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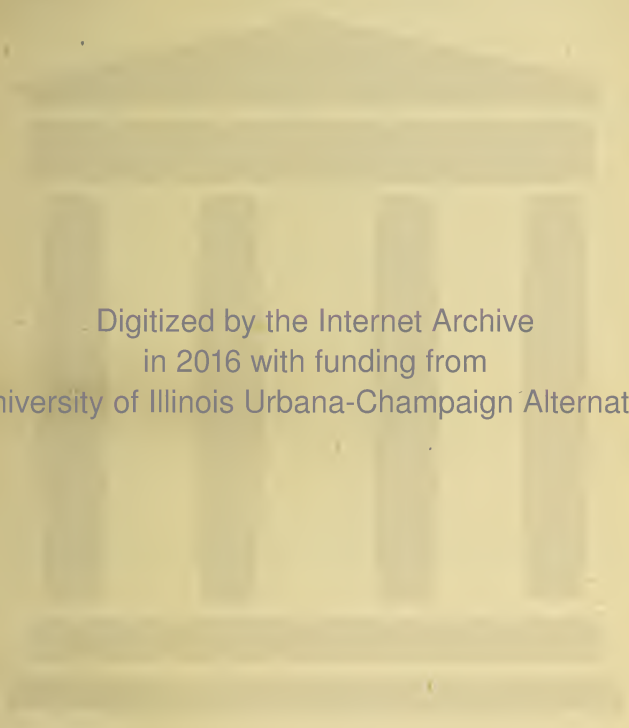
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THE
VETERINARIAN;

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FOR 1836.

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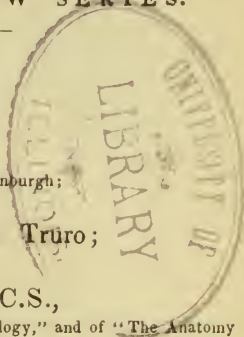
Ars Veterinaria post medicinam secunda est.—Vegetius.

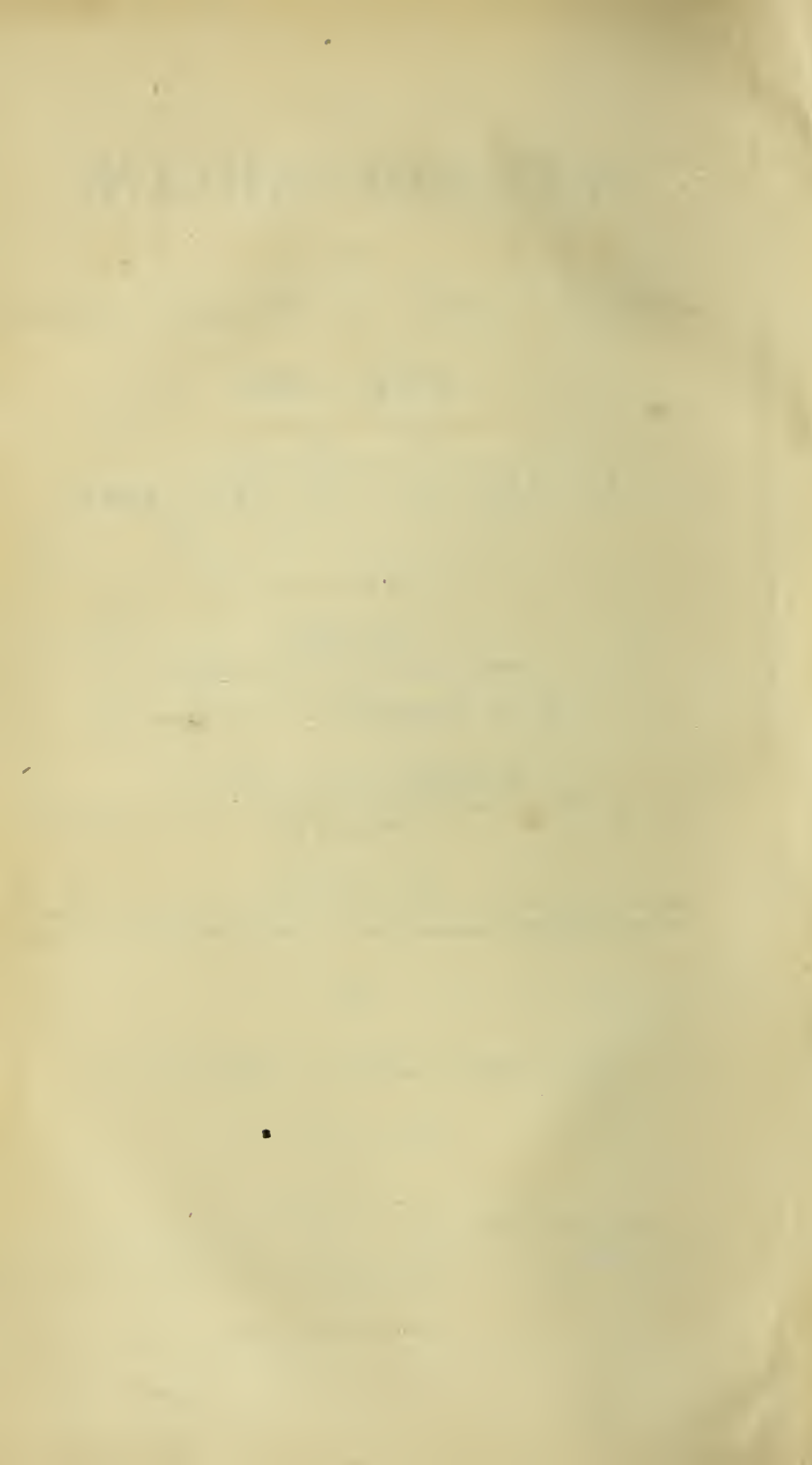
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THE
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ANIMAL PATHOLOGY.

By Mr. YOUATT.

[*Note.*—As these lectures will differ from the foregoing ones, in being, as strictly as possible, pathological, the present one is numbered as the commencement of a new series. The lecture in the last number was hastily written from memory, the press being waiting. This is much more like the one that was delivered; and, that our readers may not complain of the repetition, we have given them eight supernumerary pages.]

LECTURE I.

Palsy in the Horse.

Gentlemen,

I APPROACH the present course of Lectures with considerable diffidence, and with some hesitation. So far as the veterinary pupil is concerned, these lectures will be essentially his—they will be studiously adapted to his wishes and wants—they will treat of the nature, and symptoms, and causes, and treatment, usual result of the diseases of all domesticated animals: but I do not deny that I have an ulterior object in view.

It is interesting to observe how the structure of different organs is varied in different animals, according to their locality, their food, and their destiny. These varieties afford ample elucidation of the wisdom and benevolence of the Creator. To the medical student, both human and veterinary, such inquiries are useful as well as pleasing; for they give him more extended and satisfactory views of the nature of the different functions and the thousand varieties of structure and arrangement—of simplicity, or of complicated connexion, by means of which each animal is admirably adapted to enjoy his own peculiar share of good, and also to contribute his proportion to the common weal: and therefore it is that comparative anatomy and physiology are so sedulously taught in the schools of human medicine.

But who has not felt that there is still something wanting?

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These inquiries lead us to the observation of nature in its most perfect form. They unfold to us, with tolerable accuracy, the principles of health; but they often leave us to guess, and wildly too, at that which is our especial object of concern—the cause of disease, and the means by which it may be alleviated. The comparative anatomist and physiologist sees every thing in health; the comparative pathologist studies them in disease, and traces the influence of a thousand agents in producing and modifying disease, and all varying with the structure and food and habits of the animal. Who does not see the importance of this?

The medical philosopher has often wished that the maladies, as well as the structure and physiology of all living beings, could be united in one course of instruction; for it would enable him to arrive at a profound knowledge of the laws and operations of nature; but who is equal to these things? Who has had the opportunity of observing and studying the phenomena of health and disease on a sufficiently extensive scale; or who can treat of the diseases of every being endowed with life with that true and enlarged spirit of philosophy which such a subject requires?

The individual who now addresses you has, in the course of more than twenty years' extensive practice on the diseases of all domesticated animals, and, during the last three years, in the medical care of the menagerie of the Zoological Society of London, enjoyed advantages for entering on the consideration of this hitherto neglected subject which have fallen to the lot of few, or, perhaps, he may say of no man. That he may not, that he has not, fully availed himself of these advantages he deeply feels; but they have entailed on him an obligation which he must attempt to discharge. He dares not to call these lectures a course of *comparative* pathology, for to the diseases of the human being he must direct but a rapid and hesitating glance; yet to them he must occasionally allude in order to render his subject complete. He terms them, at present, Lectures on *Animal* Pathology; but when the subject comes into abler hands, and a little more of the prejudice against the quadruped patient is passed away, the advantage of such a course of instruction will be universally acknowledged, and talents worthy of such a cause will be devoted to it.

Gentlemen, in the last course of lectures I entered at considerable length into the anatomy and physiology of the different systems into which the animal frame may be conveniently divided. I must now confine myself almost exclusively to pathology; and as my class, small as it is (it shall not be neglected on that account, but I will lecture to you as honestly and as zealously as if the theatre were full), is composed chiefly of veterinary pupils,

I shall, in order to avoid repetition in the present course, start from the point at which we had then arrived:—

Definition.—Having considered the various diseases which are referrible to an unnaturally increased supply of nervous agency—whether flowing in a continuous rapid stream, and to many muscles or sets of muscles, as in *Tetanus*—or still flowing rapidly, and to many parts, but with certain remissions or pauses, as in *Epilepsy*—or the stream, although continuous and rapid, confined to one muscle or set of muscles, as in *Cramp*—or passing on in a succession of waves or impulses, as in *Chorea*—and all these perfectly independent of the will; or some involuntary impulse being added to and interfering with strict obedience to the mandate of the will, as in *Stringhalt*,—we proceed to maladies of a different character, and connected with the partial or total suspension of nervous influence, as in *Palsy*. Strictly speaking, palsy means a diminution or a suspension of the influence of the nervous system whether sensitive or motor—a loss or diminution of feeling, as well as of the power of action; but as I have, hitherto, been speaking only of the inferior superficies of the spinal chord and the motor columns, my attention will, at present, be confined to the diminution of action, and that as resulting not from various mechanical causes, as the contraction of tendons, or the ossification of ligaments, but the want of nervous energy—a disease, not of the part to be stimulated, but a partial or total absence of the stimulus.

Every action implies two things—the stimulus, and the power of being stimulated. The irritability—the symptom, the essence of animal and organic life—we suppose to remain; but the agent, the nervous influence from the brain or spinal chord, is diminished or withdrawn. We can produce an artificial palsy whenever we please; we have but to divide the nerve which goes to a certain muscle or limb, and the power of motion ceases below the division.

General Palsy—Human Being.—The human practitioner distinguishes between general and local palsy. In the first case, the whole body is deprived of the power of voluntary motion, and, occasionally, the senses are impaired, and the feeling is diminished or lost: but the man lives for a while, and for a long while too, because the principle, and the agents, and the functions of organic life, whether arising from the lateral column of the spinal chord, or from the superior cervical ganglion, are, except by anastomosis, independent of the brain. How dreadful must be the state of such a being!—he can eat, and digest, and even speak; but he can neither see, nor hear, nor smell, nor feel. Dr. Todd relates a case

of this. The patient was shut out from all communication with his family and his children, yet his speech and intellects were unimpaired. It was, after a while, accidentally discovered that a small patch on the right cheek retained its sensibility; and, by tracing letters on this spot, his wife and children were enabled to maintain some intercourse of ideas with him: at length, the palsy began to pervade the system of organic life, and he rapidly sunk, and died in a way dreadful to think of.

Quadruped.—Of this kind of palsy our practice affords us very few instances, and that for reasons that will appear clearly enough as we proceed. General palsy, when it does occur, is produced by apoplexy; it is one of the symptoms of apoplexy. The brain, compressed by an overwhelming discharge of blood to it, can no longer issue its mandates, or be sensible to impressions from without. But of PARTIAL PARALYSIS we have plenty of cases in all our patients, and most untractable ones they are: sometimes they are fatal. An old pupil and valued friend of mine, Mr. Chapman, who kindly conducted my business for me when I was ill, was sent for, in order to examine a horse. The symptoms were, heat of mouth, heaving at the flanks, a hard and quick pulse, and the exhibition of great pain. As he stood by his side and looked at him, he observed some slight spasms of the left shoulder, and extending along the side. He naturally concluded that it was a case of pleurisy, and he bled the animal and gave fever medicine.

On calling a few hours afterwards, he found the horse in still greater pain, and his left leg was becoming powerless. The horse could not bear upon it, and he shrunk at the slightest touch. There is a strange caprice about this. In many cases there is palsy of the sensitive as well as the motor nerves; at other times the natural feeling remains, although the power of motion is lost: occasionally the sensibility is increased to an almost inconceivable degree: but generally both nerves are gradually involved, and share in the same loss of function.

He soon after this fell, and beat himself dreadfully about. My young friend began to understand the case: he ordered the limb to be frequently fomented, he rubbed in a stimulating liniment all over it, and he gave a strong dose of physic. On the following day he began to give opium and spirit of nitrous ether.

The horse had then been set on his legs with a great deal of difficulty; he stood continually shifting his position, so far as he could do it with his hind feet, and trying in vain to rest a little of his weight on the affected limb. At length the power of the other leg began to fail, and he again fell down, and, unless forcibly held down, beat his head about, and fought and

scrambled with his hind feet. He survived until the fifth day after the attack.

On examining him after death, there was scarcely any thoracic or abdominal lesion, but there was spinal disease from the fifth to the seventh dorsal vertebra. The membranes of the chord were inflamed, the ligamentum denticulatum very much so; the inferior columns were pulpy, and the fluid in the central canal was black. The superior and lateral columns presented no lesion.

I scarcely know a plainer and more interesting case of inflammation of the spinal chord and its membranes, and the paralytic affection consequent on this. It is deficient in one particular only, and one which no inquiry could supply, What was the cause of the spinal affection?

HEMIPLEGIA AND PARAPLEGIA.—The human practitioner has yet another distinction, hemiplegia and paraplegia. In the former the affection is confined to one side of the patient: it occupies, as it were, one half of the chord. In paraplegia the posterior (lower) extremity on both sides is affected.

Cases of Hemiplegia.—Few cases of hemiplegia occur in our patients. Old Gibson relates some cases of it. If you should chance to see his work on farriery on any bookstall, it is worth your purchase. There is a great deal of what would yet be considered good matter in it. He speaks of it as an epidemic in his time.

Girard describes what he supposes to be a case of it, but respecting which I have some doubt. It looks to me a great deal more like rabies. "A horse fell while at work. He was raised with much difficulty, and was found to be powerless on the left side—feeling, however, remained: the left nostril was closed, the eye was also closed and ulcerated. Hay was offered to him; he seized it with the right side of his lips; he opened his mouth strangely wide in order to get it to his grinders, but he could not masticate it, for all of it presently accumulated between the left molars and the cheek. Oats he could not get at all into his mouth. In order to drink, he plunged his muzzle in the water up to the commissures of his lips, and then sucked up a little of the fluid slowly, and with difficulty. He however had evidently the sense of smell in his left nostril.

The palsy was not perfect on that side, for he could walk, although with a great deal of difficulty. His left legs trembled under him as they were dragged after him; and if he was turned, and a little too sharply, towards the left, he fell, but scrambled up again with great difficulty. He continued in this state six days, and died. The grey substance of the brain was a little more injected than usual; and there was a slight injection in the left

corpus striatum, on the pons varolii, and in the cerebellum, and all on the left side.

M. Vigney relates another case in which a cure was effected by repeated bleeding and purging. In fact, these cases appear to be more manageable than those of paraplegia; but if the affection is not removed, it usually degenerates into paraplegia before the death of the animal.

Why not hemiplegia in the horse? It would appear singular that this should be the most common form of palsy in the human being, and so rarely seen in the quadruped, were it not for the following considerations. It usually follows apoplexy; but the horse, except from some stolen visit to the oat-bin, or other as gross mismanagement, is now rarely apoplectic. That pest—stagers in all its forms—which used at times to rage as if it were an epidemic, and to sweep away whole establishments, is now comparatively seldom heard of. There are, indeed, cases recorded of two stallions that became paralytic after covering too many mares; they were, however, apoplectic first, and there was probably considerable effusion of blood on the base of the brain.

This kind of palsy in the human being follows some change in the structure or functions of the brain, long visible enough in the loss of temper and the decline of intellect; or it may be attributed to some moral influence or mental irritation. The horse has scarcely brain or intellect enough for this.

Palsy is produced by some injury inflicted on the brain or its membranes; but the brain in our patients has either a second plate of bone of great thickness, or a dense mass of muscle given for its protection.

Palsy in the horse proceeds from injury of the spinal chord, and that chord is more developed than in the human being. In man the brain may perhaps be averaged at one thirty-fifth part of the weight of his body. In the intellectual dog, it can be rated at little more than the one hundred and sixtieth part. In the horse it is one four-hundredth part only; and in the ox one eight hundred and sixtieth. Not only is the bulk of the brain smaller in the quadruped than in the human being, and therefore less likely to exercise so paramount an influence over the chord, but the spinal chord, and especially the inferior or motor surface of it, is, *compared with the bulk of the animal*, very much more developed in the quadruped than in the biped. The brain of the horse is smaller than that of man; the spinal chord is considerably larger. Compare the relative bulk of the brain, and that of the chord in man and the horse: compare, also, the full rounded development of the motor co-

lumns on the inferior superficies of the horse with that of the same columns on the anterior face of the spinal marrow of the human being. The principle of intellect is developed in the one; the other is chiefly formed with reference to muscular strength and endurance.

The spinal chord is more exposed to injury, and injury which will affect not one side only, but the whole of the chord at that part. It is also an anatomical fact; that the decussating fibræ which extend from one motor column to the other, and connect the two together in consentaneous action in the animal whom we often tax so severely, and whose utility to us consists principally in his muscular strength, are far larger in the horse than in man; and, by means of these connecting fibres, disease also is more likely to spread from side to side. It is on these accounts that while hemiplegia is the form which palsy oftenest assumes in the human being, paraplegia, or palsy equally affecting both sides, is the most frequent malady of the quadruped. Hemiplegia is, generally speaking, an affection of the brain—paraplegia, one of the spinal chord. The one belongs to the intellectual being, the other to him in whom the powers of muscular action and of organic life are most developed.

The Hind Extremities chiefly.—Palsy in the horse generally attacks the hind extremities. Charlot, however, as quoted by Hurtrel D'Arboval, gives a singular account of a case of palsy in the fore limbs. A horse, while working at the plough, became suddenly lame—at one moment before, and then behind, and at length he fell. His respiration was accelerated—the mucous membranes reddened—the pulse frequent—a cough, painful and almost continual—and he was frequently looking round at his belly. His fore limbs were stretched out inflexible; his hind ones were in perpetual motion. When an attempt was made to raise him, the fore legs remained motionless, while with his hind legs he gave such an impulse to his body that his head was bent under his chest. Sometimes he would effect this of his own accord; he would raise himself on his hind legs, and, supporting himself alternately on his head and crest, would move along through a space of several yards. He was continually covered with profuse perspiration, and his urine was brick-coloured. The horse died on the third day. The chest was filled with bloody fluid—the pleura highly inflamed and thickened—the lungs gorged with blood—the substance of the heart soft and easily torn—the muscles generally of the fore-legs softened and discoloured—the spinal marrow softened and injected, and the brachial nervous plexus evidently reddened.

The reason why palsy in the horse is usually confined to the hind legs is plain. The fore limbs are attached to the trunk by a dense mass of highly elastic substance. This was placed between the scapula and the ribs for the purpose of preventing every concussion that could be dangerous or even annoying to the horse or his rider. Except in consequence of a fall, there is scarcely the possibility of any serious injury to the anterior portion of the spine. The case is very different with regard to the hind limbs, and their attachment to the trunk. The femur articulates with the pelvis, and the pelvis articulates with the sacral continuation of the spine. The muscles of the thighs and haunch are capable of the most powerful exertion, and the greater part of them derive their origin from the bones of the pelvis or the spine; and these parts are necessarily liable to many a shock or sprain injurious to the spine and its contents. The lumbar and posterior dorsal portions of the spine oftenest exhibit those lesions which are connected with, or the cause of palsy, because there are some of the most violent muscular efforts—there is the greatest movement and the least support. The vertebral column—the ligaments and cartilages of the joints—the osseous tissue itself, is there oftenest and most extensively injured. The inflammation rapidly spreads to the spinal chord; or, perhaps, the cord itself is compressed and injured, and its function can no longer be discharged. Many other causes of palsy may be assigned as it regards other animals; but it may be taken as an axiom to regulate our practice, that in the horse it most frequently proceeds from disease or injury of the spine.

Palsy referrible to Lesion of the Spine.—If you inquire into the history of the cases that come before you, you find that the horse had fallen, and had suddenly become paralytic—or palsy had supervened a few days after the accident—or he was seized in the midst of his work, and when his energies were too cruelly taxed—or he had been worked exceedingly hard a few days before, and there had been a heavy load—or the pace had been greater than usual—or, covered with perspiration, the horse had been left exposed to the cold and wet.

I am speaking of cases as they generally occur. Palsy has been produced by aneurism of the posterior aorta, excessive bleeding, or the omission of the usual evacuations, inversion of the rectum, intestinal irritation, whether from worms or superpurgation, lesion of the muscles of the thigh, fracture of the scapula. Colts, one or two years old, neglected, exposed, feeding on low marshy ground, and others at the period of weaning, especially if the mother has been ill-fed, are subject to attacks

much resembling, or in some cases constituting, palsy. Whatever lesion or injury or mismanagement can excite sympathetic inflammation or irritation of the spinal chord, may be the cause of palsy.

Symptoms.—Generally speaking, there are few precursor symptoms. On the previous day the horse is apparently well: he is found on the following morning, or soon after some severe accident, dreadfully lame; in great pain; and shifting his weight from one limb to another. In some cases there may be previous fever, heaving, illness which can scarcely be referred to any particular part, or derived from any particular cause. Very shortly, however, the mischief can be traced to one leg; perhaps both are equally affected: the animal can scarcely walk; he walks on his fetlocks instead of his soles; he staggers at every motion; he hurries along to prevent himself from falling; at length he falls; he is raised with difficulty, or he never rises again.

The sensibility seems for awhile to be very much increased, but the feeling of the part, and the sensibility generally, gradually subside—they get below the usual standard—they cease altogether. There are none of those sudden suspensions of feeling and voluntary motion which are recorded of the human patient, because it is not so often an affair of the head. It is the result of spinal disease or injury—it originates in inflammation of the spine or its membranes, whatever be the cause of that inflammation; and it is ushered in by fever and excruciating pain. When the pain which accompanies the first attack has passed over, the animal, with the exception of his powerless limbs, appears for a while—a time of very uncertain duration—in the full possession of all his senses, and eats and drinks as usual. I have seen colts, in whom there had been rheumatism or affection of the joints resembling, or running on to, palsy, preserving their full appetite, and all their gaiety, and expressing, as plainly as they could do, their desire to gambol about with their companions.

Post-mortem Appearances.—In almost every case, and usually about the lumbar region, there is inflammation of the membranes of the chord, or of the chord itself. The membranes are highly injected, or gorged with blood, or thickened, or with serous infiltration between them, or with their surfaces covered with minute concretions. The medullary matter is of a yellow colour, or on being cut into with a keen scalpel minute points of blood from the minute vessels of the delicate tissue in which the spinal marrow is contained follow the knife; or, and in proportion as the sensitive system has or has not been involved, the whole of the spinal chord at that part will be softened—semi-

fluid; or the inferior columns (the anterior ones in the human being) will be softened, while the superior ones will be unaffected.

Prognosis.—Well, gentlemen, you will have to do with a very serious complaint here, and, in the majority of cases, the termination will be fatal. You will anxiously endeavour to ascertain the cause. Is there any fracture or dislocation of the spine? if so, you have no power to reduce the one or the other—and the sooner you terminate the sufferings of the patient the better. Is the cause unknown, or can you connect it with extra-exertion, or exposure to cold?—are you assured that it is not the winding up an old spinal affection?—proceed to adopt the proper measures of cure, but let your prognosis always be guarded, and generally unfavourable.

Treatment.—You will usually commence with *bleeding*. There has been or there is inflammation, and that of an intense character, and threatening fatal lesions of the part affected. Bleed, as my advice in inflammatory cases has always been, until the circulation is evidently affected—until the pulse begins to falter, or the horse to stagger, or to blow. Then *purge*—give the usual dose of aloes, according to the height and form of the patient, or his already known susceptibility to the impression of purgative medicine; and add to that from six to ten grains of the croton nut. Blister the whole of the lumbar region, and the posterior part of the dorsal; or what, perhaps, is better, cover the loins with a mustard poultice, frequently removed. Cover with plenty of warm clothing—give plenty of warm water, or thin gruel—supply plentifully with mashes—remove both hay and corn—back-rake, and throw up frequent injections. You will soon find out whether there is any likelihood of success. They are usually not very lingering cases. If you imagine that the case is going on favourably, do not, on that account, relax in your attention, for a relapse too frequently occurs, and it is worse to contend with than the original complaint. You may give your patient green meat—a little hay; but do not be led away by the common notion of debility—do not suffer him to have a morsel of corn; and, above all things, not one grain of cordial or tonic medicine. Remember that, nine times out of ten, palsy in the horse is an inflammatory complaint, or, at least, the result of inflammation.

There is one way in which you may give apparent tone and strength to the part. As soon as the heat and tenderness have a little abated, and the animal regains, to a slight degree, the use of his limbs—or if, the inflammation having passed away, it becomes a case of chronic palsy, put a charge over the loins, and an extensive and a stimulating one. To the usual pitch and

tar, and wax—and the common pitch is as good as the more expensive Burgundy—add a portion of powdered cantharides—a quarter of an ounce to a pound of the charge. You will accomplish three purposes, and three good ones. In the stimulus of the charge on the integument, you will have the principle of counter-irritation, and that more than supplying by the continuance of its influence its want of immediate activity. In this thick plaister, covered, as you cover it with flocks, you will have a defence against the cold, and against the changing temperature to which the animal is exposed; and you will have a material and a very useful support for the limbs. Let your charge be hot enough of the cantharides—extensive enough—thick enough—covered sufficiently with flocks, and then, while you can never do harm by it, you will occasionally effect wonders. One thing never forget,—that the greater part of the remedies for palsy, simply considered as a loss of nervous influence, are worse than useless here. The disease is based on inflammation, and it is that which you must subdue.

Diseases resembling or producing Palsy. — Inflammation of the kidney is frequently accompanied by a loss of motion in the hinder extremities, either closely resembling palsy, or for a while partaking of the true character of it. There is the same reluctance or inability to move, and the same knuckling and progressing on the fetlocks. Either the lumbar muscles partake of the inflammation of the kidneys, and the extreme pain occasioned by every motion of the limb makes the horse as unwilling to move as if he were actually palsied; or the nerves escaping in the immediate neighbourhood, and destined to give motion to the hind extremities, actually take on inflammation. This shews the necessity of decisive measures in affections of the kidney—the lancet, the physic ball, and the mustard poultice should be called into active requisition. It likewise shews the propriety of carefully inquiring into the supposed causes and all the circumstances attending a case of apparent palsy. In many instances, I fear, the true nature of the disease has been completely mistaken; and the horse has died in consequence of inflammation of the kidney or the bladder, when the affection had been erroneously traced primarily to the spinal chord. There should always be an examination per rectum.

A few months ago, I attended a horse with what I supposed to be, and am confident was, a chest affection—it was pleurisy. All at once the character of the disease was changed, and I had evident nephritis—there was the same almost inability to move, the same knuckling of the fetlocks, the actual going upon the fetlocks, and the cracking of the fetlock and pastern joints at

every motion. Whether my measures were not sufficiently active, or the inflammation bid defiance to controul, I lost my patient.

Old, and abused carriage horses, with extensive anchylosis of the spine, frequently have a constrained and confined action, an inability to flex the spine or to move except bodily and like a deal board as it were; and there is evident loss of motion and power. Look at this specimen of anchylosis of almost the whole of the spine, and you will see what I mean.

There is a disease of another climate—Kumree—which is described as a weakness, or partial paralysis of the loins, and which is said by some to be connected with the presence of a minute worm in the anterior chamber of the eye. We shall inquire into this when the diseases of the ocular system come under notice.

In our next lecture we shall have to take a very different view of palsy, as it appears in other patients.

THREE CASES OF ŒDEMA PRECEDED BY STRANGLES.

By Mr. JOHN TOMBS, Pershore.

CASE I.

Oct. 28th, 1834.—A BAY cart mare, the property of a farmer, five miles hence, had strangles six weeks ago. Yesterday she was attacked with a sudden swelling in all four legs. When I saw her to-day the extremities were tremendously swollen; the breathing laborious; she was tucked up in the flanks; fed sparingly; there was intense redness of the inferior part of the Schneiderian membrane; and she walked very stiffly. Serum is oozing out of the vessels of the skin on the inside of the thighs in several places; and there is a slight discharge from the seat of strangles. \mathcal{R} cupri sulphatis ʒss, et zingiberis ʒij, to be given twice a-day, and a liberal allowance of corn.

30th.—Extremities more swollen. Pulse quickened; appetite tolerably good. Insert rowel in breast, and give the sulphate of copper and ginger as before.

31st.—Patient considerably worse; a great swelling under the abdomen came on in the night; pulse 90, and particularly soft; nose frightfully swollen. I performed the operation of tracheotomy, to prevent immediate suffocation. Medicines given as before; fomentations to the thighs; liquor plumbi subacetatis

diluted applied to the nose; the swelling under the abdomen was lanced, and an astonishing quantity of clear water escaped from the punctures.

Nov. 1st.—The nose hideously and indescribably swollen; a fluid discharge of a yellow colour, mingled with blood, from the nostrils; the extremities less swollen. The nose and lips being so terribly swollen as to preclude the possibility of the animal eating, gruel was given him to drink; the nose was lanced and the rowel removed.

2d.—Patient indisputably worse; pulse 80, weak and intermittent; she lies down frequently; refuses all sorts of food; the nose more largely and extensively swollen, the swelling extending from the tip of the nose to the eyes; a bloody discharge from the nostrils; she breathes through the aperture in the trachea; appears to be in great pain, and we cannot open the mouth to give medicines.

3d.—At three P.M. she died.

Sectio cadaveris.—The cellular membrane of the nose quite black, and surprisingly thickened: the common integuments and it had the appearance of one thick membrane; the subcutaneous membrane of the extremities had precisely the same appearance. On cutting through the integuments on each side of the chest, there was a considerable deposit of lymph, indurated, and mixed with black blood. On making a deeper incision through the panniculus carnosus a large quantity of lymph was found between this muscle and the pectoralis magnus. The substance of the lungs was frothy and spongy. The pleura pulmonalis had black patches of coagulated blood; increased vascularity of the costal pleura; lumps of lymph on the diaphragm; a serous effusion in the cavity of the thorax: abdomen healthy. It is very remarkable that the swelling extended to one particular part of each thigh, about the origin of the extensor and flexor muscles. A corded and distended vessel was the boundary; above it, the parts were sound and healthy; they were below black and thickened as before described.

CASE II.

Feb. 8th, 1835.—I was requested to visit a brown mare, aged, one mile from Evesham: she was labouring under the same malady as the last, with nearly the same sort of symptoms; she had been sick three days, and worked all the time; she had just recovered from the strangles. She had been repeatedly bled previous to my seeing her, which caused a general lassitude of the system. She died in the night.

Respecting the post-mortem appearances I can say nothing, as I had not an opportunity of seeing her opened.

CASE III.

June 1835.—A brown thick-set cart mare, six years old, the property of a military gentlemen living four miles from this town, had influenza in February last. By means of repeated blood-letting from the jugular veins and temporal arteries, and the administration of laxatives and febrifuges, she recovered. In the latter end of May she had an attack of strangles, from which she was in a state of convalescence. On the 21st of June an alarming swelling came on in the legs, and she was bled, and had diuretics given her.

28th.—I was called in to attend her. I found her in a truly pitiable plight: the thighs were very much swollen on the inside, as high as the pelvis, and outside to the acetabulum, and posteriorly to the vulva. The lips and nose were frightfully swollen from the end of the former to the eyes: she could scarcely breathe. There was also a swelling in front of the breast. The pulse was 50, and soft; and appetite impaired. I took two quarts only of blood from the jugular, although the animal was in good condition, and placed a rowel beneath the chest; a repelling lotion was applied to the nose, and fomentations to the other swellings, which I had previously punctured with a lancet. I administered cupri sulphatis ʒss, et zingiberis ʒj, morning and night, and ordered bran mashes and grass as her food.

29th.—Swelling of the nose quite abated, and that of the thighs triflingly diminished; appetite good; pulse 50, and soft; intestines constipated. The rowel has caused a great swelling. R aloes ʒij, to be given twice a-day; rowel removed; lotions and fomentations continued.

30th.—Swelling gradually decreasing from the posterior extremities, and progressively increasing and extending from the front of the chest under the abdomen. When the latter was punctured, an amazing quantity of serum escaped. Fomentations and lotions continued: give sulphate of copper and ginger, as before.

July 1st.—Swelling of the chest increased, and that of the thighs nearly gone down: pulse 60, and weak. The right eye has a terrible appearance; it is, together with the membrana nictitans and a considerable portion of the adeps, nearly forced out of the orbit: the latter has a livid colour, and there exudes from it a yellow serous fluid. The lids and lachrymal gland are frightfully swollen, the tears overflow the cheek.

The eye was ordered to be kept wet with a solution of sulphate of zinc, to which a little tinc. opii had been added. I abstracted three pints of blood from the angular vein, which was a great quantity to be obtained from it. The vein was unusually distended, and bled like an artery; the blood had a peculiarly pale appearance. Medicine as yesterday.

2d.—Walks extremely stiff; swelling of the chest lessened: pulse 50. Eyelids tremendously swollen. She cannot masticate her food, on account of a swelling coming on in the night on the zygomatic arch. Venesection from angular vein to the same extent as yesterday. Medicines continued; fomentations and lotions applied to swellings.

3d.—Symptoms of pleurisy; respiration embarrassed: pulse 70, and full, but not wiry; refuses her food. The swelling of the chest has disappeared during the night; eye still in a shocking state, but has a little receded into the orbit. The haw and adeps that protrude have a gangrenous appearance, and there is a profuse discharge of purulent matter from the eye; nose again swollen; intestines slightly constipated. R Lotions to eye and nose; fomentations to other swellings; a seton inserted in the breast, and one under the eye; aloes ʒj, administered twice a-day; blood-letting repeated from the angular vein, and three quarts taken from the jugular. When coagulated, it was three parts buff, and instead of being tough, it crumbled to pieces in the hand, which distinguishes œdema from almost every other disease.

4th.—Swellings every where decreased: pulse 50; appetite better; more lively and cheerful; a great discharge of pus from the eye; respiration not so much disturbed. R digitalis ʒj, nit. potassa ʒij, and camphor ʒj, administered once a-day. Diet, bran mashes; fomentations and lotions continued.

6th.—Patient worse: pulse 70, and weak; excessive stiffness of the posterior extremities; the inside of the thighs, fore extremities, and nose, are again swollen. R Aloes ʒj, twice a-day.

8th.—Great improvement; swellings greatly abated: pulse 50; feeds better. Eye receded into the orbit. The cornea still opaque; fæces hard. Give one drachm of aloes daily.

11th.—Pulse 50: appetite very good; off arm again swollen. She cannot flex the limb. Ordered lotions to it; aloes exhibited as before.

12th.—Patient gaining strength quickly. Aloes ʒiss, daily.

14th.—Singularly and amazingly better. No swelling about the system; walks well; when turned out she kicked up her heels; total blindness of the left eye. Where the skin was so

dreadfully stretched there is a thick scurf, which is sloughing off. R Turned out to grass in the day; setons removed; aloes ʒj, ginger ʒij, given every alternate day.

28th.—Perfectly well, and at plough.

TWO SUCCESSFUL CASES OF SUBCUTANEOUS PERIOSTEOTOMY.

By Mr. J. W. MAYER, Newcastle-under-Line.

IF the retrospective view of the progress of veterinary knowledge afford a pleasing satisfaction to the conductors of a journal devoted to its interests, what consolation must the practitioner experience in recalling to mind the new light flung upon the treatment of disease; even if there is only one new mode of treatment calculated to relieve or cure any one disease? Such a pleasing thought does occur, to my mind at least, in considering the new mode of treatment employed by Professor Sewell for the cure of splents; and such reflections must occur to all those who are resolved to try every mode of treatment, from whatever quarter it may have been recommended.

It is my intention, in the present paper, to prove, by a statement of two facts, that the operation of subcutaneous periosteotomy for the cure of splents is *safe*, calculated for the *removal of lamenesses*, and, to a certain extent, producing *considerable absorption*.

CASE I.

On July 11th, 1835, a bay horse, belonging to C—— H——, Esq., of M——, was brought to our establishment, lame in consequence of a very large splent. It was determined to perform the beforementioned operation, which was accordingly done, in the manner recommended by Professor Sewell (see VETERINARIAN); a seton was likewise inserted, for the purpose of exciting a greater degree of inflammation.

On the 16th, the seton was taken out, and cooling astringent lotions ordered to be applied to the splent daily.

On the 8th of August the horse was perfectly free from lameness, and the splent diminishing daily. The horse has since been sold; and at the time of sale the splent was scarcely perceivable, nor did any blemish result from the operation.

CASE II.

Was a pony belonging to a member of parliament, which had a very large splent on the head of the internal small metacarpal

bone: it had been blistered several times, but was not at all relieved, being at this time exceedingly lame. The operation was performed as in the former case, and a seton left in, which remained in one week. In this case, as well as in the other, the periosteum was divided in several places. After the seton was taken out, the splent was bathed with similar lotions as in the former case. In a month from the operation the pony was sound, and is so at the present moment; the absorption of the splent still proceeding.

I have now, I think, by the statement of these two facts, made my original position good,—that it is in the cure of splents a *safe operation*. Anatomy as well as practice demonstrates that it will remove lameness, both of recent and older date. The cases speak for themselves: the first was a recent case; the second of older date, and had undergone the trial of two or three blisterings. That it will to a certain extent produce absorption, the cases amply proved: in one the splents became scarcely perceivable, in the other very much diminished.

And is not, I ask, this valuable addition to veterinary surgery, which holds forth such perfect success, more humane, and decidedly to be preferred to the actual cautery, the blister, or the seton? Do you not by the operation lay the axe to the root of the tree; relieve tension by the division of the periosteum; produce counter-irritation by the knife and the seton; and afterwards abate the inflammation thus raised in the part, and promote absorption, by the use of cooling astringent lotions? Such means producing such effects cannot but promote a cure.

The same means that produce a cure in one exostosis will most certainly produce a cure in another, where a knowledge of anatomy teaches that it may be performed with perfect safety.

I conclude this letter (which has had for its object the support, by facts, of the truth of Professor Sewell's valuable paper) with a translation of a celebrated saying of Cicero, not out of place here, I hope, and to the truth of which I trust every contributor to your Journal is a living witness:—

“Before all other things man is distinguished by his pursuits and investigation of truth: and hence, when free from needful business and cares, we delight to see, to hear, and to communicate, and consider a knowledge of many admirable and abstruse things necessary to the good conduct and happiness of our lives; whence it is clear, that whatsoever is true, simple, and direct, the same is most congenial to our nature as men. Closely allied with this earnest longing to see and know the truth, is a kind of dignified and princely sentiment, which forbids a mind naturally well constituted to submit its faculties to any but those who an-

nounce it in precept or in doctrine, or to yield obedience to any orders but such as are at once just, lawful, or founded on utility. From this source spring greatness of mind and contempt of worldly advantages and troubles.”

ON SPASM OF THE VOLUNTARY MUSCLES.

*By Mr. JOHN STEWART, Andersonian Veterinary Professor,
Glasgow.*

“We see a little, and form an opinion; we see more, and change it.”

IN the seventh vol. of *THE VETERINARIAN* there is a paper, by M. Prevost, containing an account of some cases of cramp. When I first read this article, I confess that I felt disposed to regard it as legislators do those petitions which they order to lie on the table. Like the backward debtor, I said this requires further investigation; we'll see about it by and by. Since that time, however, I have seen two cases of cramp, which, with me, establish the fact that horses are liable to such an affection. They are so very like those recorded by M. Prevost, that, but for the recent remarks of Mr. Spooner upon this subject, the readers of *THE VETERINARIAN* would not have been troubled with them.

On the 21st of March a bay coach horse was docked; and on the 2d of April he was observed to have cramp in the left hind leg. I saw him on the 3d. He was standing in the stable apparently quite well; but on attempting to put him over to one side of the stall, he suddenly threw the left hind leg outwards and backwards; he sprawled about as if he would have fallen. On backing him to the door he seemed quite unable to bend the hock joint, or to draw the limb forward. The muscles on the back of the thigh and all round the tibia were very rigid. After hopping a few paces on three legs, the horse was returned to the stable as bad as when I first saw him: but I was told that the cramp usually disappeared in a minute or two. I watched him for a little, and observed that when he moved, which was seldom without compulsion, he did so without any spasm, and it returned when he was directed to shift his position. A smart purgative was given; and next day the horse appeared to be quite well. Shortly afterwards he went to work, but was laid up about the end of April for nasal discharge, for which he got some tonic medicine. On the 4th of May he had another attack of cramp. This time it was in the *right* hind leg. He could not bring the leg forward; but, when placed beneath him, he

could stand on it without pain. On the 5th he got a strong purgative: on the morning of the 6th the cramp was gone; the limbs were a little swollen from the pasterns to the hocks; the cathartic operated in the afternoon. He went to work in a stage coach on the 10th of May. During the remainder of this month he was again attacked two or three times in *both* hind legs. Laxatives were given, and these always removed the disease even before any purgative effect took place. No local applications were used. The horse has now been six months at work without any return of the cramp.

Had the docking any thing to do with this? Does the history of this case illustrate Mr. Karkeek's doctrine on tetanus? The day before the second attack the horse had got a large dose of sulphate of copper.

CASE II.

This occurred in a black cart mare on the 19th of November. On the morning of that day she was found very lame in the left *fore* leg. The owner had taken her to the door before I was called, and he described her as being unable to put the foot to the ground: she hopped about the yard with great difficulty and pain; she began to perspire after being taken into the stable, and she refused her morning feed. I saw her in the forenoon: to me she appeared quite lively and sound, but when I attempted to lift the left fore foot the whole limb was suddenly stiffened, and projected forward. The levator humeri appeared to be the seat of cramp. In less than a minute the leg became flexible; and the mare suffered it to be drawn and twisted in all directions without evincing pain. Upon letting down the foot, the spasm again appeared, and in a moment it was gone. The opposite foot was lifted, and the mare stood upon the other as in health. The spasm appeared only when she called the diseased muscles into action. Some strong tincture of cantharides was rubbed over the shoulder. On the second day she was in nearly the same state; and I intended to blister the shoulder, and give a purgative on the third day; but, when I called for this purpose, every trace of the disease was gone. The mare walked and trotted quite sound. On the 23d she went to work, at which she has continued every day since that time without any relapse.

PHYMOSIS IN A BULL.

By Mr. W. A. CARTWRIGHT, Whitchurch.

IN the summer of 1834, a yearling bull of Mr. Cookson's, of the Woodhouses, became badly "fixed" in his sheath and penis, but was by him and his father cured, as they thought.

On the 19th January 1835, the owner spoke to me respecting him; and on examining him, I found that he could protrude his penis four or five inches beyond the mouth of the sheath, but it was then entirely covered with a reflection of the inner membrane of the sheath, and there was only a very small aperture left for the urine to go through. I caught hold of the end of the membrane, and, to all appearance, cut off about an inch of it; but during the operation he was very unruly, and, the animal standing untrammelled in the cowhouse, it is impossible for me to say the precise quantity excised.

28th *February*.—We cast him, in order to see in what state he was, and I found that we could force his penis out about three inches; but still it was covered with a very thick membrane, and the point would just permit a silver probe to be introduced. We now cut off about two inches of this membrane, and slit open on the opposite sides the remaining part, and touched the edges with lunar caustic. We could now draw the penis out through the aperture, and found that it had been badly ulcerated by the marks left on it. I took three quarts of blood from him, and gave three quarters of a pound of salts, and ordered him to be fomented. The sheath swelled as thick as one's leg, but went down in a few days.

March 17th.—I cast him again, and found that for the first two inches the sheath was in its natural state, and open; but through the four next inches, the membrane very much thickened (a quarter of an inch), and the aperture closing up. I then introduced a hollow tube that I took with me of the following description, viz. eight inches long, nearly one inch in diameter, except at one end that was bevelled for the purpose of introducing it: about two inches from the outer end a hole was bored through from one side to the other, through which a piece of whip-cord was passed; one end of the whip-cord was first introduced through one side of the sheath, and then the other end through the opposite side; afterwards the tube, greased, was introduced, and secured by tying the two ends of the whip-cord together. We had great difficulty in forcing the tube in, as it was a little too large.

March 23d.—The case going on very well; but the tube

was quite loose in the sheath. I pulled it out, as there was a cow then in season; and on being brought out of the cowhouse he attempted to bull her, and protruded his penis four or five inches, and which was now uncovered. A larger tube was made to be introduced, which I have no doubt would have cured him; but he was disposed of, and I heard no more of him.

