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SOCIETY PROCEEDINGS.

THE PHILADELPHIA NEUROLOGICAL
SOCIETY.

Stated Meeting, December 28, 1885.

THE PRESIDENT, S. WEIR MITCHELL, M.D.,
IN THE CHAIR.

DR. GUY HINSDALE presented a communication on
THE METHODS OF SLAUGHTERING ANIMALS AT THE
PHILADELPHIA ABATTOIR.

There has recently been put in my hands a series of written questions which relate to the methods of slaughtering animals in our Philadelphia Abattoir. The subject has been brought before the Society for the Prevention of Cruelty to Animals, and the officers of the Society desire to obtain from some of our Philadelphia physicians an expression of opinion as to the proper method of killing cattle with the minimum of pain.

As the members of this Society are doubtless aware, enormous numbers of cattle, sheep, and pigs are slaughtered at the abattoir in West Philadelphia. Into the main hall of the building, which is spacious, having a high roof, with good light and ventilation, the cattle are led in large numbers. They are apportioned to

about fifteen different pens or iron cages arranged in a straight line, each capable of receiving seven or eight bullocks. The iron bars of which the cages are made are separated about fifteen inches from each other, affording a comparatively unobstructed view of the remainder of the room. The gate of exit from a pen is opposite the gate of entrance; above it is the windlass for hoisting. The animal is, in most instances, struck down while standing among his fellows, by a butcher who stands on a plank above him armed with a heavy, long-handled sledge-hammer. He is then hoisted by the windlass through the open door, is disembowelled and dressed for the market within six feet of the animals remaining in the cage. When the carcass is ready for market one of the butchers climbs above the cage, and with the hammer strikes down two more animals; they are dragged out, and so on until all the animals are disposed of.

The Jewish butchers for ages have killed by bleeding. They never use a hammer, but after hoisting the animal by a hind leg, the throat is always cut by a rabbi or "shockem," armed with a keen sabre. This rabbi is detailed for duty at the abattoir.

Underneath the main hall is a cellar in which sheep and pigs are slaughtered by the knife. It is a dark, unclean, repulsive place. Large quantities of accumulated gore are seen in the places where the animals are usually killed. The surface drainage is very bad; the upper floor, though deluged with blood, is attractive in comparison.

The questions to which answers are desired by the Society for the Prevention of Cruelty to Animals are these:

1. Does the Israelitish method produce a total loss of sensation?
2. Does a total loss of sensation arise from a blow struck upon the head of the animal with sufficient force to knock him down?
3. What is the most humane way of slaughtering cattle, which would produce instantaneous death?
4. Do you think a bullock is so sensitive as to suffer terror or agony in witnessing the deathblows and sufferings of his companions?

With a view to satisfy myself on these points, I made three visits to the Abattoir. I had no especial interest in the subject before, and supposed that the methods were not open to criticism.

As for the first question, I think it safe to say that the Israelitish method is instantaneous when once the steel strikes the neck. The blood gushes out, the brain is instantly deprived of blood, and consciousness is lost without appreciable loss of time. The young rabbi deserves credit for the skill with which he performs this operation. To suspend animals with heels up and head down is, at first sight, somewhat harsh, but, on the other hand, they are accustomed to a low position of the head, and the new position is only ninety degrees removed from the normal.

Regarding the second question, it appeared to me that consciousness did not always cease when a blow was struck upon the head of an animal with sufficient force to knock him down.

The first two animals that I saw killed were struck on the head, in the middle line a little anterior to the line of the insertion of the horns. They instantly

dropped; a few convulsive movements, sometimes unilateral, sometimes general, occurred, and they were removed from the cage. The next three animals were struck by a different man. Two animals were struck eight times apiece, and the others nine times before the butchers saw fit to proceed to dress the beef. Although the earlier blows were ineffectual, the later ones were delivered when the animals had lost sensation, and when the convulsive movements appeared too violent. In other instances one, two, three, or four blows were required. Animals were partially struck down, and did raise their heads, and look about, unquestionably conscious of pain. The ox is not by any means the only animal that may preserve consciousness after being struck down by a blow upon the head. We ourselves may know this from personal experience. However, one blow well applied was sufficient perhaps, in the majority of instances, instantly to destroy sensation.

