOCIETY.—At a meeting held on the 18th December, 1878, the following were appointed officers for the present year, viz.:—*President*, Capt. William Young; *Vice-President*, Robt. Lindsay; *Treasurer*, John Morash; *Secretary*, James J. McLachlan; *Directors*, Dr. Charles Aitken, John Bailey, sr., John Anderson, jr., E. L. Nash and Andrew Rodenhiser. C. E. Kaulbach for Central Board.

ONE of the most remarkable facts recently ascertained in regard to the hardiness of plants, is that *Primula verticillata*, which cannot stand the winter out of doors in England, does so in Mr. Harris's Nursery in Halifax.

* Lib. VI., cap. 6.

† Ibid, parag. 13, page 123.