A tube of the above description ought to have been introduced when we first opened the sheath; but, thinking the penis would have gradually answered the purpose, we omitted it. We afterwards found that, in consequence of the parts being sore and strictured, he would not force it out sufficiently, and of course the orifice which was made closed up again.

ON PROPER PROFESSIONAL CONDUCT.

By Mr. S. BROWN, Melton Mowbray.

“The cause undoubtedly suffers, as well by the diminution of that strength which union carries with it, as by the separate loss of personal reputation, which every man sustains, when his character and conduct are frequently held forth in odious or contemptible colours.”

Gentlemen,

THAT the human mind should possess a natural propensity to envy and detraction is a lamentable fact; and we have to learn what satisfaction it can obtain from the exercise of these unworthy passions. Hence the necessity of our being particularly cautious not to utter, insidiously, illiberal expressions respecting each other. Illiberal conduct on the part of fellow practitioners towards me is the cause of my addressing you; but while I reluctantly expose the ridiculous fact, feelings of compassion induce me to spare the men.

The gentlemen of whom I justly complain are persons whose advantageous birth, and I presume liberal education, might have rendered them pre-eminent, had they endeavoured to inculcate, both by precept and example, those feelings of professional amity, that ought to exist among the members of a science which has numerous difficulties to surmount, before it can be held in the public estimation it so justly merits. It is always painful to speak of oneself, but, upon most occasions, when I have been in attendance and perceived the least dissatisfaction in my employers, I have suggested that Mr. —— should be sent for; even although I was fully convinced that the patient was recovering and doing well. This gentleman does not condescend to meet me in consultation, and I have been dismissed as a matter of course.

Such an apparent want of confidence on the part of an

employer is certainly annoying, although it cannot excite dismay if a person acts consistently: but I conceive that the want of courtesy from a professional brother is both illiberal and impolitic, inasmuch as it tends to check the advancement of veterinary science and the promotion of good feelings. I am really sorry that so many favourable opportunities have been neglected, because they might have ended agreeably, and probably with mutual advantage.

The mode in which our consultations ought to be regulated has been suggested by a preceding writer; and if my puny efforts should be contrasted with that gentleman's just sentiments and persuasive diction, they would sink into insignificance. But I am fully aware of the infirmities of my nature and the scantiness of my abilities, and cannot for one moment suppose that my feeble recommendation will be instrumental in establishing that unity of sentiment which is so necessary to ensure our success: perhaps, however, I may safely say, that if those veterinarians who have advanced themselves in the profession by habits of industry and perseverance wish to gain the friendship and esteem of our more enlightened brethren, they must steadily pursue a liberal and honourable mode of conduct. If we firmly adhere to disinterestedness, and abandon those exclusive notions which are the characteristics of illiberality, we shall ultimately succeed in convincing our employers, and the public generally, that we are more actuated with a desire to alleviate the pain and save the lives of valuable animals, than the gratification of personal animosities or our own pecuniary advantage.

I wish you, Messieurs Editors, and your readers a happy new year, and that your Journal may not lack plenty of those valuable practical essays which have frequently enriched its pages. May those members of our profession, who perhaps from supineness have not publicly shewn any desire to advance the progress of veterinary science, relinquish their taciturnity, and take the earliest opportunity of aiding your cause! May our consultations become more numerous! but let us resolve to govern them with a spirit of mutual forbearance, fellow-feeling, and concord.

ON EARLY ŒSTRUM AND IMPREGNATION IN HEIFERS.

By Mr. J. GWYNNE, Welchpool.

IN the month of April 1833, a cow, the property of P. Corbet, Esq. of Leighton Hall, near this town, calved two fine calves, one of them an heifer, which was allowed to suck her dam for some months, and, when five months old, took the bull. In

April 1834, she became the property of Mr. Edward Bostock, builder, of this town, and, about the middle of the month of June, calved a fine bull calf, she being then fourteen months old. A short time after, she was seriously injured by falling into a deep hole which was in her pasture, and was with difficulty got out: she was unable to stand, and was drawn home upon a sledge. I was called in to see her, and found her in a pitiable state, having lost the use of her hind extremities; her tail dislocated, and other extensive bruises on different parts of her body. After being treated for about a fortnight, she recovered. A little time after this, she again took the bull, and in the commencement of August last calved *two* fine bull calves, which she well fed for the butcher in five weeks, which proves her to be a good milker. She produced three calves before she was two years and four months old: she is out of a Montgomeryshire cow, by an Alderney bull.

The other was the property of Mr. Morris Jones, mercer, of this town: she was allowed to suck her dam for six months. When five months old, she took the bull, and, nine months after, calved a fine calf: she was an excellent milker, and, when six years old, was a very large beast.

The above cases, I think, tend to confirm the opinions of Mr. Berry and your anonymous correspondent M. S. F., that calves that are allowed to suck their dams, are more susceptible of early œstrum and impregnation than those that are reared in the ordinary way.

CONTRIBUTIONS TO COMPARATIVE PATHOLOGY.

N^o. I.

By Mr. YOUATT.

INFLAMMATION OF THE JOINTS—MOOSE DEER.

April 19th, 1835.—A MOOSE DEER, five years old, that had shewn evident symptoms of phthisis, but which had yielded to the long continued use of the hydriodate of potash, still remains unusually gaunt and thin, and its horns are growing very slowly, and he has much difficulty in getting rid of his winter's coat. He is to-day observed to be lame in the hind left leg, plainly referrible to the fetlock, and there is a little enlargement at the division of the phalanges. He is a sadly ferocious fellow, and cannot be handled. Give him every night a scruple of Ethiop's mineral, and half an ounce each of sulphur and nitre in a mash.

April 22d.—The lameness is nearly gone, but, examining him more attentively than perhaps I have lately been accustomed to

do, I cannot help being more and more struck with his emaciated state. Continue medicine.

28th.—He will no longer take his powders. He is lamer than before, but the lameness is now referrible to the left hock, which is considerably swelled. There is no possibility of fomenting him. Give fifteen grains of calomel, and a drachm of antimonial powder every night.

30th.—He is suspicious of his food, and will not touch any thing in which even this medicine, devoid of taste and smell, is concealed, but he eats a very little hay. He is generally down, and seems to suffer extreme pain from the slightest motion. Taking advantage of this, we have been able to examine him. The hock is considerably enlarged, very tender, and exceedingly hot. It feels hard and tense in every part. Foment him several times daily with hot water.

May 2d.—The hock is yet more swelled, and hot and tender. The animal sadly heaves at the flanks; he will not eat a pound of hay in the day, and he will not touch any thing else. I have tried him in vain with biscuit, and apple, and bread, in order to induce him to take a dose of calomel. Foment the joint well, and, if possible put a linseed poultice on it.

4th.—The lameness is diminished, and the animal throws more of its weight on that leg. He took his medicine yesterday in an apple. Continue medicine, fomentation, and poultice.

6th.—The lameness diminished, but the animal still loses flesh, and will not eat. No medicine, but continue fomentation and poultice.

10th.—The hock is improving, but I do not like my patient. The horns have not grown in the slightest degree since the commencement of the attack, and the deer continues to waste, and will not feed; yet his flanks are now quiet—he does not cough—his fæces are natural, and the membrane of the nose is healthy. It is impossible to force either food or medicine upon him.

13th.—He is beginning to grow weak, and that very fast. It may now be possible to manage him. Let the keepers all set to work, and if it can be done without too much danger, let half a pound of Epsom salts and half an ounce of ginger be forced on him.

15th.—Nearly the whole of the medicine was got down—it operated well, and continues to do so. The appetite is considerably improved.

17th.—It was but a temporary renovation. The animal is as listless and indisposed to eat as before; indeed, he appears to be sinking. Repeat the salts and ginger.

18th.—The salts have operated, but the animal gets worse and worse. Turn him into the pheasantry.

20th.—He browses a little on the leaves of the trees; but the hock is more swollen, probably from the little exercise which he takes in toddling about the pheasantry, and he groans aloud every time he puts his leg to the ground. We have tried fomentations and poultices long enough, and the animal is a little more manageable than he used to be. Mix together equal parts of the tinctures of cantharides and aloes (the aloes to keep off the flies), and rub them well into the joint.

21st.—He eats less and less, and still falls away. The hock is swelled by means of the embrocation. Repeat it.

22d.—The swelling somewhat diminished. Apply the tincture of cantharides alone.

23d.—No change—no appearance of vesication. Repeat the stimulus.

24th.—No improvement—apply plenty of the tincture, and rub it thoroughly in. He will not feed. The struggle will be considerable, nevertheless give four ounces of Epsom salts and half an ounce each of gentian and ginger in a quart of thick gruel.

25th.—The cantharides will not raise a blister on a hide so thick as his. Apply a poultice consisting of three-quarters of a pound of mustard powder and four ounces of linseed meal. Repeat medicine.

26th.—I do think that the deer is better. He browses a little, and walks better; but no one has seen him ruminate. Repeat the poultice. Give again the gentian and ginger and gruel, but omit the salts.

29th.—The lameness has certainly diminished; but there is a listlessness, debility, and want of all vital power about him which I do not like. Continue the last drench, but omit the poultice.

31st.—Better—leave off the medicine for a little while.

June 1st.—Still improving—ruminates, but in a sadly lazy way.

3d.—The strength seems to increase; but the local disease is not so satisfactory. A fluid can evidently be felt, and the hock is more tender. Let him alone.

5th.—The fluctuation is more evident, but I am afraid to puncture. It is a complicated joint, and the fluid is on the very centre of it. Apply the mustard poultice, and give gruel with gentian and ginger, as before.

7th.—A gradual return of strength, proved by the increasing difficulty in catching and managing him. We could not manage

him to-day without a struggle somewhat dangerous to both parties. Let him alone for a while.

14th.—Still stronger; but he has become a walking skeleton. Coax him with every kind of food.

21st.—His appetite and strength increase, and the lameness diminishes. He followed me half way across the pheasantry for some pieces of biscuit, but he will not be caught. If it were possible, I should say that he continues to get thinner. His horns have not grown a bit.

26th.—All at once, and without any previous symptom, he is as lame as ever, but now in the left knee. It is enlarged, tender, and hot; the swelling extends upwards to the elbow; there is no thickening about the shank bone, but the pasterns are sadly swelled, and the toes stand quite apart from each other, and the animal cannot rest the least portion of his weight on that leg. He must now be caught. Foment well, and give eight ounces of Epsom salts, with half an ounce each of gentian and ginger.

28th.—The swelling has a little subsided, and the patient tries to rest somewhat of his weight on that limb: he also feeds a little. Foment, and give four ounces of salts with the gentian and ginger daily.

30th.—The knee and fetlock are better, but the foot is decidedly worse. There is an evident oozing between the hair and hoof, threatening the loss of the hoof. Continue treatment.

July 2d.—Unexpected by any of us, he died last night. The whole of the peritoneum was somewhat thickened, and numerous large hydatids were attached to it, some like membranous prolongations, and others floating loose in its folds; but otherwise there was no abdominal disease. The left lung was sound. The right lung exhibited considerable inflammation of its substance, and congestion, but not enough to cause death so suddenly. In cutting into the capsular ligament of the knee, more than two ounces of purulent matter rushed out. The synovial membranes were thickened, and three spots of abrasion were found on the upper cartilage of the lower layer of bones. The animal was not examined farther, in order that he might not be injured for the museum. He died of general irritation and exhaustion, produced by the long-continued and dreadful pain consequent on inflammation of the synovial membranes of the joints. It seemed to be primarily inflammation of the synovial membrane; and in the two first attacks confined to that membrane; and the perfect use of the fetlock and the hock were regained. In the last attack the cartilages were beginning to be involved, and spots of ulceration were found on them.

When the reader is informed, that from May the 30th to July

the 3d 1833, he was apparently labouring under phthisis, and was exceedingly reduced; and that on April the 22d in the following year he relapsed, and continued ill, sometimes better and sometimes worse, until the end of June, and was saved only by the long-continued exhibition of the hydriodate of potash, will he conclude that this was a continuance of the scrofulous affection, a metastasis of this peculiar inflammation, or tendency to inflammation? On each of the three years the disease appeared when the horns were sprouting. On each of the two first years, however, they continued, although slowly, to grow, and at length reached their usual size; but this year they grew not at all from the commencement of the illness. The influence of this on an inflammatory disease will be easily appreciated. It speaks much for the power of the hydriodate of potash, that not a single tubercle was found in either lung. The dose had been increased to twenty-four grains daily. I regret that the power of the iodine had not been put to the test in these affections of the joints; but the total cessation of the growth of the horns shewed so much constitutional derangement, that, probably, all medicine would have been ineffectual.

TWO CASES OF TENESMUS AND PROTRUSION OF THE RECTUM.

By Mr. JOSEPH CLAYWORTH, Spilsby.

IT is only within the last four months that I have become a reader of *THE VETERINARIAN*; and I am free to confess that the practical information I have already received from reading it is far more than I could have imagined to be possible. Feeling a wish to contribute somewhat to the advancement of the veterinary art, I have sent two cases for insertion, simple in their nature, but which may not be quite unuseful.

CASE I.

I was attending, for a disease of the jaw bone, a three-year-old bay colt, of the nag kind, belonging to Mr. S. Tusting, of East Ville. Some time had elapsed since I last saw him, and I visited him on the 11th of last April, and found him purging, greatly debilitated, and the rectum protruded full ten inches, and as large as a child's head, with several sloughing patches on its mucous coat varying from the size of a sixpence to a crown piece. His general health did not seem to be so materially affected as I should have thought it would have been from so un-

sightly an appearance. His pulse never rose higher than from 50 to 55; his appetite pretty good, and his looks lively.

11th.—I gave him tinc. opii ℥iiss, tinc. catechu ℥ij, creta p.p. ℥j, ol. lini ℥ij, and ordered the protruding rectum to be fomented, and then the following lotion to be employed, Goulard's extract ℥ij, ol. lini ℥ij. The rectum was afterwards returned, but not without some difficulty, on account of the parts being so much enlarged, and the constant resistance offered by the horse when an attempt was made to put it up.

12th.—Appetite, pulse, and spirits as yesterday; the purging nearly the same. The rectum had again protruded about an hour after my leaving him yesterday; it is more enlarged, and approaching to the colour of liver. I repeated the drench; the fomentations and mixture were as yesterday; but I could not return the rectum on account of the horse's straining and the swelling being so great.

13th.—Treatment the same: the swelling of the rectum greatly abated.

14th.—He is now very weak, so much so that he can scarcely get up without help; but the purging is ceasing, and he continues to eat well. It being a fine day, he was turned out a few hours on clover eddish. The drench was repeated in the morning, and a ball, composed of pulv. zingib. ℥ss., pulv. gent., ℥ss., was given in the evening. Fomentation, &c., as before.

15th.—Much better: the purging stopped; the swelling subsided, and the rectum gone up without assistance. The weather being fine, the horse was turned out an hour or two in the day; and a ball like that of yesterday was given daily until the 25th. He was then quite recovered, except some degree of weakness, which he gradually surmounted without any further treatment of mine.

CASE II.

This was a rearing calf, about three months old, belonging to Mr. Wm. Pinkham, of Ashby. I was sent for on the 18th of May last. I found the little animal lying down, but not shewing any great pain: it was purging very much, and had been so four or five days. The fæces were of the consistence and colour of yeast, and smelled very offensively; and the rectum was protruding about six inches, and swollen to nearly the size of a man's arm. The mucous coat appeared to hang in tatters, as it were, upon the muscular one: the pulse was but little altered, and the appetite good. The rectum was bathed with warm water, and the same application used as in the former case; and I gave internally tinc. opii, tinc. catechu, and prepared chalk, of each an ounce in some gruel. I then proceeded to return the

rectum. I expected to have considerable difficulty in this, but it was easily managed by having the two hind legs held in an upright position. The instant, however, that the hand was removed and the legs let down, the rectum was again protruded. I afterwards succeeded in keeping it up by means of two sutures, which remained in three or four days; and, after repeating the medicine a few days, and giving a little starch gruel in the porridge of the animal, it perfectly recovered, and is now doing quite as well as any of its companions.

TWO CASES OF GLANDERS IN THE HUMAN BEING, CURED BY CREOSTOTE.

By Mr. J. P. CHEETHAM, London.

THE susceptibility of the human frame to contract those dire maladies designated glanders and farcy, has now unfortunately been almost as clearly demonstrated as its want of power to resist the virus of rabies. It is with much pleasure that I am enabled to direct the attention of the readers of your useful Journal to two cases of glanders in men, that have been successfully treated.

A summary detail pertaining to the appearance and history of the affected horse will exhibit the nature of the disease.

In the month of April last, I was requested to examine a bay horse declared to have a common cold, with secretion of pus from the nostrils, but which had continued during an inordinate time. A person who shall be nameless forwarded some balls that were said to be infallible. The owner, in order to be assured that they were administered, gave them himself; but not being very expert in this occupation, he lost a part of the cuticle from the knuckle of the fore finger.

The symptoms presented by the horse were, the glanderous discharge with the fetid effluvium; extensive ulceration of the pituitary membrane covering the nasal septum; enlarged and indurated lymphatic glands, occupying nearly the whole space between the posterior maxillary bones, projecting beyond their margins, and displaying themselves even to the sight; and the cough short and difficult, indicating the tubercular condition of the respiratory organs. His coat and outward appearance, however, presented an apparently healthy aspect.

My advice was to destroy him, being certain of his death, and likewise knowing the danger of propagating the disease to other horses, and to the persons who were in attendance. The owner was unwilling to sacrifice his favourite, and pressed

me to give medicine, valuing neither time nor labour. In order to satisfy his mind, I ordered the blue draught (sulph. cupri) to be administered twice a-day.

In the course of a week after this, the owner informed me that the horse had amended. Considering this rather a strange anomaly, I forthwith visited the patient, and satisfied myself that, instead of amending, he was quite the reverse, for blood was interwoven with the discharge; the breathing was laborious and difficult, and, especially, it was accompanied by a very peculiar sound in the nasal passages. In a few weeks the proprietor told me that the horse had been sent to the knackers' yard, and at the same time I heard that he and his man were similarly diseased.

The smell and the discharge were of an identical character with those emitted by the horse; and on examination my opinion fully coincided with his. From the resemblance of the characteristic symptoms in both a general description will suffice. The virus was conjectured to have entered the system, in one, through an abrasion of the skin on the back of the hand, and in the other, through the medium of a sore on the lower lip. The lapse of time prior to the appearance of the disease is not known. For a long time they continually smelled the nauseous effluvium that proceeds from glanderous matter; there was an increased secretion of mucus from the nose, which was attributed to mild catarrh, until the character of the discharge, the blood intermingled with it, pain in the frontal sinuses and the cavities of the nose, and short and interrupted sleep, roused them to a state of anxiety, and made them dread the ultimate result.

The pus with its gluey, slimy, glanderous appearance, satisfied me as to their real state. I could discern no distinct ulcers on the pituitary membrane; but from the statements given by the patients, I should incline to decide that they existed in the remote parts of the nose. The throat, on pressure, was rather painful, and the lymphatic glands were enlarged.

These patients having come so much under my own observation, I shall give some account of the treatment of their respective cases by Dr. Elliotson. The servant was admitted into the North London Hospital, and the master attended by Dr. Elliotson.

By injecting a solution of creostote in water up the nostrils thrice a-day—by this simple means, and this alone—the servant was brought to a state of convalescence in ten days, and the master in a little longer time. If the local application of the creostote had proved insufficient, it would have been administered internally. The strength of the injection was changed according to the stimulating effect produced. At first the cases admitted of two mi-

nims to the ounce of water, until the parts began to alter their morbid state.

These facts will add to the triumph of those speculative theorists who consider that glanders is a mere local affection. My purpose here is not to open the way for controversy on a disease that every pretender assures himself he possesses a specific for. The cases, however, are worthy of record. Perhaps they may lead to a course of experiments on the power of the creostote over this pest of the equine race. Let these experiments be fairly conducted, and let us cease to annoy others with our fanciful opinions, and wait until the treatment of glanders can be founded on a rational and secure basis.

In a paper in the last volume of "The Transactions of the Royal Medical and Chirurgical Society," Dr. Elliotson refers to the above two cases. "I am anxious," says he, "to mention its effect (the effect of creostote) in two cases of chronic glanders, affecting one nostril and the frontal sinuses with pain, and a copious and fetid discharge. The disease in the two persons was clearly contracted from a glandered horse; and I purpose doing myself the honour of laying the facts before the Society early next session, as I never read of or met with an instance like these in the human subject, former cases having been acute glanders or chronic farcy. The sedulous injection of a weak solution of creostote up the nostril removed the whole of the symptoms after a very few weeks; and I hear the patients are still well. I need not say that the disease has always hitherto proved fatal in the horse."

With some exceptions, few and far between, and some of them of a very doubtful character, glanders "has always hitherto proved fatal in the horse." Should we at length find a cure for it in creostote, although only in its chronic form, the veterinary profession will be under deep obligation to Dr. Elliotson. We shall wait with some impatience for this valuable document; and in the mean time some zealous veterinarian will, we trust, put the power of creostote to the test in cases of chronic glanders, and favour his brethren with the result.

Y.

HYDROPHOBIA AND HOMŒOPATHY.

THE principle of homœopathy is that disease is removed by the administration of a medicine which produces an effect on the constitution similar to that of the malady itself. The motto is *similia similibus curantur*. Bark is a powerful

febrifuge in the sick man, because it has the singular property of exciting a certain degree of fever in a healthy one.

The dose of the medicine to be administered is calculated in a manner precisely the reverse of the common one. If a powerful effect is wanted, the quantity of the drug is proportionably diminished: a grain is far more active than a scruple, and the $\frac{1}{100}$ th part of a grain has a hundred times the influence of a grain. This is carried on to an extent which reminds one of the indivisibility of matter. The dose is often only the billiouth or trilliouth part of a grain, or an incalculably less quantity than this. Suppose that a tincture of opium is made, consisting of one grain of the drug to 100 of spirit; then taking a drop of the mixture as equivalent to a grain, it is evident that one drop of this tincture will contain $\frac{1}{100}$ th part, or, for the sake of even numbers, $\frac{1}{1000}$ th part of a grain: this is called No. 1. One drop of this tincture is then diluted with 100 parts of water or spirit, and each drop then contains but a ten-thousandth part of a grain (100 multiplied by 100 gives 10,000). This is called No. 2, and the dilution is occasionally carried on to No. 30 or No. 40. I leave it to the ingenuity of the idle part of the readers of this Journal (if there are any such) to calculate the proportion of the opium in No. 50. Put 79 cyphers after the 1, and these figures will give the portion of a grain which each drop contains.

M. Hahnemann thought that he had observed effects produced by belladonna, hyoscyamus, datura stramonium, and cantharides, similar to the usual symptoms of rabies; and it occurred to him that rabies might be cured by the administration of one of them. A writer in the *Bibliothèque Homœopatheque* for March 1835, says that he was not deceived. The reader shall have the history of these marvellous cures.

The contributor to the *Bibliothèque* must be considered as speaking. "On March the 1st 1833, a bull-dog was bitten by a rabid dog that had bitten several others, all of whom have since died rabid. Four hours after the accident", says M. Lavoille de la Plaigne, "I washed the wound with water to which I had added two drops of the tincture of belladonna, No. 1; and I gave to him four drops of the tincture of belladonna No. 30 (will our readers calculate the actual quantity of belladonna contained in this?). Eight days afterwards, four drops of the No. 30 were again administered, and four drops more on the 16th day. On the 17th day he exhibited symptoms of rabies. He tore to pieces every thing around him; he began to gnaw the door, *although the door was not shut, nor was he confined at all.* This state of fury lasted during an hour, after which

he became tranquil, and we ventured to approach him. We offered him some water, but the sight of the water rendered him furious again, and his fit lasted another hour; when once more becoming calm, we again presented him with water, and he ran away from it (!!). The furious stage returned no more. We dressed his wound as before, and gave him one drop of the tincture, No. 30. Some hours afterwards we offered him water, and he drank it, and in the course of the night he ate a little. There was no hydrophobia after this. The wound healed. One drop of the tincture, No. 30, was administered to him until the 55th day, and he was dismissed, cured."

Who does not recognize in this sudden access of fury, the destruction of every thing around him, and the gnawing of a door that was not shut, and which "did not confine him at all," not the determined efforts of a rabid dog to escape in order that he might gratify the irrepressible desire which he felt to worry and destroy, but the unconscious violence of fits? The approach to him, before he was fairly himself again, caused a return of the paroxysm; and when he fled from water afterwards, he laboured under that excitation, and inexpressible dread of every thing about him, which accompanies the return of consciousness. It was a fit, and nothing but a fit. M. Laville de la Plaigne, however, thinks differently, and says, "we may hence conclude that belladonna alone, and administered in sufficient time, has the power of curing rabies."

Of the next case, this gentleman may well say that it is not conclusive. A girl, nine or ten years old, was bitten in the hand by a dog. She said nothing about it for eight days, nor until the pain and swelling of the part compelled her to mention the circumstance. Her friends were much alarmed, for this dog had bitten several animals that had become rabid. This is somewhat strange: eight days alone had passed, and several animals bitten by the dog had become rabid! We are not told in what country this happened; but it was one in which rabies appears much sooner than in any other that we know of. *It was one of the on dits, the foolish stories of the peasants.*

The wound was washed with the diluted tincture of belladonna, and one drop of No. 30 was administered daily. In sixty days she was considered to be safe.

A third case is recorded: it occurred in May 1833. A dog had been bitten by another supposed to be rabid, six weeks before. *Fifteen days* afterwards, this dog accompanied his master to one of the meadows, and, while driving on the bullocks, bit one of them in the tail. *Eight days* after that he refused to eat and to drink—ran away—and was absent two days. On his return, he

bit a maid-servant in the arm, who offered to caress him, and presently afterwards he bit the daughter of the farmer. They were in great alarm about it, drove him from the house, and he took refuge in a kennel, in which they shut him up. Two or three days afterwards he became so ferocious that *they destroyed him*. On examining the arms of the two females, that of the servant shewed a little bruise, but no rupture of the skin: there was a slight scratch on the arm of the daughter. She, however, would have nothing done to it, and the matter would have been forgotten, but, twenty days after the bite the ox refused to eat and to drink, and became furious as soon as water was offered to him. He remained in this furious state two days, when M. L—— was sent for. He was still furious, and his fury was exasperated whenever water was presented to him. Eight drops of the tincture of belladonna, No. 12, were given, and two hours afterwards the lowings had ceased, but foam ran from the mouth, and there was a rapid champing of the jaws. Water was offered to him; he looked on it without fear, and drank a little. Some hay was offered to him, of which he took a mouthful, which he had not done since he had been brought into the stable. On the morrow he was better. Four drops of the tincture of belladonna, No. 30, were administered, and every unfavourable symptom disappeared, except that he did not eat or drink with the appetite that he did before. He however grew rapidly thin, and died suddenly, eight days afterwards.

M. Laville de la Plaigne of course attributes much efficacy to the belladonna; he says that it destroyed the symptoms of hydrophobia, but it could not prevent the poison from ultimately destroying the animal. But how, if there was no rabies at all—if it was merely an attack of phrensy—a sudden engorgement of the vessels of the cerebral membranes, and which subsided, in the form of a partial fit, but not, perhaps, without leaving some effusion, or having effected some serious lesion, under the influence of which the animal rapidly wasted away and died? There is no one at all accustomed to cattle who is not perfectly aware of the debility, local or general, which follows an attack of sough or phrensy. Either the vessels do not soon, or at all, regain their former tone, and a second attack often carries him off; or, from disarrangement of the circulatory system generally, he gradually or rapidly fades away.

A fourth case belongs to the practitioner of human medicine, rather than to the veterinary surgeon. Eight or ten days after the death of the ox, the daughter of the farmer began to feel on getting up weakness of the lower extremities, shiverings all over, and vertigo. This went off in the course of the day; but at

night she had the most frightful dreams, and when she awoke they returned to her memory even more horrible than before: she had a most violent thirst; she could not bear the light reflected by the mirrors; she trembled all over, and then came a fainting fit, which lasted several minutes. When she came to herself, she complained anew of thirst; but when some sugared water was offered to her, she dashed it from her with violence, and abandoned herself to all the fury of hydrophobia. This lasted about three hours, and during the remainder of the day she was quiet. Every night the dreams returned, and every morning the horrible recollection of them, and a consequent dreadful state of nervous erythism. It was a quotidian fever, the paroxysm of which was dreadful.

The humble veterinarian who writes this would not have mistaken such a case: but M. Laville de la Plaigne was sent for, and he saw in it a true case of hydrophobia, resulting from the bite of a rabid dog, and he daily gave a drop of the tincture of belladonna, No. 30: On the fifth day the paroxysm was less violent. He then gave four drops of the tincture of hyoscyamus, No. 30 and the disorder disappeared: but knowing that the poison of rabies might possibly be treacherously working, he returned to the belladonna, and gave one drop of No. 30 daily during fifty or sixty days.

Although most of these cases refer to my legitimate patients, I should scarcely have dared to have taken up this subject, had it not been the dangerous tendency of the remarks of M. Laville de la Plaigne, and the editor of the *Bibliothèque*, should homœopathy, which I can scarcely think possible, became half so popular in England as in some of the German states. "I think," says the author, "that the cases which I have cited are sufficiently well proved and characteristic to demonstrate that homœopathy is about to fill up the chasm which the Hippocratic doctrine, and all the theories it has given rise to, had left as to the treatment and cure of hydrophobia." "The remarks of Dr. Laville," says the editor of the *Bibliothèque*, "possess the highest degree of interest; they open a new track of experimentation, and make us ardently hope that other practitioners will, as they have opportunity, follow his example."

Now not one of these cases, except that of the dog that was destroyed, had the characters of rabies; and on such fallacious ground, and with regard to such a disease, it would be in the highest degree absurd and cruel to raise expectations that must necessarily be disappointed.

With what kind of feeling shall we read another paragraph in this strange communication? "We must conclude from the ob-

servations of that zealous experimenter, Dr. Hering, of Philadelphia, on the poisons of animals and of man, that the promptest remedy, and the truly specific one for rabies, is the rabid virus itself administered in the same manner as homœopathic remedies are."

The feeling which the concluding paragraphs will excite, would, perhaps, require from me an apology for having occupied the time of the reader about such nonsense:—

"A boy was bitten by a rabid dog: his father sprang at the animal, seized it by the throat, and strangled it, but not without being bitten likewise. He immediately opened the dog, tore out its lungs, and, observing four scissures in them, he said it was a sign that the dog had been mad four days. He then roasted the lungs, and he and his son ate them up, in the firm belief that this would preserve them from hydrophobia. This circumstance coming to the knowledge of the Council of Health at Leipzig, official researches were made into the matter; the result of which was that this eating of the roasted lungs of the rabid dog was an effectual preventive against rabies, and that there were persons then living who had adopted his precaution, and still lived, although they had been bitten by dogs decidedly mad. These individuals had recourse to no other preservative means."

"This account is confirmatory of the doctrine of *isopathie*," says the editor. "It would be interesting if this experiment, so easy to be made, were repeated, for we might obtain from it a preservative against the most hideous of diseases!!"—I will not add another word.

Y.

INVERSION OF THE BLADDER DURING PARTURITION, AND THE REMOVAL OF PART OF THAT VISCUS.

By M. CANU, Sen.

ON the 25th of May I was requested to see a mare labouring under difficult parturition. She was lying on her left side, covered with sweat, evidently in great pain, and the throes being continual and violent: the proprietor had, at length, endeavoured to assist her, and the foal had been born about half an hour. It had come in its natural position, and the birth was effected without much difficulty. A portion of some membranous substance, which hung from the vulva, made me suspect an inversion of the vagina or the uterus. The proprietor said that he had been long attempting to return this protruded substance, but had not been able to accomplish it. I examined it with care, but could

not satisfy myself to what organ it belonged. At length I caused the mare to be raised, which was not effected without considerable difficulty, for she was very weak. She made repeated efforts to void her urine, and, from time to time, she darted some of it to a considerable distance.

I did not even then suspect inversion of the bladder, for I had never seen a case of it, nor heard it spoken of in veterinary medicine. It was red, thickened, and bloody. The stable was dark, but, on a candle being properly held, I discovered the bottom of the vagina, after separating the lips of the vulva. Every thing appeared to me to be in its place; I thought, indeed, of inversion of the bladder, but I could not bring myself to believe that it existed in this case. At length, following the inferior surface of the vagina, I could not find the meatus urinarius, and the membranous substance commencing there; and the mare, after some violent efforts, lancing out the urine to a considerable distance, I saw very plainly what was really the case, and that it was the bladder which I saw hanging out of the vulva. I examined it anew, and I found that the proprietor had torn it at the fundus in endeavouring to return it. He had used all his strength, and the mare at the same time struggled violently. What was to be done in such circumstances? Should I endeavour to return the bladder?—the urine would run into the bladder, and produce a degree of inflammation which would be soon followed by death. Should I leave it as it was?—it would soon be destroyed by gangrene, for it was already of a violet colour, and smelled very offensively round the torn part. I acquainted the proprietor with the imminent or rather the immediate danger of the patient, but, as he could not make up his mind to have her destroyed, he prayed me to do all that I could for her.

In order to calm her pains and strainings, which still continued, I took away eight or nine pounds of blood, and placed her on restricted diet. I saw her two or three times every day. At the end of three days, her milk being troublesome, I ordered the foal to be returned to her. The bladder was swelled and black, and the thighs were excoriated by the continual running of the urine.

On the fourth day (May 29th) I chanced to meet my friend, M. Diquet, V.S., at the depôt of Pin. We consulted together about the mare, and at length resolved to pass a ligature round the bladder, below the orifices of the ureters. The proprietor consented to tighten the ligature daily.

On the following day I was informed that the mare was worse, and had violent colicky pains. On examination I found that the ligature had slipped upwards more than an inch, and had closed

the orifices of the ureters, and it was the distention of these vessels with urine that caused the supposed colic. The bladder was of a pyramidal form, with the point uppermost, and it was difficult to keep the ligature in its place. I replaced the ligature, however, and fastened it to two bits of wood which passed through the bladder lower down. Every day I tightened the ligature until the whole mass was loosened, and which, weighing nearly six pounds, and stinking almost insupportably, hung by a small pedicle. I cut through it without hemorrhage. The remaining part retracted immediately as far as the meatus urinaris, and the lips of the vulva closed, and nothing more was to be seen. The urine, however, running continually through the ureters, accumulated a little in the vulva, and was thence frequently ejected, and, running down the thighs, excoriated them more and more. I then determined to have a little projecting spout of tin made, with a brass wire attached to it, by means of which it might be fastened to the vulva. I fitted it on the following morning below the inferior commissure of the lips of the vulva, the two extremities of the wire extending on either side of the opening into the vulva, and being retained by two cross pieces which were fastened to the crupper, and her tail was then shortened so that she could not disarrange this simple machinery. By this means the urine was thrown beyond the hocks, and a few emollient lotions healed the excoriations that had been made. The mare was put to work six weeks after the accident, and, at the expiration of three months, she was sold at the fair of St. Lo.

This case, on account of its extreme rarity, is more curious than useful. It proves that we ought never to despair in the most serious cases, and even when the life of the patient seems to be compromised. It would be of some importance to ascertain when and how the bladder was ruptured. The proprietor perceived it before the foal was extracted, but he did not know how long the labour had continued before he began to assist her. The long and violent efforts to which she had abandoned herself, and the fore limbs of the foal being higher than they naturally should be, and pressing against the rectum until they were pulled down by the owner—could these have been the causes of the inversion?

Mem. de Soc. Vét. du Calvados.

COMPLETE LACERATION OF THE TONGUE OF A HORSE.

By M. CAILLEUX.

A HORSE, belonging to the 3d squadron of the 4th regiment of Hussars, was very difficult to groom. The soldier who had the care of him, in order the better to manage him, fixed in his mouth and on his tongue a strong chain of iron, deeply serrated, and confined beneath the jaw by a piece of cord. Another man held the ends of the chain, and gave it a terrible jerk whenever the horse was disposed to be rebellious. The horse became unmanageable; and the man who held the chain, sawing away with all his force, the tongue was completely cut off at its base, and fell to the ground.

Being immediately called on to attend the horse, I did not find much hemorrhage, probably because the mischief was done by means of a serrated and not a cutting instrument. The portion of tongue detached was four inches and a half in length, and the disunion was effected at the frænum, or precisely at the point which separates the base of the tongue from the free portion of it.

My first thought was to destroy the animal; but the interest which every one took in him, on account of his power and his docility in every respect except when he was groomed, and the desire to ascertain how he would feed himself when the useful part of the tongue was taken away—all these circumstances encouraged me to endeavour to save his life.

My first care, after having placed him in a loose box, was to stop the bleeding, and promote the speedy healing of the wound. I kept his mouth constantly open by means of a gag, which I could extend or contract at pleasure; and I frequently injected cold barley-water, sugared and honied, and deprived the animal of every kind of food.

The bleeding was soon arrested; a slight suppuration was established. I applied to the wound, many times every day, pledgets of tow dipped in diluted tincture of aloes. On the third day I thought the wound in a sufficiently favourable way to allow him to have a little food and drink.

I gave him during the first days barley-meal and water. I remarked that he plunged his head into the liquid half way up to the eyes, and then by means of the strongest inspirations, and sucking up a very little at a time, he contrived to empty the vessel. I then made him a kind of paste of bran and barley-meal, and offered it to him: he attacked it with avidity;

seized a portion of it between his lips, and then seemed astonished that he could do no more with it. I therefore renounced for a while this mode of feeding him, and contented myself with rendering his barley-water more nourishing, by increasing the quantity of the meal, and stirring the mass well while he was drinking it. In this manner he was fed during three or four days; at the expiration of which period the wound in the mouth was healed.

I now presented him afresh with the kind of mash which I had before made, and I remarked that he set himself to work more gently in order to eat it. I observed that he kept his head constantly in the manger, and, having gathered between his lips a small portion of the food, he pressed it against the bottom of the manger so as to force a part of it into his mouth. He then gathered another portion, and, subjecting that to the same kind of pressure, the first pellet was forced somewhat further backwards; and so he continued until, bit by bit, it was pushed on to the back part of the mouth, and swallowed. This was the work of a long time, and proceeded very slowly, but by degrees he was able to dispose of the whole of his feed. During the time of his repast he was in a profuse perspiration, shewing sufficiently plainly the difficulty which he found in satisfying his appetite.

This continued during three months, when it occurred to me to mingle a few grains of oats with his barley-meal and bran. At first the oats were swallowed without being masticated; but, by degrees, mastication returned. At length he began to eat with less difficulty, and the profuse sweat with which he used to be covered disappeared.

This kind of food, convenient enough for a horse that does no work, did not accomplish our purpose: we wished to restore him again to the ranks, and to fit him for that it was necessary that he should have more substantial food. I gave him some hay, at first in small quantities at a time, and selected the best. He took it in the same manner that he had been accustomed to manage his mash; he gathered it together with his lips, and formed it into a kind of pellet with his lips, and then pressing it against the bottom of his manger, he gradually forced it sufficiently far into his mouth to be enabled to seize it with his grinders, a new pellet constantly pushing on those that were before.

It was fifteen or twenty days before he could manage this cleverly; and then, being kept apart from the other horses, he was able to manage the whole of his ration. Oats were, as before, mingled with his mash, and their quantity was gradually increased, while the hay was proportionably diminished, until he was fed at the same time and in the same manner as the other horses belonging to the regiment. As to chaff, he could not

manage that, and it was not given. His former condition returned: he now does his duty as before, and is in perfect health.

This case, a similar one to which I do not recollect to have seen, evidently proves how the instinct (*Q^y*) of animals contributes to their preservation. I confess that I did not expect so perfectly to succeed, or, indeed, to succeed at all; but its fortunate result induces me to publish a case which, I think, will be interesting to my professional brethren.

Mem. de la Soc. Vét. du Calvados.

A CASE OF STRANGULATION OF THE ILEUM AND COLON.

By Mr. B. BULL, Launceston.

ON about the 10th day of September last, I was sent for to attend a chesnut mare belonging to a respectable farmer in this neighbourhood which appeared to be affected with a slight attack of spasmodic colic. The fecal discharges being natural and regular, and perceiving no undue arterial excitement, nor any particular appearance of symptomatic fever, I treated the case as one of simple colic or intestinal spasm. I gave her a mixture composed of balsam of capivi one ounce, spirit of nitrous ether one ounce, tincture of opium half an ounce, mixed with the yolk of an egg in about twelve ounces of a decoction of elder flowers. This with a clyster that I administered, and a moderate abstraction of blood, removed all the symptoms, and the mare returned to her usual food, and soon recovered.

In about six weeks afterwards, however, she was taken in the same way again, but more violently than before. Even at this time she presented no marked characteristics of intestinal inflammation, but merely turned her nose to her flanks while standing, and when down lay on her back for some seconds, appearing to feel considerable ease while lying in that position.

I adopted a similar plan of treatment to that above described, and which afforded a speedy though only temporary relief. The symptoms returning upon her with increasing violence, I repeated the bleeding, and gave her oily laxatives combined with neutral salts, and clystered her, in order to remove a slight degree of costiveness which followed some few hours afterwards. In short, I pursued that mode of treatment which I considered most likely not only to prevent an accession to the febrile symp-

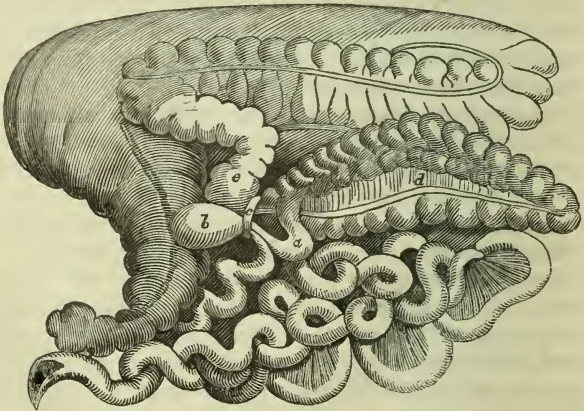
toms, but also remove those that had already appeared. The result, however, proved fatal, although the patient did not die until two days after the commencement of this second attack.

By post-mortem examination I found a very singular strangulation of the ileum and colon, a delineation of which I have endeavoured to give you in the subjoined drawing. I consider the band (which I have termed ligamentous) by which the two bowels were constricted, to be a morbid deposition, and not a mere entanglement of the mesenteric membrane round their external coats—a circumstance that sometimes follows from violent falling, &c., and it is chiefly on this fact that I ground the singularity of the case. The mare was often found lying down while in the stable, and appearing to suffer some slight uneasiness in the interval between the first and last attack, and she was evidently and rapidly “going back in her flesh” during all that time. This, however, did not materially lessen her appetite, nor did it keep her from her usual labour. Both the stomach and bowels (with the exception of those in the immediate vicinity of the strangulated part, which were highly inflamed) were totally free from disease, but the abdominal cavity was nearly three parts full of effused fluid.

A few hints from the editors, or their correspondents, as to the train of symptoms by which we may best ascertain the presence of intestinal strangulation would be exceedingly useful to the profession, and would confer much obligation on me.

REFERENCES.

- a* The ileum
- b* Protrusion of the ileum
- c* Ligamentous band
- d* The cæcum
- e* Commencement of the colon.



ON SHOETING HORSES THAT STRIKE OR CUT.

By Mr. MOORCROFT.

[The following Essay appeared in a veterinary periodical eight years ago. Its practical value will be a sufficient apology for our presenting it to our readers.]

To prevent a horse from striking the foot or shoe against the opposite leg, by which it is often bruised and wounded, is an important point, inasmuch as this accident occurs very frequently, and as it not only blemishes and disfigures the leg, but also endangers the safety of the rider.

The parts struck in the hind leg are the inside of the fetlock joint and the coronet; in the fore leg, the inside of the fetlock joint and immediately under the knee; which latter is called the speedy cut, from its happening only when a horse goes fast.

Young horses when first backed generally cut their fore legs, though naturally they may be good goers. This arises from their placing the foot on the ground too much under the middle of the breast, in order the better to support the burthen to which they are unaccustomed; but by degrees they acquire the method of balancing the weight with the foot in the same direction it would naturally have if they were without it. It may therefore be laid down as a rule with such horses, that until they regain their natural method of going, the edge of the inner quarter of the shoe should follow the exact outline of the crust, but should not be set within the crust, nor should the crust itself be reduced in thickness; as both these practices tend to weaken the inner quarter, and to deform the hoof. And here it must be observed, that the outer edge of the shoe should in all cases of sound feet follow exactly the outer edge of the crust, except just at the heel, where it should project a little beyond the line of the hoof.

Horses with narrow chests have their legs near together, and are apt to cut when they begin to tire; and with these the practice just mentioned should always be employed. Horses that turn their toes much outwards are, of all others, most subject to cut. It has been asserted that this defect also happens to those who turn them much inwards; however, the author does not recollect to have met with a single instance of the kind in the course of his practice. In horses of the first description it has been long observed, that the inner quarters of the hoof were lower than the outer, and that the fetlock joints were nearer to each other than in horses whose feet pointed straight forwards. These two facts probably led to a conclusion, that if the inner quarters

were raised to a level with the outer, and so much the more as they were made proportionally higher, that the fetlock joints would be thrown farther apart, so as to admit of the foot passing by the supporting leg without striking the joint. Accordingly, for the last two centuries at least, it has been usual to make the inner quarter of the shoe higher than the outer; not only has this been the general practice, but it has been regularly recommended by every writer from that time to the present: and notwithstanding this method has very frequently failed of success, yet repeated disappointments have never led to the questioning of the truth of the principle. Nay, indeed, the reliance placed upon it has been so strong, probably from the simplicity of the reasoning on which it is founded, that, in the cases where it most particularly disappointed expectation, its failure was generally attributed to the practice not being carried sufficiently far, and accordingly the shoe has been still more raised on the inner quarter, and the edges of the crust and shoe have been filed away. When with these expedients it likewise failed, the last resource has been a circular piece of leather placed round the joint to receive the blow of the foot.