Two other cattle which I saw killed at my third visit were attacked by a third man. The first received three blows upon the head, but still the animal walked about, and it became so difficult to induce him to stay still in proper position (the unreasonable creature!) that the butcher resolved to devote his attention to another animal, upon which, also, he delivered three heavy but ineffectual blows. I noticed by this time that the first animal was bleeding from the nose, and that both were able to walk about. This heavy hammer would sometimes bound from the skull as you might expect a wooden mallet to do. The animals gave no cry, and made no violent demonstration, as one might expect; they received these murderous blows as a prize-fighter might receive his, without evincing pain. They, however, became uneasy, endeavored to avoid the man crouching above them, and, without much trouble, were finally dispatched.

As to whether a bullock is so sensitive as to suffer terror or agony, in witnessing the deathblows and sufferings of his companions, interesting metaphysical questions are involved. Butchers in the abattoir do not seem to think that the animals are conscious of their surroundings. They say they occasionally milk a cow in a cage near which animals are being slaughtered. It is quite evident that, as a rule, bullocks make no attempts, or the most ineffectual attempts, to avoid the fate of their companions. In one instance which came under my observation, the last of a series of bullocks became frightened; he dodged the blows, put his head through the bars, and held it low, out of the reach of the butcher standing on the top of the cage. Men with sticks poked him about, while inaccurate blows fell upon his head, until, after a disgusting struggle, he was dispatched. This animal seemed to me to act at the start as though he appreciated danger from witnessing the death of his companions. Butchers say that Texan steers give more trouble than others, and are more liable to grow wild at the sight and smell of blood. It cannot be that their mental powers are radically different from those of other varieties of oxen.

It is not necessary to repeat before this Society anecdotes or proofs to show that a steer may become frantic at the sight and smell of blood. Carnivorous animals are not so susceptible. A dog may even eat another dog, as one of our proverbs says, and yet some dogs

are capable of sympathy, and exemplify it by appropriate behavior. Not only the elephant, but even so small a creature as the ant, manifests sympathy.¹ The sense and the understanding are not the prerogatives of man exclusively. These lower animals have attention, memory, association. They exhibit generosity, gratitude, courage, caution, patience, industry, anger, and grief.

Doubtless the ox or the sheep or the pig cannot claim the possession of all these qualities. But their mental system is much less perfectly understood than ours. "The popular tendency has been to underrate the acquired knowledge of animals, if not to ignore it altogether. At present we are not in a condition to dogmatize, owing to the want of proper observations on the whole department of brute intelligence."² As Lauder Lindsay puts it, "the very terms animality and humanity are, on the one hand, unnecessary distinctions; while, on the other, they are generally wrongly applied, for there is more animality in man and humanity in animals than our self-conceit will permit us willingly to recognize. We cannot correctly speak of the animal in contradistinction to the human mind, inasmuch as mind is essentially the same in other animals as in man, differing simply in the degree of its development and the mode of its expression."³

But what can be done to remove the objectionable features of this necessary work of slaughter?

1. The work of killing these animals should be given only to a man of experience and power.

2. It is not necessary, and it should not be permitted, that animals should witness the death of their fellows. They may wait their turn together, but finally should be led to an apartment alone, where a single successful death-blow may be given.

3. Means should be provided for making this blow unerring. A crushing blow on the brain-case is, undoubtedly, a painless death, and, by a mechanical contrivance, this might be made unerring. Fixation of the head would be necessary, and perhaps could be accomplished by means of the horns. An experienced executioner, with an adequate instrument, either in his own hands or under his control, as a trip hammer is under the control of a forger, could then dispatch these poor brutes with the minimum of pain.

4. The number of men who perform this work should be small; and boys, women, and the public generally, should not be permitted to witness these brutalizing scenes.

5. The Jewish method, when rapidly performed, is, on the whole, not a cruel method.

6. The city should take immediate steps to supervise this abattoir; it should have an official inspector of meat, and adopt some effectual, scientific method for the detection and condemnation of diseased meat.

If this Society will endorse these statements, I believe that a better state of things can be secured. If proper evidence can be adduced, the Society for the Prevention of Cruelty to Animals will take hold of the matter and insist on reform in this important public institution.

DR. CHARLES K. MILLS moved that a committee be

appointed to visit the abattoir, and report to the Society on the questions proposed by the Society for the Prevention of Cruelty to Animals.