It is now about four years since that a shoe with the outer quarter thick and the inner one thin was, for the first time, in the practice of the author at least, employed in a case which baffled many attempts on the old plan.

On the first trial the horse ceased to cut, nor has he ever done it since; which can only be attributed to his having constantly worn the same kind of shoe. This circumstance did not then excite in the mind of the author any doubt as to the propriety of a practice which had so long been generally acknowledged, but was rather considered as an extraordinary exception. However, other bad cases, which occurred occasionally since that period, were treated in the same way, and with the same success. These facts, at length, led the author to conclude, that a practice which was so uniformly followed by success, in cases where the established one as uniformly failed, must necessarily repose on a better principle; although for a long time he was completely at a loss how to explain it: for if the action of cutting did principally depend upon the faulty position of the fetlock joints and the feet with respect to each other, and it appeared to be generally agreed that such was the fact, it should seem that a means, which by raising the outer quarters would throw the fetlocks still nearer to each other, would necessarily increase the defect in question; but as the reverse of this actually takes place, it might induce a suspicion that there exists some other cause of cutting which has been hitherto overlooked.

A minute examination of this point would far exceed the limits allotted to this division of the work; and, therefore, at present the author will confine himself to that part of the subject only which is absolutely necessary to be understood.

For horses, therefore, which cut their hind legs, the shoe at the outer heel should be half an inch in thickness, according to the kind of horse and the degree in which he cuts. The web of the shoe should gradually become thinner until it reaches the toe, which should be of the ordinary thickness, and from which it should slope off, and end in a tip in the middle of the inner quarter. This shoe, in point of effect, would be equally proper for the fore feet, were it not that in such horses as are used for the saddle, the fore feet, being more charged with weight than the hind ones, are much more liable to be injured, and a horse thus shod on the fore feet might go unsafe; therefore it is expedient to let the inner quarters of the shoe be thin, and reach to the heel, but the outer edge should be bevelled off, so as to slope inwards. The same kind of shoe is equally well calculated to prevent the speedy cut; observing to bevel off still more strongly the part which strikes, and not to put any nails thereabouts. And here it may be proper to remark, that in sound feet the heel of the shoe should reach as far on the heel of the hoof as to admit of the angle formed by the crust and the bar resting fully upon it; but it should not be carried quite as far as the end of the heel of the hoof.

In order to ascertain what would happen to a horse shod with different kinds of shoes, the following trials were made:—

EXPERIMENT I.

A horse with a narrow chest, who had never cut, and having parallel shoes on his fore feet, was trotted at about the rate of eight miles an hour in a straight line over ground sufficiently soft to retain slightly the impression of the shoes, but not to admit the feet to sink into it.

Two parallel lines were drawn along the track, including between them the prints of the shoes. By these it was found that there was regularly a distance of nine inches and a half between the outer edge of the near fore shoe and that of the near off shoe.

EXPERIMENT II.

Shoes thick in their inner quarter, and like a tip, reaching only half way on the outer quarter, were then used; and it appeared that the distance between the outer edges of the prints

of the shoes, taken as before, were regularly reduced to eight inches and a half.

EXPERIMENT III.

The same shoes were placed on the opposite feet, so that the thick heel was on the outer quarter; and the result, under circumstances exactly the same as the foregoing experiments, was that the distance between the outer edges of the points of the shoes was regularly increased to eleven inches.

To account for these results, it is necessary to attend closely to the different effects produced by the weight of the fore part of the body acting upon the two fore feet, when raised on the inner or outer quarters, during the opposite states of rest and action. And first, with regard to shoes raised on the inner quarter: Whilst a horse so shod is standing still, the fetlock joints are certainly thrown farther apart than when any other kind of shoe is used. Hence it was concluded, that the limb which supported the body would have its fetlock joint thrown so much outwards as to keep it completely out of the way of the foot in motion. But it appears that the impressions made on the ground by such shoes are an inch nearer together than those made by parallel shoes, and two inches nearer together than those made by shoes raised on the outer quarter. And this may be thus explained: when the horse is at rest, the weight is supported equally by the two fore feet; but the instant one foot quits the ground, the weight is suddenly transferred to the other, and by the outer quarter being lower than the opposite one, the fore part of the horse has a tendency to fall over the outside. To prevent this, the moving foot is suddenly brought close to the fetlock of the supporting foot, in order to relieve it by catching the weight, and the foot itself is placed on the ground too much under the middle breast. The same circumstance occurs to both feet in their turn; and the horse, being thus in constant danger of falling to one side or the other, is constrained to bring his feet near together to preserve his balance, and in doing this strikes the foot against the opposite fetlock.

It frequently happens, that the more the toes are turned outwards the nearer the fetlock joints are brought together, and the more the horse is disposed to cut. However, this is true only to a certain extent; for if this faulty position of the lower part of the leg be carried artificially beyond a certain point, instead of producing an increased degree of cutting, in most instances it remedies the defect altogether. The reason of this is just the reverse of what takes place when the inner quarter is raised; that

is to say, when the weight of the fore part of the body rests only upon one leg, it bears too much upon the inner quarter, from its being lower than the outer quarter; and thus the horse has a tendency to fall over to the inside of the supporting leg.

To prevent this, the moving foot is thrown farther from the supporting leg, in order to maintain the balance, and thus the foot misses the fetlock joint.

EXPERIMENTS ON THE ELECTRICITY OF THE BLOOD IN ANIMALS IN A HEALTHY AND UNHEALTHY STATE.

By F. BELLINGEN.

THE following are the conclusions which this celebrated physiologist drew from a great number of experiments. The discoveries of modern chemistry would, perhaps, have dictated a little change of phraseology in some parts, but we have not dared to attempt it.

1. Venous blood in oxen, sheep, and the greater number of birds, preserves, under almost every circumstance which accompanies health, a degree of electricity equal if not superior to that which is proper to iron.

2. In the same species of animals, age diminishes to a small degree the electricity of venous blood.

3. The different seasons of the year, and different conditions of the atmospheric air, have little influence on the electricity of the blood.

4. Venous blood in a healthy state seems to preserve the same degree of electricity at all times; but that of urine, bile, and perspiration is frequently changed.

5. Under inflammatory disease the electricity of venous blood is sensibly diminished.

6. The venous blood of horses does not contain so much electricity as that of calves, oxen, lambs, and birds. It nearly resembles the electricity of antimony.

7. The electricity of venous blood is generally superior, sometimes equal, but never inferior to that of arterial blood.

8. Arterial blood is frequently a bad conductor of electricity.

9. Venous and arterial blood, in a healthy state, preserves the same quantity of electricity that it possessed when it flowed from the vessel, even after a separation has taken place between its constituent parts.

10. The electricity of venous blood is equal to that of water or air, even after it has separated into its constituent parts.

11. The electricity of urine and bile varies even in the healthy state, and only accidentally corresponds with that of water and air.

12. Urine is a bad conductor of electricity, and bile is a worse.

13. Bile contains more electricity in the adult than in the young subject.

14. Urine and bile retain the same degree of electricity for a considerable period after they have been removed from the body.

15. The electricity of urine is increased by putrefaction.

Ann. Univers. April 1827.

THE OPHTHALMIC GANGLION.

SOME comparative anatomists, as Muck, Desmoulins, and especially Tiedemann, deny the existence of it. Bourgelat makes no mention of it; nor does Carus. Girard alludes to it under the name of "the orbitary ganglion;" and Gurlt figures it in his 101st plate. Cuvier, speaking of the nasal branch of the ophthalmic nerve, says that "it divides into two ramifications, one of which proceeds towards the optic nerve, unites with the small branch of the third pair, and by this union produces a nervous enlargement called the lenticular or ophthalmic ganglion. This ganglion usually sends off the ciliary nerves disposed in two bundles. They are each composed of several filaments, which enter the globe of the eye obliquely*."

Describing the iris, he says, "It receives a great number of small ramifications from the ciliary nerves, which, after having perforated the sclerotica, and passed round the choroides longitudinally like ribbons, but without penetrating it, are lost in the iris†."

Mr. Percivall, in his excellent work on the Anatomy of the Horse, gives a different account of its origin. "Upon the outer side of the optic nerve, between it and that part of the motor oculi, from which the branch nerves spring, is situated the OPHTHALMIC GANGLION. This little body is principally constituted of branches from the third pair, but it receives a filament or two from the sixth. The nervous threads transmitted by the ganglion surround the sheath of the optic nerve, and, pursuing their course over it, penetrate the globe of the eye, and run to be dispersed upon the iris‡."

Mr. Youatt, describing the nasal branch of the ophthalmic

* Cuvier's Comp. Anat. vol. ii, p. 206.

† *Ib.* p. 414.

‡ Percivall's Anatomy of the Horse, p. 336.

nerve says, "Almost at its commencement we observe the filaments that help to form the *ophthalmic ganglion*. They are more numerous and more easily traced in some of our domesticated animals than in others, and the ganglion itself is differently developed; but for what purpose it is not easy to determine. It is comparatively larger in the ox than in the horse, and sends more nervous filaments to the iris. Four distinct ones may be traced in the ox, but seldom more than two in the horse or dog. To these filaments others of the ophthalmic that have not passed the ganglion afterwards join themselves, so that the ciliary nerves are also minute compound ones of motion and sensation*."

The best account however of this, and somewhat differing from all the others, is given by Dr. Quain. He considers the ganglion as a little centre of nervous influence, a brain, as it were, of itself, and the filaments which the others describe as composing, he speaks of as branches given out from it. "It lies," says he, "within the orbit, about midway between the optic foramen and the globe of the eye, and enclosed between the external rectus muscle and the optic nerve; it is exceedingly small, and not easily found, owing to its being embedded in the soft adipose tissue which fills up the interstices between the different parts within the orbit.

Its branches are the following: from its anterior border from sixteen to twenty delicate filaments issue, which proceed forwards to the surface of the sclerotica, and pierce it through minute foramina. These are the ciliary nerves. In their course to the globe of the eye they are joined by one or two filaments derived from the nasal nerve, but they do not form a plexus or an interlacement; they become, however, dispersed or divided into two fasciculi, one above and the other below the optic nerve, the latter being the more numerous. They pass along between the choroid membrane and the contiguous surface of the sclerotica, lodged in grooves in the latter, and on reaching the ciliary ligament, they pierce it, some few of them appearing to be lost in its substance, while all the rest pass inwards and ramify in the iris.

From the posterior border of the ganglion, which seems as if terminated by two angles, two branches issue, of which one passes backwards and upwards to the nasal branch of the ophthalmic nerve, and which appears to be the medium of communication between the ganglion and the rest of the ganglial system, by being prolonged to the carotid plexus: the other reflected branch is shorter than the preceding, and passes down-

* Veterinarian, vol. vii, p. 124.

wards and backwards to the inferior oblique branch of the motor nerve of the eye*.”

It is curious to compare these accounts of the ophthalmic ganglion—differing from each other in several points, shewing what various impressions the same thing will make on different persons, and yet all of them agreeing in the main. For my own part, I am now disposed to be very much of Dr. Quain’s opinion. It was not fitting that the motions of the iris should be under the control of the will—they should respond to the varying intensity of the light. A little ganglion, a portion of the organic system, is found at the back of the eye—it is connected with other portions of the ganglial system by the nasal branch of the ophthalmic, and at the same time it anastomoses, as Mr. Percivall and Dr. Quain very properly describe, with branches of the third pair, and also, according to Dr. Quain and Mr. Youatt, with other branches of the nasal, in order that the action of the voluntary nerve might, in some degree, be controlled, and rendered subservient to the full exercise of the function of the eye, and, perhaps, that occasionally the power of the voluntary nerve might aid that of the organic one.

Y.

ON THE DISTRIBUTION OF THE ARTERIES IN THE HEAD OF THE SHEEP.

By Dr. J. C. T. BARKOW.

THE arteries of the head of the sheep are very remarkable in their distribution. The common carotid gives off collateral branches before it divides into two principal trunks, from which all the other branches are given off. The branches which pass off before the principal bifurcation are—the superior thyroideal, the ascending pharyngeal, the occipital, the lingual, the posterior auricular, and a parotidean. The external maxillary artery is wanting, and its branches are furnished by other vessels. The common carotid bifurcates into the facial and internal maxillary; the facial furnishes the anterior auricular and the temporal; it is continued under the name of transversalis fasciæ, which gives off the coronary artery of the upper lip. The inferior coronary is furnished by the mental, which is itself a branch of the internal maxillary. This latter is a very important artery in the sheep; for it not only furnishes branches to the face, but also all those which in man come from the internal carotid. It gives off on each side three branches, which penetrate separately into the

* Quain’s Anatomy, p. 768; a work that should be in the possession of every student, veterinary as well as medical.

cranium, where they ramify in the *rete mirabile*, from which they pass to form the simple trunk of the cerebral arteries, which communicates with the basilar, and is distributed to the brain. As there exists no internal carotid, the carotid canal is wanting; the sulcus which is observed on the sides of the sella turcica, and which resembles the carotid sulcus in man, contains only the inferior cerebral vein, which passes from the cranium by the spheno-petrosal fissure.

The ophthalmic artery is also a branch of the internal maxillary, and furnishes the ethmoidal artery, and the posterior ciliary; the central artery of the retina, on the contrary, arises from the trunk of the cerebral artery when it has passed the *rete mirabile*; the olfactory nerve also receives some very small branches from this vessel. The internal maxillary furnishes the inferior maxillary of the face, which receives the name of mental after having passed from the mental foramen, the superior alveolar, and the infra-orbital, which gives off a pterygoid branch: it terminates in bifurcating into two branches, which receive the names of pterygo-palatine and spheno-palatine.

With respect to the branches which pass off from the common carotid, it is necessary to be observed, that the ascending pharyngeal and the occipital arise from that artery before the lingual; and with respect to the superior maxillary, the first cerebral branch arises between the inferior maxillary and superior alveolar; the other cerebral arteries, and the ophthalmic, are situated between the superior alveolar and infra-orbital.

Nova. Acta. Acad. Natur. Curios. tom. xiii, pars 1—*Lancet*.

THE CAUSES OF GLANDERS AND FARCY IN CAVALRY REGIMENTS.

By M. PATU, M.V., 4th Cuirassiers.

ONE of the grand principles of the French school is the non-contagiousness of glanders; and yet there is scarcely a cavalry regiment that is not annually decimated by it. It does not prevail amongst the horses of the gentleman, the farmer, or the coach or waggon proprietor, more than it does in England, perhaps not so much; but it is the pest and disgrace of the barrack stable. The veterinary surgeons are well instructed; they love their service, and they are anxious for the honour and the effective condition of their respective regiments; but the infirmary is always crowded with glandered patients.

Many attempts have been made to explain and remove the cause of this. No one has entered more fully or satisfactorily into the subject than M. Patu. We give, with very little condensation, his Essay on the Causes of Glanders and Farcy in Cavalry Regiments. The private practitioner, under whose cognizance this disease too often comes, will derive many a useful hint from it; and our military veterinarians, from whose barracks glanders is now in a manner banished, will read it with interest.

Y.

M. Patu ranges the causes of glanders under four heads:—

HABITATION.—The smallness of the stable, or the collection of a great number of horses in the same stable, is the most ordinary and the most effectual cause of the development of farcy. This is no novel opinion; our best veterinarians have again and again enforced it; but my illustrations may, perhaps, differ a little from those of others, and tend to confirm theirs.

In a stable where the horses are accumulated to a degree disproportionate to the size of the place, the following inconveniences must necessarily occur:—

It being impossible that the air should be thoroughly renewed, it soon becomes unfit for respiration, either because its respirable part has been used, or certain animal exhalations proceeding from the perspired matter or from divers other excretions, as the urine and the fæces, have mingled with it, or the temperature has been considerably raised, than which there cannot be any circumstance more favourable to the union of the atmospheric air with every vapour that ascends, however deleterious it may be.

Or, if the air were pure, there must necessarily be such an inequality of temperature, such a succession of oppressive heats and draughts, if the slightest degree of ventilation is attempted, as cannot fail of having a very injurious effect on the animal economy, and more so because its action is exerted on the most delicate organs of the frame.

It might also be a subject of inquiry, whether the exhalations from one animal respired by another may not be more prejudicial to him than those emanating from himself; and whether the deleterious influence would not increase as the animals were multiplied, until there would be an accumulation of morbid influence which the strongest constitution could not withstand. This may not be capable of rigorous demonstration, but, in fact, it is something to arrive at probability in medicine, and certainty is a luxury seldom bestowed.

Not only the crowding of a great number of horses in one stable must be prejudicial to health, but the collecting of a great quantity of them in divers stables contiguous to each other may have a bad effect. It is easy to conceive of this. Six or seven hundred horses cannot be crowded upon two or three acres of land without much contrivance and inconvenience, and every recess and corner must be occupied. In this there is an immense difference between the cavalry horses and those of the farmer and the gentleman. Seven hundred horses belonging to the latter are scattered in such a manner as to occupy two or three hundred stables and ten leagues of ground: the others are packed in such a manner that every one touches his neighbour—that each animal has only so many cubic feet of air around him, and that he cannot turn without hurting or displacing his neighbour. The heat of one augments that of another; and not one of them can lie down without incommoding his fellow, and incurring the danger of being trampled under foot.

In support of this, I will cite a fact of universal occurrence. Fifteen hundred men embarked on board one large vessel will have far more disease among them than would have appeared had they been divided between two frigates, in which, in reality, they would not have had more room; and their health would suffer still less, if they had been portioned in three ships of still smaller dimension. Ten thousand men encamped on one piece of ground have more diseases among them than if they had been divided into two camps, each only half the size of the first.

The cavalry horses are crowded together, and little at ease; hence results the impossibility of lying down, or at least of reposing quietly; hence, fatigue and impatience, constant clattering and pawing, and the too speedy destruction of the litter, always insufficient; hence, the continuance of the urine on the floor, since there is nothing to absorb it; hence, an ammoniacal vapour always perceptible, and peculiarly offensive when the stables are first opened in the morning; hence, irritation of the respiratory passages, and inflammation of the eyes, &c.—effects the more easily produced, since the horses, twelve hours out of the four and twenty, have under their noses the litter saturated with urine, or converted into dung. From want of space it is also nearly impossible to dress the horses properly.

Beside the small size of the stables, compared with the number of horses which they contain, there are other circumstances which contribute to the unhealthiness of many cavalry stables. They are often too low, badly ventilated, dark, and damp. It is painful to confess it; but there is in France, in this respect, a negligence which will not find its parallel in any other country.

Of no other people can it be said that, in the construction of the stables, attention may be paid to the economical distribution of the ground, and the regularity of the buildings, and the beauty of the whole as a coup d'œil, but no regard is directed to the comfort or the health of the noble animal that is to inhabit them, but every inch of ground is measured with a parsimony revolting to all who love this most useful and noblest of animals, and ruinous to the state.

I could cite a thousand proofs of the little thought which architects and which government bestows on an object of such paramount importance. I will cite one instance, comparatively trifling in its nature, but which was well known to me, and will speak for the rest. A corner of a stable, dark and damp, was undeniably unhealthy, and several horses that had stood in it had become glandered. More than one application was made to the presiding officer to remedy the evil, which might have been easily effected. He was entreated to open a window in it, if he would do nothing more. He raised a thousand objections, sometimes of one kind, and sometimes of another. He replied, at last, that the frequent appearance of glanders there was the result of contagion, and, at length, when driven from that hold, he assumed another ground, and from which he could not be driven—that the required alteration would destroy the symmetry of the building.

At length, the instances of disease became so numerous, and so many horses were lost, that he was forced to yield; the wall was pierced, a window was opened; the symmetry of the building was a little deranged, in the eyes of artists at least; but we did not lose any more horses.

The regiment to which I have the honour to belong was at that time in garrison at Beauvais. We experienced many losses from farcy and glanders, as the regiments that had preceded us had done. In 1828, the destruction was so great among the horses of the Guard-Royal, that a commission was appointed, by order of the minister of war, to inquire into the circumstances which rendered glanders of such frequent occurrence at Beauvais. The commission attributed the loss of horses to a great many causes, as will always be the case when it does not contain a person sufficiently decided to probe the evil to the bottom at once. The hay was said to be bad, the first quality not being so good as the second in the neighbourhood of the Seine; the water was not drinkable; and, finally, the stables were narrow, especially those that had two ranks of stalls; they were low, badly situated, and not well ventilated.

The report being delivered, we were ordered to be more strict

with regard to our forage. The water of the river was brought to the barracks; but the stables—no, their symmetry must not be destroyed, and they are now what they were on the 28th of April, 1828, when the commission pronounced them bad; and glanders is as prevalent as ever.

[To be continued.]

PUPILS WHO HAVE PASSED THEIR EXAMINATION
AND OBTAINED DIPLOMAS AT THE ROYAL
VETERINARY COLLEGE.

1835.

- Nov. 24th—Mr. G. DRAPER, Stanton-by-bridge, Derbyshire
Mr. W. CHARNLEY, Liverpool, Lancashire
Mr. W. RIDDALL, Launceston, Cornwall
Dec. 8th—Mr. W. RICHARDSON, Stixwold, Lincoln
Mr. T. KING, Newcastle, Northumberland
Mr. R. BELL, Chippenham, Wilts
Mr. J. G. PHILIPS
Dec. 14th—Mr. W. TAYLOR, Belfast, Ireland
Mr. R. LUCAS, Jun., Liverpool, Lancashire
Mr. W. McDERMOTT, Jun., Calcutta.

THE VETERINARIAN, JANUARY 1, 1836.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

It is doubtless well known to our readers that, in the preceding month, delegates from many of the Agricultural Societies of the United Kingdom assembled in London, in order to take into consideration the depressed state of the agricultural interest, the causes of this depression, and, as far as the case would admit of it, the remedy. With regard to the existence of unexampled distress among the occupiers of land, there cannot be a moment's doubt. One gentleman, who stated that he had not raised his rents since 1792, assured the meeting, that every successive tenant of his during the last fifteen years, had become a bankrupt.

The deputies and the other assembled agriculturists having

formed themselves into one grand association, under the name of "The Central Agricultural Society of Great Britain and Ireland;" and the truth of the alledged cause of their meeting—the unexampled distress of the farmer—being too palpable to admit of a moment's doubt, they proceeded to take into consideration the remedy. It seemed to have appeared to the committee, that the first and the most advisable step was, to instruct one of their body, a member of the House of Commons, to move, early in the ensuing session, for the appointment of a select committee, before whom witnesses might be examined as to the existence and extent of the distress, its causes, and the means by which it might be alleviated.

Nothing could be more proper, or better calculated to effect the desired object. It was the first time that such an assembly had been convened in Great Britain. It represented the agricultural interest of the country. It spoke the feelings and the wishes of British farmers almost everywhere. It was a grand, it was an awful meeting; and its deliberations cautiously conducted, and its determination calmly and respectfully expressed, its object could not fail of being obtained. The case would be honestly inquired into, and the remedy, if there was any, would be applied fully and fairly, so far as it could be without prejudice to national faith and the legitimate interests of other classes.

Unfortunately, however, a talented, but theoretical and visionary speaker arose, and occupied the attention of the meeting for a full hour on the robbery effected by Peel's bill, and the atrocities of the New Poor Laws' Bill, and the proper standard of currency, and of the borrowing in paper and paying in gold, and the necessity of demanding justice, and many a similar subject, calculated to confuse the judgment and inflame the mind; and he concluded with moving a resolution which, were it not that, connecting it with what had been the empassioned theme of his discourse it bore the character of dictation and menace, would have been a ridiculous truism, that "nothing would be of avail in relieving the distress of the farmer but the diminution of his burthens proportionate to the depreciation of the price of his produce, or an increase in the price of his produce pro-

portionate to his heavy burdens." This was a theme which came so nearly home to the business and bosom of his auditors, that it could not fail of making the impression which the speaker desired. In vain some moderate and intelligent men entreated that the meeting would not rashly oppose an insuperable obstacle to the accomplishment of their wishes ; the proposition was carried by an immense majority—the milder spirits, with the exception of two or three, not exposing themselves to derision by any useless expression of dissent ; and then the meeting separated.

The committee, however, on the following day did all in their power to repair the error committed ; for they resolved unanimously, and published the resolution extensively, " that the objects of the Central Agricultural Society are exclusively national ; devoted to no theoretical purposes, but formed solely with a view to procure the co-operation of the owners and occupiers of land in every practical measure which can afford relief in the present distressed state of the agriculturist, and also with a view to the improvement of every branch of practical agriculture."

The farmers of Great Britain, the owners and the occupiers of land in so many districts, having thus formed an indissoluble bond of union—for indissoluble it must be if the fundamental principle adopted by the committee is strictly adhered to—possess a moral influence almost irresistible. Their first object, the relief of present distress, will, to a considerable extent, in a direct manner, be effected. No ministry will dare to trifle with the just demands of the united power of that class of society with which the resources and the prosperity of the kingdom are, more than with any other, vitally connected. And in an indirect manner, by the diffusion of practical agricultural knowledge ; and when all the discoveries of chemistry, and all the improvements in science generally, are brought to bear upon the business of the agriculturist ; when cheaper and more secure means of raising the produce are adopted ; when the produce itself is improved in quality and increased in quantity ; when it is placed more beyond the occasionally mischievous influence of a thousand foes to animal and vegetable life—in an indirect way, we say, the

object of the Association will also be accomplished, for the expences and the burdens will be diminished, and the value of the produce will be enhanced.

But what has this to do with a Veterinary Periodical? Much—everything. Are we not connected, identified with the interests of the agriculturist? Is it not, or ought it not to be, part of our profession to relieve the diseases, to improve the condition, and to prolong the lives and usefulness of the most valuable part of his property? Is the connexion between the veterinarian and the agriculturist a matter of doubt? Why, this very association—its founders had well considered all the benefits it could bestow—this very association has plainly and fully recognized the connexion. It has done that which ought to have been done many a year ago. It has declared its determination to make a science, to which the cavalry and the commercial interest are deeply indebted, and to which even the agriculturist already owes much—it has declared its determination to make that science as useful as its ample, its boundless means are calculated to make it. It has anticipated our application to it. Unsolicited it has determined to make our profession what it was designed to be—what it is elsewhere,—a part and portion of itself.

What do we read as one of its objects? “To promote the establishment of Agricultural and Veterinary Professorships, experimental farms, and schools throughout the country for the instruction of farmer’s sons in the sciences applicable to agriculture.”

Experimental farms, and veterinary schools! an experimental farm and a veterinary school combined, and in the heart of a breeding district, where the subjects of experiment and the subjects of disease would be plentifully supplied—where practical illustration would supersede all theoretical speculation—a Toulouse school flourishing, and an Alfort one not impaired—the interests of agriculturists consulted, and that of the cavalry not injured—the cattle and the sheep recognized as veterinary patients, and saved from many a murderous pest, and the horse not abandoned—a school for dissemination of that veterinary knowledge which is especially connected with the farmer’s weal established, and that at St. Pancras continuing to befriend the horse—are

there not in this causes for exultation to the veterinarian, and hope to the farmer?

What, then, is the duty of the veterinary surgeon? To ally himself with the society in his immediate neighbourhood—to shew himself disposed to co-operate with them—sedulously to prepare for this co-operation, by making himself better acquainted with the nature and causes and treatment of the diseases of cattle and sheep, and domesticated animals generally. He would, indeed, be hailed as a worthy member of the association who snatched from bronchitis its thousands of victims annually, and its millions from the rot. Why should not this be effected? Why should so much have been done for the horse, and there be no hope that as much, ay! and more, may be done for cattle.

We shall probably return to this subject; but we could not dismiss the first Number of the year without congratulating our brethren on the prospect of the improvement and the triumph of our art, which is now beginning to unfold itself.

A GREAT many of our readers were members of the London Veterinary Medical Society; and they who have had that good fortune will not soon forget the pleasure, and the improvement too, which they derived from its meetings. They will be glad to hear, that, sanctioned by the Society, a monthly abstract of its proceedings, furnished by the able pen of the secretary, will appear in this Journal; and also that the essays which are deemed worthy of the Society's certificate of thanks will be regularly published, if approved of by the respective authors. We have not often felt greater pleasure than in being enabled to make this communication. It is a society intimately connected with the welfare of the pupil; and if he is attentive and industrious, there are few scenes to which he will revert with more sincere delight.

It will be observed, in an advertisement on the cover, that the members of this Society, present and past, are about to present their president, Mr. Sewell, with "a testimonial of their gratitude for his long and efficient services."

We believe that he has been president of that society more than

twenty years. He has been at his post as often as his avocations would permit, and much oftener than was consistent with his personal convenience—his administration has been mild and conciliatory—and he has ever been ready to throw what light he could on the subject in debate. As a very old member, and having again and again sat under Mr. Sewell's presidency, the Author of this Leader is glad that the Society is at last thinking of that which should have been done long ago, with regard to an officer and fellow-labourer of so long standing among them.

WE now advert to a most unpleasant subject. We were long in determining to insert Mr. Brown's letter, complaining of unprofessional conduct in some of his brethren: but his communication was temperately written; he complained of that which ought not to exist among us; and we recollected obligations of long standing, for several interesting communications. We had, besides, in one of our last journeys through the midland counties, in order to make ourselves fully acquainted with veterinary statistics every where, heard, but not from Mr. Brown, nor indeed from any veterinary surgeon, but from a practitioner of human medicine, a hint of occasional unkind and unprofessional conduct among certain veterinarians.

We are free to express our decided opinion, that when a consultation is requested respecting a valuable animal, it cannot be declined without breach of courtesy, except some proper and cogent reason is assigned; that studiously to avoid the appointed hour, and arrive at a time when the brother practitioner will probably not be in the way, is unkind and unjust; that when a case has been going on well in the hands of one practitioner, and the animal is in a state of convalescence, it is the duty of the veterinarian afterwards consulted unequivocally to state so to the owner, and to refuse to meddle with the case; and that it is an act deserving of the severest reprobation, if, when the second practitioner has arrived at an hour different from that appointed, he presumes, without consultation with his brother, to take the case into his own hands, and orders the horse off at once to his infirmary.

With the prospects that are now unfolding themselves before

us, let us not disgrace ourselves and our profession by ungentlemanly and illiberal conduct towards each other. We should live happier, and we should prosper more, by kind and friendly conduct than by that want of candour, that almost open hostility, which are too frequently the stigma of an old as well as a rising profession.

ONE thing more, and of a mere personal nature. Our friends, at hand or far away, should recollect that it is usual and right for inquirers, whether respecting advertisements or points of practice, or any thing, in fact, that relates to the veterinary art, to pay the postage of their letters. Our readers would scarcely credit the expense which we have incurred during the last year from this source alone. There have been more advertisements than usual respecting the bargain and sale of situations and practices, and not one in half a dozen of our correspondents has deemed it requisite to pay the postage of his letters. We must, therefore, be forgiven if, once for all, we state that, except from a correspondent whose writing we recognize, we will not take in another letter addressed to "The Editors of the Veterinarian," the expense of which has not been defrayed; and, in truth, we would rather that our advertising friends would direct the reference to be made to any other persons than ourselves.

Y.

Miscellanea.

THE DEATH OF KEELDAR.

By Sir WALTER SCOTT, Bart.

[Percy or Percivall Rede, of Trochend, in Redesdale, Northumberland, is celebrated in tradition as a huntsman and a soldier. He was upon two occasions singularly unfortunate: once when an arrow which he discharged at a deer killed his celebrated dog Keeldar; and again when, being on a hunting party, he was betrayed into the hands of a clan called Crossar, by whom he was murdered.]

Up rose the sun o'er moss and mead,
 Up with the sun rose Percy Rede;
 Brave Keeldar from his couples freed,
 Careered along the lea;
 The palfrey sprung with sprightly bound,
 As if to match the gamesome hound;
 His horn the gallant huntsman wound;
 They were a jovial three!

THE DEATH OF KEELDAR.

Man, hound, or horse of higher fame,
 To wake the wild deer never came,
 Since Alnwick's earl pursued the game,
 On Cheviot's rueful day :
 Keeldar was matchless in his speed ;
 Than Tarras ne'er was stancher steed ;
 A peerless archer Percy Rede :
 And right dear friends were they.

The chase engrossed their joys and woes,
 Together at the dawn they rose,
 Together shared the noon's repose,
 By fountain or by stream ;
 And oft when evening skies were red,
 The heather was their common bed,
 While each, as wildering fancy led,
 Still hunted in his dream.

Now is the thrilling moment near
 Of sylvan hope and sylvan fear,
 Yon thicket holds the harboured deer,
 The signs the hunters know ;—
 With eyes of flame and quivering ears,
 The brake sagacious Keeldar nears,
 The restless palfrey paws and rears,
 The archer strings his bow.

The game's a foot!—Halloo! Halloo!
 Hunter and horse and hound pursue ;—
 But woe the shaft that erring flew—
 That e'er it left the string!
 And ill betide the faithless yew!
 The stag bounds scathless through the dew,
 And gallant Keeldar's life-blood true
 Hath drenched the grey goose wing.

The noble hound—he dies, he dies!
 Death, death has glazed his fixed eyes,
 Stiff on the bloody heath he lies,
 Without a moan or quiver.
 Now day may break and bugle sound,
 And whoop and halloo ring around,
 And o'er his couch the stag may bound,
 But Keeldar sleeps for ever.

Dilated nostrils, staring eyes,
 Mark the poor palfrey's mute surprise,—
 He knows not that his comrade dies,
 Nor what is death—but still
 His aspect hath expression drear
 Of grief and wonder, mixed with fear,
 Like startled children when they hear
 Some mystic tale of ill.

But he that bent that fatal bow
 Can well the sum of evil know,
 And o'er his favourite bending low
 In speechless grief recline ;

Can think he hears the senseless clay
 In unreprouchful accents say,
 "The hand that took my life away,
 Dear master, was it thine?"

"And if it be, the shaft be blessed,
 Which sure some erring aim addressed,
 Since in your service priz'd, caressed,
 I in your service die;
 And you may have a fleeter hound
 To match the dun deer's merry bound;
 But by your couch will ne'er be found
 So true a guard as I."

And to his last stout Percy rued,
 The fatal chance, for when he stood,
 'Gainst fearful odds in deadly feud,
 And fell amid the fray,
 E'en with his dying voice he cried,
 "Had Keeldar but been at my side,
 Your treacherous ambush had been spied—
 I had not died to-day!"

THE SAVANNAHS OF SOUTH AMERICA.

WE are informed by Humboldt, that, during the periodical swellings of the large rivers in South America, great numbers of quadrupeds are annually drowned. Of the wild horses, for example, which graze in immense troops in the savannahs, thousands are said to perish, when the river Apure is swollen, before they have time to reach the rising grounds of the Llanos. The mares, during the season of high water, may be seen, followed by their colts, swimming about and feeding on the grass, of which the top alone waves above the waters. In this state they are pursued by crocodiles; and their thighs frequently bear the prints of the teeth of these carnivorous reptiles. "Such is the pliability," observes the celebrated traveller, "of the organization of the animals which man has subjected to his sway, that horses, cows, and other species of European origin, lead, for a time, an amphibious life, surrounded by crocodiles, water-serpents, and marsetees. When the rivers return again into their beds, they roam in the savannah, which is then spread over with a fine odoriferous grass, and enjoy, as in their native climate, the renewed vegetation of spring*."—*Lyell's Geology*.

* Humboldt's Pers. Nar., vol. iv, p. 394-396.

RAPID PROPAGATION OF DOMESTIC QUADRUPEDS OVER
THE AMERICAN CONTINENT.

HUMBOLDT observes, in his Travels*, on the authority of Azzara, that it is believed there exist in the pampas of Buenos Ayres twelve millions of cows, and three millions of horses, without comprising in the enumeration the cattle that have no acknowledged proprietor.

In the Llanos of Caracoas, the rich hateras, or proprietors of pastoral farms, are entirely ignorant of the number of cattle they possess. The young are branded with a mark peculiar to each herd, and some of the most wealthy owners mark as many as fourteen thousand a year. In the northern plains, from the Orinoco to the Lake of Maracaybo, M. Depons reckoned that 1,200,000 oxen, 180,000 horses, and 90,000 mules, wandered at large. In some parts of the valley of the Mississippi, especially in the country of the Osage Indians, wild horses are immensely numerous.

The ass has thriven very generally in the New World; and we learn from Ulloa that in Quito they ran wild, and multiplied in amazing numbers, so as to become a nuisance. They graze together in herds, and, when attacked, defend themselves with their mouths. If a horse happens to stray into the places where they fed, they all fall upon him, and do not cease biting and kicking till they leave him dead†.

Hogs, sheep, and goats, have likewise multiplied enormously in the New World, as have also the cat and rat, which last has been imported unintentionally in ships.

The dog, introduced by man, which at different periods became wild in America, hunts in packs, like the wolf and jackal, destroying not only hogs, but the calves and foals of the wild cattle, and even destroying horses.

The rapid propagation of domestic animals over the continent of America, within the last three centuries only, is a fact of great importance in natural history. The extraordinary herds of wild cattle and horses which overran the plains of South America sprung from a very few pairs first carried over by the Spaniards; and they prove that the wild geographical range of large species on great continents does not necessarily imply that they have existed there from remote periods.

Lyell's Geology.

* Pers. Nar., vol. iv.

† Ulloa's Voyage, Wood's Zool. vol. i, p. 9.

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ANIMAL PATHOLOGY.

By Mr. YOUATT.

LECTURE II.

Palsy in Cattle.

IF, gentlemen, you should hereafter practise on the diseases of cattle, as I imagine and hope is your intention, you will meet with plenty of cases of palsy: few or none of them, however, will be referrible to any cerebral influence or cause, and I am not aware that the records of veterinary medicine will afford one case of hemiplegia in these animals. You will not be surprised at this, when you recollect the distinction which I endeavoured to draw, in the last lecture, between the prevalent causes of hemiplegia and paraplegia—palsy of one side and one extremity of the frame—or, in other words, disease of one or both of the motor columns: the first produced by some change in the structure or functions of the brain—the latter referrible to injury of the spinal chord.

WHY NOT HEMIPLEGIA IN CATTLE.—Comparing the average weight of the ox with that of the horse, the brain of the former is not more than one-half so large as that of the latter; but the medulla oblongata of the former is larger than this origin of the spinal chord in the latter, and the relative increase of bulk in the ox is, agreeably to the destiny of that animal, made up of evidently greater development of the lateral portions of the superior (posterior) superficies of the part—that portion of it which is devoted to the involuntary and never-ceasing movements of organic life. If we next proceed to compare the spinal chord of these two animals, we shall find that the breadth of that of the ox is somewhat smaller than in the horse; and that the difference consists in the lesser development of the motor columns on the inferior (anterior) superficies of the chord. If, then, in the horse, comparatively few cases of hemiplegia occur, we can

readily imagine that they will be rarer still, or perhaps altogether absent, in the ox.

The different Causes of Palsy in the Ox.—The ox is comparatively little affected by the usual exciting causes of palsy in the horse. Neither the rapid nor the violent exertions of the muscular system are required from him, to which the horse is often doomed; and from mechanical injuries arising from falls or cruel blows, he is in a manner exempt; but he is liable to the influence of other causes, and of one more than all the rest,—too frequent exposure to cold and moisture.

Symptoms.—I will suppose you to be hereafter settled in a low, marshy, woody country. Early in the spring, and late in the autumn, and at every sudden and considerable change of temperature, you will have palsy prevailing among the cattle in your neighbourhood. Sometimes the attack will be mild, and the progress of the disease slow. The animal will cease to feed—he will low piteously—he will stand with his back bowed—he will stagger as he walks—he will almost drag his feet behind him, or the pastern will be flexed forward; it will bend to the ground, and the animal will walk upon it. The weakness will gradually increase during a day or two—he will struggle against the complaint as long as he can—the weakness will be referrible to the hind legs principally or altogether—it will shift from leg to leg, until at length he will fall, utterly unable to rise again.

At other times the attack will be more sudden; it will be so especially with milch cows that have been housed in the winter and turned out too early in the spring. It is scarcely credible what mischief one cold sleety night will effect. The cows are left, perhaps, apparently quite unaffected—at all events with nothing very serious the matter with them; and on the next morning five or six of them will be found *chilled*, palsied, and will continue helpless during several weeks. I knew one that did not get up for more than two months: she lay on her belly with her hind legs stretched out behind her, and had we not confined her, she would have sadly excoriated herself by travelling about the cow-house in this position. She got up at last, very much emaciated; and being brought as soon as possible into tolerable plight, she was sold.

When they are once down, it is impossible to calculate how long they will bear up against the debilitating influence of the disease. The appetite will return—it will become as good as ever; and these miserable animals will drag themselves along many a yard on their chest and belly in search of food. There is a case upon record, in which a cow was cruelly kept in this state eighteen months. They become, as you may suppose, sadly excoriated;

but they are much more so if they are slung; and he who is acquainted with cattle well knows that by this constant pressure on the abdomen—the elasticity of the belly which supports the enormous and heavy paunch being no longer called into play—inflammation of the rumen will occasionally be produced, and the animal will perish sooner than it otherwise would do.

Connexion between Rheumatism and Palsy.—But was not this rheumatism—lumbago? Very probably it was, in the first instance at least, for there is an intimate connexion between these diseases in cattle, and some other of our domesticated animals. I do not profess satisfactorily to account for this; I am merely stating the fact. The disease is often primarily rheumatism—inflammation of some of the joints; and that is necessarily connected with a great deal of pain, and lameness as the consequence of pain. To this rapidly succeeds structural derangement; the ligaments become thickened and rigid—the bursæ are loaded with a glairy fluid—the periosteum becomes thickened, and the perichondrium too, and the whole joint is enlarged. It is still rheumatism essentially, of the stifle, the hip joint, or the lumbar vertebræ; but palsy soon associates itself with or succeeds to the complaint, and loss of nervous power follows the difficulty or pain of moving. If the limb is but little used, or can be but little used, the supply of nervous influence is gradually lessened. This is agreeable to an invariable law of nature, that the supply of vital energy is proportionate to the demand for it; it may be increased, or it will rapidly diminish, according to the changing circumstances of the part.

Difference between the Causes of Palsy in the Horse and in Cattle.—You have then, gentlemen, a useful lesson here. Palsy in the horse was traced to injury or inflammation of the spinal chord, or certain portions of it, and that injury or inflammation producing congestion or disorganization. Palsy in cattle is generally attributable to such causes as weaken or destroy the irritability or the energy of the nervous system—the direct influence of cold and wet upon the spinal chord—or the propagation of the chilling debilitating effect from the fibrils distributed over the surface of the body to the centre of nervous power—or the lessened demand of power, from the inability to flex and to use the limbs in consequence of rheumatism or other affections of the joints. You will see, then, the importance of these inquiries into comparative pathology: they will provide you with interesting facts on which your practice may be securely based, and guard you against the false analogies by which you might otherwise be led astray. We shall have sufficient proof of this as we go on.

Further description of Palsy in Cattle.—There are two periods

in the life of the cow when she is more than usually subject to these paralytic attacks, and when they are, most of all, severe and likely to be fatal. The poor beast, not strong in health, is left in some exposed part of the farm until within a few days of her expected time of calving, or, perhaps, she is not taken in at all. The pains of labour come upon her—the cold blast blows over her, and she is in that state of excitation and yet of general debility which accompanies parturition. She becomes suddenly palsied—at least the parts nearest to those concerned in parturition yield to the ungenial influence to which they are exposed. I will not say that the uterus loses its power, but the animal is unable to assist its contractions by any voluntary effort; and the progress of the labour is delayed, completely arrested, and the calf or the mother, or both, are sacrificed.

Again:—She has got through her calving, but she experiences that relaxation and debility to which, to a greater or less degree, our artificial treatment has subjected all our domesticated animals, and, in this state, she is left quite exposed to the pitiless blast; or she is not so well taken care of as she should be, or she has been suffered, before her time of parturition, to attain a dangerous state of condition and plethora, and she too becomes suddenly palsied—“she drops after calving.” She has altogether lost the use of her hind extremities; and there she lies for ten days or a fortnight, before our remedial treatment restores to her the power of moving, or there perhaps she lies never to rise again.

Dr. Powell relates a case of palsy in the human being, which well illustrates the usual character of the same disease in cattle. “A watchman, on quitting his duty after a night of severe cold, was attacked by sudden and violent general pains in his limbs, which soon departed, and left him in a state of universal palsy of the muscles of voluntary motion. He had lost all command over the muscles of his limbs or trunk. His circulation was not affected in any cognizable degree, and his mind retained its usual powers. All proper remedies were tried, but he died.”

Palsy in Calves.—Calves, if they are turned out too soon at weaning time, and young stock generally, if thoughtlessly and cruelly exposed to the inclemency of the weather, are very subject to palsy. It begins with gradual loss of appetite; stiffness of the limbs; difficulty of walking; pain at every motion, expressed by plaintive lowings; trembling of the loins and hind legs; tenderness of the loins, the animals shrinking under the least pressure on the part; at length (unless they have been removed to some comfortable shelter, and otherwise properly attended to) they fall totally helpless, or they drag their hind limbs along, and rapidly pine away and die.

Causes continued. Tail Slip.—Some singular causes of this disease have been assigned, and among the rest that supposed origin of almost every ailment of cattle, *tail sooken* or *tail slip*. Professor Dick, of Edinburgh, has given a very humorous account of this. “Is there loss of appetite, of flesh, or of strength?—the tail is examined, and the disease is pronounced to be the tail slip: is the animal hide-bound?—it is the effect of the tail slip: or has paralysis of the extremities commenced?—it is produced by the tail slip. The disease soon passes along the cow’s tail to the back, and the animal loses the use of its legs.”

The tail of the ox, like that of other animals, was given to him partly or principally as a defence against the attacks of the insects by which he is annoyed. It is formed like a common whip. The bones become gradually smaller towards the tip of the tail; at their termination is found a soft space, and beyond this a firm cartilaginous portion to which are attached the long hairs by means of which the flies are driven away. The bones are the handle of the whip, the soft part is the connecting medium between the handle and the thong, and the cartilaginous portion with the hairs form the lash. The country people, or the country practitioners, unable to comprehend this, are frightened at the soft place which they find, and imagine that a portion of the tail has *slipped* from its natural situation, and that some great mischief must ensue, and, generally, loss of power in the whole spine.

Stagnation.—Mr. Knowles gives a more scientific and erudite account of the matter. He calls this disease “The Crook,” and says that it begins at the heart. “The heart is the cistern of the bloodvessels, and the blood being thrown too fast from the cavity of the heart into the arteries, and the arteries throwing it too fast into the veins, they become overloaded; then, when a coldness is brought on the whole frame, by cold dry winds, this disease comes on, by which the whole body is disordered, one vessel forcing another, till a stagnation is brought on.” What measures these gentlemen adopt in order to remove the evil we will presently inquire; but it is time to proceed to the lesions which are found after death.

POST-MORTEM APPEARANCES.—We have more opportunity of observing the lesions after death in these animals than in the horse. They are mostly slaughtered while they may be of some use to the butcher, rather than left to die; but we must not say what always becomes of those to whom the disease and not the knife puts an end. There is usually inflammation both of the membranes of the spinal chord, and of the chord itself about the dorso-lumbar, the lumbar, and the sacral regions. In lingering cases I have seen decided thickening of the membranes—

they have been studded with tubercles—hard concretions have been found upon them, and at some point or other the membranes of the chord have been considerably dilated, the substance of the chord has been softened. In the cow that was paralytic eighteen months the spinal marrow belonging to the four last dorsal vertebræ and the whole of the lumbar ones was softened; it was mixed with bloody decomposed matter, and surrounded by a thick yellow serosity.

Generally the affection is confined to the motor surface. The difference between the inferior (anterior) and the superior (posterior) surfaces of the chord, and of the membranes covering those surfaces, is very remarkable. Perhaps the horizontal position of the chord in the quadruped may, in some measure, account for this. In some cases, however, the whole of the chord will be similarly affected. I have often inquired of the butcher, when I could get him to put confidence in me with regard to these things, and the answer I have received has been, that he does not recollect a case in which the “pith” has not been more or less affected, and sometimes he has been compelled to remove it, or a part of it, from the spine, before he could expose the meat for sale.

Occasionally there is much infiltration of the muscles of the loins and thighs, with effusion of bloody fluid into the abdomen; and occasionally there are bony enlargements of the vertebræ, or scirrhus tumours attached to them, which sufficiently account for the impairment or loss of voluntary motion.

Consultation.—Here, gentlemen, you will not forget the kind of animal you have to do with, and the destiny of that animal. Sooner or later he must find his way to the butcher, and the profit of the master depends upon the condition in which the animal reaches that bourne. It will make but the difference of a few shillings whether the horse arrives at the knacker’s yard covered with flesh and fat, or reduced almost to a skeleton, and, therefore, unless the manifest sufferings of the animal warn you to desist, you protract your attendance almost to the last moment, hoping for some favourable change which may enable you to restore you patient to his owner once more fit for his service. It is a very different matter here. If the beast is in tolerable condition, it will not much concern the owner if the final disposal of him is somewhat hastened; but if the disease, as in the present case, is one that interferes not with the wholesomeness or the saleableness of the meat, it will be of considerable consequence to the proprietor, whether the patient is at once disposed of, or kept lingering on until there is little flesh left upon its bones, and that little good for nothing. You will, therefore, most care-

fully examine the nature of the case and the probability of a successful termination of it.

After a few years' practice you will probably be able to consult your own experience in the treatment of this disease : and I will tell you what that will be—that if the progress of the disease has been slow, and you have been enabled to combat it, while the animal can still toddle about you will generally succeed ; but not so often after the palsy has been perfectly established, and the animal has been down more than two or three days. Also, after a case of sudden attack if the patient has not been down longer than this time, but not so surely afterwards. Therefore with the consent, or at the request of the owner, you will see what the medical treatment of a few days will effect ; but you will not prolong it if rapid emaciation is coming on, or the character of the disease and the value of the meat appears to be changing : and one thing I am sure that you will not do,—you will not brutally fracture a limb in order to conceal from the butcher or the public the true cause of the lameness.

Treatment. Bleeding.—To a considerable degree the different character of the disease in the horse and in cattle will require a different mode of treatment. There has not been so much exposure to external injury, nor will there be so much inflammation of the spine and its membranes, exciting general fever, and thus destroying the patient : but if the attack is sudden and acute, or chronic rheumatism is degenerating into palsy, there will generally be fever to a certain extent, and there will be latent inflammation, which, in order to procure a successful termination, it will be necessary to subdue: therefore *bleeding* will be generally indicated. The indications of debility must be of a decisive character in order to forbid this remedial measure. If you bleed at all, you will probably abstract the vital fluid somewhat copiously. You will not forget the golden rule, in most cases—the altered character of the pulse must be your signal for stopping the bleeding. One bleeding can rarely do harm, and it may be productive of incalculable good : it will certainly do so if there has been effusion of blood or inflammation in the spinal cord. It may do good even if there has been serous effusion, for the absorbents may be roused to do their duty: they are the secondary depletions that wear down the strength of the patient.

PURGING.—The animal system of nerves can rarely be seriously affected without the organic ones speedily sympathizing. There is not a more constant accompaniment of paralysis in the quadruped than constipation, and even more so in cattle than in the horse. It is exceedingly difficult to remove, and until it is

removed there will not be the slightest remission of any of the symptoms. It is a remark confirmed by every day's observation, that the return of the natural action of the bowels is the first symptom, and the almost certain pledge, of returning health. Still I should be loth to administer any acrid purgative. A pound of Epsom salts, with half an ounce of ginger, should be administered after the bleeding, and with the important precaution of pouring it, by means of a long-necked bottle, or Read's patent syringe, slowly down the throat, in order that it may not acquire sufficient momentum to break through the floor of the œsophagean canal, and fall into the rumen and be lost. Smaller doses, consisting of half a pound of Epsom salts and four ounces of sulphur, should after this be administered once in every six hours, until the bowels are opened; and the purgative effect should be for a while kept up by a repetition of the sulphur.

Aromatics with the Purgative.—I have recommended a large dose of the aromatic with the purgative—no less than half an ounce of the powdered ginger—the best aromatic and tonic that can be administered to cattle, and here peculiarly applicable from its influence on the muscular coat of the intestines, while the power of the purgative is, perhaps, principally exhausted on the mouths of the excretory ducts, while the impulse of the aromatic is often speedily diffused over other and distant parts of the frame. In addition to this is the fact, that when the medicine, from being carelessly administered, has for a while, been lost in the rumen, that half insensible viscus has at length been roused to action by the aromatic, and its contents, in an unusual and unnatural way, have been propelled through the maniplus and into the abomasum, and so purgation has at length been established, and the animal saved.

I am glad that, with a little difference in the minutiae of practice, I am corroborated here by the opinion of my friend Mr. Sewell, of Brighton. He refers to the sudden chills from exposure to cold. "I have found," said he, "they laboured under great prostration of strength, with constipated bowels and fever; my practice was to give opening medicine, with, in the intervals between the physic, cordials to stimulate the stomach and induce the animal to feed, as there appeared great indifference to take food. Thick gruel was frequently given with the horn, with ginger and aniseed combined. From what I have seen of cattle under disease, I think they require and will do better with cordial than the horse, when given in certain and appropriate stages of disease." These are valuable hints, and they are founded on the peculiar temperament of cattle, and the structure of their stomachs. We should neither of us, however,

go quite so far as Mr. Knowles, who gives in one dose four ounces of mithridate, two of grains of Paradise, two of flour of mustard, two of turmeric, a quart of ale, and half a pound of treacle, and all this "in order to bring heat into the small pores, and give motion to the whole of the bloodvessels."

Palsy of the Sphincters.—One caution, however, I would give you. I have spoken of constipation being the usual accompaniment of palsy, and the removal of that constipation the signal of the commencement of recovery: if, however, at the first attack, or during the progress of the disease, the sphincter of the rectum or the bladder should become paralyzed, and the feces or the urine, or both, should be discharged involuntarily, the chances of recovery will be so materially lessened, that it will become your duty to advise your employer to have the patient slaughtered without delay, and while her carcass may be of any value.

You will cause a sufficient quantity of warm gruel to be frequently offered to your patient, and to be forced upon her if she will not voluntarily drink it. You will likewise cause injections of warm gruel to be frequently administered, in each of which a few ounces of Epsom salts have been dissolved, and to which a little ginger has been added. They may be useful, but from the peculiar construction of the lower and larger intestines in cattle, they cannot be so generally or so extensively serviceable as in the horse.

Aperients (continued).—Well, gentlemen, you have bled, and you have physicked, and you are continuing to stimulate the mucous coat of the intestines by the exhibition of sulphur, combined with an aromatic. You will do this with much propriety during the whole course of the disease; you will possibly promote the absorption of any effused fluid either in the cerebral or spinal mass; and you will keep up a gentle and manageable counter-irritation, which cannot fail of being, to a certain degree, useful; and the action which you are exciting and keeping up in the muscular fibre of the intestines and absorbents, may contribute to or prepare the way for the return of healthy action to other parts. Sulphur in cattle is like castor oil in the human being, its employment will generally be beneficial, and rarely and almost never prejudicial.

DERIVATIVES.—Palsy in cattle is in many instances connected with, or consequent on, or still essentially identified with rheumatism. This indicates a course of treatment which I cannot say would be altogether useless, but which would be much less efficient in the horse. Can we stimulate extensively and safely any other tissue or system? The integumental at once presents itself: it is extensive enough, and a sympathy seems to exist

between it and every other system. Can we increase the insensible perspiration? If we can, we are combatting the disease with powerful weapons. We are calling into action a derivative which in extent and degree of influence is unequalled. Is there any diaphoretic as it regards cattle? I believe that there is, and one on which considerable dependence may be placed. The *white* antimonial powder (I so designate it in distinction from the black sulphuret of antimony so much used in horse-practice), the *pulvis antimonialis* of the human practitioner, I do regard as a valuable diaphoretic in cattle:—I have generally used it in combination with opium and ginger. I have, or fancied that I have, both soothed and roused my patient—I have lessened the morbid irritation and the pain which existed in the spinal chord or its membranes, or the muscles nearest the affected part—I have accomplished this by the influence of the sedative, while, by increasing the energy of the capillary vessels of the skin, I have given an outward direction to the mischief, and have disposed the parts and the system generally to return to a state of healthy action.

Warmth, Clothing.—There is one auxiliary here, without whose co-operation all other appliances would be powerless, and of whose influence, and almost of whose name we seem to be in a manner ignorant in the greater part of our practice on all our quadruped patients—I mean *Comfort*. I am as ardent an advocate for proper ventilation as any one can be; I want no close confined cow-house, or stable, or kennel; no stationary empoisoned atmosphere: but I do want, and I demand for our patients, comfort; a comfortable habitation, a comfortable bed, comfortable clothing, and comfortable food; and, from the peculiar temperament of cattle, I particularly demand it for them. I believe that, with the exception of the rot in sheep, more than half the losses of the farmer are attributable, directly or indirectly, to a neglect of this. The palsied cow—place her if it be possible on a somewhat inclined surface that her urine and her feces may be as little as possible sources of annoyance; bed her up warmly; clothe her warmly; supply her with warm gruel; give her, but not in too great quantities, the food she likes best; turn her once or twice in the day; admit the external air in sufficient quantity to carry away every unpleasant or unwholesome effluvium, but suffer no current to blow upon *her*: thus you will adopt the best means to insure the effect of your internal remedies.

EXTERNAL APPLICATIONS.—Little dependence can be placed on most, perhaps I may more properly say on any of these, except in the early and curable stage of the disease; and then they must be thoroughly rubbed in, or they will not penetrate through

the thick skin of the ox ; and many a hearty rubbing with a brush or a wisp of straw, must take place over the whole of the lumbar region. Turpentine and hartshorn, and tincture of cantharides, must form the basis of your liniments. From setons I have never derived service: blisters have seldom risen well. A mustard poultice has done more good than either of them: but that on which the chief dependence is to be placed is a charge, covering completely the loins, containing the full proportion of cantharides, and from its adhesive quality continuing, for many a week, gentle and constant stimulus and warmth, and much mechanical support to the part.

Strychnine.—The nux vomica and the essential principle of it have been celebrated for their power in the cure of palsy. We should expect much from them, and especially from the strychnine; for it seems to be a point established by experiments on animals, that it exerts its especial and principal influence on the spinal marrow, acting as a stimulus: and, when it has produced death, effecting it by means of inflammation and congestion of the spinal chord. Now, in affections like palsy in cattle, which would appear to proceed oftener than otherwise from the debilitating effects of cold suddenly or too habitually applied, this would be the medicine to which, probably, we should first and with the greatest confidence resort. Our continental brethren have done so, and they were successful. I will give you the first recorded case of it: this is but common justice to M. Taiche:—

Successful Case of the Use of Strychnine.—“On the 22d of October, 1824,” says he, “a working ox lay down several times while at work, and was with considerable difficulty induced to get up again.

“On the 23d, the difficulty of rising was still greater, and he was left at home.

“On the 25th he was unable to rise.

“On the 26th I was requested to see him. He was five years old, and of moderate size and condition. He was lying down, and it was impossible to raise him; his skin had a dry harsh feeling, and stuck to the ribs; his loins, of the ordinary temperature, were tender when pressed upon; his hind limbs retained their natural sensibility and feeling, but the power of moving them was in a manner gone. The other functions did not seem to be affected. No fracture or dislocation of the spine could be detected after the most careful examination. Three drachms of the spirit of sal ammoniac (liquor ammoniæ) were administered, and a stimulating liniment was ordered to be rubbed into the loins. This was repeated on the 27th and 28th.

“On the 28th he was raised with great difficulty; he sup-

ported himself for a little while on his fetlocks, and when he was forced to move he went on his fetlocks. He presently fell down, and made some ineffectual attempts to rise again. The same treatment was pursued.

“*Nov. 2d.*—He was in nearly the same state. I then prepared a decoction of seven drachms of the nux vomica, boiled in a quart of water, and administered it to the animal.

“*3d.*—Nine drachms were given in the same way. He got up twice in the course of the day, and staggered a pace or two.

“*4th.*—He lifted himself on his hind limbs, his fore ones appearing to be weaker than ever.

“*6th.*—The countenance and appetite were good; the pulse was weak and slow; the general temperature moderate, and the sensibility of the skin natural: he made few efforts to get up, but lay quietly on his litter.

“*8th.*—He got up without assistance several times, but he found that he could not walk, and quietly lay down again.

“*10th.*—He could walk a few steps, and was evidently improving.

“*15th.*—He was apparently well. I advised that he should be fattened and sold as soon as possible. He did fatten quickly and satisfactorily, and was driven to Paris.”

Unsuccessful ones.—This case was imposing, and yet marvellous. Two doses only of the medicine were given, but they were enormous ones, and what we should have thought would have destroyed the patient at once.

I had a case of palsy in a cow some little time afterwards. I bled her and purged her, and then gave a decoction of six drachms of the nux vomica. I gave it with some degree of fear and trembling, although I had read, in Orfila, that the same quantity had been given to a goat without inconvenience. It had no effect on the cow. On the next day but one I repeated the dose; that had no effect; it neither alleviated nor increased a single symptom; and the animal died two days afterwards.

I had another opportunity afterwards of putting the power of the nux vomica to the test. I gave three successive doses, on alternate days, of an ounce of the nut, but likewise without effect. We have not many of these cases in the vicinity of the metropolis, and therefore I have had no chance since of putting the power of the *strychnine* to the trial; and I do not know that I should attempt it had I the opportunity, unless, after a fair confession of the truth, I had the full permission of my employer, or he would sell me the animal at such a price as I could afford to give. We want some experimental farm, with a veterinary school attached to it, where these experiments, and many others

on the diseases that destroy so many valuable animals, might be fully and fairly made. The private individual can scarcely be expected to consent that his property should be risked in this way; and the practitioner would not be justified in thus risking it without the consent of the owner.

The Cure of Tail-slip.—I promised to tell you what means of cure were adopted by the believers in *tail-slip*. The lower part of the tail has slipped out of its place; there has been great derangement of the parts, and the mischief is extending over the whole of the spine. Well, what is done? “Why,” says Professor Dick, “they cut off the cow’s tail, to be sure, and thus get rid at once of the disease and the cause of it. Some, however, less cruel or more scientific, make an incision into the under surface, allow the wound to bleed freely, and then bind up the part, filling the wound with a mixture of tar and salt. But does not this often effect a cure? Why, the stimulus of the knife and the salt and the tar are no trifling matters; and if only a little is wrong with the animal, the cow at once springs upon her feet; or, if much blood is allowed to escape, relief is given, as it would have been by blood drawn from any other part.”

I cannot help admiring how profoundly Mr. Parkinson treats of this disease. “If you take hold of the tail and turn it upwards, the end will drop down, or with your fingers you may perceive a separation of the bone. The remedy is, to cut a piece off the tail end, and let it bleed. Farriers open the tail and put in some kind of salve through ignorance, and by way of making a bill; there being no necessity for this, as I have made a cure by cutting the tail only: but ever since I have discovered the great efficacy of *chamber-lie*, in all cases I have given that, for it is a security against any farther complaint.”

Well, but neither the operation nor the *chamber-lie* are always effectual. The extremity of the tail has not only slipped out of its place, but the animal is *bewitched*. Why, then a small piece of the rowan-tree is bound round the tail, and the cow is got up and held up by main strength; and a black cat is procured and made to pass three times round the cow’s body, over her back, and under her belly. The cat mews and scratches might and main; and after having sufficiently mauled the poor patient, and frightened her out of her wits, and out of the disease too, contrives to make its escape, carrying away every ailment, real and imaginary.

Gentlemen, I will not detain you longer with this nonsense.

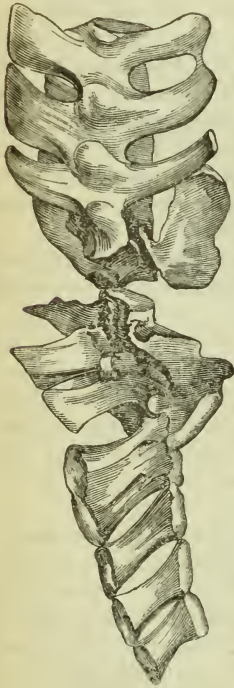
COMPLETE FRACTURE OF THE SPINE.

By Mr. F. FULLER, March, Cambridgeshire.

ON the 25th of March, an aged horse, the property of Earl Fitzwilliam, which was rode by the huntsman while galloping over a ploughed field during the chase, dropped his hind legs into a grip; he immediately fell, and made several attempts to get up again, but was unable to do so. On account of my being upon the spot at the time of the accident, I was requested by the huntsman to stay and attend to him.

I found it was impossible to get him up or even remove him from the spot, his hind quarters being completely paralyzed; they were also quite insensible. The case was at once obvious, and very little was done by way of treatment more than making him as comfortable as our situation would allow.

As I considered the case entirely a hopeless one, I reported it as such by an express to the Earl's head groom at Milton Hall, and at the same time requested him to send their veterinary surgeon to see the horse, for the satisfaction of both parties. On the following morning, Mr. Richardson, of Peterborough, arrived; and, being perfectly convinced that the case was hopeless, he ordered the horse to be immediately destroyed. I examined the spine after death, and found it fractured, as is represented in the annexed drawing. There were several pieces of detached bone, and the spinal marrow was completely divided by the displacement of the fractured bones.



ENTERITIS IN A GOAT.

By Mr. JOHN STEWART, Andersonian Veterinary Professor, Glasgow.

ON Thursday, the 31st of April, a goat, the property of a lady, appeared to be dull; she refused her food, and was purging. A small quantity of castor oil was given that night; and

on Friday, the purging still continuing, and the excretion being tinged with blood, a tea-spoonful or two of some astringent mixture was given. On Saturday the purging had nearly ceased, but otherwise the animal appeared to be rather worse: rumination was suspended, and all kinds of food refused.

I saw the goat about three o'clock on Saturday. I found her lying; unable to rise; quite heedless of all around her; the pupil of the eye was widely dilated; the horns and ears hot. The limbs were powerless; at least, though she could move them a little while lying, she could not stand, nor put out her legs when she was held up. She moaned a little; moved her head to and fro; butted at the hand when her head was touched; and she constantly attempted to fill her mouth with straw, which, after getting, she did not place between the grinders, but seemed content to bruise between the vacant spaces of the jaws. I suspect that she could not open her mouth very widely. The conjunctiva was pale; but the heart beat vigorously, and the veins on the surface were full. The jugular vein was opened: the blood flowed freely; it was more like arterial than venous blood. An ounce of sulph. magnesiæ was given in water.

At night, about nine, she died, having gradually become very restless, and often attempting to change her position without the power to rise.

The body was examined next morning. The paunch contained a considerable quantity of food, which was moist and healthy, and composed of beans, bran, and hay. There was very little air. The second and third stomachs each contained a little food, moister and more perfectly comminuted than that in the first. The fourth was moderately distended with air, but void of everything else. The intestines, with the exception of the cæcum, had nothing in them but air, and of that just sufficient to shew their form. A portion, about a yard long, was intensely inflamed. All the coats and the connecting cellular tissues were gorged with dark venous blood; the intestine was thickened, apparently by effusion into the cellular connexion. The peritoneum was less affected than the other coats. The brain and spinal marrow could not be examined. There was no disease in the chest, and the muscular and other textures appeared not to have undergone any change.

The original disease, I think, was dysentery. Some musty bran, which had been given to the goat on Wednesday, was blamed for producing purgation.

I regret that the brain could not be examined; and the more, since an old fellow-pupil, Mr. Gardner, has informed me, that in examining the head of a cow that died of puerperal fever, he

found extravasations of blood on several portions of the brain, and a large quantity in the lateral ventricles. This may be an accidental or an unusual occurrence; but I fear that the difficulty of examining this important organ renders us too apt to neglect it. It would not be at all wonderful, though it were found that puerperal fever and enteritis, and some other diseases, are the result of certain organic or functional derangements of the brain. There is evidently some connexion between them; and it would be well to know which is the cause of the other. I am persuaded that much remains hidden simply because it is not sought.

BROKEN WIND—FRENCH OPINIONS AND JURISPRUDENCE RESPECTING IT.

THE certificates of examination for soundness given by veterinary surgeons are oftentimes very difficult to indite, and they give occasion for much good-natured raillery and ill-tempered criticism. I should think that there are few things which a young man dreads so much as the inditing of these recorded professional opinions—and there are none on which his reputation and success are more dependent. I have been fortunate enough to obtain possession of some of these precious documents, under the signature of almost every veterinary surgeon about London; and it affords me a great deal of amusement now and then to read and to compare them. In one case I have obtained six certificates that had reference to the same horse, and a horse that I happened to know something about. At a future time I may, perhaps, send them for insertion in *THE VETERINARIAN*, but that must not be just at present.

I wish one of the Editors of *THE VETERINARIAN* would take up this subject, and give us the *beau ideal* of a certificate relating to some of the most frequent “causes of unsoundness.” A very entertaining paper might be made of it, and a very useful one too. In the mean time I send you, from the “*Journal de Rouen*,” a collection of certificates with regard to a supposed case of broken wind. A gentleman bought a mare, which he soon fancied was broken-winded. He had her examined by his veterinary surgeon, who certified that she was broken-winded, and he therefore wished to return her. The seller had her examined by two gentlemen, one of whom was the Professor of the School of Alfort. The private practitioner said that she was not broken-winded, but that her breathing was not natural—“*elle a une affection connue sous le nom d’alteration du flanc.*” I am no veterinary surgeon, but happen-

ing to have by me the best, I believe, French dictionary of terms used in medicine, surgery, &c. I turned to the word alteration, and I found the following explanation: "*Alteration of the flank*, when the movements of the flank are frequent and irregular," a very conveniently vague manner of explaining the term—at least when it is adopted by a veterinary surgeon. It is a very comfortable thing always to have a loop-hole for escape. The gentleman meant to say, that there was some disease of the chest: it did not suit him to state what disease it actually was, but he was sure that it was not broken-wind.

After him follows the learned Professor, and he, like many other professors of all arts, takes a great deal of care of himself, and never says that which will not, with a little ingenuity, bear two opposite meanings. M. Renault says, that "the mare was not sound, but that she was not broken-winded." A truly luminous and professor-like exposé.

The purchaser wished to return the mare because she was broken-winded, he comes to the point at once; but because his own veterinary adviser will own to nothing more than "an alteration of the flank"—manifest unsoundness, however it might be explained—and M. Renault, while he confesses the mare to be unsound, will not allow her to be broken-winded, the seller will have nothing to do with her. He was justly punished for his dishonesty. He was compelled to take her back, and pay all costs of suit.

The purchaser had gone the right way to work: he procured the certificates of twelve veterinary surgeons, to which were added those of the three "*experts*," to whom, in these cases, the matter is always referred by the tribunal. I send you these certificates as extracted from the "*Journal de Rouen*." They were interesting to me, and much enlightened me on the subject of broken-wind. It is not often that you would get so many certificates bearing on the same point; and I send them to you, as giving your readers—containing, I hope and believe, almost all the veterinary surgeons in Great Britain—some notion how French veterinarians conduct the business of certificates.

"I, the undersigned Joseph Lebert, Veterinary Surgeon at Neufbourg, do certify that M. Delarville, jun., requested me to examine a mare, &c. And after an attentive examination, during as long a time as I wished, I have ascertained that the mare is in a state of perfect health; but, nevertheless, there is in her flank a decided '*contre-temps ou soubresaut*,' a symptom characteristic of broken-wind, and, therefore, I declare her to be broken-winded.

"*Rouen, 25th May, 1835.*"

The applicability of the term "contre-temps,"—misadventure, awkwardness—I hardly understand; except one action of the respiratory muscles being insufficient to perfect the act of expiration, it was necessary that another should immediately follow it. My friend, the "Dictionnaire des Termes," does me some service as to the "soubresaut." I turn to that word, and I find "a sort of palpitation which manifests itself in the epigastrium," as indefinite a definition as that of M. Renault, or his friend; but I then go to "pousse," and there I read "a malady of the horse recognized by the inspiration which is accomplished after two efforts." Here I am quite at sea. I had always supposed that, in a broken-winded horse, the inspiration was performed at or by one effort, but that it required a second effort of the same muscles, or other muscles were summoned to the aid of the usual ones, in order to accomplish the expiration. Such, at least, is the doctrine taught in your Journal, on whose valuable pages I am now obtruding my nonsense, and the doctrine to which I heartily subscribe.

The mischief, however, does not rest with M. Lebert, but with the printer of the Dictionnaire, who has substituted *in* for *ex*. Therefore with a protest, not urged very strenuously, that the mare could not be "in a state of perfect health," while this double action—this soubresaut—clearly indicated disturbed function, I pass on.

"I, the undersigned Louis Hippolyte Baquet, &c. &c. of Bourgaichard, have examined this mare with much attention, while she was undisturbed, after she had been exercised, and while she was eating her corn; and she appeared to be in good health, except that in breathing she had that irregular movement of the flank cut short by the soubresaut, which constitutes broken-wind.

"Rouen, 26th May, 1835."

I have not a word to say against this certificate. It is an honest, straightforward account, and does M. Baquet credit.

"— Bosquet, V. S., Rue Cadet, Paris, &c. &c. I have examined this mare with attention, during repose and after exercise; and I found that the motion of the flank was irregular, and interrupted by the *contre-temps*, which constitutes broken-wind.

"Paris, 3 July, 1835."

"I, the undersigned Eloi Barthelemy, Ex-professor of the School of Alfort, Veterinary Surgeon at Paris, and residing in St. George's Street, No. 21, do certify that this day, the 4th of July 1835, at seven o'clock in the morning, I have

proceeded to visit a mare, &c. in order to determine whether she is or not affected with broken-wind. Having examined this animal before she was disturbed, and immediately after she had been exercised, I have recognized that the movements are not regular; that they present the *contre-temps* or *soubresaut*, which is considered as the characteristic symptom of broken-wind; and, therefore, I give it as my opinion that the said mare is actually broken-winded.

“*Paris, 4th July, 1835.*”

“I, the undersigned Pierre Nicolas Legrec, Veterinary Surgeon of Paris, No. 19, Hanover Street, do certify that a mare was shewn to me, &c. I have examined this mare with attention in a state of repose, immediately after exercise, and while she was eating her corn; and I have found that she appeared in good health, but that she had in respiration an irregular movement of the flank, and interrupted by *contre-temps*, or a kind of *soubresaut*, which constitutes broken-wind, an affection acknowledged to render her unsound.

“*Paris, 5th July, 1835.*”

“I, the undersigned Jaques Nicolas Barthélemy, Ex-professor of the Veterinary School of Alfort, Veterinary Surgeon of Paris, Lille Street, No. 39, Chevalier of the Legion of Honour, certify that I have this day, July the 6th, 1835, visited a mare, &c. After having attentively examined the said mare in repose, immediately after exercise, and while she was eating her corn, I observed that she had those altered movements of the flanks, and the respiration interrupted by the kind of *contre-coup* which characterize broken-wind. On this account I believe and declare that the said mare is broken-winded.

“*Paris, 6th July, 1835.*”

I will have mercy upon you, and give you merely the pith of the six next certificates.

Jean Claude Bourguard, 11, St. Nicolas D'Antin Street, observes that “the movements of the flanks were not regular, but presented the *soubresaut* which is considered to be the symptom of broken-wind, and believes her to be actually broken-winded.”

Préau, the Assistant Veterinary Surgeon to the Prefecture of Police of the department of the Seine, “recognizes in her the characteristic symptom of broken-wind.”

Paul Jacques Chef, Chevalier of the Legion of Honour, formerly belonging to the Horse Grenadiers of the Imperial Guard, now one of the veterinary surgeons attached to the Tribunal of Commerce of the department of the Seine, and residing at No. 124, St. Lazarus Street, “after a scrupulous examination of the

mare, finds that the said mare has broken-wind, which is proved by the *contre-temps* or *soubresaut*, which he remarked in the irregularity of the movement of her flanks, and therefore he affirms that this mare is really broken-winded."

Pierre Alexandre Rossignol, 28, Basse du Rempert Street, Paris, "after having examined the animal, first, when quiet in her stall and fasting, and, secondly, after she had eaten her corn and been exercised during ten minutes or a quarter of an hour, finds that she is in good health; except that she has that irregular movement of the flanks, interrupted in the act of expiration by the *contre-temps* or *soubresaut*, which constitutes broken-wind, and therefore he pronounces this mare to be broken-winded."

Baptifolier, veterinary surgeon attached to the king's stables, and residing at No. 11, Rue du Colisée, "certifies to those whom it may concern, that he visited a mare in order to ascertain whether or not she was broken-winded; and that after having examined her in the usual way, he pronounces her to be actually broken-winded."

Jacques-François Préau, of 31, Neuve Street, Augustin Street, certifies that "being required to visit a mare, he did so visit her, and found her to be broken-winded."

Lastly, three veterinary surgeons, MM. Leblanc, Huzard, and Crépin, are appointed by the Tribunal of Commerce of Rouen to examine the said mare; and then, after assembling at the house of Le Sieur Leblanc, a mare, of a certain long detailed description, was shewn to them by Le Sieur Leblanc as the one that was sold on a certain day at Rouen, and that was the subject of the present dispute: and they thus decree, "We, having examined the mare, firstly, when quiet and fasting; secondly, while she ate her corn; and, thirdly, after being trotted during ten minutes, have recognized the *soubresaut* of broken-wind, well-marked and constant when she had been undisturbed, before her exercise and before her feeding; and the said mare, according to the report of M. Leblanc, having always fed well since she was brought to his infirmary, that is to say, from the 15th of June to the present date, we cannot perceive any trace of recent disease; and, taking these circumstances into consideration, we affirm that the aforesaid mare is broken-winded, and, consequently, unsound."

I thought, Messrs. Editors, that it might amuse you and your readers to compare all these opinions given by the first veterinarians of the present day in France on the subject of broken-wind. To me, who personally know many of the men, they possess considerable interest. They are characteristic, from

the short business-like dictum of MM. Baptifolier and Préau to the prosing opinion of certain of the professors, "like a wounded snake dragging its slow length along." They are so many *tablets vivans* moving before me. I do think that in process of time I must have a somewhat similar exhibition of certain persons nearer home,—we should have more variety and more character and more amusement; but, first of all, I should like to shew up, in no exaggerated caricature, yet in all their native deformity, some of your deadliest foes, and the foes of the veterinary profession. I pause, however, for the present.

AN OBSERVER, AND A LOVER OF THE VETERINARY ART.

We readily admit this *jeu d'esprit* of our lively correspondent; and for the interview which he has permitted us to have with so many of our brethren abroad, and the slight but characteristic conversation we have had with them, we thank him. He has borne, however, a little too hard upon these gentlemen. Most of them seem to have hit the nail upon the head, and their harmless peculiarities we can readily forgive. We doubt whether so many English veterinary surgeons would have given so consistent and unobjectionable an opinion. As to actors nearer home, we think that we may so far rely on the innate good feeling of this lover of our art as to be assured that he will not be unjust or unkind; and, as to the other sort of exhibition to which he alludes, he was merely joking with us. He knows us better, and is a truer "lover of the veterinary art."

CONTRIBUTIONS TO COMPARATIVE PATHOLOGY.

No. II.

By Mr. YOUATT.

ENTERITIS—RHINOCEROS.

July 14th, 1834.—HE was apparently well yesterday afternoon, and exhibiting the very best of his clumsy agility. In the night one of the watchmen thought that he was a little uneasy. In the morning he was evidently so. He was let into the paddock that he might take exercise, which alone often has considerable effect in relieving colicky pains in the quadruped. Two of the men also were set to work to rub his belly well, to which he quietly submitted, and an ineffectual attempt was made to administer castor oil. He continued to get worse and worse, and at eleven o'clock we were fortunate enough to get

him into his own habitation, where he might be a little more manageable, but we rightly anticipated the struggle which followed. The friction of his belly was continued, and, as he rolled, hot water was poured upon it; and, taking advantage of one of his rolls, we poured about ten ounces of castor oil and an ounce and a half of laudanum down his throat. We then well rubbed in spirits of turpentine over the whole of his belly. He began to be easier, and ate two or three small carrots that were offered to him. We took advantage of this, and concealed twenty-six grains of calomel in a carrot, which he ate.

About four o'clock he began again to roll as much as ever. At all hazards no time was now to be lost. We put a strong collar round his neck, and hampered him with ropes on each side, and forced three pints of castor oil and half a pint of laudanum upon him. He was exhausted in the struggle, for a violent one it was, and he lay for a while motionless. His pains, however, soon began to return, but with diminished force, and after some time they abated. Injections of warm water with castor oil were administered, to which he sulkily submitted. About eleven o'clock he drunk a gallon of warm water, and became comparatively easy. He slept fairly, but his slumbers seemed to be disturbed by slight twinges.

15th, 6, A.M.—He has not been seriously in pain during the whole of the night, and he is now stretched at his length. After rousing him he ate a few carrots, and searched about for more—after all, however, he ate but a few. I ordered a warm bran mash to be made for him, into which a few carrots were to be shred, and he was not to be farther disturbed until ten o'clock, when all hands were to be mustered.

10, A.M.—There has not been any evacuation, but he is easy; takes a few carrots, and picks some of his straw. I was very unwilling to hamper and fight with him, in order to get down more castor oil, and probably to disgust him, and therefore I hollowed out a carrot, and put in it fifteen grains of calomel and two of opium. He took it, and, although he did not like the taste of drugged carrot, he fairly ate it. He was then roused, and turned out into the paddock. We should by this ascertain his strength, and the puddling about the paddock might induce an evacuation. He at once set himself to work to nibble grass, and so employed himself for an hour, although, after all, he could not obtain more than a few mouthfuls, for the paddock was quite bare. I desired that he might be kept out as long as he moved about, and seemed to be comfortable, but to be returned to his house as soon as he became leg-weary. In another half hour he began to look about for a place to lie down upon; he was taken

into his house, warm water was offered to him, which he drunk, and he ate some tares. No evacuation.

5, P.M.—Easy, occasionally picks a little of his food. No evacuation. All our strength was mustered, and three and a half pints of castor oil and half a pint of laudanum were poured into him, and washed down with a little warm water. After being loosened he almost immediately began to eat his tares, with a small portion of which he was occasionally supplied; and when he had no tares, he ate his litter.

9, P.M.—Easy, apparently doing well, but no evacuation. He has now more than seven pints and a half of castor oil and forty grains of calomel in him, besides a pint of laudanum and two grains of opium. Let him alone for the night.

16th.—An evacuation has at length been procured, but not at all of a purgative character. The animal, however, has more of his usual appearance and habits, and we trust that we may regard him as safe. Still I wish that his bowels were well opened.

6, P.M.—Evening coming on, and there being no other evacuation, and the animal evidently every now and then making ineffectual attempts to void his dung, the strength of the garden was mustered, and three pints of castor oil were given. He was scarcely released from the ropes, when he voided a small quantity of hard feces.

17th.—This morning there is no indication of absolute pain;—he feeds when he is coaxed to eat, and he ate a small quantity both of tares and hay of his own accord, but his appearance is not satisfactory. He is always lying down—he gets more and more dull—more manageable, because he is more dull and stupid. He certainly has a strange quantity of purgative medicine in him, but it has not had the desired effect. His bowels must be opened;—let the day pass, and see what it will produce.

9, P.M.—No evacuation, and he is in the same dull and listless state. Give him a pound and a half of Epsom salts in solution with two drachms of ginger. He had the whole of it.

18th.—There has been an evacuation in the night, but it is small in quantity, and hard. He scarcely feeds—he lies lazily about, and his mouth and muzzle are getting very hot. His bowels should be opened, yet he has taken an enormous quantity of medicine. If I proceed, may I not raise that which I shall be unable to subdue? Supply him with plenty of warm water, but give no medicine. We have tried, but it is now utterly impossible to administer an enema.

19th.—He appears to be quite easy—but he lies about dull and listless—he does not eat more than half his usual quantity

of food. There has been another evacuation, but, like the rest, it was small in quantity, and hard. Tempt him with carrots and green food, and remove his hay.

20th.—Scarcely any change. We must no longer play with the thing. Give one pound and a half of Epsom salts, and three drachms of ginger.

21st.—The state of the evacuations just the same, but he looks more lively, and feeds better. He is evidently improved.

22d.—He began last night to call a little for his food; the first time he has done so since his illness. This morning as soon as he heard the keeper he sung out lustily for it. He eats as well as ever, and toddles about his place in his usual manner. Give him very little hay, but supply him with mashes, carrots, and green food. I trust that now we may regard him as safe.

23d.—His appearance is most gratifying: he will eat any thing that we give him—he is regaining all his usual habits—in fact, he is well. Give him a small quantity of rice and hay; supply him with carrots and tares, and lucern, yet not too plentifully even with these.

24th.—Doing well.

Sept. 17th.—Feeds well, is in good spirits, but begins to eat his own dung, and lap his urine, and these were precursor symptoms of his last illness. Give him two quarts of castor oil in his water.

18th.—He took three-fourths of his oil, but it has not operated. Although he is not absolutely ill, he is dull, and does not feed well. He is evidently uneasy, and every now and then seems disposed to roll. Try to give him one pound and a half of Epsom salts in solution. He was hampered as formerly, and was very decently quiet about it; and we proceeded to drench him: but the moment he tasted the salts, he began to fight in the most furious manner. He broke his collar, and broke the ropes, and would have had the beam and the house down, if we had not released him; and no sooner was he released, than he put every one of us to flight. He had had now a little colicky pain; but on the former occasion he laboured under the prostration of strength and spirits which often accompanies enteritis.

19th.—He is better—he has been amusing himself by galloping about. He has had two or three evacuations, but he is not well. Watch him.

20th.—Apparently recovered:—strike him off the sick list.

PHTHISIS: LIONESS—CURVATURE OF THE SPINE—THE
HYDRIODATE OF POTASH.

June 3d; 1834.—She has curvature of the spine in a slight degree, but increasing within the last few months. She did not eat her food last night, and appears a little dull. Give six grains of calomel.

5th.—The medicine did not operate. She does not feed so well as usual, but she is active and plays.

13th.—I do not like her; she gets thin, is careless about her food, and her coat stares; but she is playful, and takes her usual exercise. She is somewhat constipated. Give four grains each of calomel and antimonial powder.

15th.—I have heard, I have seen her cough, and I am afraid. It is painful, cut short, and the fit continuing two or three minutes. She is thinner, but cheerful. The last medicine acted well. Give her morning and night a grain of calomel and three grains of antimonial powder.

17th.—The more I study her, the more I fear. She does not feed with appetite, she loses flesh, and she coughs. Give three grains of emetic tartar.

19th.—The emetic produced its proper effect, and she is better. Give three grains of the hydriodate of potash every night.

22d.—Very little alteration: continue medicine.

23d.—She has suddenly become worse. The cough is frequent, short and painful—the heaving sadly laborious—she gets rapidly thin, and the expression of the countenance is melancholy. Mr. Bennett and Mr. Yarell met me in consultation: I had their permission to give the hydriodate of potash a fair and full trial. Give six grains every night—lessen her quantity of food, and let it chiefly consist of that which has been freshly killed, and is yet warm.

25th.—She seems to be a little better—her breathing is easier, slower, and she is more cheerful. Give four grains of the hydriodate of potash morning and night.

29th.—The breathing and general appearance are certainly improved. Continue medicine.

July 1st.—She does improve—the breathing is quieter—the countenance is clearer—the appetite good, *but she coughs*. Feeding and medicine as before.

4th.—Still apparently improving. Continue treatment.

9th.—She *does* improve, although she occasionally coughs—the cough has more of its natural character. Give five grains of

the hydriodate morning and night; still continue to shorten her food, and let it be fresh, and, if possible, warm.

11th.—Going on satisfactorily.

14th.—Still doing well. Continue treatment.

17th.—After long leaning over her, and handling her, and studying her, I am not satisfied. There is a laboured effort, a double one, at expiration; and there is a short cough which cannot be *heard*, even at the distance of a couple of yards; but it can be seen. There it is, and, while that remains, fear will mingle with or preponderate over hope.

22d.—I have again examined her. The obscure cough can yet be seen, but not so easily, nor is it so frequent: hope springs exulting. Continue medicine.

30th.—Every examination is more satisfactory than the preceding one. Nevertheless, continue medicine.

Aug. 3d.—Discontinue medicine, but watch.

13th.—I have again seen and heard her cough, and the respiration is a little accelerated, and laborious. Give four grains of the hydriodate of potash every morning and night.

20th.—I do see and hear the cough. Continue medicine.

25th.—She is getting thin; her coat is rough, and her countenance anxious. Increase the iodine to six grains, and somewhat increase the quantity of food.

27th.—She feeds well, but I hear her cough, and see her waste. Continue the iodine,—it is our last hope. I do not like her.

Sept. 12th.—I have been in the country for a fortnight. The medicine has been continued during the whole of the time. She is decidedly better; she has gained flesh, and the cough has not been heard for the last few days: she eats every thing that is given to her, and there is health in her countenance. Nevertheless continue the medicine.

17th.—Going on well. Continue medicine.

25th.—All is delusive. There is evident and sudden drooping and weakness of the hind limbs: after she is made to walk once or twice round her den, she almost drops. The curvature of the spine seems to have increased; perhaps it is only her drooping behind that makes this appear more prominent. Suspend the exhibition of the iodine, and give three grains each of calomel and antimonial powder.

29th.—She droops more. I ventured into her den. The projection on her spine has increased, and it is hot and tender. Foment as well as it can be managed. Continue the calomel and antimonial powder.

Oct. 1st.—She comes to have her back fomented, and she walks a little better. Continue medicine.

5th.—This appearance of amendment, like some preceding ones, is delusive. She can scarcely be induced to get up, and lies down again immediately. Her eyes are sinking in the orbits, and there is a dimness stealing over them. If possible, get her to take two grains of the sulphate of quinine daily.

8th.—The quinine has been given. She is not worse. Dr. Marshall Hall was so kind as to examine her with me. We agreed in attributing the loss of power over her hind limbs partly, if not entirely, to pressure on, or inflammation of, the spinal chord by the evident increase of the tumour on the spine. Counter-irritants were talked of, as a seton or a blister; but, then, the first it was impossible to apply; the second might be imperfectly applied *once*: but how far would one slight blister (for it could not be more) reduce a bony enlargement of so long standing? We agreed that, with such a patient, in one way only could inflammation be somewhat abated, and the progress of the evil somewhat retarded, viz., by the application of cold. It was determined that this should be tried, and we ordered that the back should be well bathed morning and night with water from the well. The tonic medicine to be continued.