The committee appointed consisted of Drs. H. C. Wood, H. A. Hare, F. X. Dercum, A. P. Brubaker, and Guy Hinsdale.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting, February 3, 1886.

THE PRESIDENT, S. WEIR MITCHELL, M.D.,
IN THE CHAIR.

DR. HORATIO C. WOOD, on behalf of a Committee of the Philadelphia Neurological Society, made the following statement concerning the

PAINLESS SLAUGHTERING OF ANIMALS.

Some weeks ago, the attention of the Neurological Society of Philadelphia was called to the subject of the Philadelphia Abattoir, and the mode there employed of slaughtering cattle and sheep, by a paper by Dr. Guy Hinsdale. The subject was referred to a Committee, of which I had the honor to be the Chairman, for investigation, and, upon the making of our report, the Society directed me, as Chairman of the Committee, to bring the matter before the College of Physicians of Philadelphia, as the highest representative body of the profession in this city.

As is well known, there are yearly killed in the abattoir in West Philadelphia, owned by the Pennsylvania Railroad, many thousands of cattle, sheep, and hogs. The method of slaughtering the sheep and hogs is simply to cut their throats, and to allow them to bleed to death. If this be done skilfully with a single sweep of the knife, the death is rapid, but far from instantaneous, and consciousness is preserved until the blood is nearly exhausted from the body, the supply of the vital fluid through the vertebral arteries being sufficient to maintain temporarily a certain amount of brain function. In the case of sheep, pithing is a very simple operation, and any butcher, after a little practice, could do it with rapidity and ease. The amount of expended time which it would add to the present method is exceedingly small, and we can see no reason, except the callousness of custom, for objecting to its introduction. In the small slaughter houses of the olden time, a rope was thrown around the horns of the cattle, and the animal was violently dragged down to a ring in the floor, and then dispatched with a blow in the forehead. I understand that in the Paris abattoirs this method is modified so far that the bullock is driven into a narrow gangway or pen, a rope thrown round the horns and rapidly hoisted so as to raise the forehead of the creature from the floor, when the fatal blow is given. In some of the great abattoirs of the West the animal is shot, and, of course, if the bullet be accurately directed, the victim dies instantaneously. In other places pithing is practised, and, if skilfully performed, produces immediate death.

The objection to shooting is the danger of the bullet either simply wounding the animal or occasionally, when discharged through carelessness or accident, passing wide of its mark. It is said that serious accidents have thus occurred in the Chicago abattoirs. Pithing is un-

¹ Romanes, *Animal Intelligence*, p. 47.

² *Art. Instinct*, Chambers's *Encyclop.*

³ *Journal of Mental Science*, April, 1871.

doubtedly the best method of killing, provided the requisite skill is present, but its proper performance requires a much greater degree of skill than would probably be commanded in our city abattoirs. If the blow upon the forehead be given with a sufficiently heavy instrument, which is provided with a truncated point one and a half inches in diameter, and be well directed, it undoubtedly produces an effect which is as immediate and almost as thorough as that of pithing. I believe that under these circumstances the medulla itself will be found to be crushed or destroyed by the enormous hemorrhage. The idea of the plan which is adopted at the Philadelphia Abattoir appears to be as good as any that is practical, but the method of the carrying out of this plan is exceedingly bad. The main hall of the abattoir is spacious, well lighted and ventilated, and the centre is occupied with fifteen pens or iron cages, placed in a straight line on each side of an avenue. Each of these cages is capable of holding from seven to eight bullocks, and the view of the whole floor is practically unobstructed by the slight iron bars which separate the cages. Over the top of these cages are placed planks. The plan is for the bullocks to be driven into the pens, often until the latter are completely filled. The person who does the killing stands upon the planks above the pen, watches his opportunity, and strikes down one after another of the cattle beneath him. The hindlegs of the theoretically unconscious victims are then attached to a chain, and by means of a windlass the body is dragged out of the pen and suspended with its head downward. After this the throat is cut and the blood caught in buckets or tubs.