11th.—She bears the bathing of the back with cold water very well—she even seems to like it; at least, she comes to the bars when she is ordered so to do, and stands quiet while the bathing process is going on. If I could believe it, she is a little better. Continue the cold application, and give four grains of the quinine. I am induced to double the dose of the tonic, from the suspicion that, while the weakness or paralysis is mainly attributable to the spinal tumour, the long continuance of large doses of the iodine may have had something to do with it. We certainly succeeded beyond all expectation in removing the cough and all the symptoms of phthisis; but while we procured the absorption of the tubercles, may we not have a little undermined the strength of the system? She is a good creature, and she gives us every chance.

14th.—She takes her double dose of the tonic, and submits to the bathing well. She evidently stands firmer on her hind legs: she begins to take her usual walks, and she has even challenged her companion to play.

19th.—She is improving. Continue medicine.

24th.—Still doing well. Continue treatment.

29th.—I have again heard the cough: I heard it twice. Give four grains of the hydriodate of potash every morning, and the sulphate of quinine at night.

31st.—Does not cough so much. Continue medicine.

Nov. 3d.—So much better that I shall discontinue to report

concerning her, unless some untoward change should take place. However, continue the medicine.

Dec. 2d.—No cough—eats well—in good spirits. Dismissed.

13th.—She continues well; but, I think, the tumour on the back is enlarging.

1835, January 9th.—I do not like her. I have been watching her for two or three days, and her breathing has been gradually quickening, and I have heard her cough; the peculiar diagnostic cough so often described. She feeds well, and is playful. Give six grains each of calomel and antimonial powder.

12th.—The powder acted well; but the quickness of breathing and the cough remain. Give four grains of the hydriodate of potash morning and night.

13th.—Very little difference; but, if any, she breathes more freely. Increase the dose of the hydriodate to six grains.

17th.—On the whole she improves: she eats well, and plays with her companion; but the heaving of the flanks shews that there is some serious disturbance or mischief within.

12th.—Still I should say that her strength, spirits, and appetite, are unaffected; but there is a fearful difference between her breathing and that of the lion.

24th.—This dreadful disease is now developing itself once more in good earnest. She wastes; it is as much as I can say—but she does: the anxious depressed countenance has returned; and the breathing is not relieved.

28th.—Her breathing is becoming progressively more laborious; and, although she eats her food in the course of the night, it is with less appetite. Give eight grains of the hydriodate morning and night.

Feb. 4th.—Considerably worse: the cough frequent and distressing. She lies on her back, and heaves violently. The appetite is nearly gone. Leave off all medicine, and coax her to eat.

11th.—She has been gradually getting worse and worse, and must be near her end.

12th.—Died. She was much emaciated externally, but she had a considerable quantity of internal fat about her. The lungs had a singular appearance: parts were emphysematous; parts hepatized; parts somewhat congested; none healthy, and nowhere any intense inflammation. There was not a portion of the lungs that was not thickly set with tubercles: a few small ones were disposed to suppurate; and many of the larger ones were connecting themselves together, and assuming a carcinomatous character. The emphysematous edges everywhere assumed the same character in a singular way. There was a deposit in and

between and about the ruptured cells, and that was becoming hard and carcinomatous, many of the cells remaining open; tuberculated knots of a harder character occupied the place of other cells. The hepatized portion was filled with tubercles, scarcely any of which were suppurating. This was a plain and interesting case of phthisis, yet not terminating in the usual way, in the formation of vomicæ: no intense inflammation exhibited anywhere, but the animal destroyed by the irritation and exhaustion occasioned by the overworking of the little portion of lung that remained for the purpose of breathing. It is an interesting and instructive case. It well exhibits the power of the hydriodate of potash over tuberculated lungs. This animal was thrice recovered from the brink of death; but either we did not continue the medicine sufficiently long after the recognizable symptoms of phthisis had disappeared, or there really is an obstinacy in this malady which says to every medicament, "hitherto mayest thou go, but no farther."

On the next animal that can be cheated when labouring under this complaint, the full power of the hydriodate shall be tried; nothing but an appalling emaciation in the patient shall suspend its exhibition. Although this animal was much wasted without, there was a considerable reservoir of nutriment within.

The spine was not so much diseased as I expected. There was a slight curvature at the dorso-lumbar region, and an enlargement of the bodies of the vertebræ; accounting for the partial paralysis, but not necessarily, or probably, having much to do with the essential disease.

A CASE OF ACUTE FOUNDER IN BOTH FORE FEET.

By Mr. GEORGE CLELAND, Rosewell, Mid-Lothian, N.B.

ON the 2d of August, 1831, I was called on to attend a black mare, of great value, that had been ill for about three weeks, the property of Sir John Hay, Bart. I found her pulse above 70 per minute, and her breathing was very laborious. Both soles of her fore feet were burst, and there was an oozing from the coronets. I was informed that she had been bled often, and poultices applied to her feet: her body was all covered with sores, particularly about her elbow, occasioned by striking with her hind feet; her head and hock joints were also much cut and bruised. I dressed these parts with a mixture of oil and tinc. benzoin, made into a liniment with Armenian bole, in order to keep off the flies.

It was supposed, by every person that saw her, that she would never recover, but must die from her wounds and dreadfully emaciated state; but her owner being anxious, if possible, to save her as a breeding mare, she was, with difficulty, got into a loose box, lined or almost filled with straw: laxative and fever medicines were administered; and she was ordered to have little food besides mashes and gruel, and occasional clysters. I carefully detached both soles, and also the side walls of both fore feet, and every portion of the diseased laminæ was well cleaned; and then, being washed with a lotion of sulphate of copper, the whole was dressed with digestive ointment, and large poultices of linseed meal applied, which were changed twice every day. She was attended by a son of mine (a pupil of Mr. Dick) for the first fourteen days, and then delivered over to the care of a blacksmith, as we were at a distance of nearly eighteen miles from her.

January 1832.—I visited her for the last time: her feet were looking well, almost of their natural size, and having their proper concavity. She had not yet been out of the box. I measured both fore feet, and went to the blacksmith's shop, and had two fore shoes made for her, and shod her in the box; and when I led her out, I was pleased and surprised to see how well she went. I was not content with this, but had her put into harness, and was still more pleased with her action and way of going. She is still living, and doing well as a breeding mare; but she has a little of, what you gentlemen in the south call, navicular disease.

A MARE STARVED TO DEATH FROM DISEASED JAW-BONES.

By Mr. W. A. CARTWRIGHT, Whitchurch.

A CART mare, between twenty and thirty years of age, the property of Messrs. Cross and Jagger, in this town, began to quid her food when out at grass; she would nip it off very well, but, when she began to grind it, she dropped it from her mouth. She continued to do so for about a fortnight, until the field was nearly covered with quids, when she died from sheer want. Whilst she was alive there was the peculiar smell from her mouth that indicated diseased bone; but, after carefully examining her mouth, I could only detect two ulcers of the cheek opposite the last of the grinders, one on each side. These ulcers were dressed with a solution of nit. of silver, and the teeth rasped.

Post-mortem appearances.—The ulcers on the cheeks were of

little consequence; but, for about an inch beyond the posterior molar tooth, on each side of the inferior jaw, the upper surface of the continuation of the last alveolar cavity was quite ulcerated through, and the bone carious for an inch down each surface: the evil was evidently produced originally by the upper jaw-bone rubbing against it. The teeth were worn down almost to a level with the jaw; but the ulcerated parts did not come in contact so much when the jaws were opposed to each other as when they were moved from one side or the other in the act of grinding. There was no other disease to account for her death, for every part was perfectly sound, except much attenuated. She was starved to death.

ON THE PROPAGATION OF ROT IN SHEEP.

By Mr. EDWARD KING, *Steam Carriage Station, Hammersmith, London.*

[The following very valuable Essay is the substance of a communication from Mr. King to the Quarterly Journal of Agriculture. Some of the facts which he states are not quite consistent with certain observations of our own; but they are exceedingly interesting and important: and we earnestly entreat our readers to favour us with the result of their experience on the subject—no inquiry more concerns the agriculturist and the veterinary surgeon.—EDIT.]

WHOEVER reflects upon the annual loss of stock by this destructive malady will readily admit the importance of meeting this evil in the most philosophical and practical spirit possible, with a view both to its prevention and cure. At present I fear its cure must be despaired of; an accumulation of facts, however, may, in time, put the cure of rot in our power. The prevention of rot is evidently more within the sphere of well-placed hope. The mode of communication of the disease from an unsound flock to a sound one seems to be the first point requiring elucidation.

To ascertain the mode of propagation of the *fasciola hepatica*, or fluke has been the subject of some experiments by myself, made with the direct object of enabling the shepherd to protect his flock from the disease called "Rot."

Before I was born it had been ascertained that the fluke is of both sexes, or double sexed; or each individual is both male and female, like slugs, snails, worms, &c. Each individual therefore

deposits eggs ; of which I have collected many millions in the following manner :—

In the month of April, May, or June, obtain the whole abdominal viscera of the diseased sheep. In the first place, with a bit of good stout thread, tie the *ductus communis*, or pipe of the gall-bladder, as nearly as possible to the duodenum,—the gut into which the gall is emptied. The opening of the pipe of the gall-bladder will be found along the gut about eleven or twelve fingers' breadth below the pylorus, or the opening of the stomach into the gut. Having secured the pipe of the gall-bladder by ligature, next dissect out the liver, without wounding its substance, from the rest of the viscera ; wash it, and place it in a clean hand-basin.

The flukes and their eggs are never in the “ arteries ” or veins of the liver ; it is in the gall-bladder, choledoch, cystic, and hepatic ducts, and in all the larger biliary tubes of the liver, that they are found ; but even in the *vena portæ*, which carry venous blood, returning from the intestines in a state ready to yield bile, they are not found.

Having the detached, clean-washed, liver of a diseased sheep in a hand-basin, with a pair of scissors slit up the gall-bladder, and the large biliary tubes of the liver ; collect their contents, consisting of gall, flukes, and eggs, in a large clean tumbler. The inside of the gall-bladder, especially near to the pipe, where eggs abound, may be slightly scraped, and the bilious mucus thus collected may be added to the other contents of the tumbler. Then pour in some very pure pump water, which, after the flukes have been viewed, may be taken out and thrown away. Any floating mucus, or any foreign substance that accident may have introduced, may also be taken out and thrown away. There will now be left in the glass a solution of gall, containing hundreds and thousands of flukes' eggs. If this solution be sufficiently diluted with clean water, the soundest and most perfect eggs will settle at the bottom : this phenomenon will be best perceived in an ale glass tapering to the bottom ; upon the sloping sides of which the eggs will settle, and whence they may be caused to roll down over one another to the bottom by any slight jar given to the glass on its outside. To the unassisted eyes these eggs appear to be fine, regularly shaped, equal sized grains of reddish sand. At the surface of the solution, especially near the sides of the glass, hang multitudes of eggs also ; but these floating eggs are mostly ill-shaped, most probably in an advanced state towards maturity, or ready to hatch, some evidently ruptured, and probably many addled.

If to collect sound eggs be the object, pour away with a steady hand the bulk of the fluid, leaving about one-tenth with the un-

disturbed eggs at the bottom. To the remains add a fresh quantity of clean water, by which the eggs will be cleaner washed, and their reddishness refreshed. After the eggs shall again have settled, the bulk of the water may be once more steadily poured off, and the remainder, containing the eggs, poured upon a paper filter, through which the water will drain away, leaving plenty of eggs upon the paper. In this manner I have collected a thimble full of eggs from the liver of one sheep.

The perfect eggs of a fluke seen through a tolerable microscope resemble more that of a duck than that of a hen; it is less pointed at the lesser end than that of a hen. As far as I could judge from measuring with an insufficient micrometer, the shorter diameter of these eggs is about a three-hundredth of an inch, and the longer diameter about a two-hundredth of an inch. The experimentalist should make himself very well acquainted with the character and appearances of these eggs, so that he shall be able to recognize them wherever he may find them. All his labours will be unscientific and unsatisfactory until this trifling difficulty shall be overcome; whence arises my solicitude to enable him easily to collect plenty of sound eggs for the use of his object glasses. By assiduously cultivating his acquaintance with these eggs, apparently very insignificant particles, he may justly hope ultimately to save millions of heads of sheep, millions of fleeces, and many thousands of pounds to the revenue of his country: these tiny eggs lose their insignificance under this reflection. The importance of these minute ova will be enhanced in the mind of the philosophical herdsman, in proportion to the attention he may think fit to bestow upon the following and similar views:—

First.—If we can discover thousands of flukes' eggs hatching or giving out a young fluke in the gall of a sheep already diseased, but while feeding upon perfectly sound pasture, we shall be sure then that thousands of these eggs hatch in the liver of a diseased sheep without first passing off with the bile by the intestines. Hence we shall see, that if by any chance a previously sound sheep become infected with only two flukes, each being both male and female, and abundantly prolific, its liver will in the course of a season become thronged with myriads of these vile inhabitants.

Secondly.—If we can discover thousands of these eggs floating through the ductus communis choledochus with the bile of the animal, and find them commingling uninjured with the excrementitious contents of the intestines from the duodenum to the rectum, and find them quite sound and healthy in the droppings of an unsound flock every where, so that the least modi-

cum of excrement, whether it be *bumbly* or *quittory*, that can be taken up on the point of a knife, and spread upon the object glass of a microscope, will afford several sound eggs, we shall then become aware how abundantly they must be scattered over the surface of all sheep pastures grazed by an unsound flock. We must cease to wonder that so many sheep die of the rot; the miracle is, that every sheep does not die of it. We may rest assured that Nature or Providence has contrived some wholesale mode of destruction of these eggs: without such contrivance (which we must discover and imitate), not a head of grass-fed sheep would be found in Britain this day two years.

Thirdly.—If we find flukes' eggs disengaged from the excrements of unsound sheep by every dash of hasty rain; if we find them in the puddles of water in which such excrement has dissolved; if we find them floating with hasty currents down furrows, ditches, and brooks; if we find them spread over meadows upon which such foul waters ebb; if we find them adherent to herbage in all situations where such waters have rested or formed little eddies; we shall at once see how extensively diffused must be these eggs over those localities called "rotting lands."

Fourthly.—If we shall discover these eggs hatching and hatched in the stomach and duodenum of sheep previously sound, but intentionally taken from sound to unsound pasture prior to slaughter, and if we shall discover the same in previously sound sheep, fed still upon sound food, with which plenty of healthy flukes' eggs have been intentionally commingled, and find the fluke making its way up the gall vessels of such previously sound sheep, and in every stage of its progress to maturity, we shall be satisfied as to the *modus propagandi* of this disease: we shall perceive how variously this apparently insidious disease may be caught; and cease to wonder at the thousand and one miraculous tales told by herdsmen of "hair-breadth 'scapes" of their flocks on one occasion; and of their being on some other occasions affected by eating slugs, snails, dew of grass, &c.

Fifthly.—If we shall discover that flukes' eggs, when given intentionally with the food of sound sheep, on some occasions all perish in the stomach of the sheep from some accidental admixture of medicinal herbs with its food, or from some skilful combination of salt, ammonia, soda, muriatic acid, or other medicaments with its food; and if, on the other hand, we discover that in sound sheep similarly treated, but without the addition, by accident or design, of the preservative medicaments, the bulk of the flukes' eggs vivify when [once arrived in their nidus, we shall derive valuable data upon which to argue and act, to prevent if not to cure the rot.

Sixthly.—If we dwell upon the character of the egg, upon its habits of vitality; if we find that desiccation, or warmth without moisture, deprives the egg of rotundity, and probably of vitality; if, by such process, eggs become ruptured, flattened, or collapsed, so as to appear more like a boiled pea that has grown cold than a plump egg; if we find that some of the eggs so treated, probably those in which vitality was not quite extinct, became on the addition of water only replumped and apparently restored to health, we shall be led to infer that those eggs which are eliminated from sheep's dung by hasty rain will perish from desiccation; if the soil be porous, sandy, and gravelly, through which the water can filter, leaving the eggs upon the surface; whilst, on the other hand, if the soil be compact loam or clay, through which water cannot easily percolate, but is compelled to find its level upon the surface, these eggs will be rolled, and floated by the little currents, and escape desiccation. Hence, one will be called sound and the other unsound land for sheep pasture. But even sound pasture, whilst fed upon by an unsound flock, may sometimes appear unsound upon an admixture of sound sheep: the splash of a large drop of hasty rain must necessarily scatter many eggs in several directions, and some of these may fall upon the crown of a grass plant; also temporary puddles, in which foul excrement is dissolving, may convey eggs into the crown of a grass plant, and these may be pushed up by hasty growth, so as to enable hard-fed sheep to nab them with the young blade before desiccation shall have destroyed their vitality.

Seventhly.—If we discover that cold frost as well as desiccation destroys the vitality of these eggs, we shall at the same time have ascertained whence arises the sweetening effect of hoar-frost and wintry weather to render unsound pasture sound. In short, if we call to mind and dwell upon the habits of vitality, the abundance, &c. of flukes' eggs, we shall cease to wonder at any thing that has ever been stated with an air of mystery in regard to the propagation of the disease called rot: the only mystery is, that we have alive one head of sheep in Britain.

I have collected many millions of the eggs of the fluke from the gall vessels of diseased sheep, in the manner previously described. I put several parcels of these eggs in paper for future examination; and I carried some of them in my pocket from Blackthorn, Oxon, the scite of my experiments, to London. About two years ago, I delivered one parcel to Mr. Carpenter, of Regent Street, of whom I bought my microscope, and who I hoped would feel interest enough in the thing to subject them to an examination before his very powerful solar microscope, and

invite me to witness that examination; but I failed to create enough of interest in his mind on the subject. Other parcels were carried in my pocket a few days longer; but on my return to Blackthorn, where was my microscope, some of these dried eggs were spread upon object-glasses. Of these some appeared to be burst; some were shrivelled, and I concluded had lost their vitality from desiccation; but, on wetting them with a little water, some of these were plumped up again; but whether or not their vitality was destroyed I had no means of proving. I was induced, however, to infer that desiccation does destroy the vitality of these eggs, and that hence arises the salubrity of sheep pastures on low lands, after they have experienced dry weather for some time. But the point requires better and further proof yet.

I have found healthy eggs in abundance in the intestines of diseased sheep commingled uninjured by digestion, with their excrementitious contents; and in the mucus scraped from the lining membranes of the intestines, from the duodenum, into the end of which the gall-bladder empties itself all the way to the rectum. These eggs are so abundantly distributed, that any modicum of fæcal matter taken up with the point of a penknife, and gently spread upon an object-glass, shewed several of these eggs, when touched with half a drop of pure water.

Between the opening of the ductus communis and the pylorus, I seldom found eggs; and when I did find any, there were evident signs in the discoloured character of the contents of the duodenum that bile had regurgitated or passed up the duodenum instead of down its natural route.

I have never witnessed the slaughter of previously sound sheep whilst feeding upon unsound pasture; if I did, I should certainly search for eggs that may have been recently taken in with its food, and I should, *à priori*, expect to find some sound, some hatching, and some ruptured, in the stomachs and duodenum. This is an exceedingly important point, and requires patient investigation. To do it effectually, a score or two of sound sheep should be purchased; two or three should be slaughtered, to see that they really are sound; they should be put on rotten land, and a thimble full of flukes' eggs should be commingled often with the damp grass upon which the sheep feed, so as to ensure their swallowing a plentiful dose of recently-collected healthy eggs. Afterwards, one or two per week should be slaughtered, and the contents of their stomach, duodenum, and gall-bladder, and ducts, very carefully examined. This experiment I have been hindered from instituting by my steam carriage pursuits; but others may probably set about it, and without loss; for the

mutton of the slaughtered sheep would be improved rather than injured by feeding upon rotten land a little prior to slaughter, especially in April, May, and June, the most suitable period of the year for such experiments.

THE VETERINARIAN, FEBRUARY 1, 1836.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

No English writer, so far as we are aware, except the author of "Cattle,"—and the object of his work necessarily rendered his descriptions both brief and superficial,—has condescended to treat of the Anatomy of the Ox. This is much to be lamented, for anatomy is the only sure basis of medical science to whatever animal reference is made; and now that our art, at last, is about to assume its proper character and utility, and to extend its cares and blessings to every servant of man, an elucidation of the anatomical structure of our new patients is absolutely indispensable. How cordial would be our thanks to him who would fill this chasm! Lessons of physiology, and descriptions of disease, may be highly useful, but they must be grounded on anatomy, or they lose more than half their value. To whom shall we look for the anatomy of the ox, the sheep, the dog, &c.? Thanks to Messrs. Blaine and Percivall, there is little left for us to desire with regard to the horse; but as to other animals, there is a wide and dreary waste. It should not have been so.

Looking over some old papers a few days ago, we found an Essay on the Anatomy of the Foot of the Ox, by a gentleman who was, for a short time, our pupil, and a favourite one. It was a prize essay; and it approaches so closely to what we want, and is so accurate and excellent, that it is with a feeling of duty and pleasure that we present it to our readers; and, as the first who has trodden this path, we assign him the place of

honour in the present number. Here is sufficient ability and industry, and accuracy, to accomplish the important purpose to which we have alluded.

There is also another gentleman, of the same name, to whom the veterinary student is deeply, unspeakably indebted. He also—and we state it with pride—was, for awhile, our pupil, and a favourite one too: he would be competent to such a task, and we will tell him that many an eye is fixed upon him in earnest expectation.

As to our friend Spooner, of Southampton, it was with no slight degree of pleasure that we read, a little while ago, an account of his proceedings, of which the following is the substance:—

Literary and Philosophical Society.—“The members, and a highly respectable audience, were much gratified on Tuesday evening, by a second lecture on ‘Animal Mechanics,’ by Mr. Spooner, which was illustrated by preparations of bones, particularly of the horse. After an elaborate notice (in continuation of many of his former lectures) of the fore extremities, Mr. S. referred to the hind legs, and the nature of the joints, muscles, tendons, both in man and animals, and shewed how strikingly the principles of mechanics were exhibited in the animal frame. He observed that beauty and symmetry in animals are always found connected with power and strength. We admire the elegance of the race-horse; no other animal possesses so much strength in so small a compass in addition to his speed, or is so capable of performing so long a journey, or enduring so much fatigue. The muscles are generally inserted with a considerable sacrifice of mechanical power, in order to obtain quickness of action; but this is more than compensated by the immense strength of the living muscle, while there are numerous admirable contrivances in various parts of the frame to regain and to increase that mechanical power, when it can be effected without the sacrifice of beauty of form or rapidity of action. Altogether, we have seldom heard a lecture of greater interest, or better handled; and it was concluded by an eloquent address on the advantages of such investigations. The chairman, J. R.

Keele, Esq., offered Mr. Spooner the thanks of the committee for his lectures, in a highly complimentary manner."

This is the way to gain our profession that degree of public estimation, which, if true to ourselves, its nature and its usefulness will command. We urge not any half-prepared and foolish young men presumptuously to obtrude themselves on the public notice; but there are those among us who can vindicate and are vindicating our claims, and to them we owe much gratitude, and wish all success.

THE METACARPALS AND PHALANGES OF THE NEAR FORE FOOT OF THE OX, WITH THEIR ARTICULATIONS, TENDONS, BLOODVESSELS, NERVES, &c.

By Mr. W. C. SPOONER, Southampton.

IN describing the parts below the knee of the ox, it will be advisable, according to anatomical custom, to begin with the bones.

The metacarpus, or *shank*, is formed of a large and a small bone. The large metacarpal is, with a few exceptions, similar to the corresponding bone in the horse, like which it is round in front and at the sides, and flat behind; but the flat surface is more extensive in the ox, the suspensory ligament being much wider. The lower part of the bone is also much broader, the condyles being double; consequently, it has six convex surfaces, which are received into the six concavities in the two large pasterns. The two lower heads are separated from each other, and the intervening space is occupied by ligaments. From this fissure a wide groove extends upwards to the knee, both anteriorly and posteriorly, which gives it the appearance of two bones joined together; and, indeed, in the fœtus this is actually the case. In this groove there is a foramen at its lower part, for the passage of a large artery. *The small metacarpal bone* corresponds in its situation with the external metacarpal in the horse, and, like it, is attached to the large by an elastic cartilago-ligamentous substance, but differs from it in not being above an inch in length.

We observe a double arrangement in the *phalangeal extremities*. They are consequently eight in number, viz. the *two large* and the *two small pasterns*, the *two navicular*, and the *two coffin*

bones. Besides these, it must not be forgotten that there are four supplemental or *sesamoid bones*. The phalangeal extremities are shorter in the ox than in the horse. The bones of the duplicates being similar, a description of one of each will suffice. Each suffraginal bone is round and smooth anteriorly and externally, and rough and nearly flat posteriorly and internally. Superiorly it presents three concavities, which receive the corresponding convexities in each head of the large metacarpal. It has an articulation at the upper and outer part of its posterior surface with the internal sesamoid. On the upper posterior division we find a deep sinus, with two large tubercles on each side. Two smaller tubercles are found just below, from each of which a ridge extends to the condyles of the bone. On each side of the lower head two depressions are visible for the attachment of ligaments, and two convexities which articulate with the small pasterns.

The *ossa sesamoidea* may be arranged as the *two external* and the *two internal*, so that we may name a right and left internal, and a right and left external sesamoid. Their anterior surfaces are smooth for articulation, their posterior rough for the attachment of the suspensory ligament. They are connected to each other by firm ligamentous bands. The two external sesamoids are alike, with this solitary exception, the left at its outer side is bent anteriorly, to articulate with the right lower head of the large metacarpal bone. They are of irregular shape, and present four articulating surfaces, two anteriorly with the large metacarpal, one laterally with the internal sesamoid, and one inferiorly with the suffraginal bone. They are rather thicker than the internal sesamoids, and extend more anteriorly, giving thereby great security to the joint.

The *internal sesamoids* are rather conical in shape, and each has two surfaces articulating with the large metacarpal, and one laterally with the external sesamoid.

The *os coronæ*, or *small pastern*, in circumference is equal, and in length is two-thirds that of the *os suffraginis*. Supero-anteriorly, we find a tubercle, from which a ridge extends to the condyles. This ridge divides the front surface of the bone into

two parts. The antero-internal division presents a deep depression, whilst the front external is rounded with the lateral side of the bone. Supero-posteriorly are two eminences, the outer of which is the more prominent. From these eminences two ridges extend to the condyles, inclosing an irregular but smooth concavity. Inferiorly, we find two surfaces divided by a depression, which articulate with the navicular and coffin bones. These surfaces are very extensive, particularly the outer, which extends both anteriorly and posteriorly half way up the bone.

Each navicular bone, on its upper surface, is rough and nearly flat; and laterally rough and convex. It presents anteriorly two depressions unequally divided by a ridge; these articulate with the postero-inferior part of the coronal bone. The posterior surface is smooth for the passage of the flexor tendons. Inferiorly we see two smooth surfaces, with a deep concavity between them: these articulate with the coffin bone.

The *os pedis*, or *coffin bone*, corresponds in shape to the hoof, by which it is enclosed. At its postero-superior part are two concave surfaces, separated by an elevation of bone, which ends superiorly in a tubercle: these correspond for articulation with the concavity and the convexities of the small pastern. Antero-superiorly, are two ridges with a deep depression between them, which is of some extent: these are for the insertion of the extensor tendons. There are two foramina on each side of these ridges, through which arterial trunks pass into the bone.

At the posterior part of the *os pedis* we find two surfaces separated by a fissure, which articulate with the navicular bone. In this fissure are many small perforations for the passage of minute vessels. The external surface is convex, the internal concave, and nearly triangular in shape: the inferior surface is nearly flat.

The *fetlock joint* is formed by the union of the large *metacarpal*, the *two large pasterns*, and the *four sesamoid bones*.

The ligaments are,

1st. *The capsular* which is attached to these bones, around their articulating surfaces, and is lined by the synovial mem-

brane, which is then reflected over the cartilages. This ligament is protected in front by the extensor tendons.

2dly. *The two lateral ligaments* are strong, and arise from the inferior and lateral parts of the cannon bone; they are inserted into the superior and external parts of the suffraginal bones. These ligaments effectually prevent any lateral motion.

3dly. *A wide ligament* arises between the lower heads of the cannon bone, and joins the ligamentous substance between the pasterns.

The *ligaments of the sessamoids* are five pairs, and a single one, viz.: *The suspensory, the two lateral, the two long inferior, two external inferior, two internal inferior, and the two crucial ligaments.* The *suspensory* corresponds in width to the back part of the large metacarpal bone. Posteriorly, it is concave, in order to fit the convexity of the flexor tendons. About two-thirds down the bone two portions are given off, which being expanded at the fetlock joins the perforatus tendon; and, indeed, forms the anterior part of the sheath of the perforans, having become rather cartilaginous in substance. Two portions proceed from the suspensory ligament, just below the last, taking a more external course. Just above the fetlock, each portion becomes divisible, and terminates in a similar manner by bifurcating. One division of the bifurcation is inserted into the external sessamoid; the other is continued obliquely to the extensor tendon. Just above the fetlock the ligament sends off two other portions, which are inserted into the superior parts of the inner sessamoids. Two more slips are also given off, the smaller of which is inserted into the ligamentous substance connecting the internal sesamoids. The larger portion is connected to the lower part of the cannon bone by a ligamentous slip, which encircles it: it is then continued between the lower heads of the large metacarpal, enters a sheath formed by a ligament, and is inserted between the large pasterns. By this description will be seen the intimate union between all parts of the shank, by means of the suspensory ligament, and the admirable provision made against dislocation. Though this great security is procured at the expense of agility, it

accounts, in some degree, for the ox being so strong and so sure-footed.

The *lateral ligaments* are fixed to the posterior projecting parts of the external sessamoids, and to the supero-lateral parts of the large pasterns. The *long inferior ligaments* arise from the lower part of the external sessamoid, are continued down the back of the large and small pasterns, and are inserted into the cartilago-ligamentous heels. Just after its commencement a portion passes off to an eminence at the supero-posterior part of the os suffraginis. About halfway down, another slip arises, and proceeds to the ridge, which divides the posterior from the lateral part of the bone. The *external short inferior ligaments* are very strong, and are fixed to the lower part of the external sessamoid, and to an eminence on the upper and posterior part of the large pastern.

The *internal short inferior ligaments* arise from the internal sessamoids, and are inserted into the supero-internal part of each os suffraginis. The *crucial* are a pair which decussate: one proceeds from the right external sessamoid to the supero-internal part of the left large pastern—the other proceeds from the left external sessamoid to the right large pastern. These last three pair of ligaments serve as hinges to the sessamoid bones.

The *pastern joint* is formed by the articulation of the os suffraginis with the os coronæ. The bones being double, there are of course two pastern joints; and the external and internal parts of the bones not corresponding in shape, the outer ligaments do not resemble those on the inside, and consequently must be described as single ligaments. There are six besides the capsular, and the one common to both joints.

1st. The *capsular* arises from the edges of the bones.

2d. The *long anterior ligament*, rather slight in size, arises from the antero-inferior part of the os suffraginis, takes a direction obliquely outwards over the os coronæ, and is inserted at the infero-external part of the bone.

3d. The *external lateral ligament* is wide and stout, and arises from the depression at the infero-external part of the os suffraginis; passes downwards and backwards to the supero-exter-

nal part of the os coronæ, and attaches itself to an eminence on its posterior external side.

4th. The *small anterior ligament* takes its origin from a rough eminence at the inner and lower part of the large pastern, and passes to a tubercle situated on the upper and anterior part of the small pastern.

5th. The *internal lateral ligament*, large and strong, leaves a depression at the infero-internal part of the os suffraginis, passes downwards, and divides into two portions. The larger is attached to the superior and posterior part of the os coronæ. The smaller is inserted into the internal part of the os pedis.

6th. A *firm ligamentous band*, rising from the middle of the posterior part of the os suffraginis, is inserted into the external projection at the supero-posterior part of the os coronæ with the conjunctive ligament.

7th. The *conjunctive ligament* (so called from its connecting the pasterns together) is common to both pastern joints, and arises from the internal side of each os suffraginis, from whence it is continued to the joint, where it becomes lined with synovial membrane. After reaching the inferior part of the large pastern, it turns behind its inferior articulating surface, and, having become increased in size and firmer in substance, it forms a smooth surface for articulation with this bone. It is inserted into the outer-posterior projection of the os coronæ. From the greater comparative size, from the number of ligaments, and from the insertions of tendons into the coronal bones, as well as from the greater surface of articulation presented by the inferior part of the large pastern, it is evident that the pastern joint is of much greater importance than in the horse.

The *coffin joint* is formed by the adaptation of the small pastern with the navicular and coffin bones. Its ligaments are,

1st. The *capsular*, which is attached to the edges of the articulating surfaces of these bones.

2d. The *anterior ligament*, which is fixed to the external part of the os coronæ, and to the same part of the os pedis. All the other attachments of the joint are formed by the cartilago-ligamentous heel, which is fixed to the posterior part of the os pedis,

from whence it is continued upwards behind the flexor pedis, to which just before its insertion it is closely united. It is then connected to the sides of the navicular bones, covers almost the whole of the outer and also a great part of the inner surface of the os coronæ. It is attached by ligamentous bands to the infero-internal, to the supero-internal, and to the outer part of the os coronæ. The use of this substance, it is evident, besides connecting together the bones of the coffin joint, is to communicate the superincumbent weight to the posterior part of the horny sole.

Foreign Department.

CASTRATION.

By PROFESSOR VATEL, *Alfort*.

[We have often blamed ourselves for not having presented our readers with an analysis of that standard work, now recognized in all the French schools, "Elémens de Pathologie Vétérinaire," by Professor Vatel. At some future time we will discharge this neglected part of our duty; and in the meanwhile we will occasionally translate the account which is given of a few of the most important veterinary operations, selecting however, and for obvious reasons, other animals than the horse.]

THIS operation, by means of which animals lose the faculty of reproduction, consists in removing the testicles of the male, and the ovaries, or sometimes a portion more or less considerable of the uterus, from the female. It is practised on almost all domesticated animals. The operation is sometimes rendered necessary by certain pathological states of the animal, as hydrocele, enterocoele, and some serious affections of the testicles or their membranes. At other times it is resorted to for the convenience of the owner, and at the expence of certain physical, and we may almost say moral, qualities in the animal. If it renders animals more docile, and gives them a disposition to fatten, it must not be forgotten that, after they have been castrated, they have no longer that energy and force of courage which are the noblest characteristics of the individuals that retain the full possession of their reproductive powers. Their crest, their limbs, their whole form, is no longer



that which it ought to be. The male loses some of the attributes of his sex. The ox possesses not the voice of the bull, and his horns are lengthened and his legs weakened. The horse ceases to retain the commanding expression of his countenance, and his neigh has lost its deep tone. The hog—in a word in them all, if there is not a real diminution of muscular force, there is a want of vital and mental energy.

Castration is followed by fewest serious accidents, when it is performed on young subjects; and it influences least the growth of the animal, and the development of his powers, when the animal approaches to the adult age.

When castration is not rendered necessary by any pathological state of the animal, the autumn or the spring should, if possible, be chosen for the operation, when the temperature of the atmosphere is generally uniform and moderate.

When it is an operation of mere convenience, it should be previously ascertained that the animal is in perfect health, and he must not have been fatigued by long and painful labour. He should be prepared on the preceding night by undisturbed rest, and mash diet, and bleeding if he is in a plethoric state, or is an animal of high courage. The age at which he will with most advantage undergo the operation is a circumstance deserving of consideration. The colt should not be cut before he is four or five months old, because his testicles have not descended into the scrotum until that period; and if he is of a weakly form and constitution, the operation should be delayed until the fourth or fifth year. Lambs or goats may be castrated at the age of from eight to fifteen months, but it is sometimes deferred until they are sixteen months old. Calves are occasionally kept until they are eighteen months or two years of age; but pigs are submitted to the knife at fifteen or twenty days after birth.

Bulls are castrated between two and four years of age, and cats and dogs as soon as it can be conveniently performed.

The operation is performed in different ways on different kinds of animals, and according to their age, their sex, and other circumstances.

I.—CASTRATION BY SIMPLE DIVISION OF THE SPERMATIC CORD.

IF THE ANIMAL IS ONLY EIGHT OR TEN DAYS OLD.

1. *Lambs*.—An incision is made at the bottom of the scrotum—the testicles are drawn through it, and cut off, or by some practitioners torn off. If he is older than ten days, the edges of the wound are brought together by the finger and thumb of the

operator, and held in contact during a minute or two. It is rarely that any accident occurs from this mode of castrating.

2. *Pigs*.—If the pig is not more than six weeks old, the same kind of incision is made at the bottom of the scrotum, the testicle pushed out, and the cord cut without any precautionary means. If the animal is older, some hemorrhage may be feared, and it will be prudent to pass a ligature round the cord a little above the spot where the division is intended to be made.

3. *Dogs and Cats*.—If very young, the testicle may here also be protruded, and the cord cut without any precaution; but with regard to those that are older, and somewhat grown, it will be advisable to use a ligature.

II.—CASTRATION BY THE CAUTERY.

This operation is only had recourse to for the horse and the bull. The operator makes his incision into the scrotum; isolates the cord, and places the clamps upon it above the epididymis, sufficiently tight to intercept the circulation: and then with a firing-iron with a sharp edge (*cautère en couteau*) he cuts through the cord, between the clamps and the testicles; the eschar formed by the cautery prevents the bleeding. Sometimes, however, he cuts the cord in the same place with the common bistoury, and then applies a firing-iron of a rounded form (*cautère à bouton*). Some advise to sprinkle a little powdered resin on the cord before the cautery is applied, but the resin is apt to produce inflammation running on to gangrene. More cases of tetanus have occurred after the use of the resin, than when the simple cautery was relied on.

Some persons have supposed that this mode of castration possesses advantages that surely cannot belong to it; for whatever may be said, it is often followed by serious consequences, such as inflammation and enlargement of the cord and of the neighbouring parts, and also secondary hemorrhage from the premature dropping of the eschar.

III.—CASTRATION BY TEARING THE CORD (*arrachement*).

This mode of castration is safe for small and young animals. In some countries it is the only one employed for lambs; but in larger and older animals it is apt to be followed by serious, and, sometimes, fatal hemorrhage.

1. *Lambs*.—For these animals it is undoubtedly preferable to any other mode of operating. From the eighth to the fifteenth day after the birth is the preferable time for performing it. An assistant holds the lamb, pressing the back of the animal against

his chest and belly, with the head elevated, and grasping together the four legs; or, which is preferable, one assistant holds the lamb against his chest, while another kneeling brings together and firmly holds the legs. The operator then, grasping the scrotum with his left hand, makes one horizontal incision across the base of it, opening both divisions of the bag at the same time. Then laying down his knife, he presses the testicles out with his finger and thumb, grasps them between his teeth, and tears them out. He then closes the wound, pressing the edges of it gently together with his fingers. This tearing of the cord prevents all hemorrhage, and the wound rapidly heals.

2. *Calves*.—These animals, when very young, are operated on precisely in the same way.

3. *Pigs*.—These animals are operated on by some cutters in the same way, and, sometimes, until they are two or three years old: others break the spermatic cord, but without tearing it: they twist it, and draw it gently, until it gives way.

IV.—CASTRATION BY SAWING OR SCRAPING (*ratissement ou raclement*).

1. *The bull*.—This mode of castration, according to Gélín, is used at St. Domingo. A portion of the base of the scrotum is cut off, the testicles are forced out, and the cord is sawed through by a somewhat serrated but blunt instrument. The hemorrhage, if there is any, is arrested by introducing ashes into the wound. The animal is then dismissed, and nothing else is done; and, it is said, that there is no instance of a bullock dying in consequence of this operation. I cannot say, however, that I should dare to propose such a mode of castrating bulls in our country.

2. *Pigs*.—Fromage de Feagré has castrated many pigs of three or four months old, by dividing the spermatic cord in this way. It is at last, however, permissible for very small animals only.

V.—CASTRATION BY LIGATURE.

1. *The Ram*.—Castration by ligature on the scrotum above the testicles is preferred to that by *bistournage* by some veterinarians. They think it the surest and the easiest mode of operating: others, however, affirm that it is a dangerous way of proceeding. It is called, improperly, *fouettage*, because it is usually accomplished by means of a tight knot of whipcord (*fouet*). An assistant seizes the ram, his left hand grasping the wool of the neck, and his right hand that of the right flank, and then lifts him, and throws him on his back. He proceeds to tie

his four legs together, in such a manner that the hind legs may approach as much as possible to the fore ones, but without punishing the animal too much. The wool is then plucked away from the testicles. Some whip-cord, two inches in length, is then taken, with a piece of wood, two inches and a half long, at each end. This, having been disposed in the form of the knot for bleeding, is passed round the scrotum, above the epididymes; and then while one assistant holds the ram in order to prevent him from moving, two others grasp, each of them, one of the pieces of wood, and, pulling together, and each with all his strength, and putting their feet against each other in order to increase their power, they draw the knot as tight as possible, so as to arrest completely the circulation of the blood below the ligature, and yet not to cut through the spermatic cords. Over the first knot they place a second, simple and straight, and draw that also as tight as they can. The operation being ended, the legs are liberated, the penis is drawn out of its sheath, into which it had been forcibly retracted, and the sheep is placed upon its legs. Three days afterwards the testicles are cut off an inch below the knot.

2. *The Bull*.—In some of the departments of France the gelders castrate young bulls of three years old in a somewhat similar way. They attach a kind of side-line to one of the hocks, and bring it round the neck: they then tie the whip-cord as tightly as possible round the scrotum, and, that being done, cut off the testicles.

3. *Pigs* not more than six weeks old are castrated by means of the ligature; but the spermatic cord is previously uncovered.

4. *Dogs and Cats* are castrated by means of the ligature. The cords are exposed, the ligature tightly drawn, and the testicles immediately cut off.

[To be continued.]

THE TREATMENT OF GLANDERS.

By PROFESSOR RODET, of *Toulouse*.

PROFESSOR Rodet is the author of a most valuable work entitled "Doctrines Physiologiques appliquées à la Médecine Vétérinaire." Some interesting papers, inserted in former numbers of this Journal, on "Insanity in the domesticated animals," were taken in an abridged form from that publication.

One of the memoirs—for the work consists of a series of them—contains the result of certain experiments which he made as to

the possible cure of glanders. We give, in a very few words, the result of them.

The application of the cautery, whether over the nasal cavities or on the parietes of the chest, or deep into the submaxillary lymphatic glands, appears to have little or no effect.

Stimulants well rubbed into these glands, consisting of turpentine and corrosive sublimate, are equally inefficacious.

Bleedings, and more particularly local ones, practised on the venous sinuses of the pituitary membrane on the affected side, do not often cause a complete and permanent disappearance of the nasal flux, and the inflammation, whether acute and recent or chronic which it produces; but they at least retard, incontestably, the progress of the disease, and suspend for a while its effects, and cause for a certain time the disappearance of the principal symptoms, and in some instances they have procured a complete and lasting cure. Generally speaking, they have been more successful than any other means that have been tried.

Frictions with a solution of corrosive sublimate on the gums, and on the inner membrane of the lips, have procured an entire absorption of the enlarged lymphatic glands that have remained after the bleedings have arrested the nasal discharge, and have dried up the chancres on the pituitary membrane.

In none of the horses on whom these repeated bleedings were effected, did they seem to be altogether useless; for they always moderated, at least for a while, the worst symptoms of glanders.

Two horses out of seven having been cured by these bleedings and applications to the gums, together with the exhibition of calomel and mineral acids and a restricted diet, there is decided encouragement to pursue these and similar experiments.

CURE OF GLANDERS BY SPONTANEOUS NASAL HEMORRHAGE.

By PROFESSOR 'RODET, of Toulouse.

A MARE four years old was brought to the infirmary, on the 22d of May, 1822, with strangles. She was weak and very much out of condition. She was treated as the case seemed to require; but in spite of all the care that was bestowed upon her, although the swelling of strangles disappeared, she evidently became worse. There was considerable discharge from the right nostril, and the glands beneath the jaw were enlarged on that side. These glands, not being disposed either to suppurate or disperse, they were deeply fired, and she was sent to grass.

She returned from grass on the 28th of June, the glands being nearly as large as before, and the discharge continuing from the right nostril. In this state she continued until the 6th of July, when, in the course of twenty-four hours, she had two spontaneous plentiful bleedings from that nostril.

From that time the discharge began to diminish, and at length entirely ceased, and for many a year she has continued perfectly well.

HYDATIDS IN THE BRAIN—HEIFER.

By M. DUPLENNE.

CASE I.—On September 13th, 1829, I was requested to examine a heifer, two years old, in good condition, but who, during the last two or three days, had been dull, and careless about her food. The conjunctiva was injected, the pulse accelerated and hard, and the gait staggering; but there was no tendency to incline either to the right hand or to the left. After attentively examining her, I thought that I recognized an affection of the brain or its membranes; I, therefore, abstracted eight pounds of blood from her, and ordered her to be put on a restricted diet.

16th.—She was a little better; but she separated herself from her companions, and crept close to the hedge.

24th.—She continued separated in the same manner. The right eye was clouded, and as she walked she now had an evident tendency to go round in a circle. I tried this several times, and always with the same result; and she always turned the same way. I now recognized the disease commonly called *turnsick* (*tournis*), produced by an hydatid in the cranial cavity.