The first question which naturally arises is as to the amount of psychical suffering that is produced in the cattle by the sight of death or the smell of blood. After a good deal of observation the Committee of the Neurological Society came to the unanimous conclusion that the cattle had an imperfect consciousness of what was going on; most of them seemed entirely cowed and passive, whilst others were exceedingly restless and apparently very anxious. The Committee did not believe that the suffering would compare with that which would exist in human beings under similar circumstances, but it seemed to be quite definite and distinct.

As no provision is made for the animals being in the proper position for striking, the butcher who uses the hammer, selects his opportunity as best he may. Moreover, the weapon is used by a number of individuals, the result being that in a very large proportion, and, perhaps, in the majority of cases, a single blow is not sufficient. When first struck the animal falls to his knees, or, as in many cases, scarcely flinches, only striving with more or less eagerness to get away from a danger the existence of which he recognizes, but the direction of which he does not perceive; the beast is then driven about as best may be until an opportunity is afforded for a second blow; thus the process of torture is repeated until finally the animal falls. It is also the custom at the Abattoir to strike down three or four bullocks at once; so that some minutes must elapse before the cutting of the throats of some of them. Under these circumstances the unfortunate creature very frequently recovers partial consciousness before his turn comes, and not rarely regains sufficient self-posses-

sion to get upon his feet, when the process of striking-down has to be repeated.

Observation made by various members of the Committee, at different private slaughter houses in Philadelphia, shows that there is still greater carelessness and recklessness of animal suffering than in the public abattoir.

It is not necessary to enlarge at all upon the condition of affairs at the Philadelphia Abattoir. Fortunately the remedy is a very easy one, and it can hardly be that the officials of such a great corporation as the Pennsylvania Railroad will fail to apply a remedy when the evil has been brought to their attention. The arrangement of the pens should be remodelled, so that the bullock to be killed shall be isolated in a close, narrow pen, but especially should the striking be performed by one man, whose sole duty it should be to deliver the fatal blows. With the skill that would come with constant repetition, it is probable that it would not be necessary to raise up the head of the bullock at all, but if this be deemed advisable, over the horns of the animal, driven into the narrow pen, a rope could be readily thrown, and in an instant the feet raised from the ground.

Before taking leave of this matter, it seems right to call the attention of the College of Physicians to the very great need there is of some inspection of meat at the Philadelphia Abattoir. Of the dozen or fifteen cattle which I personally saw killed, the internal organs of one were simply studded with tubercular nodules, so that the beast must have been in the last stages of general tuberculosis. The meat was dressed and prepared as that of the others for sale. It is probable that this diseased meat especially finds its way into those forms of sausages which are largely eaten by a portion of our population in a partially cooked condition. It seems to be but right that protection should be afforded to the community against the use of diseased meat, and that, therefore, there should be an inspector having supervision over both the public and private slaughtering places of the city.

In conclusion, I trust that the subject of this communication will be referred to a committee with power to bring the matter, through the public press, to the attention of the citizens of Philadelphia.

Upon motion, the Chair was authorized to appoint such a committee, to consist of three Fellows, with power.

The President appointed Drs. H. C. Wood, H. C. Chapman, and E. T. Reichert as the committee.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, January 26, 1886.

THE PRESIDENT, CHARLES MCBURNEY, M.D.,
IN THE CHAIR.

DR. R. F. WEIR read a paper entitled
RESECTION OF LARGE INTESTINE FOR MALIGNANT
GROWTH.

(See page 173.)

DR. BRIDDON remarked that notwithstanding Allingham's opinion that colotomy does not prolong life, he had seen life prolonged and made much more comfortable by colotomy in cancer of the rectum, where

the disease could not be entirely removed. He referred to a case of cylindrical epithelioma of the rectum in which, in the Presbyterian Hospital, he performed lumbocolotomy, and the result was that the general condition of the patient was very much improved, and she was rendered very much more comfortable with reference to the local condition.

DR. H. B. SANDS agreed with Dr. Briddon in his protest against the view ascribed to Allingham, that life is not prolonged by colotomy performed for the relief of cancer of the colon or rectum. He did not know how this conclusion, drawn by Allingham, was arrived at, but he thought it was within the experience of most surgeons present that they had often succeeded in prolonging life by this operation. He could recall several instances in which at the time lumbocolotomy was performed the patient was almost at death's door, and in which life was lengthened for a considerable period. He recalled the case of a patient in this city, in whom, at the time of the operation, there was complete obstruction of the bowel, accompanied with enormous distention of the abdomen, and Dr. Sands was sure that if mechanical relief had not been promptly afforded, he would not have survived more than three or four days. The patient had no bad symptoms after the operation, but recovered from it and lived more than a year afterward, being able, during the greater part of the time, to go about and attend to business. He could recall other similar cases. He had presented to the Society a man upon whom he had performed inguinal colotomy, and who, at the time of the operation, was suffering from complete intestinal obstruction. Dr. Sands believed it could be stated as an established fact that, in a certain number of instances, the operation will not only relieve the urgent symptoms, but also prolong life for a considerable period.

DR. BRIDDON said that the most gratifying case in this respect which he had seen occurred about two or three years ago. It was one of acute intestinal obstruction due to malignant growth in the upper end of the rectum. He performed lumbocolotomy, which gave the man complete relief, and he lived for two or three years in a very comfortable condition. The obstruction had existed eight or ten days when he first saw the patient, and the abdomen was largely distended.

DR. L. A. STIMSON said with reference to a collateral point—namely, whether it is advantageous ever to attempt to remove a cancerous tumor of the intestine, that according to the record which Dr. Weir had given, the longest period of survival had been five years. For the encouragement of those who should have opportunity to perform the same operation, he would say that seven and a half years ago he had removed a cancer of the rectum, and the patient, a physician, is still in active practice and good health; there has been no return of the disease.

DR. SANDS said that if it proved to be the result of further experience, that the operation of extirpation of a cancerous intestine can be done in such a manner as to reunite the ends of the intestine, it would still be a matter of doubt whether such an operation, which involves a greater risk than simple enterotomy or colotomy, should be preferred to the latter, for he could imagine that it would be found in cancer of the intestine, as in cancer of the stomach, that surgeons would

rarely succeed in making such a radical operation as to give much chance against recurrence of the disease.

DR. F. LANGE said that he had had the opportunity to perform the operation twice; in both cases for malignant growth. In the first case the growth was situated in the ascending colon near the right flexure. It seemed to be very movable, and the patient was in a comparatively good condition. He expected to find conditions favorable for an easy operation, but was very much deceived, for the tumor was intimately adherent to the duodenum. The operation was accompanied by a great deal of hemorrhage, and finally by lesion of the duodenum, which he was obliged to close with suture. He did not, in consequence, have much hope of the success of the operation. The woman died on the second day, of peritonitis.

In the second case he had not intended to perform an operation on the intestine. The case was one of particular interest. The woman, about thirty-two years of age and a widow, applied to him with reference to tumors which had developed comparatively rapidly, and which without much difficulty could be made out as belonging to the ovaries. Dr. Lange regarded the case as one of sarcoma of both ovaries, and did not encourage an operation. The patient had had for the past two years obstinate bloody diarrhœa which could not be controlled effectually by internal remedies, and immediately before the appearance of the diarrhœa she had suffered from an attack of acute dysentery. By her attending physicians the diarrhœa was regarded as being due to the preceding dysentery.

The patient urged that an operation be performed because there were special reasons why she should desire to live a little longer. Dr. Lange, therefore, performed the operation for removal of the tumors, which were taken away without difficulty, but he found to his great surprise that, attached to one of these ovarian growths, indirectly through the omentum, was a large circular tumor of the transverse colon, besides several nodules about the size of a hazelnut in the omentum, and there were also several enlarged mesenteric glands. As the patient was in a fairly good condition, and the operation thus far had not been prolonged, he determined to excise the intestine. The operation lasted about two hours and a half, and went on without much disturbance, and the patient came out from the operation in good condition. The first week was without trouble except that he was unable to check the diarrhœa. On the ninth day the patient died with acute symptoms of perforative peritonitis, which he thought was due to a suture giving way somewhere, in turn due to the incessant peristalsis of the intestine.

Dr. Lange presumed that in cases in which no complication exists the operation is very likely to be beneficial, and is one which will probably prolong life. He did not think that in all cases absolute rules could be stated. In scirrhus of the large intestine, which is movable and without complications, the operation is not more difficult or dangerous than exsection of the intestine for any other cause. The length of time for the operation under such circumstances, which can be performed without very much loss of blood, is not of great importance, if the operation is done with the necessary care and the patient's general condition altogether allows of such an undertaking.