I explored, by means of percussion, the whole of the cranial roof, but unsatisfactorily; for I could nowhere distinguish any difference in the sensibility, the flexibility, or the sound yielded by striking the different parts of it. I communicated my opinion to the owner. I spoke of the hazard of an operation, and rather advised him to send her to the butcher. He wished me to have recourse to the trephine. I somewhat reluctantly consented, but begged for the delay of a month, hoping that in that time the portion of the skull over the hydatid would become softened, and that I should be able to operate with greater certainty and safety.

The symptoms became every day more alarming, especially that which characterized the disease, namely, the disposition to go round, and on one side; indeed, that symptom was displayed in the most decisive manner: she would be continually describing

a circle as she walked, unless she met with an invincible obstacle; and then, after resting a few minutes, she would all at once, and with a violent effort, free herself from it, and resume her travels. Every day the circle diminished, until, at length, we were compelled to shut her up in the stable.

The owner perceiving how rapidly she was losing condition, urged me to attempt the operation. The kindness of his manner scarcely gave me sufficient confidence, and, day by day, I sounded the cranium, hoping to find a soft spot. At length, the respite which I had obtained, expired; the animal now refused all food—it continued to turn day and night—and it could not exist much longer in such a state.

Oct. 30th.—She was cast on her left side, and secured, and her head was raised by means of a truss of hay. A portion of the skin, two inches and a half long and two inches wide, in the form of a heart, with the apex placed inferiorly, corresponding with the right lobe of the brain, and comprising chiefly the frontal bone, and about an inch of the parietal, was raised by means of a convex bistoury, and turned back towards the base of the horn. The periosteum was much reddened. I then made a circular opening as large as a liard (farthing) through the frontal bone, by means of a double-edged currier's knife, not being at that time in possession of a trephine, and elevated the bone by means of a scalpel and a spatula.

The first thing that I observed was the membranes perfectly black, at that place. On lightly exploring them with the point of a probe I recognized a vesicular body, which was pressing upward, with some force, against the opening I had made. It entered into and occupied the opening; but its bulk not permitting it to pass, and the edges of the bone being irregular and sharp, it was torn, and a transparent serous fluid escaped. I immediately seized the vesicle with a pair of dissection forceps, and, it now containing only a small quantity of fluid, it was readily drawn out from the cranial cavity. Some of the fluid, however, remaining in the place which had been occupied by the vesicle, I inclined the head of the heifer in order that it might flow out. The whole quantity of fluid which the worm contained was estimated at more than six ounces.

The extraction of the parasite, and the removal of the fluid from the cranial cavity, having occupied a considerable time, I began to fear that the presence of the air in contact with the membranes of the brain, and with the brain itself, might produce inflammation intense and difficult to combat. I hastened to cover the opening with the portion of skin which I had detached, and I placed over it an adhesive plaister. The heifer was loosened

from her trammels; she got up with difficulty, and she was put on a very restricted diet.

I saw her about four hours after the operation: the eye was wandering, the pulse small and accelerated, but she no longer *turned*.

On the following day the eye wandered; the pulse was still more quickened and hard; at times she was beside herself, and every symptom indicated an attack of inflammation of the membranes of the brain.

I abstracted eight pounds of blood from the subcutaneous abdominal vein, with a view to cause a new direction in the current of blood. I ordered the application of cold water to the head, draughts of a decoction of linseed, and drinks of acidulated white water.

Nov. 1st.—The symptoms of meningeal affection have much diminished, yet the patient is to a considerable degree comatose. Apply a blister to the inside of each thigh. In the evening she seemed to search for food, and a little hay was offered to her, which she ate.

2d.—The blisters have not acted well, but she is much better. The pulse is neither quickened nor hard, and in fact, from this day, the rapid progress to convalescence may be dated. Eight days after the operation, the forehead was examined. The wound was perfectly healed. The depression occasioned by the removal of a portion of the frontal bone became so completely closed, that, three months afterwards, the place where the operation had been performed could scarcely be pointed out.

CASE II.

Feb. 15, 1830.—I saw a bull with the same symptoms as this heifer, except that the progress of the disease was slower, and the animal was less violent. It was not until three months after the first appearance of the disease that I could be induced to operate; but the operation succeeded. The hydatid was larger than in the preceding case, but it was extracted whole. There were no subsequent symptoms of arachnitis, consequently he was not bled: there was some marked debility for awhile after the operation, but eventually the animal perfectly recovered.

These cases are the only ones that have occurred in my practice. I was induced to operate only at the earnest request of the owners; but hereafter I should have less hesitation, provided I could be assured that the hydatid had sufficiently developed itself. In each of these cases the hydatid was placed on the right lobe of the brain beneath the membranes and near the falciform septum between the lobes of the brain. The parasite

was in the form of a vesicle; it seemed capable of indefinite growth, at the expence of the substance of the brain, its membranes and the bone above. When the trephine is applied immediately above, it is readily seized and extracted. It matters not whether the trephine is applied an inch higher or lower than in the first case, provided it is not on the side opposite to that on which the hydatid is situated. It is useless to wait for a softening of the bones of the cranium before an operation is attempted, because the bones of the cranium are too thick for a body like the hydatid to make any impression upon them.

Mem. de la Soc. Vet. du Calvados.

SMITHFIELD CLUB CATTLE SHOW.

THE dinner and distribution of prizes took place on the 14th of December last, Earl Spencer as usual in the chair, and who was supported by the Marquis of Chandos on the right, and Mr. Spring Rice on the left. Although no beast of extraordinary weight or form had been exhibited, there were more than an average number of excellent cattle and sheep. It may be interesting to record the weight of some of those to the owners of whom the prizes were adjudicated.

CATTLE, CLASS I.—The best ox of any breed under five years old, and no restriction as to feeding, twenty sovereigns:—Awarded to Earl Spencer for his four years and ten months old Durham ox, fed on hay, mangel wurzel, Swedish turnips, and oil cake; purchased by Mr. Strachan, of Dean Street, Westminster, and weighing 208 stones, loose fat 24 stones.

Sir Francis Lawley's Hereford ox, four years and two months old, bred by him, and fed on hay, turnips, meal, and oil cake, was highly commended. It was purchased by Mr. Giblett, and weighed 184 stones.

CLASS II.—The best ox of any breed under six years of age, weight ninety stones and upwards, not to have had cake, corn, or distillers' wash, previous to the 1st of August:—Twenty sovereigns awarded to Mr. J. T. Senior, near Aylesbury, for his four years and two months old Hereford ox, fed on grass, hay, and 600 lbs. of oil cake; purchased by Mr. Giblett, and weighed 169 stones 2 lbs.

Ten sovereigns awarded to Mr. J. Beadley, of Chappel Brompton, near Northampton, for his five years and three weeks old short-horned, and fed upon hay, turnips, and 1,715 lbs. of oil cake; purchased by Mr. Smith, of Drummond Street, and weighed 232 stones 5 lbs., and 27 stones 4 lbs. of loose fat.

CLASS III.—The best ox of any breed under five years of age,

and fed as in Class II:—Fifteen sovereigns to the Marquis of Tavistock for his four years two months old Hereford ox, fed on grass, hay, turnips, mangel wurzel, one quarter of bruised oats, two bushels of meal, and 1,100 lbs. of oil cake. Bought by Mr. Sylvester, of Chancery Lane, and weighed 165 stones, with 25 stones 1 lb. of loose fat.

Ten sovereigns to Mr. J. T. Senior for his three years and eight months old Hereford steer; fed on grass, hay, and 500 lbs. of oil cake. Bought by Mr. Bridge, of Lambeth, and weighed 124 stones, with 18 stones 4 lbs. of loose fat.

CLASS IV.—The best ox, not exceeding four years and three months, feeding as in Class II:—Ten sovereigns to Mr. J. T. Senior for his three years and seven and a half months old Hereford ox, fed on grass, hay, and 600 lbs. of oil cake.

CLASS V.—The best fat cow or heifer under five years of age:—Fifteen sovereigns to Mr. George Peach, of Great Houghton, Northamptonshire, for his four years and eleven months old Durham cow, fed on turnips and oil cake. Bought by Mrs. Somers, of Somer's Town, and weighed 159 stones.

CLASS VI.—The best fat cow five years old and upwards:—Fifteen sovereigns to Mrs. Strickland, of Tewkesbury. Bought by Mr. Randall, of Oxford Street; weighed 172 stones, loose fat 24 stones.

SHEEP, CLASS VII.—Fat long-woolled wethers, that have never eaten corn, cake, seed, or pulse:—Ten sovereigns to Mr. W. Pawlett, of Barmouth, for his three twenty-months old Leicester wethers. Not sold.

CLASS VIII.—Fat long-woolled wethers, one year old, any how fed:—Ten sovereigns to Mr. W. Pawlett, for three twenty-months old Leicester wethers. Not sold.

CLASS IX.—Long-woolled wethers, two years old, any how fed:—Ten sovereigns to Mr. John Painter, of Burghley, for three thirty-two months old Leicester wethers. Bought by Mr. Giblett, and weighed, No. 1, 20 stones 5 lbs—No. 2, 19 stones 3 lbs, and No. 3, 17 stones 7 lbs.

CLASS X.—Fat short-woolled wethers, one year old, any how fed. Fifteen sovereigns to Mr. Stephen Grantham, of Stoneham, for his three twenty-months old South-Down wethers.

CLASS XI.—For fat short-woolled wethers, any how fed, ten sovereigns, to Mr. Stephen Grantham, for his three thirty-two months old South-Down wethers, bought by Mr. Giblett, and weighing, No. 1, 21 stones—No. 2, 20 stones 6 lbs—No. 3, 20 stones 3 lbs.

CLASS XII.—Pigs of any breed, of the same litter, above four and under nine months old, ten sovereigns, to the Earl of Harborough, for his three Neapolitan and Chinese pigs, aged twen-

ty-two weeks, and fed on barley, wheat-flour, and skim-milk. Bought by Mr. Shepherd, of Somers' Town, and weighing, No. 1, 27 stones, No. 2, 25 stones, and No. 3, 25 stones.

EXTRA STOCK CATTLE.—The Marquis of Exeter's Free Martin heifer, bought by Mr. Comfort, of Islington, and weighed 144 stones 4 lbs., with 20 stones and 2 lbs. of loose fat.

Earl Spencer's Free Martin heifer, purchased by Mr. Older, of Esher, and weighing 130 stones 2 lbs., with 18 stones of loose fat.

Earl Talbot's five years old Hereford ox, highly commended, bought by Mr. Shepherd, of the New Cut, and weighing 238 stones 6 lbs., with 19 stones 5 lbs. of loose fat.

EXTRA STOCK PIGS.—Mr. George Chandler's twenty-two months old Surrey pigs, bought by Mr. Wilcocks, of Tottenham Court Road, weighed 15 stones.

Miscellanea.

VETERINARY PUPILS WHO HAVE OBTAINED THEIR DIPLOMAS SINCE THE LAST REPORT.

Mr. E. C. Dray, Dymchurch, Kent,
 Mr. W. H. Coates, Leeds, Yorkshire,
 Mr. W. Cook, Waltham Abbey, Essex.

ORIGIN OF ANIMALS.

BUFFON, we believe, was one of the first who advanced, that each kind of animal had a determinate spot, which was its original abode, and that from that region it afterwards issued, according to the perfection of its locomotive faculties, and spread through distant regions. Asia has been in all times regarded as the country where the human race had its beginning, received its first education, and from which its increase was spread over the rest of the globe. There is the native abode of rice, the vine, pulse, fruit, and all other vegetable productions from which man draws his nourishment. Here, too, all the animals are found wild, which man has tamed for his use, and carried with him in his travels; the cow, horse, ass, sheep, goat, camel, pig, dog, cat, and even the serviceable rein-deer, his only attendant and friend in the icy deserts of the frozen polar regions.

TO CORRESPONDENTS.

Our friends would confer on us much obligation if, when perfectly convenient to them, they would send their communications earlier in the month.

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ANIMAL PATHOLOGY.

By Mr. YOUATT.

LECTURE III.

Palsy in Sheep, Swine, Dogs, and Bees.

SHEEP.

PALSY is not of so frequent occurrence in sheep as in oxen ; for in their general management they are more exposed to the vicissitudes of the seasons, and hardened against the influence of sudden atmospheric changes. Nature has also given to them, for their own benefit and for ours, a thick coat of wool, which, under ordinary circumstances, may bid defiance both to cold and wet : yet there are times when they seriously and fatally experience the benumbing power of the former.

The ewe at yeaning time, enfeebled by the process of parturition, more than usually susceptible of impression from external agents, and less able to struggle against those which are injurious, is carelessly left in a bleak and exposed situation : at night comes “ a frost, a killing frost,” and, as the shepherd with true pathology calls it, “ she is chilled, *chilled to the very marrow.*”

The lamb, just dropped, is perhaps naturally weakly, or, if strong, yet suddenly changes the temperature of the mother’s womb for one perhaps below the freezing point, and lies for hours on a bed of snow. True—nature has kindly given to these little ones, and to young animals of every class, a power of resistance against the cold—a degree of insusceptibility to its benumbing influence—but the vital power must necessarily sink under an attack like this. The farmer carelessly examines his flock at night, but thinks not of the bitter biting blast to which they will be exposed ; and in the morning he finds many of them dead, and more deprived of all power of motion.

The Process of Mischief.—The heat is rapidly abstracted from these neglected and abused animals by the cold bed on which they lie, and the cold air around them. It is abstracted far more rapidly than it can be supplied, and the general sensibility, and every vital manifestation, is diminished, and becomes inactive; the power of voluntary motion is suspended—the nervous influence of the organic system is withdrawn—the vital current is arrested, and life is fled. One universal palsy leads on to, or is another word for, death*. If the full depressing effect of surrounding cold is not produced, yet the energy of the nervous system has been so fearfully impaired, that the stimulus, and the power of being acted upon, whether with reference to animal or organic life, are for awhile suspended; and if indeed they ever return, they return slowly, and with considerably diminished energy. For many an hour, and often during many a day, the blood loiters, and the muscles are rigid, or their contractions are in a manner powerless; and there follows a compound of rheumatism and of palsy—the last predominant and most obstinate. After all, the animal rarely regains its former condition and value, but continues a mortifying and disgraceful exhibition of the carelessness and inhumanity of the farmer. How much has he yet to learn with regard to the treatment of the lamb and its mother! In some seasons the mortality among these animals forms no inconsiderable item in the catalogue of his losses, and the circumstances which contribute to general agricultural distress.

* Some of the most appalling accounts on record of the rigidity suddenly produced by excessive cold, are contained in Labaume's History of the disastrous campaign in Russia, translated some twenty years ago by the author of these Lectures, in order to wile away a few idle hours.

The French army was retreating from Viasma "suffering yet more from the cold than from hunger. They abandoned their ranks to warm themselves by a fire hastily kindled; but when they would rise to depart, their frost-bitten limbs refused their office, and a partial insensibility crept over them. We heard some of them faintly bidding their last adieus to their friends and comrades—others, as they drew their last breath, pronounced the names of their mothers, their wives, their native country, which they were never more to see. The rigour of the frost soon seized their benumbed limbs, and penetrated through their whole frame. Stretched on the road, we could distinguish only the heaps of snow that covered them, and which at almost every step formed little undulations like so many graves."

They at length approached the Niemen. "Some had lost their hearing, others their speech, and many were reduced by excessive cold and hunger to a state of frantic stupidity. Some were so weak, that, unable to lift a piece of wood or roll a stone towards the fires which they had kindled, they sat upon the dead bodies of their comrades, and with a haggard countenance steadfastly gazed upon the burning coals. No sooner was the fire extinguished, than these living spectres, no longer possessing the power to rise, fell by the side of those on whom they had sat."

Mr. Garland, in the first volume of *THE VETERINARIAN*, describes this infantile palsy, if I may so call it, in the lamb. He says that "three lambs were dropped on the 23d of March, without any assistance. In each there was a complete loss of motion on the left side. They lay quietly on the affected side, but when lifted up, and thrown on the opposite side, their struggles were incessant." This hemiplegia in the lamb, while we have little or nothing of it in the horse or the ox, is a circumstance for which I confess that I am unable perfectly to account. One thing, however, we know, that the sheep has hydatids in the brain far oftener than any other domesticated animal. A disposition to the generation or shelter of this parasite in the cranial cavity, is one of the pests of the sheep. Were there congenital hydatids here?

Lesson to the Farmer.—In the beginning of the lambing great numbers of these animals die from cold. A warm thick hedge towards the north, or a temporary shed of hurdles or of faggots, however rudely constructed, and ultimately costing little, would have afforded almost all the shelter which was required. Well! the farmer feels the consequences of his folly and inhumanity. His expected flock of lambs has been materially diminished, and he determines to make the most of what remains; but with consistent want of thought or calculation of consequences, he again goes the wrong way to work, and he kills them with kindness: for, scarcely recovered from their former debilitated state, he now puts them where there is the best flush of grass, and he decimates them by inflammation.

Advice to the Veterinarian.—When, gentlemen, you begin to be consulted, as you will ere long, with respect to the diseases and the general management of all domesticated animals, your inquiries into the nature and causes of disease will enable you to give your employer many a valuable hint, and, by diminishing the casualties to which his live stock is exposed, you will materially lessen the aggregate of distress.

Treatment.—Well, gentlemen, there is a little art in treating these poor palsied beings, and especially the young ones; for although they resist the cold longer than the adult animal, yet they have not strength to bear the re-action which follows when the vital heat once more begins to be produced. The means of relief are simple, but should be cautiously applied. The little patient may be put into a hamper, and carried home, wrapped up in straw, and thus the little portion of warmth which yet continues to be eliminated will not be dispersed. After awhile he may be brought, but very cautiously, into a warm room, or placed at some distance from the fire: a little warm

gruel may be administered, with a small quantity of ginger; or, if he does not soon begin to rally, a little ale may be added to the gruel. I would hardly allow any thing stronger. Mr. Garland recommended that his patients should be bathed in warm water for a quarter of an hour every day. "This," he says, "was of considerable benefit, and in a few weeks they were enabled to stand; but when we ceased to bathe them, they became rapidly worse than before, and were killed." Moderate warmth is the principal restorative; but as soon as the lamb begins to recover, and is able to toddle a little about, he should be returned to his mother, who has, in the mean time, been removed to a more comfortable place, and her care of him and her milk will gradually accomplish a cure.

Diarrhœa.—The organic system, however, does not appear so soon and so perfectly to rally as that of voluntary motion. The limbs lose their rigidity, but the digestive organs imperfectly discharge their functions. The frequent, or, to a certain extent, the almost invariable consequence of this exhaustion, is diarrhœa, difficult to arrest, and soon assuming a serious character. The best, and indeed the only, safe and efficacious remedy that I know, is that which, differently prepared by different persons, goes under the name of "the sheep and calves' cordial." It is composed of prepared chalk as an antacid, the acescent principle often sadly prevailing in these patients, and at this time; catechu, as an astringent; ginger, as the very best stomachic and tonic that we have—a tonic because a stomachic; opium in the form of laudanum, allaying the irritability of the exhalent vessels, and the inflammation of the mucous membrane of the intestinal canal; and peppermint water as a menstruum, a vehicle, and yet, by its stimulant and tonic power, preventing the formation or assisting in the expulsion of those gases, which in every derangement of the digestive organs are so annoyingly and dangerously extricated in the stomachs of ruminants. The proportions of the ingredients would probably be one pound of the prepared chalk, half a pound of powdered catechu, four ounces of powdered ginger, and a pint each of the laudanum and peppermint water.

Palsy at Weaning-time.—Two or three months afterwards comes another dangerous season as it regards the lambs—the time of weaning, and especially if the weather should be cold. They are then often turned into some distant and, perhaps, upland pasture, that the mother and the young ones may be out of the hearing of each others bleating; and that the food may not be too plentiful or stimulating until the lamb is somewhat accustomed to his new kind of nourishment. Notwithstanding every precaution, however, pugging will come on, and cold will be

taken, and there will be weakness of the limbs generally, and especially of the hind limbs, and an approach, at least, to palsy. Possibly this may be somewhat connected with the state almost of abandonment in which they were left when newly dropped. There remained a certain debility, or possibly predisposition, to palsy. Mr. Garland says that, when other lambs of the flock to which he referred became two months old, they were attacked by a similar affection. The treatment will be simple. If the weather or the locality demands it, the animal should be placed in a more comfortable situation; a purgative consisting of Epsom salts with ginger should be administered; and then a dose or two of the "cordial" will usually set all right.

Caution.—The palsied ewe at yeaning, or the palsied lamb at weaning-time, should undergo no protracted course of treatment, especially if they are in tolerable condition. The result of the treatment is not always certain; there may be considerable deterioration of value, or, after all, the patient may be lost. Therefore, if immediate success does not attend your remedial measures, honesty to your employers will suggest the hint that the animal may with most advantage to the owner be sent at once to its destined place.

Thwarter-ill or Shaking.—There used to be a singular cerebral or spinal affection among one or two-shear sheep, which fortunately has, in a manner, disappeared in our country. It was called, I know not why, *thwarter-ill*. In some districts it was more appropriately named *trembling* or *shaking*. There was a peculiar uncertainty in the gait and walk of the animal, every limb seeming to give way; and this gradually degenerated into *shaking palsy*. The patient at length fell, and could with difficulty rise again.

The Leaping-ill.—From the apparent eccentricity of motion in some cases, it was called the *leaping-ill*. The sheep would neglect their food, stand still, stare stupidly around them, and then all at once leap up as if to clear some hedge or ditch. The neck would often become stiffened, and turned on one side. The animal would become weaker and weaker. The use of its limbs, and particularly of its hind limbs, would gradually be lost, and, at length, it would fall to rise no more; yet even as it lay it would occasionally abandon itself to the most singular contortions. Then would come some moments of remission, and the poor animal would set to work and eat every thing within its reach; and many a day, and occasionally some weeks, would pass (if the owner was brute enough to let them), the palsy becoming more confirmed, the animal wasting every day, but the appetite remaining unimpaired.

Locality, Causes, and Treatment.—This disease was usually confined to poor and overstocked farms, and was most frequent in March and April, when the winter's food was gone, and that of the spring had not sufficiently grown. It was often sudden in its attack, like other species of palsy. After an unusually cold night several of the sheep would be found in the morning trembling, or down and unable to rise. Some would fall, and die in a few minutes. Others would drop, and lie many hours or days shivering or struggling. In some it would appear in the form of, or soon become, palsy of the hind legs; in more, one side only would be attacked, and others would be lame in one leg only. It seldom attacked sheep in good condition, but the weak and half-starved ones were its principal victims. Warmth, bleeding, and physic, were the only remedies, but in most cases the evil was past all cure.

Hogg's Description of it.—The Ettrick Shepherd gives the best account of it. He says that fifty years ago its ravages were so considerable that the farmer believed the disease to be infectious, as well as hereditary; and that it was as unsafe to buy from a stock in which the thwarter-ill had appeared, as from one that was liable to the rot. Mr. Lawrence, quoting from Lisle, says, "some years the sheep will be apt to be taken with the disease they call the *shaking*; some farms are more subject to it than others: it is a weakness which seizes their hinder quarters so that they cannot rise up when they are down. I know no cure for it. Some years a hundred of a flock have died of it."

Variety of the Disease.—A very similar complaint used to be prevalent, and is still observed, on several parts of Salisbury Plain. From an unusual coldness of the season, or on certain exposed and bleak situations, or from starvation, or neglect of various kinds, an endemic or epidemic disease breaks out. It commences with slight staggering; a certain degree of stupidity; a gradual wasting; a weakness of the loins; the animal continually slipping and falling; dragging his hind legs behind him more or less; one leg evidently more affected than the other; occasional grinding of the teeth; the appetite unaffected; diarrhœa; death. The post-mortem examination presenting usually softening of the spinal marrow in some part of it, and mostly about the lumbar region; but not unfrequently hydatids in the brain, sometimes one or two considerable ones, at other times groups or bunches of them in the ventricles, or in the scissure between the lobes.

Connected with Hydatids.—I confess that I am much disposed to attribute these cases of real or spurious palsy to pressure on the brain by hydatids; and those hydatids, if not owing their

existence, yet the suitability of their locality, to damp and unhealthy pastures, neglect, starvation, or hereditary predisposition. I have treated of this at length when speaking of the hydatid in the brain of sheep; and while we must not abandon the individual cases that come under our notice, we must found our hope of eradicating the disease from the farm or the district on the adoption of a more rational, and humane, and profitable way of managing our sheep.

Connected with cutaneous Disease.—Girard speaks of palsy as very common among the sheep in various departments of France, and in Germany; but he connects it with other complaints—the sheep pox, of which fortunately we know but little in England, and the scab, of which we occasionally see too much. He describes it as preceded by intolerable itching. The animal violently rubs himself against every object with which he can possibly come in contact. He works himself into a perfect rage and fever; he stands and shivers from head to foot, and sometimes falls into an epileptic fit, but of no great violence or lengthened duration. This pruritus commences about the tail and the croup; it rapidly spreads over the loins and the back, it extends to the head, and reaches to the very feet. He bites himself, he tears away the wool, he abandons himself to every kind of violence. By and by his intellect is evidently affected—he has a wild and wandering look, and the slightest disturbance frightens him beyond measure. He strays hither and thither; he stops every moment in order to bite or rub himself; his walk is vacillating, staggering; the uncertainty of gait is sometimes referrible to the fore extremities, sometimes to the hind ones, and, at other times, both are affected. Every motion is attended by an increasing degree of uncertainty. He falls on his knees; he falls completely down, and remains a considerable time before he is able to rise; at length he falls to rise no more, but even then he seeks for something to eat, and, if it is brought, he will live in this miserable state eight or ten days.

Pathological Explanation.—How shall we account for the paralytic state of the patient, which forms the closing scene of this sad disease? Is the nervous system completely exhausted by the long continuance of intolerable irritation? I can readily conceive of the spinal cord and its membranes sharing in this intense inflammation, spread everywhere around them, and invading every part to which the nervous fibrils are sent. I can conceive this ultimate exhaustion of sensorial power to be the natural or necessary consequence of cutaneous, and, perhaps, deeper seated erythism like this.

The repelling of cutaneous Eruptions.—Among the causes of

palsy in the human being is the sudden repelling of extensive or acute cutaneous eruptions. We have occasional elucidations of this in our country. There is no more effectual remedy for the scab in sheep than the mercurial ointment: I was going to say that there is no other remedy on which dependence can be placed. It needs not, however, to be used in the concentrated state in which it is generally applied. It needs not to be the strong mercurial ointment of the Pharmacopœia. Mixed with four or six times its weight of lard, it may not relieve the disease so speedily as in its concentrated state, but it will do so more perfectly and more safely. I have known many instances of ptyalism and nervous affection from the undue use of mercury, and more especially from that of arsenic. The French, however, pay little attention to this, and, when palsy eventually occurs, they attribute it to the cutaneous eruption, and not to the remedy. They consider the eruption as the first stage of or preparatory to the appearance of palsy, and they bleed and physic, and use turpentine embrocation on the spine.

Strange German Operation.—The Germans have somewhat of the same notion, and they resort to a very singular and cruel method of cure. They judge, and perhaps rightly, that this is a disease not simply of the integument, but that the subcutaneous cellular tissue is, if not essentially, yet speedily involved. They make an incision into the skin of the back at the posterior region, and introduce into it a canula; and then, by hard blowing and some manipulation, they separate the skin from the subjacent tissue, and then inject oil of turpentine. They excite speedy inflammation, and enough of it too; and the affection of the integument is relieved or disappears, and the spine never becomes affected. This seems a butcher-like way of proceeding, and I do not think will be speedily adopted in our country; but we may perhaps derive from it a useful hint with regard to the application of stimulants in some cases of scab (for there are several distinct kinds of it), and also the possible efficacy of blisters along the spine in cases of palsy of this patient: I acknowledge, however, that I should not expect much benefit from them, for I should rarely, if ever, be able to produce vesication.

Our Path.—On the whole, our efforts must be directed to the prevention of this spinal affection: our prognosis should always be very guarded, or distinctly unfavourable, and our advice should usually be to cut that short which we may probably be unable to cure.

Desideratum.—Here again we sadly need—the sheepmaster and the country demand—the establishment of experimental schools. Until we have them, we shall know little of the cause

and the treatment of many a disease of cattle and of sheep, for we have no right to sacrifice the property of our employers, nor are we called upon seriously and inconveniently to sacrifice our own.

SWINE.

I have never seen a case of palsy in the hog, nor have I met with a satisfactory account of one. The French writers on the subject say that it is principally referrible to low and marshy situations, or to bad or damaged food; and that it is occasionally the punishment—not falling, where it should do, on the owner—for attempting to hasten the process of fattening by giving too stimulating food; the habitual irritation of the intestinal canal being at length propagated to the spinal cord. Eric Viborg, who has seen much of the diseases of swine, counsels, according to Hurtrel D'Arboval, to give the animal more wholesome food and a dryer sty. If the fattening hog becomes constipated, he should have a purge of common salt, and should be afterwards drenched with common salt and gentian. These are the principal medicines recommended by Eric Viborg.

THE DOG.

Connected with Distemper.—This animal affords some interesting illustrations of the causes and treatment of palsy. It is not uncommon in the after stages of distemper. The nervous system shares in the debility which invariably accompanies extensive and protracted inflammation of the mucous surfaces. When palsy is the consequence of distemper, it is usually accompanied by chorea, and it is then generally, but not always, hopeless. Setons should be inserted in the poll, being then as nearly as possible to the commencement of the spinal cord. They should be well stimulated and worn long; and if these fail, a plaister composed of common pitch with a very small quantity of yellow wax and some powdered cantharides, and spread on sheep's skin, should be placed over the whole of the lumbar and sacral regions, and extending half way down the thigh on either side. The bowels should be kept well opened, and that by mild aperients, in order that every source of irritation may be removed from the intestinal canal. Some mild and general tonic will likewise be useful, such as gentian and ginger, the bowels having been first properly attended to. The mildest and best aperient for the dog, in these and in almost all cases, consists of castor oil, syrup of buckthorn, and syrup of white poppies, in the proportions of three, two, and one. Calomel is altogether inadmissible.

Rheumatism.—I do not know any animal so subject to rheumatism as the dog, nor any one in which, if it is early and properly treated, it is so manageable. A warm bath—perchance a bleeding—a dose or two of the castor oil mixture, and an embrocation composed of spirit of turpentine, hartshorn, camphorated spirit, and laudanum, will usually remove it in two or three days; unless it is complicated with muscular sprains or other lesions, as in the *chest-founder* of kennels.

Chest-founder.—This is a singular complaint, and often a pest in kennels that are built in low situations, and where too much bad management prevails. Where the huntsman, or whippers-in, are too often in a hurry to get home, and turn their dogs into the kennel panting and hot—where the beds are not high enough from the floor, or the building, if it should be in a sufficiently elevated situation, yet has a northern aspect, and is unsheltered from the blast, chest-founder prevails, and I have known half the pack affected by it, after a severe run—the scent breast high, and the morning unusually cold. It frequently degenerates into palsy. You will often be consulted about this provoking muscular affection. Your advice will comprise comfort, dryness, attention to the bowels, attention to the exercise ground, and perhaps occasional setons; and these inserted—not where the huntsman usually places them, on the withers above, but on the brisket below, and defended from the teeth of the dog by a roller of very simple construction passing round the chest, between the fore legs, and over the front of the shoulders on either side.

Chest-founder in the Pointer.—The pointer, somewhat too heavy before and hardly worked, occasionally becomes what is called chest-foundered. From his very make it is evident that, in long continued and considerable exertion, the subscapular muscles will be liable to sprain and inflammation. There will be inflammation of the fasciæ, induration, loss of power, loss of nervous influence, and palsy. Cattle driven far and fast to the market suffer from the same cause.

The Connexion between Rheumatism and Palsy.—There is no animal in which the connexion between rheumatism and palsy is so frequent, and, as it were, necessary, as in the dog. Whether or not I must refer it to inflammation of the ligaments of the vertebræ, or of the cord and its membranes, I know that, however easy it may be to subdue a rheumatic affection in its early stage, yet if neglected it very soon, in this animal, simulates, or becomes essentially connected with, or converted into palsy.

The Connexion between Intestinal Irritation and Palsy.—No animal presents a more striking illustration of the connexion between intestinal irritation and palsy than does the dog. He

rarely or almost never has enteritis in its mildest form, without some loss of power over the hinder extremities. You might think at first that this arose from the participation of the lumbar muscles with the intestinal irritation, and so perhaps to a certain degree it may; but let the disease of the bowels continue long, and it will be evident enough that it is not pain alone which produces the constrained and incomplete action of the muscles of the hinder extremities, but that there is an actual loss of nervous power. Nay, simple constipation cannot long exist in the dog, without impairment of nervous power. A patient is often brought to me with no apparent disease about him except a staggering walk referrible to the hind limbs. I inquire into the case, and I find that he eats well, and is cheerful; I examine him, and perceive that his muzzle is moist and cool, but his belly is completely tucked up, and there are two longitudinal cords, running parallel to each other on either side, which will scarcely yield to pressure. I order the castor oil mixture twice or thrice daily until his bowels are acted upon, and as soon as that is accomplished he is as strong and as well as ever.

Perhaps he comes to me palsied; his hind legs being dragged behind him. I order him a warm bath. I dose him well with the castor oil mixture, and if it is a recent case he is quite well in a few days. In more confirmed palsy, I add to the constant action of the aperient on the bowels, the charge or plaister on the loins. The process may be somewhat slow, but it is seldom that the dog does not ultimately and perfectly recover. An old Chinese dog in the Zoological Gardens had completely lost the use of his hind limbs many months ago. He has been treated in this way—he is recovering, and I doubt not that, before the spring has passed, he will be as stout and able as he continues to be savage.

Explanation of this Connexion.—It is easy to explain this connexion, although we should have scarcely supposed that it would have been so intimate, had not frequent experience forced it upon our observation. The rectum passes through the pelvis. Whatever may be said of that viscus considering its vertical position in the human being, it is always charged with fæces in the quadruped. It more than shares in the effect, whatever that be, which is produced by the retention of fæces in the intestinal canal, and it shares also in the inflammatory affection of other parts of the canal. Almost in contact with this viscus, or at least passing through the pelvis, are the crural nerve from the last lumbar vertebræ—the obturator running round the rim of the pelvis—the gluteal nerve occupying its back, and the sciatic hastening to escape through it. It is not difficult to ima-

gine that these, to a certain degree, will sympathize with the healthy and also the morbid state of the rectum, and that when it is inert, or asleep, or diseased, they also may be powerless too. Here is something like fact to establish a very important theory, and which will much influence our practice.

BEES.

Why should not the care of the veterinarian extend to every animal, which the Author of all has made susceptible of pleasure and of pain? The bees pass the winter in a half torpid state, clustering together between the combs. If a warm day occurs, they revive, and consume a little of their store, and sometimes too often and too much, and it is exhausted before the flowers come again. Therefore it is, that, in the bee-master's estimation, a cold spring, when few flowers have blown, is favourable to them as inducing them to sleep on longer, and until they can obtain the greater part of their provision abroad. Yet the spring must not be too cold, for the bee, once awake, never goes fairly to sleep again; and that degree of cold which would harm him not in his full state of torpidity, may be injurious or fatal to him when he is half asleep and half awake.

In the early part of the spring, therefore, the bee-master frequently examines his hives, and especially after a cold night. Are the little inmates clustering snugly together, or have some of them, many of them perhaps, loosened their hold, and fallen to the bottom? If so, their torpidity is changed to palsy, and their sleep will soon be, if it is not already, the sleep of death. Should he find the bottom of the hive thickly strewn with them, he wraps the hive warmly up, or he removes it to a more sheltered place. The first is the usual process, and generally sufficient; and the poor fellows below revive, and climb up the side of the comb, and cluster afresh.

THE ANATOMY OF THE FORE FOOT OF THE OX.

By Mr. W. C. SPOONER, Southampton.

[Continued from p. 109.]

ON removing the skin from the shank of the ox, we discover that the tendons, ligaments, and vessels, are all covered by a *ligamentous substance*, which being very strong at the posterior part of the tendons, is then reflected between them and the suspensory ligaments, so as to form their sheath. This substance is continued down to the foot, and at the fetlock becomes increased into two firm and distinct parts, which being covered by the skin, here considerably thickened, and this

again by horn, forms that part commonly called the *dew claw*. It is connected to its horny covering by very numerous laminæ. This appendage affords considerable protection to the fetlock joint, and, probably, is useful occasionally in preventing the animal from slipping. From each dew claw a strong ligament proceeds to the cartilago-ligamentous heels.

TENDONS.—The *flexor perforatus* at the head of the large metacarpal bone is divisible into two portions, which become united about two-thirds down the bone. Just above the fetlock joint it again bifurcates, becomes flat, and, being joined by a branch of the suspensory ligament, forms two separate sheaths for the two divisions of the *tendo perforans*. Each portion is then continued down the back part of the suffraginal bones, and is inserted into the postero-superior part of the small pastern.

The *flexor perforans* accompanies the *perforatus* within their common sheath. It is single just below the knee, but splits into two portions at the situation of the union of the *perforatus*. Just above the fetlock, each portion enters the sheath formed by the *perforatus*, and here increases in size, and becomes firmer in substance. It is smaller and softer at the back of the pasterns; and just before it arrives at the *os pedis*, it becomes closely connected with the cartilago-ligamentous heels. It is continued behind the navicular bone, where it becomes as wide as the bone itself, increasing in size until its insertion in the infero-posterior part of the *os pedis*.

The *right extensor coronæ* is situated in front of the metacarpus on the right side of the other tendons. It takes a course to the right *os suffraginis*, at the upper part of which it becomes more extenuated and broad. Continuing to expand, it has an extensive attachment to the large pastern, and about half way down the bone it splits into two portions. The larger of these continues in a straight direction to the pastern joint, where, being lined by synovial membrane, it forms the anterior division of the capsule of the joint, and is inserted immediately below it into the supero-anterior part of the *os coronæ*. The smaller portion takes a course obliquely to the right, passes over the capsular ligament, is joined by the external slip of the suspensory, expands considerably, and is inserted into the cartilago-ligamentous heels.

The *left extensor coronæ* is situated on the left side of the *extensor pedis*; and its connexions, course, and terminations, are similar to the last tendon.

The *extensor pedis* is rather smaller than the two preceding tendons, between which it takes its course. Just above the fetlock it splits into two portions, each of which plays within a

synovial theca in front of the joint. Each portion continues inclined rather outwardly along the anterior surfaces of the pastern bones, and becomes inserted into the superior and rough portion of the os pedis.

ARTERIES.—The *large metacarpal* artery is situated at the posterior part of the tendo-perforatus. It continues its course in a straight direction with its vein and nerve, until within an inch of the fetlock, where it divides into two trunks. The larger continues in a perpendicular direction at the back of the fetlock joint, and becomes the *large plantar artery*. The *smaller bifurcation* goes off at right angles from the preceding towards the left side, where it divides into two branches. The lesser descends, and, after giving a few small trunks to the joints and other parts, becomes the *left plantar artery*. The *greater division* takes its course upwards, giving off a few *recurrent branches*; it passes inwardly between the flexor tendons and the suspensory ligament, and joins the *ramus anastomoticus*, coming from the right or *small metacarpal artery*. The *left plantar artery*, descending from the fetlock joint, gives off a branch to the extensor tendons and parts around, and, a little below this, it separates into many small trunks, which subdivide and supply the coronary ligament.

The *large plantar artery*, a little below the fetlock, enters the fatty substance between the pastern bones, in which it continues to the division of the foot, inclining, however, towards the left side. At the commencement of the hoof, it is continued between the sensible laminae and the internal side of the left os pedis, in a direction towards its toe, where it enters a foramen, and within the bone the *arteries of the sole and laminae* are given off. The branches of the *large plantar* are,

(A) which goes off at right angles from the trunk; and after giving off a *recurrent branch*, enters between the right flexor tendons and the small pastern.

(B) goes off just opposite the preceding, and pursues a similar course on the left side. A little below the origin of this artery is given off

(C) which supplies the right cartilago-ligamentous heels.

(D) arises near the latter, and takes a direction between the small pastern bones to the anterior part of the foot, where it splits into two portions, from each of which branches supply the pastern; and then each trunk enters a foramen in the internal part of each os pedis, having sent a branch into a foramen situated at the superior part of the bone.

(E) arises near the origin of the last artery (D), and proceeds to the left side to supply the cartilago-ligamentous heels. A

little below this branch is given off (*F*), which pursues a course towards the toe on the inner side of the left os pedis, between it and the sensible laminae. It gives off *branches to the sensible laminae and sole*, and then enters a foramen on the inner side of the coffin-bone, by which other arteries of the laminae and sole are supplied. Near the origin of this artery several branches are given off, which supply the heels, sensible laminae, and the posterior part of the sensible sole of the right coffin-bone.

The *small metacarpal artery* is situated just below the knee, at the right side of the suspensory ligament. It gives off three branches in its course, and then passes down in the hollow between the flexor tendons and the suspensory ligament; and, becoming deeper seated about half way down the cannon-bone, separates into two trunks. One takes a direction to the fetlock joint, and there becomes the *left plantar artery*; the other, a *ramus anastomoticus*, advances between the bifurcations of the suspensory ligament, crosses over to the other side anterior to the ligament, and between its left bifurcation joins the large metacarpal artery. The branches of the *ramus anastomoticus* are,

(a) a recurrent artery.

(b) a branch supplying the fetlock joint.

(c) which enters a foramen in the bone.

The *right plantar artery* accompanies the vein and nerve, and after sending some branches to the anterior part of the pastern bone, and two smaller ones to other parts, then divides and subdivides, to supply the coronary ligament.

[To be continued.]

LOCAL PALSY IN HORSES.

To the Editors of "The Veterinarian."

I HAVE read the report of Mr. Youatt's Lectures on Palsy with much interest, but have looked in vain for some account of a kind of palsy in horses, affecting different parts in different cases, and of which I have met with several, though I remember reading of one only, and that probably was not much noticed. I purpose now to relate as many as my paper will contain, withholding for the present my opinion as to the nature and cause, with the hope that you or some of your readers will add to the number, and give a more satisfactory explanation than I am able; for though I might be in some degree satisfied with my own, it would be difficult to demonstrate it to the satisfaction of others.

An old pony mare that I had known for some years, full of

flesh, and hardy, was observed by me to have an unhealthy-looking coat towards the end of the summer ; and some time after, on being ridden a few miles, she was found to stop two or three times, and strain, as though she wanted to dung, but went on again. Next day I was consulted : there was no uneasiness or fever present, but on examining the rectum I found it filled with hard dung ; indeed, to such a degree, that its removal by the natural means was impossible. I removed it with my hand, and administered purgative drenches without effect, for two or three days ; and when at length the dung was liquefied, it passed involuntarily away for some days, and then became impacted as before. I now discovered that the bladder was paralyzed, as also were the muscles of the tail and croup, to a certain extent, and more on one side than on the other, and to such an extent she was insensible of pricking with a pin. Soon afterwards it was found that the muscles of her jaws were affected, so that she could hardly masticate her food, and not at all for some time after any exertion in the way of exercise.

Her upper lip also was drawn on one side, and the under one on the other, so that she could neither collect her food nor masticate it, and was kept alive with slops. In this state she was given up to me for experiment, and, however anxious for a post-mortem examination, I kept her on, until by degrees she became better in every respect, so that she could feed and discharge her dung when a certain quantity was collected, and also her urine. Her tail was no longer tossed up and down when she was made to trot, but was now drawn on one side. In this state I gave her to an infirm old man, on certain conditions, in whose possession she broke her pasture, crossed some fields to a cart-horse, and was impregnated. In the following spring she dropped a weakly foal, which died after a few weeks, and the mare soon afterwards, from inflammation of the bowels. Of my treatment I kept no record, but it was principally laxatives and tonics, with stimulating applications, even liquid blister, within the rectum and sheath, and round about externally, without any perceptible effect.

An aged gelding was placed under my care for a paralytic affection of the hind parts, which did not prevent his walking, but if started on the trot he would reel and be in danger of falling backwards ; this was accompanied by a profuse perspiration about the buttocks, and a drawing of the tail on one side. Supposing it to be a spinal affection, I inserted setons, and kept his loins covered with sheep-skins. I also bled him, and administered purgative medicines, but all to no purpose. Some time afterwards he was given up for experiment, by which period,

or soon after, his penis became pendulous and drawn round, so that he staled between his hind legs. I kept him for some time, and administered almost every thing that I could think of as likely to do good, but there was still none or but very little alteration: I had him killed, and examined him without finding any of the ordinary causes of paralysis.

To these I could add other cases of paralytic affection,—as a cart-horse with the upper lip drawn on one side, and which, after some time, returned to its place: a young cart-mare that had much difficulty in feeding, and for a long time (if not until now) had her tongue drawn on one side, with the tip outside of her mouth when at rest. There is another mare still under observation: she came under my care, desperately diseased and out of condition, nearly five years since, and has been ridden as a hack nearly ever since, except that, being an extraordinary jumper, she was a good deal with hounds. She has had, and still has to a slight degree, her upper lip and tail drawn towards the off side; the tail in particular when galloping and leading with the fore leg of the same side. She was, some time since, after severe work, unable to feed for a little time after coming in, and the same cause also appeared to operate for an hour or two by making her not quite air-tight behind. She is getting an old mare, and has never been a credit to her stable; yet from her goodness as a hack and huntress, valued too highly to be parted with on account of her infirmities, and some day or other I hope to see what I can as to the cause of them.

A CERTIFIED PRACTITIONER.

DISEASES OF THE HEART.

By Mr. T. PROCTOR, Solihull.

CASE. I.

INFLAMMATION OF THE LUNGS, WITH AFFECTION OF THE HEART.

ON the evening of the 7th November, 1834, about ten o'clock, Mr Allcock, of Solihull Hall, requested my assistance to a brown hackney mare in tolerable condition and four years old. Symptoms: Pulse 64, full, hard and rather oppressed; respiration hurried; membrane of the nose much reddened; ears and extremities quite warm; appetite nearly gone. Her refusing her night's allowance of corn, first excited the suspicion that all was not well. Some time ago the mare had done badly, but of late had wonderfully improved in her condition. I bled her to five quarts, when the pulse began to falter. The blood coagulated

into a very dark mass. I gave ʒij aloes, had her removed to an open airy apartment, and ordered merely a little water for the night, and warm clothing.

18th, Half past 7 A.M.—No better; pulse 74, hard and wiry; appetite bad. Bled with a large stream; four quarts flowed, she became faint, and lay down. The blood settled as before. I blistered her brisket, and gave ʒj digitalis, ʒss. ant. tartar.—2 o'clock P.M. No better. Pulse still hard and wiry, and 78. Breathing as bad as ever; extremities cold; gave fever medicine as in the morning, and bandaged her legs.—8 P.M. Pulse 78, rather softer; hind legs still cold. Breathing rather relieved; medicine repeated; a little hay and white water offered her. The blister on the brisket has a slight effect.

19th.—Worse; pulse 93, small and hard; breathing very bad; unequal circulation in the extremities; appetite bad; bled to five quarts in large stream, which did not affect her as before. Blood coagulated with thickness of the buffy coat for the first time. Medicine repeated; blistered both sides.—1 P.M. Much the same, excepting the pulse being rather softer; gave the fever medicine as before, with ʒss aloes, the bowels being rather confined.—8 P.M. Pulse 100, small, and still hard; extremities hot as fire coals; breathing hurried, but the inspirations and expirations much truer, and not so much of that incomplete action of the flanks as before. Membrane of the nose still injected. Blistering has no effect on the sides, therefore more was rubbed in. Gave ʒj digitalis, ʒj emetic tartar, ʒij nitre. Bowels being still confined, an injection was given.

20th, 8 A.M.—Worse in every respect, pulse 104, small and hard, maintaining in its former character; extremities deathly cold. No appetite, spiritless, breathing not quite so much affected. Mouth hot, sticky and smells offensively. Membrane of the nose of purple hue. Blistering on the sides has no effect. Appears as if sinking. Gave ʒj digitalis, ʒj emetic tartar, ʒss sweet sp. nitre in half pint of water. Ordered her to be drenched with gruel, and stimulating embrocation, and fresh bandaging for her legs, and extra clothing, and an injection given.—2 P.M. Greatly improved. Pulse 86, and softer. Appetite increased, more lively. Breathing better. Extremities quite warm. Pituitary membrane brighter. The blister on sides and brisket begins to take effect. Medicine as in the morning, omitting the sweet sp. nitre.—7 P.M. Much the same, excepting the pulse being rather on the rise. Gave ʒj digitalis, ʒj aloes, the bowels being constipated. Ordered gruel, and to be enticed to eat a little.

21st.—Worse. Pulse 140, small and thready; respiration hurried, but not difficult; appetite again diminished; unequal

circulation in the extremities; membrane of nose pale; mouth smells offensively. She appears as if sinking again; and is much dejected. The pulsation of the heart as plain on the right side as on the left. Gave ʒss digitalis, ʒss emetic tar., ʒss sweet sp. nitre, in a drink: stimulated the extremities; ordered good gruel for drenching her, and nutritious food.—Half past 2 P.M. Pulse 160, irregular, intermittent: sometimes the pulsations of the heart would be violent and thumping; then feeble: again it would beat a few slow powerful strokes, and pause, followed by palpitation; in fact, I cannot rightly describe the character of the pulse and the action of the heart. I could scarcely believe myself respecting the pulse being 160, but by repeated trials by my watch I found them to be still full 160. I thought this would not last long; and ordered stimulating mixture for the legs, and her medicine as before, with eight ounces of linseed oil to open the bowels.—8 P.M. Much the same. Pulse still 160. The heart's action so tremulous, quick, irregular, and vibrating over the whole body, that I directed the owner and other standers-by to apply their hands to her sides, when all of them expressed their astonishment, and despaired of her surviving long: indeed, I joined them in their thinking. I was desired to do what I could for her. Depletion and the lowering system had been carried to their full extent, for the mare's strength seemed fast declining; and now I resolved, at all risks, of making a trial of tonics, renewing the counter-irritants, and administering oil to rectify the obstinate state of the bowels. Accordingly I gave ʒviij linseed oil, ʒss gentian, ʒss ginger, ʒss camomile. I inserted a rowel under the brisket; drenched her with good gruel; and ordered her to be coaxed to eat corn, grass, or any thing in the shape of nourishment.

22d.—Rather better. Pulse 140; the same in quality as yesterday—tremulous, irregular, and vibrating. Breathing still quick, but not difficult: membrane pale: one leg warm, the other three cold: mouth smells: repeat the tonic.—7 P.M. Much the same. Gave the tonic as before.—8 P.M. Pulse 130. Breathing better: appetite better. Gave tonic, and ordered her nutritious gruel. Omitted to mention that the tonics were given on the 23d in greater proportion, and with half a pint of linseed oil.

23d, 8 A.M.—Pulse 120, less irregular, &c.; two legs warm, the other two cold: membrane of nose healthier. Breathing very much amended.—7 P.M. Great improvement. Pulse 80, and stronger, and more regular. Breathing quite calm; mouth smells a little: appetite mends.

24th.—Pulse continues to quiet down. Breathing still easy: appetite better than yesterday; in short, health is fast returning. Give tonic medicine as before.

25th.—Dung quite moist; and feeds well. The tonics were continued until the 27th, when she was struck off the sick list, and has remained well ever since.

The patient never lay down until the last two days of her illness.

Remarks.—In the beginning this case was decidedly an attack upon the lungs. But the strange action—deranged function of of the heart—irregular, intermittent, wiry pulse, and rising to the number of 160 per minute—what must we call this? I must confess I never saw any thing like it before. To a certainty the heart was highly excited. Could it be from inflammation? Inflammation of the heart is often an obscure disease in the human subject. But whether this is the case with the same disease in the horse I am not prepared to say, as I have not met with many cases of it. Within the last twelve months I have seen two cases which I considered inflammation of the heart, and one at the Veterinary College last January twelve months: two of them were brought on by over-exertion, and the other followed a violent catarrhal affection. The leading symptoms were these:—a powerful beating from within; a stroke vibrating through the body, and peculiarly evident at the flanks; breathing not so much affected as in pneumonia; the pulse at jaw quick; ears and extremities cold; membrane of nose, in all three cases, of a purple hue; great anxiety, and yet an eagerness and alertness, if I may so call it, in the horse's appearance. Two of the patients died, and one recovered.

Perhaps you may give us your opinion.

PUERPERAL, OR MILK FEVER IN CATTLE.

By Mr. E. FRIEND, Walsall.

Gentlemen,

THE perusal of every fresh number of your publication impresses me with a feeling of gratitude to all who are concerned in supporting it. The first day of every month, at least, finds me with an anxious wish to contribute something as my mite towards furthering the good end it is intended to promote, viz., the advancement of sound veterinary science, and which end, I, for one, believe it to be well calculated to effect. "I pity the man who can travel from Dan to Beersheba, and say, It is all barren;" and I confess that I never rise from reading THE VETERINARIAN without having gained some new idea, or confirmed some preconceived opinion.

Having before troubled you with some remarks on the disease which forms the subject of the following article, I ought, perhaps, to apologize on this occasion; but if the importance of

the subject itself does not form a sufficient one, I have no other to offer. The opinions herein advanced are the result of much thought and observation; and though you will find they differ in some respects from those expressed in my former paper on the same subject, yet I think I may venture to say, that, upon the whole, they will be found to be but a carrying out of those which I then entertained, naturally arising out of circumstances. I had then the thread of the labyrinth, and I was endeavouring to trace it through all its mystic windings and mazes, but I had got hold of the wrong end; as a sportsman would say, 'I was on the heel of the scent.' But if my own observations and experience subsequently have enabled me to follow its intricacies to a resting-place; if I have arrived at a conclusion which will be proved to possess a moral certainty; or if even I hereby furnish a clue which may enable any of the profession to come to the same desirable end; this paper will not have been written in vain.

Puerperal or milk fever, as it is called, in cows, appears to be in them a disease of a specific character, and he who reasons from analogy in these cases will be sure to err. It is a name which, in my opinion, indicates any thing but the real character of the disease, which I consider to be one most decidedly originating in the organic motor nerves*. My reasons for this opinion will be detailed in conjunction with an account of five cases of this disease under different circumstances; and, fearful lest I shall be obliged to trespass on the patience of your readers, I must preface them by bespeaking their indulgence.

CASE I.

A cow in fair condition, belonging to Mr. Porter, Little London-street, Walsall, fell on the 6th June, 1835. I was called in at half past eleven at night; she had been down only two or three hours, and she died at one.

Inspectio cadaveris.—No disease appeared except in the stomachs; they were slightly inflamed: the cuticular coat would peel off with difficulty, and shewed injection into the muscular coats. Gall-bladder full. Uterus healthy†.

* Considering the nerves as part and parcel of the brain—as 'streams from the fountain'—as identified in the most vital manner with this all-important organ, I shall purposely speak only of them in this article, leaving it for future research and examination to determine the relative influence of each on the other in these cases; to ascertain the lesions, which will, I hope at some early day, enable us to determine the specific character of this cerebral disease, and to lead to that most desirable end, a rational and well-grounded system of remedial treatment.

† When I speak of either health or disease in these post-mortem examinations, your readers will please to suppose that the nerves are excepted.

CASE II.

A cow in middling condition, belonging to Mr. Williams, Walsall. She calved on the 27th June; fell on the 28th. I was called in on the 29th, and she died the same evening.

Inspectio cadaveris.—The rumen and manifolds were full of food; the gall-bladder full; the cuticular membrane of all the three first stomachs peeled off on the slightest rubbing, shewing the muscular coats highly inflamed; the abomasum and intestines were nearly empty, and but slightly inflamed. The uterus was healthy. The liver was sound and healthy; so were the spleen and kidneys: the lungs were inflamed, and had several cysts in them containing a fluid perfectly clear. Strong medicines had been given her to unload the stomachs, but there appeared no power in them to co-operate with the remedies applied, and she died without any relief being afforded her.

CASE III.

A cow, very fat, belonging to Mr. Wright, of Walsall. I was called in at two o'clock in the afternoon of the 16th July. She had been down about twenty hours; had had three quarts of yeast and some other medicine (I could not ascertain what) given her: no relief being afforded her by seven o'clock in the evening, I advised him to have her killed; and, strange to say, there was no appearance of disease in any of the thoracic or abdominal viscera, except that the three first stomachs were gorged with food, and the true stomach and intestines nearly empty.

Here, gentlemen, light broke in upon me like a flood: in the early part of my practice I always suspected and accounted for the sudden paralysis of the hind extremities by saying, that inflammation extended from the womb to the spine, and that the thickening of the membrane covering the spinal marrow, consequent upon this, was the occasion of this palsy of the hind extremities. But finding, on examination of several cases, that this was quite a visionary theory, without foundation, and finding also that the stomachs were invariably filled and inert, I shifted my ground, and adapted my practice by degrees to endeavour effectually to unload them, and carried it to an extent I could scarcely reconcile to myself, and which has been denominated temerity in the pages of *THE VETERINARIAN*. I succeeded better, but still failed on too many occasions (as I am afraid we must continue to do); but I began to suspect that fever or inflammation was not a cause, but a consequence, and that the origin of this disease was not yet traced or pointed out by any

writer. I could not satisfactorily account for the fact (considering it to be a disease originating in fever, and essentially inflammatory), that powerful, very powerful stimulant medicines were evidently of the utmost benefit in these cases. I knew the fact, and I drew conclusions from it, impotent enough I confess; and though I was obliged, for want of better argument, to make use of them, yet they did not satisfy me. Long before the death of this cow I had suspected that fever was only symptomatic: now I was convinced, and I was also thoroughly convinced, that primarily it is a cerebral and not a visceral disease. I reasoned with myself thus:—What are the symptoms in life, and appearances after death, invariably connected with puerperal fever? And what are those which, occurring differently in different cases, entitle them only to the appellation of accidental or variable ones? I classed them in something like the following manner:—

First, as the invariable living symptoms, and post-mortem appearances—paralysis of the hind extremities—total suspension of rumination—evident loss of muscular action in the first three stomachs in life, proved after death by their retaining their contents—unnatural fulness of the gall-bladder—more or less difficulty in breathing—a peculiar haggardness and dejection of countenance—an imperfect secretion of milk—an inclination to turn the head back on the sides—and no maternal anxiety.

Secondly. As the variable ones: Pain—more or less inflammation of the stomachs and intestines, according to the time the beast has lain, or the previous state of plethora, &c.—the same of the lungs and other viscera—difficult deglutition—and, generally, healthy uterus.

Classing them, then, something in this way, calling in the aid of past experience, collating and comparing various cases, which memory enabled me to do from a rapid retrospection of both successful and unsuccessful practice in this disease, I arrived at the conclusion which I projected at the commencement of this paper,—that puerperal fever (so called) in cows decidedly originates in disease of the organic motor nerves.

If you will allow me, I will furnish you with some of the arguments in favour of my new theory, as they presented themselves to me; but instead of ranging through the whole of my past practice for simple facts, I will limit myself to those detailed in the three cases already mentioned.

First in order, then: Paralysis of the hinder extremities. This is evidently a disease of motor nerves; whether principally of organic ones, or of those of voluntary motion, or of both, I will leave for the present, with only hazarding a conjecture, that though there is sufficient proof that some of the voluntary

nerves are affected, yet that the primary, the overwhelming affection originates in the organic ones; and that from sympathy, or from want of power in the voluntary motor nerves, without the aid derived from the purely organic ones, sufficiently to excite the muscles concerned in supporting the hind extremities, is the cause of this paralysis. That it does not arise (as has been said) from debility, admits in many cases of good proof. In the third case, the fat cow had been through a large pond of water, and broken down some strong iron hurdles, placed there to separate it into two pastures, only an hour before she fell; and though this may very well account for her powerless state in so short a time, from the violent shock given to the nervous system, yet such extreme muscular debility could not in any other way have been produced in the time. Again; connecting the total suspension of rumination and want of muscular action in the three first stomachs in life, with their being found invariably to retain their contents after death; and taking into consideration that the action of all these stomachs is more mechanical than chemical; that they are not, strictly speaking, the organs of digestion, but only appointed to receive, to prepare, to separate, to send the food thus prepared, &c., by an extraordinary route, viz. back by the œsophagus to the mouth for re-mastication, again by another channel to be triturated afresh, and then sent forward to the fourth stomach, for the important purposes of digestion, &c.; and going on further also to consider, that though death may supervene, you have still the same muscles undestroyed in their fibres, only variably injured by inflammatory action, or even not at all in some cases (as I shall presently prove to you); and reflecting also that they receive the necessary nervous stimulus from organic motor nerves alone, and that there are abundant proofs, that, from the time the animal falls, they cease to act (except roused to such action by artificial means),—I say, taking all these things into consideration, it can scarcely be called jumping hastily to the conclusion which I have adopted, for I think scarcely a stepping-stone will be wanting by which the most wary and deliberate person may not arrive at the same conclusion,—that the disease which has destroyed life in such cases originated in the organic motor nerves.

And what are the proofs that the stomachs do not act after the animal falls? These:—first, that, according to the time the animal has lain, you will find the contents of the stomachs more or less hard; and this not from inflammation, but from an abstraction of fluid, which will take place without the intervention of that muscular action necessary to move the more solid contents. And, secondly, that you will find the contents impressed with the

prevailing appearance of that part of the stomach, with which they have all along lain in contact. This will be seen in a peculiar degree in the maniplus: you will find, in protracted cases, that the contents of this stomach are covered with a thin blue pellicle, and you may remove every particle of them from every fold of the stomach, indented with every minute papilla on its numerous leaves, and forming a complete counterpart to the rugæ from which it has been taken; the thin pellicle also dipping into every indentation, and proving beyond doubt the impossibility of any thing like trituration having latterly taken place in that stomach.

I next notice the unnatural fullness of the gall-bladder. From what cause does this arise? It is peculiarly unnatural in this case, because the disease being one accompanied by severe constipation, and there being always a decided effort of nature (where practicable) to relieve herself, we have a right to suppose that she would if it were possible, in this case, call in the aid of every drop of bile that the gall-bladder contained, in order to assist her in this her time of need, rather than hoard it, when there could not by possibility be a more urgent occasion for it. But she cannot now make use of it; and why? Because the action by which the contents of the gall-bladder are poured into the intestines is called into play by influence from organic motor nerves; and this leads me, on this head, to conclude that they are the seat of disease.

I proceed to the next general symptom,—More or less difficulty in breathing. There may be and there is, at times, inflammation of the lungs, but this is not essential to produce difficult breathing in these cases: I have seen it frequently when none existed. How then is this to be accounted for? Easily enough, if my conclusion be a correct one. All veterinary surgeons know that respiration is carried on partly by muscles under the controul of the will, stimulated to action by voluntary motor nerves, and partly by muscles, &c., not under the controul of the will, directed by organic motor nerves. Now, though those of voluntary motion are capable of acting here, yet I apprehend that the diaphragm, the substance of the lungs themselves, the bronchiæ and the larynx are not, inasmuch as they are under the direction of organic motor nerves; and hence the difficulty in breathing.

Next:—a peculiar haggardness and dejection of countenance. This may be occasioned in some cases by pain, or it is not, perhaps, going too far to suppose that the organic nerves are here even exerting or rather withdrawing some of their influence. When we recollect that the portio dura of the auditory nerve (the 7th pair of Mr. Youatt) is ramified and distributed to those

parts which go to form the *tout-ensemble* of the countenance; and when we recollect, also, from the peculiar action of some of the muscles concerned, that this must necessarily be considered an organic motor nerve, as well as a voluntary one; and if we go on to consider its anastomoses with the par vagum (the cerebro-visceral of Mr. Youatt), the spinal accessory, the great sympathetic* (great organic of Mr. Youatt), all organic motor nerves, surely it will not be considered to be stretching a point, to conceive that this haggardness and dejection of countenance arises from the circumstance of the withdrawal of the necessary influence of the organic motor nerves. That they do unite with that portion which is voluntary, is a well known anatomical fact; and that they do this for some wise end, will also be as readily conceded. My opinion is, that one reason why they do this (and the only reason which on this part of the subject concerns us) is, that the beautiful, harmonious blending and assemblage of parts, which together forms the healthy, painless countenance, is wisely placed under the direction of organic nerves. Those of voluntary motion have services to perform which are transient, and end with the occasion which called them into action; that of the organic nerves is ceaseless and unvarying. But if this be lost, as I believe it to be in these cases, what must be the result, but that vague, formless, dejected expression, which cows under this disease always exhibit?

Next in order stands an imperfect secretion of milk. Here I believe I shall not find much difficulty in establishing the position, that this is to be traced to the organic motor nerves, both indirectly and directly too. I will assume that I have proved "that it is from want of power in the three first stomachs that the food which ought to go on to the abomasum and intestines for the purpose of digestion, and supplying the lacteals, &c., is delayed in them, and consequently they are thus indirectly concerned in stopping the supply of milk†. Secondly, though there may be and is a sufficiency for immediate supply, yet the lacteals are not able to avail themselves of it, because the influence which ought to direct them is wanting here. No muscle or vessel in the whole body performs any action but under the direction of some nerves, and those which operate on the lacteals are, and can only be, organic ones. Thus it appears that, both directly and indirectly, the suspended secretion is to be traced to them.

* I shall after this, when I have occasion to notice any of these nerves, adopt the nomenclature of Mr. Youatt, as being more comprehensive and more adapted to the functions they have to perform in the animal under consideration.

† "You take my life, when you do take the means which doth support it."—*Shakspeare*.

I will pass over the other symptoms which I have remarked as constantly occurring, viz. an inclination to turn the head back on the sides, and no maternal anxiety, with just stating, that though I do not directly trace the reasons for these to the same origin as the others, yet I certainly find nothing in them to militate against the opinion.

I come now to those which I have called the variable symptoms; and, first, Pain. In some cases that I have seen, the nerves of merely animal sensation appear to be quickened in the exact ratio that the motor nerves become obtuse; in others, both sets of nerves seem to partake of the same death-like quietude, and no pain is evinced. I argue from this, that in either case the affection of the sensitive nerves is secondary; for while that of the organic ones is always of the same kind, that of the sensitive varies from seeming insensibility, through every gradation to extreme acuteness.

Next comes, More or less inflammation of the stomachs, intestines, and other viscera, according to the time the beast lies, or the previous state of plethora, &c. This is indeed a very variable symptom. Turn to the case of the first cow I have noticed in this paper: she was down only four or five hours before she died, and really there was so little inflammation in the stomachs in her (and this the only inflammation existing at all), that any practitioner would have been ashamed to have pointed it out as the cause of death in any other case than puerperal fever. It availed me, because I was prepared to find nothing else, and I was proved to be correct. I have now no doubt that so much were the organic motor nerves affected in her case, that they did not afford sufficient influence to carry on the functions of life, and that from this cause alone death ensued. And this will not be thought strange, that, besides the organs of digestion, some of respiration, &c. the great fountain of life, the heart itself, receives the only motor supply it has from organic nerves.

In the third case, that of the fat cow, there was positively no inflammation at all: she was sold by the butcher as regularly slaughtered meat; and really, except from the circumstance of her having just calved, I would have defied any one to have detected disease in her. Joining this circumstance with the fact that she had been through a deep pond immediately before she fell, I conclude the disease here was one purely of the nervous system. There was as great an expression of pain as I ever remember to have seen in one; and this seems naturally to be accounted for by the circumstance which caused the disease affecting both systems of nerves equally and instantaneously.

Again; may not inflammation be caused simply by loss of

action in the organic nerves? For what purpose does the great organic nerve distribute its filaments to the branches of every considerable artery, if not for a motor one? And who has proved that it does not accompany them, even in their minutest ramifications, for the same purpose? If such really be the case, I can readily conceive that a partial stoppage of the blood may be produced by this necessary influence being withdrawn, and that thus the disease of these nerves may act directly in bringing on inflammation.

Next comes, Difficult deglutition. Here there will not be much trouble, I conceive, to trace the source to loss of nervous influence from organic motor nerves. If we bear in mind that the nerves supplied to the pharynx are chiefly branches from the 9th, or glosso-pharyngeus, and from the 10th, or cerebro-visceral; and that all the constrictors of the œsophagus are directly under the influence of organic nerves; it will, I think, be sufficient to account for this difficulty, by assuming, in the absence of all inflammatory action, that they are the nerves affected. I have seen many cases in which the constrictors of the œsophagus have never acted at all, and fluid has been poured down the throat precisely as down a funnel.

Next in order stands, Healthy uterus. I have purposely said healthy uterus, because by far the greater number of those which I have examined, that have died of puerperal fever, have been healthy; and, though I have found a few that have not been quite so, yet I am convinced that this had little or no connexion with the specific disease in question.

Having thus noticed the different symptoms, &c. as I proposed, and traced them as, I believe, to their real source, I will proceed to inquire into other circumstances, connected with the probability or improbability of the theory I have advanced. In the first place, then, this disease follows one of the most painful states to which animal nature is subjected, viz. the expulsion of the *fœtus*: and here I must borrow a powerful argument from the facts which occur at this most important time in support of the overwhelming influence which the organic motor nerves possess over the voluntary ones; for, paradoxical as it may appear, yet, in the act of expelling the *fœtus*, the voluntary nerves are obliged (despite the will) to come to the aid of the organic ones; thus proving, beyond a doubt, that the organic ones possess a paramount and a necessary superiority in the economy of animal life. If, then, it is a fact that the voluntary are obliged to succumb to the organic in excess of nervous stimuli, is it not fair to infer that they will do this in extreme deficiency of the same influence? There is, throughout the whole frame, such a beautiful union and interchanging of fibre between the different classes of nerves, that it appears evident

it must be for the purpose of giving each some sort of influence over the other, or to blend and mingle the whole in one harmonious action for some important and extra functions. This is shewn, as I before have stated, in the labour-pains necessary for the expulsion of the *fœtus*. And I conceive it is no illogical deduction to suppose that the abstraction of stimuli in disease may operate in the same mingled and blended manner; and this will at once account for the paralyzed state in which we find the cow in puerperal fever.

Besides anastomosing throughout the animal frame with voluntary nerves, for the purpose of concentrating their united powers for extra and important purposes, such as those just named, I have no doubt that the organic nerves have the same action in every part of the animal economy that I hinted at in my remarks on the countenance: that they positively act as mentors to the voluntary nerves, preventing them from capriciously over-acting their parts; preserving the relative situation of the muscles under all circumstances; apportioning the degree of force necessary to be exerted by every individual muscle in any purpose of life requiring the combined influence of more than one; and maintaining the beautiful form and contour which the muscles exhibit in a state of health, for I have no idea that there is such a thing as perfect repose in muscular fibre in life. That the organic nerves are capable of such unvarying and never-ceasing action, is proved by the influence they exert over the organs of digestion, secretion, &c., which never stand still, and never tire.

Again; there is no time in the life of the animal when the sensitive nerves are called upon to suffer more, or the motor ones are roused to greater action, than in this one of parturition; and it is not an every-day action or suffering;—it is an extra, an uncommon one. It cannot therefore be considered wonderful, that, during this excess of action and suffering, some functional derangement should occasionally occur.

Lastly, I have seen this disease occurring at all seasons of the year, in all grades of condition, and under every system of treatment; and this, while it militates strongly against the various reasons which have hitherto been assigned as the cause of it, adds a further claim to that which I have advanced; for there are no adventitious circumstances connected with parturition in which it may not take place.

I have now presented you with a rude and imperfect sketch of some of the reasons which induced me to adopt the opinions which I now entertain of puerperal fever in cows.

Being a subject of considerable importance in the pathology

150 TETANUS TREATED BY EXTENSIVE BLISTERING.

of cattle, it is of the utmost consequence that in these cases we trace effects to their causes; and I feel persuaded that a great many in the profession are prepared to coincide at least, in some degree, with me. I assure you, that some excellent remarks in the last *VETERINARIAN*, by Mr. Stewart, Andersonian Professor of Glasgow, have emboldened me thus at once to offer my opinions to the veterinary public.

I find that I have gone to quite as great a length as I can expect you to print in one number of *THE VETERINARIAN*; and I will, if you think it worth while pursuing the subject any further in your next number, give you the history and treatment of two cases occurring last month, both extreme ones, and both saved by a mode of treatment based on the foregoing opinions.

Before passing sentence on this article, I would just beg my brother veterinarians to refresh their memories by those beautifully written lectures on the brain and nervous system, by Mr. Youatt, as published in some past numbers of *THE VETERINARIAN*.

TETANUS TREATED BY EXTENSIVE BLISTERING.

By Mr. J. TAIT, Portsoy, N.B.

CASE I.

June 1st, 1835.—A MARE, the property of John Milne, Esq. Mill of Boyndie, having got a slight cut in the gastrocnemius muscle by means of a hook attached to the harness, I was called to see her. The wound at first appeared trifling; it was dressed with an astringent lotion, and orders were given that she might be kept in the house out of the way of the flies. Under this treatment the wound was healing up, and apparently in a healthy state. Being called to the farm on some business about fourteen days afterwards, I looked into the loose box where the mare was, and, on her turning round towards me, I observed a squinting in her eyes. Locked-jaw immediately flashed on my mind, and, on examining her, not the least doubt remained as to the identity of the disease.

Treatment.—I bled her until she became faint; blistered her along the spine and sides, as recommended by Mr. Karkeek; and then ordered physic to be given, viz. ten drachms Barb. aloes, with a little green food, with meal and water.

2d day.—All the symptoms of tetanus quite developed, jaws rigid, tail a little elevated, legs straddling, pulse 40. Blisters acting well. Medicine not operating, I gave her twenty grains

of croton farina on the point of a cane, and left another dose to be given her if the former had not operated before night. She takes a little meal and water.

3d day.—All the medicine ordered had been given, and was operating well. There was a great swelling along the belly, caused by the excessive blistering. The spasms were as yesterday; and the teeth were nearly clinched. She eats nothing, but drinks a little meal and water. Pulse 54.

4th day.—Medicine still acting briskly; pulse 56; and in other respects the same as yesterday.

5th day.—Medicine operating slightly; jaws not so rigid; pulse 50. She eats a little green food, drinks her meal and water, and is not so much agitated by handling. The blisters dressed; the swelling along the belly the same.

6th day.—Bowels in a relaxed state, spasms not so frequent, jaws the same, swelling on the belly decreasing. She still squints when touched. Two drachms of Barbadoes aloes and the same quantity of opium were administered on the point of a cane. She eats and drinks a little. Pulse 45.

7th day.—Bowels rather confined, jaws not so rigid. Four drachms of Barbadoes aloes and two of opium given. Eats a little. Pulse 40.

9th day.—Much better, spasms and swelling abated, bowels relaxed. One drachm of Barbadoes aloes and two of opium given. She eats freely.

11th day.—Rapidly getting well; spasms and swelling nearly gone. Continue medicine.

13th day.—Still improving. Continue the medicine.

16th day.—Apparently well; turned into a paddock for a few hours in the day.

26th day.—Perfectly well; turned out to grass all day, and is getting into good condition.

CASE II.

June 20th, 1835.—Another case of the same disease in a colt three years old after castration. The colt had been castrated about three weeks before the disease made its appearance. I was called to see him, and found that he was affected with tetanus. I adopted the same plan of treatment as in the foregoing case, and in about a month I had the satisfaction of seeing the animal completely cured.

CASE III.

A thorough-bred mare, the property of a naval officer, was brought to my stables with a note from the gentleman, stating

that she had fallen with him on the road, and bruised her knees very much. This I found on examination too true, and the mare, when in the stables, appeared much pained from a cut in her left knee. I immediately washed the wound, and applied the usual remedies. To all appearance she was doing well until about the tenth day, when I observed a stiffness in her hind legs as she walked.

Cases of tetanus having frequently occurred in the course of this season, I dreaded the worst consequences; and my fears were soon realized, as towards night all the symptoms were quite apparent.

I treated the mare as I had done the two others beforementioned, but, instead of the blisters having the same effect, to my astonishment a different result was produced. They had not been applied above a few hours before she became quite frantic, and died in that state soon afterwards. Being called to the country, where I was detained all night, I had no opportunity of examining her after death, for before my return the grooms had buried her. This I am sorry for, as the post-mortem appearances might have shewed me the cause of her sudden death.

ON WEEDS* IN CATTLE.

By Mr. M. POTTIE, Yoker, near Glasgow.

IN my practice there occur a great many cases of what are termed weeds in cows. The principal part affected is the udder; but the disease is not the same as the ordinary garget, or udder clap. Garget begins in the udder; weed is preceded by some internal commotion. The mode in which I treat this latter affection with most success is rather at variance with the rules prescribed by the prevailing doctrines of the present day; and it is, therefore, that I beg to offer one or two brief remarks.

The cow takes a shivering fit, which may last from two to twelve hours. This is succeeded by a hot fit. The temperature of the body rises, sometimes slowly, at other times quickly; the cow hangs her head, and refuses food; her eye is red, pulse quick, breathing a little hurried, and the back is arched. The cow, in short, is fevered. Before the hot fit is established, or very soon afterwards, the secretion of milk ceases, and a portion of the udder is hot, painful, and swollen. Subsequently an

* By "the weeds" the Scotch practitioners mean acute inflammation of the udder when the term is applied to cattle, and diffused inflammation of the subcutaneous cellular tissue in horses, and particularly in colts.—EDIT.

abscess forms in the udder, or one or two quarters become cold, black, and insensible. A large portion is dead; upon cutting into it no blood escapes, and no pain is expressed. The intensity of the fever, and the disorganization of the udder almost invariably bear a certain relation to the duration of the cold fit. The longer the cow shivers, the more serious are the ultimate consequences.

When I first commenced practice, I tried bleeding, purging, and the other auxiliary remedies against inflammation; and I dare say I frequently mitigated the violence of the disease: but I soon found that these measures would not arrest it. They would not prevent disorganization of the udder. Now, if the case is obtained in the beginning, while the patient still shivers, a single drench is all she requires. In a quart of hot water, or hot milk, give one ounce of the seeds of the caraway, and as much powdered ginger. Clothe the body, and give little food. The cow, in general, will be well next day. But if there be any dullness or constipation, let a purgative combined with an aromatic be given, and as much cold water as the cow will take. But let her not stand exposed to any current, especially after drinking. Chilled water is safer, but cows will seldom take enough; and rather than this should occur when purgation must be established, it is better to give the water cold, and drive them about for a little after drinking.

If the cow has been shivering several hours, and the udder has become affected, still the stimulant may be given. If pernicious at all, it is only after the fever is fully developed. After awhile it may be prudent to bleed, and it is good to give a purgative along with the stimulant. But if the udder has become affected, however slightly, these means will have little efficacy without much attention to the diseased organ. It must be fomented in earnest. Fomentation, as usually applied in cases of this kind, is a mere mockery. In the first place, the water ought to be so hot that the hand cannot remain, though it may be dipped in it. A large bucketful of this should be placed under the udder, and its temperature maintained by frequent supplies. Then, it must be applied for an hour at a time, three or four times in the course of the day or night. A blanket or large woollen rug, and two persons to hold it, are requisite. Place one on each side of the cow, each having hold of the cloth, folded into a convenient breadth; dip the middle portion into the water, and let it be tightly and closely applied to the udder, so as to suspend as well as foment it. It need not be lowered oftener than once in eight or ten minutes. At the end of an hour, the udder and adjacent parts should be well and quickly dried with

cloths. The tumefied portion of the udder should be rubbed with ammoniacal liniment, or with strong spirits: I sometimes use whiskey. Until the next fomentation, the rug or blanket is to be tied over the udder or loins, so as to suspend the udder. The wet warm cloth is to be covered by another, to prevent evaporation. The mild stimulant may be applied after every fomentation, and the repetition of this process must be proportioned to the intensity of the inflammation. When the animal is tractable one person may apply the fomentation by tying the blanket over the loins and injecting the water under it. Poul-tices are not often useful. To do good, they must be large and moist; their weight is not compatible with complete suspension of the udder.

I know not the cause of weed. It is most common after calving, and during wet, changeable weather. Exposure to cold is the immediate cause of the shivering fit.

CONTRIBUTIONS TO COMPARATIVE PATHOLOGY.

No. III.

By Mr. YOUATT.

HEPATITIS—SCROFULA—PHTHISIS?

June 27th, 1834.—NEW LIONESS. About half grown; lately come to us. She is thin, her coat stares, and there is evident determination of blood to the head. She staggers about, and half falls, and now and then is a little unconscious; the breathing is slow and laborious. As for bleeding, that would be impossible, and equally so to give any bulky medicine with the slightest taste. Try a course of alteratives. Give her two grains of calomel and one of antimonial powder daily.

July 1st.—I see no change in her. I wish that we could bleed her. Continue medicine.

4th.—I do think that her walk is steadier, and that she is more herself. She was half disposed to play with me. The fæces are relaxed, and contain much bile. Continue medicine.

9th.—She is decidedly more herself. We took advantage of a playful moment, and lanced her palate. It bled, but the greater part of the blood was swallowed. Two or three ounces probably were spilled on the floor of her den.

11th.—Going on satisfactorily.

14th.—She is decidedly better, and I have no longer fear about her. Continue treatment.

27th.—She is quite herself. Dismissed.

August 20th.—I have seen and heard her cough. Watch her.

27th.—She has been carefully watched; the cough has subsided, and is gone.

Sep. 22d.—She has been sick, and vomited bile. Her coat stares. Give six grains of calomel.

24th.—The medicine purged her thoroughly, and she is well.

Jan. 9th, 1835.—A small tumour has been observed for about a fortnight on the angle of the lower jaw on the right side: it is adherent to the jaw. Within a few days it has rapidly grown, and extended itself between the rami of the jaws. It is about the size of a large walnut somewhat compressed. It is apparently suppurating, and there is a spot much softer than the rest of the tumour. We coaxed her up to the bars of her den, and, while one of the keepers occupied her attention, I plunged my lancet into the tumour. A considerable quantity of ichorous fluid, much more than the apparent size of the tumour would warrant, escaped. Of course nothing more could be done that day, and for some days to come.

12th.—There is still a considerable discharge from the wound, but the tumour is not much diminished.

15th.—The discharge continues, and the tumour is increasing. She is as good a creature as the other lioness. Try to foment the part morning and night.

19th.—Although there is a constant slight discharge, the tumour continues to increase. Gently, but as well as may be, rub in the ointment of the hydriodate of potash, and give six grains of the hydriodate every night.

24th.—The ointment is too stimulating; there is redness all about the tumour; she scratches it sadly, and the blood is continually dropping from it. Discontinue the ointment. Foment with a decoction of poppy-heads, and give the medicine as before.

28th.—Very much better; the inflammation has abated; the tumour has lessened, and no longer bleeds. Continue fomentation and medicine.

Feb. 4th.—The tumour has again taken on a disposition to enlarge; it has burst afresh: the whole of the neck is irritated, and sore from the acrimony of the discharge, which is very great. Continue fomentation and medicine.

11th.—On the whole, better; but a fresh tumour has rapidly formed on the other side, and has broken, and there are sinuses evidently running across from the one to the other. Could I confine my patient, I would soon lay all this open; but that is out of the question. Fomentation and medicine as before.

18th.—The discharge and the tumours lessened. Continue treatment.

21st.—The appearances of improvement are delusive. The discharge is greater than ever; it begins to have a peculiar half-acid, half-fœtid smell; it is thin, of a dirty grey colour, and corrodes more and more. I dare not apply a wash that would give pain. Fomentation and medicine.

25th.—She is evidently getting thinner and weaker. Treatment as before.

28th.—The emaciation continues. Omit the medicine, but continue the fomentation.

March 4th.—Little change, but increased emaciation. She will no longer bear handling.

8th.—Tumour decreasing, but she is sadly thin.

16th.—She will once more submit to a little handling. Try whether a little green elder ointment can now be applied; it may allay irritation, and prepare for something else.

20th.—The ointment has been applied; the parts are cleaner, and some of them a little disposed to heal. Repeat ointment; coax to eat, for she is rapidly losing flesh.

22d.—Mr. Owen met me in consultation respecting the poor animal. It was determined that the iodine had had a fair trial, and had failed, and that, as a matter of experiment, the hemlock should be tried; but that she should have two or three more days exemption from medicine, in order that she might somewhat recruit her strength.

27th.—The tumours are once more beginning most rapidly to increase; they are hot and tender, and the discharge is immense, and mixed with blood. She is much depressed, and evidently suffering.

30th.—The tumours are as large and discharge as much as they did, but her countenance has brightened, and her appetite returned within the last three days, so that I am unwilling to hazard the disappearance of these most favourable symptoms by the application of the hemlock. Leave her for a day or two.

April 5th.—These appearances also were delusive; her appetite is gone, and she is wasting every day. Mr. Langstaff kindly gave me his advice with respect to her. He was anxious that the tumours should be deeply opened, and Mr. Liston, who saw her on the same day, expressed the same opinion: but then came the question, how? by what means could she be sufficiently confined. The head keeper was sent for, and he and myself gave it as our opinion, that, without extreme danger to the helpers, and the certainty of some mischief being done, it could not be

effected. We, at length, determined to remove her from public view, and to put her into a smaller cage with closer bars; and when she was a little accustomed to her new situation, I, to whom she had shewn some attachment, would try whether, for her good, I could not so far abuse her confidence as to open the tumours pretty deeply. I ordered a long, and narrow, and sharp-pointed double-edged scalpel to be made for this purpose.

7th.—She has lost ground sadly within the last two days, and she staggers as she walks. She was coaxed up to the bars: we got her into the proper position; one of the keepers amused her, and I plunged my knife into the base of the tumour on the left side, and, by a rapid movement, brought it through the whole of the enlargement. She lost altogether more than a quart of blood. I ordered them to foment her, if possible, with the infusion of hemlock, and to give again the hydriodate of potash, in doses of four grains morning and night; for although this drug had not removed the tumours, their rapid increase after it was discontinued shewed that it had been exerting some power.

8th.—She does not appear to be much weaker than she was before the operation, and the poor wench suffered me to coax her to the bars, and examine her throat. The projecting portion of the tumour, from the apparent base of which there was the greatest discharge, has been fairly cut through. There were no fistulæ, no ulcers in it; but it was a solid body, of a pale colour, and the discharge had proceeded from fistulæ in a broader, softer, less organized substance beneath. The discharge has ceased. If she does not get too weak, I shall be tempted to attack the other tumour in a day or two. Feed well; foment with decoction of hemlock, and give four grains of the iodide of iron daily.

10th.—She is rapidly losing flesh and strength. She still can be coaxed to the bars, but she staggers, and almost falls in her way. I have not often been more interested about a patient; but she must go. Continue fomentation and medicine.

12th.—She is dead, and evidently without a struggle, for not a straw was moved. She had been unhealthy from the time that she came into our possession, and long before that. I happened to be in the gardens on the morning after she arrived, and, being asked by the Honorary Secretary what I thought of her, I said that she would die before another lioness that was then ill. She has, however, lingered on to this time.

Messrs. Liston and Cox were present at the post-mortem examination. The stomach and bowels presented no disease, but the liver had been most highly inflamed. *It was a mass of black mud*, yet the secretion of bile was carried on in various parts

of it. There had not been any considerable inflammation either of the substance or pleural covering of the lungs, but numerous tubercles, none of them of any considerable size, were scattered through the substance of the lungs, and many of which had gone on to suppuration. There was no enlargement of the mesenteric glands, nor any tumours attached to the mesentery. The tumours beneath the branches of the lower jaw did not adhere to or affect the bone, and they were become almost of a cartilaginous nature; the knife creaked as it passed through them. They appeared to be quite distinct from the submaxillary glands.

The immediate causes of death were the inflammation of the liver, and the drain from the tumours. Might the iodine have prevented the enlargement of the mesenteric glands, or the growth of tumours on that membrane?—might it have retarded the growth of the tubercles in the lungs?—they were neither so large nor so numerous as they are generally found to be. The inflammation of the liver was of too intense a nature to be controlled by the iodine: might it have been increased by the agency of this drug? To what period must we date its origin? so far back as July or September? and did the sub-acute inflammation of the lungs commence at the same period? After January there did not appear a symptom of hepatitis.

Every character of phthisis was simulated. I did not dream of the state of the liver. So far at least this case is interesting, if not in tracing the origin of phthisis to some organic or functional lesion of the digestive system, yet exhibiting the close connexion between them, and, especially in those animals who cannot tell us the immediate seat of pain, the almost identity of symptoms: The connexion of the respiratory or the digestive affection, or both of them, with the strumous diathesis here so plainly developed, will not be quite lost sight of. Is the one a consequence of the other, or do they arise from one common cause?

A SINGULAR LUSUS NATURÆ IN A LAMB.

By Mr. B. BULL, Launceston.

PERHAPS the following extraordinary case of monstrosity in a foetal lamb may not be altogether unworthy a place in the pages of THE VETERINARIAN.

A ewe, the property of a respectable farmer, of St. Stephen's, near Launceston, had apparently gone her full time, and produced with some difficulty a lamb, of which I will endeavour to give a slight description. The body presented a sudden incur-

vation about the centre of the spine, with a similar inversion of the ribs, so that the hind legs lay upon the neck and upper part of the shoulders, while the fore legs took a direction upwards, embracing the hind quarters, and forming a kind of collar, by which they and the head were encircled. The head was deeply bent under the breast; and what is most remarkable, the cavities of the chest and abdomen were without an external covering, and consequently the whole of the internal organs, including the lungs, the heart, and the stomachs, lay loose or floating in the middle of the uterus. Every part seemed to have attained its full growth, and might have been considered as perfect, had it not been for this most unusual displacement.

I have sent you a rough sketch of the little deformed creature as it lay in its mother's womb, previous to its birth. Perhaps it may afford to the numerous readers of *THE VETERINARIAN* some faint idea of its actual configuration, and also lead hereafter to a few hints as to the probable causes of such singular malformation either in lambs or other animals.



- | | |
|------------------------------------|----------------------|
| 1. The hind foot | 6. The stifle joint |
| 2. The fore feet | 7. The ribs inverted |
| 3. The extremity of the tail | 8. The loose viscera |
| 4. The tongue | 9. The head |
| 5. The elbow of the near fore leg. | |

We are much obliged to Mr. Bull for this case of monstrosity, and the very satisfactory drawing by which it was accompanied. There are, however, on record descriptions of other mis-shapen foetal growths very singularly resembling this. Professor Dick describes one which occurred in the practice of Mr. Tennant, of Ravenstrather, N. B.:—"A cow had calved; she had usually produced twin calves, and it was suspected that she had still another calf in the womb. On introducing the hand, Mr. Ten-

ment found a substance, which resembled to the touch a portion of liver, and which afterwards proved to be so, for it was found that the parietes of the abdomen were wanting. The common integuments were reflected upwards upon the sides, and the whole viscera left exposed. The left hind leg was bent, first forward and then backward, over the ileum towards the tail, somewhat enveloped in the integument of the belly. There was no diaphragm; but the thoracic viscera were otherwise entire. This hind leg very much resembled one of the fore legs, more especially in the form of the hock joint, which exactly resembled the knee*.”

A somewhat similar case, but wanting the malformation of the limbs, is given of a child:—“Madame J. R— was brought to bed of a child, arrived at the full time, rather small, thin, weak, and plaintive. The abdominal muscles on both sides were wanting; the stomach and bowels being only contained within a thin, dry, serous membrane, interspersed with numerous yellow fatty filaments, extending from the internal part of the ring along the umbilical cord, so that the cord passed through the middle of this membrane. It was infiltrated, enlarged, irregular, and open at its insertion in the umbilicus, as it usually is when nature has been engaged several days in the expulsion of the fœtus. The membrane is, I believe, only an extension of the sero-membranous lining which covers the intestines. There was a hernia in the linea alba, and water by infiltration in the scrotum.

“In the absence of proper cerate I applied some oiled linen to this membrane, which was so dry that it appeared as if it would break on the slightest friction. Three slips of diachylon were applied over this. The child cried and *vomited constantly*, not only after taking food, but also, as it is termed, with an empty stomach. The vomiting was attributed to the bandages; these were removed, but the vomiting continued.

“On the 12th of May, 1825, the child being then eighteen months old, was in the following state:—The height and size are those of a child of its age; and it is gay, lively, and well. Across the covering of the abdomen is to be observed a circular trace of muscles, but the muscles are not yet developed†.”

* Veterinarian, vol. vii, p. 439.

† Lancet, 1826-7, vol. i, p. 537.

Meckel, quoting from Klein, speaks of an infant, born in the eighth month of utero-gestation, in which the abdominal integuments were wanting; there was a displacement of all the digestive viscera, and the heart was in the abdominal cavity*.

Geoffroy Saint Hilaire alludes, in very brief terms, to the deficiency, or absence of this anterior or inferior wall of the abdomen. He says that it is, in most cases, accompanied by exomphalis (umbilical hernia), or eventration (more or less complete escape of the intestines from the abdomen); but that it may exist, as in the case quoted from the *Lancet*, without either of these consequences†. It is to be lamented that he has not entered more fully into a subject so interesting.

Y.

CASE OF INTESTINAL CALCULUS, HAVING A LARGE BRASS BUTTON FOR ITS NUCLEUS.

By Mr. W. F. KARKEEK, V.S., Truro.

A DRAUGHT horse, the property of a farmer in the neighbourhood of Penryn, some years since was observed to be ill, refusing his food, and losing his condition; in which state he continued for about five or six months, when he gradually began to recover, and, having gained his former strength, was again worked, and continued to be so without a single day's illness, when he was suddenly attacked with violent colicky pains, and died in a few hours.

Supposing that there was some connexion between the first illness and the last, a post-mortem examination was made, and in the point of the cæcum a calculus was discovered which weighed about eleven or twelve ounces. On dividing the calculus in two, in order to observe its composition, a large brass button was found in its centre.

This is the history of the case as related by the farrier who attended the animal. He shewed me one-half of the stone; it had the appearance of a pebble, but its specific gravity was considerably lighter, its substance being very light and porous, and composed chiefly of earths and animal matter.

From the horizontal situation of the horse, a stone does not gravitate so much in him as in the human being, and therefore

* Archiv. für Physick. de Meckel, tom. iii, p. 391.

† Histoire des Anomalies, tom. i, p. 632.

calculous concretions frequently remain and accumulate till their size prevents their expulsion. In this case the previous illness was probably owing to the presence of the button in the intestines; and after it became covered with this earthy deposit, the animal began to recover: little inconvenience was felt as long as the stone remained small, but when it had attained a large size it proved fatal.

In the museum of the Veterinary College there are, I believe, many of these calculi, some of them of considerable magnitude. It is by no means unfrequent to find them in heavy draught horses, and particularly those of millers that are fed on bran. They have the appearance of crystallized gneis, or of grit stone; and it is probable that they partly consisted of these very minerals, for it is of such that mill stones are very generally composed; and, by the friction they are perpetually undergoing, there can be little doubt that much of the mill-dust intermixed with bran, with which millers' horses are fed so largely, is derived from the powder furnished by these stones.

According to Mason Good, these concretions, when chemically analyzed, are found to consist chiefly of a triple or ammoniaco-magnesian phosphate, although it is difficult to conceive from what quarter this magnesia is obtained. The earthy or white sand calculi of the human bladder have a similar composition. In the human bladder this is easily accounted for; and likewise in the case of millers' horses, some portion of the earth being probably derived from the bran, in which it is always to be traced; but a difficulty still remains with other animals.

MONTHLY ABSTRACT OF THE PROCEEDINGS OF THE LONDON VETERINARY MEDICAL SOCIETY.

Session 1835-6.

THE Society held its first meeting for the session on Tuesday, the 16th of November, 1835.

The evening was occupied, as has been customary, by the election of officers for the association, the reading of its regulations, &c.

Mr. SEWELL was unanimously re-chosen President.

Mr. SPOONER, Vice-President and Treasurer.

Mr. MORTON, Secretary and Librarian.

A committee of management for the ensuing three months, consisting of six members, was also nominated, and

Many new members were proposed.

November 18th.

At this meeting the President took the chair. He was most cordially greeted, and in return expressed his thanks to the members for the honour they had again conferred upon him. He assured them that their meetings had ever been to him both pleasing and useful; and that he anticipated, in the session now commenced, much that would be honourable to them, and useful in their after professional career. He trusted that such a society would long continue to exist; and he was assured that, while it existed, it would be an ornament to the Institution to which it belonged.

The subject for discussion was, Inflammation of the Lungs, introduced by Mr. Charnley, and defended by him with great spirit. The discussion was animated and useful. He maintained that cold becomes an excitant of this disease (thus opposing the usually advocated theory), and that by its action on the air passages creating irritation in them, and also by impinging on the surface of the body, and thus determining a greater volume of blood to parts already irritated, it might be regarded as a powerful agent in pulmonary inflammation, and the diseases connected with it. He was supported by several members, and opposed by others, who held that cold is only, at best, a predisposing, not an exciting cause of inflammation. The most common cause was maintained to be—removal to a heated and impure atmosphere after exposure to cold or severe exercise.

The use of blisters to the sides was by some approved of, by others deprecated. The majority thought that, in the earliest stages of the disease, they might create too much general irritation; but that, when the inflammatory action was somewhat lowered, they would prove exceedingly beneficial. Others contended that, when the affection had assumed a chronic form, blisters were very liable to cause an effusion into the cavity of the thorax. The form recommended by those who had employed these agents was the cold acetous infusion of the blistering fly. Setons found both their supporters and objectors. The full consideration of the Essay occupied three meetings of the Society.

November 24th.

The Vice-President filled the chair: he was warmly received, and eloquently acknowledged his obligations.

November 26th.

The "approbation and thanks of the Society," handsomely framed, were presented to the Secretary by the President, in ac-

cordance with a resolution passed at the close of the last session, "for the continuation of his zealous and indefatigable exertions in promoting the well-being of the Society."

He essayed to offer in return suitable thanks.

December 1st.

This evening Mr. Draper presented an Essay on the Physiology of Digestion in the Horse. The argument awakened by it was interesting, and of importance, from some novel views of the subject having been advocated by the defender. It occupied two evenings of the Society.

Mr. D. objected to the doctrine taught, that that portion of the stomach which is lined by cuticle possesses a triturative function, and is similar in action to the gizzard of the fowl; nor did he see any reason why it should be necessary for this purpose, since the horse has efficient instruments of mastication. He believed that it secretes a peculiar fluid, which, mixing with the contents of the stomach, renders them fit to be acted upon by the gastric juice, the union being brought about by the vermicular motion of the viscus, which it has in common with the intestines. It was considered by some as confirmative of the correctness of this view, that bots were lodged in this portion of the stomach for many successive months; and that grain often passed from it and through the whole of the intestinal canal in a perfectly unbroken state.

The rarity of the act of vomiting in the horse was spoken of, but many instances were adduced of its taking place; amongst them was one which occurred in the infirmary. The animal was in the habit, soon after he had taken his feed, of turning himself round and ejecting nearly the whole of it: this he had done for many years. Having been destroyed on account of old age, the chylopoietic viscera were examined. In the stomach were found traces of chronic disease, and the valvular structure at its entrance had lost its peculiarity, the fibres being weak and disgregated. The œsophagus near its termination was also considerably dilated.

One great reason why the horse does not vomit was considered to depend upon the acuteness of the angle formed by the entrance of the œsophagus into the stomach. It was observed that, on the slightest inspection of the parts, it would be seen that the horse is not an animal destined to vomit. The return of matters through the mouth being prevented by a peculiar formation and adaptation of the velum palati and the epiglottis, it is hardly conceivable that the nostrils, lined as they are by a delicate mem-

brane, should be made the channel by which acrid and partially digested food is to be returned.

The cæcum was thought, by the author of the Essay, to act as a second stomach. The nutritive parts of the aliment were said to be taken up both by lacteals and veins, and absorption was referred to eudosmosis.

December 2d.

Pursuant to notice, a Special Meeting of the Society this day was held in the Theatre.

Mr. Taylor, M.C.M., was called to the chair. Mr. Habin moved the following resolution:—

“That we the constituents of the London Veterinary Medical Society, reviewing the long and efficient services of our President, William Sewell, Esq., do deem it desirable that a testimonial expressive of our thanks and gratitude be presented to him.”

This was seconded by Mr. Lucas, and carried by acclamation.

A committee was subsequently appointed to carry the above into effect, and the necessary officers chosen.

December 8th.

On this evening THE VETERINARIAN from its commencement was laid on the table, presented by Mr. Youatt to the Society, for which the thanks of the Members were directed to be returned by the Secretary.

The subject for discussion was Enteritis, by Mr. Raddall. The argument which followed was useful, and the treatment advocated by him founded upon experience. He had, after free depletion, given opium, in doses of from ʒj to ʒij, with the greatest success. He apprehended but little from the astringent effects usually attributed to this agent, believing the constipated state of the bowels in this disease to be as frequently an effect as a cause of inflammation; and he contended that, if the irritation set up was allayed by opium, the healthy function of the intestines would soon return. Should it, however, be the case that an unnaturally torpid state of the bowels remained, this might be obviated by a dose of linseed oil.

There were not wanting objectors to the administration of opium, who conceived that it might tend to irritate an already inflamed part; or, at least, to protract in the intestinal canal the continuance of those matters which might have had somewhat to do in the production of the disease, and whose presence would assuredly aggravate it. These gentlemen, however, readily confessed they had never had recourse to it in their practice; and all

who had put this mode of treatment to the test, spoke of it in the strongest terms of commendation.

December 10th.

Mr. Richardson presented a paper on the Castration of Colts by Torsion. The novelty of the method called forth much comment, and awakened a spirited discussion. He appeared as its warmest supporter, since the result of his experiments on three colts had more than answered his expectations. It was, nevertheless, considered by the majority of the members that these cases were insufficient to prove this plan superior to all others, or warrant the assertion that it would ultimately supersede them, and that farther experiment was called for. As an account of these cases has appeared in *THE VETERINARIAN*, farther observation on this evening's discussion is uncalled for.

December 15th.

The subject for discussion was Spavin, defended by Mr. W. J. Brewer. The nature of the disease admitted of no novelty in argument, nor did it call forth any peculiarity of treatment. In the incipient stage setons were highly approved of. When the disease was farther advanced, blisters were directed to be conjoined; and in confirmed cases the firing-iron found its advocates, and amongst them those who approved of Mr. Turner's system of firing deeply.

December 22d.

Mr. McDermott presented for consideration a paper on Ophthalmitis. The argument turned on the constitutional form of this affection, and it became animated, inasmuch as it led to a division in opinion respecting the nature of cataracts, and whether they are ever formed without previous inflammation in the organ of vision; and also whether disease is hereditary. There appeared to be nearly an equal number ranged on the different sides of the question.

This evening the question too was mooted of publishing the proceedings of the Society in *THE VETERINARIAN*, in compliance with the expressed wishes of some of the members of the Society; and it was resolved,

“That a monthly abstract of the proceedings of the Society shall be drawn up by the Secretary, and subjected to the approval of the Committee of Management for publication in *THE VETERINARIAN*. Also that the essays deemed worthy of the thanks of the Society shall be printed, if approved of by their respective authors.”

Perhaps some apology on the part of the Secretary is called for, on account of his not more quickly conforming to this resolution. His only grounds of excuse are—and he hopes they will be accepted—indifferent health and full occupation.

W. J. F. MORTON, Secretary.

Royal Veterinary College,
Feb. 1836.

THE VETERINARIAN, MARCH 1, 1836.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

WE have much pleasure in recording some circumstances which have taken place during the last month, in which many of our readers will take peculiar interest. Mention was made in the Journal for November of Mr. Morton's useful lectures on Veterinary Medicine and Pharmacy: a chasm that had too long been suffered to remain in the education of the veterinary pupil was thus removed. We were sufficiently aware of the talent and assiduity of the lecturer, and of the zeal with which he devoted himself to the instruction and interest of his class, and were assured that his merits were duly appreciated by those who had the advantage of attending upon him; but we knew not that his pupils had long before that determined to give him the most gratifying proof of the estimation in which they held him.

At the close of his lecture on the 12th ultimo, Mr. William Rush, in the name of the class of the preceding year, presented him with a handsome and complete Pneumatic Apparatus. The air pump, a double-barrelled one, bore the following inscription:—

PRESENTED WITH OTHER APPARATUS TO
W. J. F. MORTON, Esq.
BY THE PUPILS OF HIS CLASS, 1834-5,
AS A TOKEN OF GRATITUDE
FOR THE BENEFITS DERIVED FROM HIS LECTURES.

Mr. Rush did full justice to the task assigned to him; his address was short, but it was eloquent, for it expressed in simple

language the feelings of the class. Mr. Morton, evidently affected, declared that "the happiest moment of his life was when he found that his humble exertions were approved by his pupils. Their present was a munificent one, but it was most valuable as an expression of their regard whose interest he had most at heart. They might believe him that it would be a stimulus to renewed and greater exertion, and would ever bind him to their cause." We would not have these tokens of approbation and regard made too cheap. There is a sacredness about them which should not be profaned: but knowing from the best of all sources the ardour with which Mr. Morton devotes himself to the discharge of his duty, we congratulate him on this deserved reward of his labours, and we congratulate his class on the good sense and the good feeling which induced them to present it.

On the 17th inst., after a dinner at Freemasons' Hall, a silver breakfast service, value 100 guineas, was presented to Mr. Sewell by the members of the London Veterinary Medical Society.

Professor Coleman was in the chair, the Assistant Professor being on his right hand. They were supported by Drs. Paris and Spurgin, Messrs. Green and Travers, and some personal friends of Mr. Sewell.

Among the veterinary surgeons we observed Messrs. Bardell, Battersbee, Cheeseman, Ferguson, T. Harrison, Jumpson, Marshall, Nice, Scruby, Sibbald, Silvester, H. Taylor, Titchmarch, Wright, and Youatt. About twenty-five pupils were present.

One of the pleasing circumstances of the day was, after a secession of ten or twelve years, the re-appearance of Professor Coleman presiding over a veterinary meeting. He was the chairman of the first meeting of this society; the chairman of its after meetings; and when the anniversary dinner became one of the profession generally, and then one of the students, the Professor of the Veterinary College still occupied the chair: it was one of the charms of every meeting, and thence, in the opinion of every veterinary surgeon with whom we ever conversed on the point, he should not have retired, although he did so to give place to the first surgeon in Europe. He was the first President

of this Society; and he was once more at the post of duty and of honour.

The customary introductory toasts were given. Perhaps, anxious to arrive at the cream of the thing—the object of our meeting—some of us thought them somewhat too numerous. When proposing “Lord Hill and the Army,” the chairman alluded to the grade in society which every competent and well-conducted veterinarian was enabled to occupy, on account of the rank which the cavalry veterinary surgeons of England held as commissioned officers. He exulted in the satisfaction which, generally speaking, they had given to the colonels of their respective regiments, and the altered and more effective character of the cavalry service.

Dr. Spurgin returned thanks for the College of Physicians; he spoke of his brethren as anxious for the promotion of science in every branch of it. He described his early and long acquaintance with Mr. Sewell, and the opportunities which had been thus afforded him of gaining much valuable physiological information; and he acknowledged that to his friend he owed the first direction of his thoughts to the study of the medical profession.—Mr. Travers returned thanks for the College of Surgeons. He spoke of the identity of the pursuits of human and veterinary surgery, and expressed the gratification which he felt at observing the rapidly increasing improvement of the veterinary art.—Mr. Green, returning thanks for the Examiners, spoke also of the identity of purpose in the two professions, and the important service which the veterinary art was now rendering to the elder profession by the elucidation of many an interesting point of physiology and pathology. He spoke also of the necessity of medical practice, whether human or veterinary, being founded on science; then alone it would survive the revolutions of the intellectual and moral world: it would become immortal.—Mr. Sewell as an officer of the East India Company’s establishment, eulogized the advantages of that service, both as it regarded the rank and the pay of the cavalry veterinary surgeons.

Professor Coleman now proceeded to the essential business of the meeting,—the presentation of a service of plate to Mr. Sewell

by the London Veterinary Medical Society. He described his own connexion of nearly forty years' standing with this gentleman. Mr. Sewell was his apprentice—then he first learned to appreciate his talent, and to know his value, and he solicited the Board of Governors to appoint him his assistant. There was some difficulty in effecting this, on account of the rigid system of economy which prevailed; but at length he succeeded, and never had he or the governors reason to repent of the appointment. He eulogized the Assistant Professor's unwearied assiduity in the discharge of the duties of his situation; his readiness and his ability to communicate instruction to the pupils, and the cordiality of feeling and unity of purpose which existed between himself and his assistant. He then spoke of the London Veterinary Medical Society. Some difficulties had attended its establishment, but he believed that it was now sincerely devoted to the improvement of the pupil and the art. He admired the freedom of discussion which prevailed in it, and he hoped that it would long continue to flourish. He thought that its members had discharged a pleasing but an imperative duty in presenting this token of respect to a gentleman who had so long presided over it, and so zealously laboured to accomplish its purposes; and while he knew that Mr. Sewell would rightly appreciate the compliment paid to him, he trusted that he would long live to add to the obligations already conferred on this Society and the profession generally. In the name of the London Veterinary Medical Society, he presented his friend with the munificent service of plate then placed on the table before them.

It consisted of a silver urn and complete breakfast service, the selection of which reflected much credit on the committee. The urn bore the following inscription:—

THIS SERVICE OF PLATE
 WAS
 PRESENTED BY THE CONSTITUENTS OF THE
 LONDON VETERINARY MEDICAL SOCIETY
 TO THEIR PRESIDENT
 WILLIAM SEWELL, ESQ.
 AS A TESTIMONIAL EXPRESSIVE OF THEIR
 THANKS AND GRATITUDE
 FOR HIS EFFICIENT SERVICES DURING A PERIOD OF 21 YEARS.
 SESSION 1835-6.

Mr. Sewell rose amidst continued cheering. He said that he was unable adequately to express what he felt. This was, indeed, a proud day to him. The situation which he held in the College was not one calculated to gain him popularity, for it was his duty to maintain the discipline of the Institution. He was, however, glad to say that in one instance only had he been compelled seriously to interfere, and to recommend to the governors to expel an individual who had grossly misconducted himself. He regarded the munificent present which was then made to him as a proof, honourable to the institution, that the maintenance of discipline did not necessarily involve a loss of popularity.

He thanked his friend Professor Coleman for the compliments he had paid to him; he rejoiced in the perfect unity of purpose which subsisted, and he trusted ever would subsist, between them.

As to the London Veterinary Medical Society, he had for many years before the commencement of the present one belonged to another, from which he had derived much pleasure and improvement; but it had died away, and this had risen like a phœnix from its ashes. There were some difficulties attending the establishment of this Society, but they passed away, and it had now existed nearly three and twenty years, an ornament to the Veterinary College, and a source of much advantage to the pupils. He had early been appointed President of this Society. He had always regarded this as the highest honour that could be bestowed upon him. He had rarely been compelled to interpose his presidential authority, but had been left to listen and improve, and to contribute, so far as he had the power, to their mutual improvement. That which had been done to-day he had never reckoned upon, he had never dreamed of it; he did not know how he could be thought deserving of such distinction.

He was thankful for the kind feeling with which the whole had been conducted. The form and character of the present had been left to himself; and, after consulting with one who valued as deeply as he did this intended pledge of regard from those whose approbation was the highest object of his ambition, this breakfast service was selected. In this form it would oftenest be

brought before him, and it would be associated with other feelings dear to him. Again he thanked them: he did not know what he had done to deserve so much; but it would be the object of his future life to shew that he was grateful.

Before he sat down he begged permission to propose a toast, "His friend and old master," who sat beside him. Their united labours would amount to a period of fourscore odd years. He rejoiced to see how well he wore: he could wish, in such a cause, to labour with him fourscore years longer. He knew how much they esteemed their Professor, and how much he deserved their esteem: he begged to propose his health, and with many thanks on his part for the kindness which he had that day experienced from him.

Professor Coleman knew not to what extent he should, or whether he should at all, thank his friend for the protracted life which he had wished for him; but he did know, that while he lived that existence would be devoted to the promotion of the same cause,—the improvement and welfare of the pupils, and the advancement of veterinary science. He would not longer detain them from the object of their meeting than to thank them for the kindness he had ever experienced from his class, and which, to the most protracted period of life, would be duly valued by him.

Mr. Morton, who had acted as secretary to the committee, now presented Mr. Sewell with a small roll of parchment. It contained the names of those who had done themselves the honour and had experienced the happiness of contributing to this slight expression of their respect and thanks. The honour was theirs, and theirs too was the greatest pleasure. He spoke the feeling of them all, when he hoped that the President of the London Veterinary Medical Society would long live to discharge the duties of his office with that credit to himself, and advantage to others, which had elicited this slight token of esteem and gratitude:

The chairman now proposed "All other Veterinary Schools conducted on liberal principles:" he referred to Mr. Youatt's in London, Mr. Dick's in Edinburgh, and Mr. Stewart's in Glasgow; the leaders of which had all done him the honour to become his pupils.

Mr. Youatt, as an humble teacher in one of these schools, would leave his conduct to speak for itself. Of his friend—and proud he was to call him so—Mr. Dick, he was assured he could say, that by no illiberal or unprofessional act or thought would the cause in which he was engaged be ever disgraced; and he thought that he could say the same of Mr. Stewart, who had been his pupil also.

But he wished not now to speak as teacher in any school: it was as a member of the London Veterinary Medical Society that he would address the chair:—an early member of it—one who had laboured with others more worthy but not more zealous than himself, for the establishment of it, and who during the first eighteen months had been vice president of it. He recollected—he knew all the difficulties that had attended its establishment. It was right that its views and purposes, its capabilities and manner of working, should be well tested before it obtained acknowledged patronage. That patronage it did, at no great distance of time, obtain.

Their first anniversary meeting was held in that room. He now saw in his mind's eye their present chairman presiding: he had on his lips the smack of the champagne which Mr. Coleman generously added to the good things of the feast: the gentleman to whose honour this day was devoted seemed to him once more occupying the vice-chair; and the humble individual now speaking was telling how the fight had been fought, and a society established, pure in its purpose, and identified with the interest of the pupil and the honour of the profession. He could not foresee that twenty-three years would pass, and its meetings never be suspended, nor its honourable purpose disgraced or forgotten.

It was then a mere debating society. Experience had not taught them how all its advantages might be most surely gained, and some of its inconveniences avoided; and, perhaps, were he to confess the truth, he might acknowledge that, occasionally, there was a little too acrimonious feeling and party spirit mingling with their debates. Wiser heads had remedied these evils, and better framed the Society for the full accomplishment of its noble pur-

poses. Each in his turn was now compelled to enter the lists, and to maintain a certain theme against any and all opponents: and he contended in the presence of all his companions. The anxious study, the exercise of arms, which were necessary to fit him for this encounter, were the best preparation for his appearance in another field, and before other judges—the best preparation for the rewards which he might afterwards win in a career of useful and honourable practice. The student, who had devoted many a thoughtful hour in making himself master of one subject, and whose efforts had been crowned with success, would not be satisfied until he had qualified himself to win other honours—until, in fact, he became perfect master of his art. He (the speaker) had lately witnessed, with the highest degree of pleasure, the noble way in which a young aspirant had maintained his theme against all opponents; and while he trusted that no veterinary pupil would avail himself of that opportunity to gratify his jealousy or his malignity by unfairly annoying the champion of the evening, he did hope, he did entreat them, that they would permit no knight to wear his spurs until he had fairly won them. He entreated their pardon for this long intrusion, and concluded by hoping, that when, a little while hence, age or infirmity, or other causes, might have caused him to retire from active life, still however to devote his remaining powers, but in a quieter way, to their common cause; when he, perhaps, occupied some little cottage in their neighbourhood, they would permit him occasionally to derive amusement and instruction in the scenes which were once dear to him, and occasionally, in the persons of younger champions, “fight all his battles o’er again, and see how fields are won.”

The health of Mr. Morton, the honorary secretary of the committee, and the useful and talented lecturer on chemistry and pharmacy, was now proposed, and drunk with much enthusiasm.

He said—We are told language was given to man to express his ideas; words to give utterance to his thoughts. But how frequently is it the case, and that when most required, the tongue is least able to make known what the heart feels. In such a situation he was then placed. He had stated, a few evenings

since, that that was the happiest of his life. His class had then told him he had been useful to them, and they had presented him with a munificent token of their esteem. Again he had the pleasure to know that his imperfect but willing labours were far more highly appreciated than they deserved by those of whose approbation he should ever be proud. He had gladly lent himself to the work which had been this day accomplished. He was happy to see the unanimous feeling which pervaded the meeting; and for the little service which he had been able to render, he was more than recompensed by the satisfaction and good wishes which had been expressed. To Professor Coleman he returned thanks for the handsome manner in which he had proposed his health; and although he felt he had not deserved so much, yet he trusted his future conduct would give proof that he was not insensible to kindnesses received.

The health of Mr. Spooner, the Treasurer of the Committee, and the Lecturer on Veterinary Anatomy and Physiology in the neighbourhood of the College, was now proposed.

Mr. Spooner said he deeply felt the honour conferred upon him by Mr. Sibbald in proposing his health; and, in expressing his acknowledgments for the very flattering manner in which it had been received, he felt that he was in a similar dilemma with his friend Mr. Morton; he, however, would not be so modest—he would briefly say that he had a heart, and from that heart he thanked them all sincerely. He said that he was at all times highly delighted to mix with his fellow-labourers in the veterinary art, but on the present occasion his gratification was materially enhanced, when he reflected that he was one amongst the many assembled around the social board in honour of a man to whom the profession was so much indebted, and whom he so highly respected and esteemed as Mr. Sewell. Much had been said relative to the rise and progress of the London Veterinary Medical Society: he had been a member of and constant attendant on that Society for several years; and he could conscientiously say, that he had never retired from one of its meetings without having derived some useful information: he could also, in common with Mr. Sewell, bear testimony to the marked

improvement that had of late taken place, not only in the discussions, but in the character of the essays. He considered that much of this was due to Mr. Sewell for his great exertions, his zeal in their cause, and his undeviating attention as their President for a space of twenty-one years.

As one of the committee engaged in bringing about the desired object, for the fulfilment of which they had now met, he was sure he was expressing the sentiments of every member when he said, that they were actuated by one and the same spirit, namely, that of offering him some acceptable, yet, after all, but slight acknowledgment for his long and valuable services : how far they succeeded, their constituents must determine. The service of plate now before them was mere silver ; but he could tell Mr. Sewell, that he had bought for himself golden opinions, which will be worn in their freshest gloss as long as the veterinary art is known.

The chairman soon after retired, but not a few remained, and spent another pleasant hour or two, and they were not all belonging to the youngers either. Twenty years and more had passed since the members of this Society had thus met together. The professional and the students' dinners had intervened, and pleasant *they* were ; but the fellows of this Society had not, as such, assembled to talk of old scenes, and to renew old friendships.

Be it a weakness—it deserves some praise ;
 We love the play-place of our early days.
 The scene is touching, and the heart is stone
 That feels not at that sight.

Not one unpleasant word or feeling interrupted the harmony of this meeting, nor did any one regret the hours he trifled away there. No, he did not trifle them away ;—for the object of all being ostensibly, we would fain hope honestly, the same, although the paths which we pursue in the accomplishment of that object somewhat materially differ, these friendly collisions are well calculated to do us good. The heart that beats with malignity, or jealousy, or a sense of real or fancied injury, is brought to a momentary pause—the circulatory vessels have time to contract upon their contents — they resume somewhat of their natural

calibre and action ; and although the proper circulation may afterwards be a little disturbed, the fever will seldom rage again so high as it did ; and, by and by, all settles down into the desirable and healthy condition of good fellowship, and hearty co-operation, and mutual esteem.

And now a word or two of ourselves and our Periodical. We know that at Christmas-tide our friends are much engaged in the usual and harmless festivities of the season, and also in preparing for the collection of those honoraria to which they are so deservedly entitled ; we therefore expect that our periodical for January and February will not contain the average number of interesting and useful communications. We did not, however, anticipate that this year they would have been so sadly and glaringly deficient. We distrusted—no, not for a moment—the good wishes and the zeal of those who had been co-operating with us in the accomplishment of the noble purpose to which *THE VETERINARIAN* is devoted, but we cannot say that we were happy.

We are so now, and fully ; for, far and near, there seems to have been a common feeling among us—that mysterious sympathy, which, defying all space, binds together all good hearts, and tells to each what is passing in every other bosom. Contributions have poured in upon us, which have made the present number one of which we may justly be proud, and enabled us to lay by a little stock for future, although not for long use : and almost every correspondent has, in the private and valued corner of his letter, expressed, in the kindest and strongest terms, his good wishes and his intentions. To every one of them we tender our thanks. May they be as happy as they have made us ! May the tide still flow on ! The present is a right good English number. Although we will glean useful information from every source, we should like to see two or three numbers like this before we step again out of our own country. The communications now lying by us shall appear in the order in which we received them, with the exception of two which we could find it in our hearts to publish—but the writers will be sufficiently punished by the perusal of the present number.

Anonymous communications! we have yielded to the request of a "Certificated practitioner," and have inserted his letter; and the same we shall do with regard to another now lying before us, because both these gentlemen have already contributed to our Journal. We still, however, do maintain, that the name of the historian of every fact should be as public as the statement which he makes: nevertheless, having yielded one point, if there are, as we are told, those who are anxious to assist in the promotion of our good work, but are unwilling to come at once before the public, we pledge ourselves to them, that their secret shall be safe in our keeping; but *we will know every correspondent*. We have thought often and anxiously on the point, and this is our unalterable determination. Some of our readers know not under how fair and false a guise the worst friends of ourselves and our profession have endeavoured to steal upon us. Those who are true and honest need not fear us. The young aspirant after honourable fame, the future star of our profession, he shall be free to plume here his untried wings, unknown save to us; but we will always have it in our power to call the treacherous or malignant correspondent to account.

PALSY OR CRAMP IN THE HORSE.

By Mr. E. C. BULL, Huntingdon.

January 15th, 1836.—A FAVOURITE mare, belonging to Mr. Langham, of Oundle, was left at Mr. Taylor's, Huntingdon, to be taken care of whilst Mr. Langham visited London on business. On the following day, about four o'clock in the afternoon, the ostler was looking at the mare, and perceived nothing amiss about her; but ten minutes afterwards, having occasion to go into the stable, he found her very uneasy, and pawing the litter with the off fore foot. On going to her, he saw that this limb was covered with sweat, and the mare was perspiring generally, but not so much elsewhere. He went for his master. They could not imagine what was the matter; for they could not perceive any mark of violence. They, at length, thought it might proceed from the foot, and had the shoe taken off; but they could not find any thing wrong.

About seven o'clock on the same evening Mr. Taylor sent for me. On my arrival, I found that the mare could not place her foot upon the ground. There appeared to be a rigid contraction of the muscles; respiration a little accelerated; the pulse full and quick; conjunctival and schneiderian membranes of an intense red. Considering the case to be a spasmodic affection of the muscles, I had recourse to venesection, and abstracted from twelve to sixteen pounds of blood, and administered a ball of camphor and opium, and applied a camphor liniment with olive oil externally, after having had the limb well rubbed. I ordered bran mashes and gruel to be given to her.

On the morning I found her in nearly the same state. The owner had returned from London, and was grieved to see the suffering of his beautiful mare, and told me that, although she was blind, he had driven her for seven years without anything ever being amiss with her. He requested me to do my best for her; that there was no expense that he would begrudge if there was any possibility of restoring her: but if she continued to suffer more than a week, he would have her destroyed and buried. On further examination, I found there was a diminution of sensitive nervous power: the limb was as cold as clay. I then proceeded to stimulate the leg with a tincture of cantharides, and gave six drachms of aloes with one drachm of ginger, made into a ball. I gave mashes and gruel, and at night repeated the cantharides.

18th.—Pulse not so quick; breathing more regular. She tried to bear a little weight upon the leg, but without avail. The leg still cold, and no effect from the stimulant: repeated the tincture morning and night, and gave gruel. In the course of the night she picked a small portion of hay.

19th.—A little better; appears to rest some of her weight upon the toe. Bowels relaxed, appetite increasing, pulse nearly regular, a little swelling from the blister. I repeated the stimulant; at night gave nit. pot. half an ounce, ant. tart. one drachm.

20th.—The leg is now swelled very much; she throws more weight upon it, and walks a little about the stable. Repeated the nit. pot. and ant. tart.

21st.—Going on well; walked about fifty yards, but when she returned the leg was all of a shake. Gave the foregoing ball with two drachms of gentian, and also gently stimulated the leg, and ordered a feed of bran, oats, and chaff twice a day.

23d.—I repeated the same ball, with one drachm of ginger, and stimulated again. She walks much better; increased the allowance of corn.

24th, 25th, and 26th.—Repeated the ball; she appears quite capable of being removed.

Some few days afterwards Mr. Taylor sent her home, the distance of twenty-one miles. I have not heard any more from Mr. Langham, so conclude that she is quite well.

A LIST OF THE VETERINARY PUPILS WHO HAVE OBTAINED THEIR DIPLOMAS SINCE THE LAST REPORT.

- Feb. 4th.—Mr. R. PAGE, Barnstaple, Devon.
 Mr. G. BARKER, Middlewich, Cheshire.
 Mr. W. I. BREWER, Southmolton, Devon.
 Mr. P. FRY, Witheridge, Devon.
- 10th.—Mr. HUGH FERGUSON, Dublin.
 Mr. WM. PROCTOR, Solihull.
 Mr. G. HILL, Islington.
 Mr. J. SUMNER, Liverpool.
- 23d.—Mr. WM. BADDELEY, Stoke-upon-Trent.
 Mr. G. H. SALTER, Eltham, Kent.
 Mr. R. B. RUSH, South Lopham, Norfolk.
 Mr. W. RUSH, ditto.

TO CORRESPONDENTS.

“A Constant Subscriber.”—There is a list kept, but we fear that a peep at it cannot be obtained. We will inquire farther about it.

Mr. T.—We did not receive the communication to which he refers. We could not forget ourselves so much. His contributions will always be welcome.

Mr. V.—We will, in part, conform with his request; but for the sake of our own consciences, and in justice to him, we cannot do all that he asks.

Mr. B.—The “London Veterinary Medical Society” is composed of those who are or have been students at St. Pancras College, with the exception of one or two who have been elected on account of the services which they have rendered our profession.

There is no hospital practice attached to the Veterinary School at the University of London. The perpetual fee there is £7. Mr. Youatt’s partner, Mr. Ainslie, continues to take House Pupils. The terms £100 per annum, including free admission to all the practice, and to Mr. Youatt’s Lectures at the University.

C.—We certainly think that the friends of a young man intended for the veterinary profession would not do him justice, with whatever London practitioner he may be placed, either as pupil or apprentice, if they do not stipulate that, during the last year, he shall be permitted to enter and attend the instructions delivered at the Veterinary College.

Thanks to many correspondents whose favours shall appear in the next Number.

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APRIL 1836.

[New Series, No. 40.

ANIMAL PATHOLOGY.

By Mr. YOUATT.

LECTURE IV.

The Nerves of Sensation.

WE now, for the present, quit the inferior (anterior) surface of the spinal cord. You have observed the deep central sulcus by which it is divided into two columns—sufficiently distinct in all our patients, but in the horse peculiarly prominent: these columns, however, connected by minute fibres which shoot from side to side and mingle intimately together, occupy the whole of the inferior surface of the cord, and from these spring the spinal motor nerves. The general bulk of the spinal cord varies in different animals. It is twice as large in the horse as in the human being, although the brain of the former is not more than half the weight of that of the latter; and the difference of bulk principally arises from the greater development of the motor columns. I need not tell you how beautifully the history and destiny of this noble animal illustrate the design and effect of such an accumulation of motor power, and of so much consentaneous action in the different parts of the frame as the habits and destiny of the animal require. While the columns are more fully developed in the horse, on account of the expenditure of motor power which is occasionally required; and there are, although denied by some veterinary anatomists, whose minute research and general accuracy I hold in the highest estimation, these decussating fibriculi, running from one column to the other; yet they are much fewer in the quadruped than in man, and the sulcus is deepened, as it were, that they should be few. There are not so many complicated and delicate combinations of muscular action required in the simple exertion of speed and strength in the one, as in the thousand manipulations which are essential to the intellectual improvement and almost to the existence of the other; while the spinal cord of the one is exposed to a thousand injuries to which that of the other is rarely subject. By this difference of bulk and of connexion in the spinal cord of the biped and the quadruped, you will readily perceive that much light is thrown on the cause, and character, and progress

of many a disease of the motor system. I shall shortly return to this point, but, in the mean time, we must proceed to the superior (posterior) surface of the cord, and cast a rapid glance at its physiology and diseases.

The superior (posterior) Surface of the Cord.—A very different structure here presents itself. This surface of the cord is flatter, lower than the other. We have not the deep central sulcus, nor the rounded columns, nor the connecting fibres. We look more closely, and we find that the cord is composed of four columns. There was a *line* superficial, faint, and not always to be traced, running along each of the columns of the inferior surface, towards the lateral portion of it; but here are *sulci*, and of considerable depth, and plainly dividing the upper face of the cord into four partitions of nearly equal breadth. The preparation which I now hold in my hand of the cervical portion of the spinal cord of a horse, well illustrates this. Here are four distinct columns—the central ones devoted to sensation, for in the sulcus between them and the lateral ones, and evidently springing from the central columns, are the roots of the sensitive nerves. With the functions of the lateral columns I have at present nothing to do.

The sensitive Columns and Nerves.—In former lectures it was clearly shewn that this portion of the superior aspect of the cord might be traced up to that division or part of the brain which gives origin to nerves of pure sensation. The fibres of these columns pursue their course longitudinally down the cord; each column perfectly distinct from, and unconnected with, the other. At certain distances, corresponding with the foramina of the spine, some fibrils or threads are detached from the column; they approximate, they unite, they run into and form a ganglion; and the nerve thus formed, pursuing its course, when it arrives at and is penetrating the dura mater, meets with a fasciculus of fibres from the inferior surface: and they coalesce; and there is formed around them a common sheath; and they still proceed to their destination, apparently a single nerve, but possessing a double function—that of communicating to the common sensorium impressions from without, and exciting muscular action.

I will not repeat the substance of former lectures as to the proof of the different functions discharged by these nerves, but I will assume that their ramifications do extend over the whole surface of the body; and that they form a kind of net-work or tunic upon it: that while they accumulate on certain parts and communicate proportionate sensibility, there is no part of the animal that is not, to a greater or less degree, made susceptible of certain impressions, pleasurable or painful. “A change is

induced upon the expansion of nervous matter, which is connected with the spot touched—an effect is propagated along the nerve that leads from that spot to the brain, and an impression or change is produced in the brain itself.”

Common Sensation not so acute in the Quadruped as in the Biped.—The sensitive columns are small in the quadruped compared with the motor ones—they are small compared with the bulk of the animal, and the surface over which they are to be diffused. Animal power is needed for the purposes of their own existence, and in order to render them useful servants of man; but a considerable portion of general sensibility would be a curse instead of a blessing. There are certain sensations connected with the support and the reproduction of life, which, probably, are as pleasurable to them as to the biped; careful observation of the animal, and dissection of the nervous tissue of these parts, would lead to this conclusion: and, on the other hand, the nature of the integumental substance, and the super-added defence, in the form of hair and wool and feathers and scales, and the impossibility of contact with many an injurious object, shew that these animals were not destined to suffer materially from many external agents: and, where the danger does not exist, nature seldom bestows the warning or the remedy. The skin being naturally protected from injury, has not that sensibility, one of whose offices, and not the least important one, is to put the animal on his guard.

Reasons for this.—It is difficult to understand the indications of pain, and of the degree in which it exists, in the brute; for the varying expression of the countenance and the faculty of speech are wanting: and there is also wanting, except where for certain purposes, and at certain times, instinct prompts it, a principle of mutual sympathy, and the power as well as the desire to be of mutual service. Therefore, while the human being permits his voice to tell and his features to express that which passes within, and, if the cause of his pain cannot always be removed, yet he experiences considerable relief from the commiseration of his fellows, the inferior animal broods in silence over his misery, and the extent of that misery is disclosed only by the wasting of his frame, and the evident progress and ravages of disease. Cowardice, or the connexion of suffering with human agency, or the fear of and the natural desire to avoid a repetition of it, will frequently induce the animal, and especially the young one, to express the pain which he feels plainly and loudly enough; but it is seldom that he tells of that which he cannot connect with the agency or brutality of man, and oftener he seeks some lone retreat, where he either slowly pines away, or where Nature effects that restorative process which she oftener, and more ra-

pidly, and more perfectly accomplishes in him than in the superior animal that has many means and appliances at his command.

Anecdotes.—From the long habit of studying the intellectual and the moral qualities, as well as the animal powers, of his quadruped patients, the veterinary surgeon will easily be induced to give them credit for much good feeling and self-command; yet favourably as he thinks of them, he does not attribute all that they are capable of doing and suffering to the triumph of the mind over the body, but to a certain inaptitude to feel so intensely as we do all the pangs of corporeal sufferance. My pointer, selected for the pureness of his blood and the perfection of his education, transgresses in the field: I call him to me, and I chastise him severely, and he lies motionless and dumb at my feet; and when the punishment is over, he slowly gets up, and by some significant gesture acknowledges his subjection to me, and his consciousness of deserving what he has suffered. I should be a brute myself if I did not comprehend a great deal of what passed in his mind, and love him the better for it, and perhaps secretly resolve, “I will never strike thee again:” but I cannot allow a power of mind equal, superior to my own. There is much in him to admire and to love; but something is to be attributed to that lesser degree of feeling which nature gave him, in order to fit him for the place he was to occupy in the scale of being.

I operated on a pointer bitch for enlarged cancerous tumour, accompanied by much inflammation and increased sensibility of the surrounding parts. A word or two of kindness and a word or two of caution were all that were required: the integument quivered as the knife pursued its course: a moan or two escaped her, but she struggled not; and her first act, after all was over, was to lick my hand.

Chabert, the fire king, once had a Siberian dog, the finest and noblest of his kind. He had sold him to a gentleman for a great deal of money, but before the dog was delivered to the purchaser he broke his leg. A hundred guineas was a kind of fortune at that time to poor Chabert, and he brought the animal to me in great tribulation. The fracture was to be reduced; the cure was to be perfect, and not the slightest lameness or vestige of injury was to betray what happened. He talked to the dog; he lifted the broken leg; he shook his head, and expressed his concern: he then pointed to me, imitating the action of binding it up; assumed a cheerful countenance; patted the dog upon the head; held up his finger to him by way of caution; once more pointed at me, and at the broken leg, and left the room. The noble animal understood it all, and sat quiet as a lamb. I never disgraced him by the muzzle, or put him under the slightest restraint: I was compelled occasionally to give him pain. I was

told that I did by a slight tremor of the limb. He sat day after day, and he gazed on me with an inquiring yet confiding look; and, in short, I returned him to his owner perfectly sound, and nothing betraying the accident to the eye. I see enough here to repay me for the occasional indignities I once experienced when I scrupled not openly to devote my time and little talent to the alleviation of the diseases of these animals; but I must not permit myself to be led too far. I have here either a degree of fortitude to which the self-called superior biped has seldom a legitimate claim, or, conjoined with much that I admire, I have a less intensity of pain than the human being endures. I choose the latter alternative: it is consistent with his proceedings who "tempers the wind to the shorn lamb," and it is consistent with physiological and anatomical observation.

Caution.—I say not this in extenuation of those who have made the terms "physiological experiment" terms of disgrace and abomination; or of others who are butchers, torturers worthy only of the cells of the inquisition, rather than operators. I am not estimating the quantum of suffering of which our patients are susceptible—I am not seducing you from the object and aim of our profession, the diminution of that suffering be it what it may; I am only stating a physiological fact, and one that it is pleasing to reflect on; and I would still, as ever, tell you, that the practice of the veterinary art can only be securely and honourably based on science and humanity.

The Sense of Touch, altogether different from common feeling, is to a considerable degree withheld from or obtuse in the inferior animal; at least there is this distinction, that in him it is subservient to little more than the purposes of life, while in man it is intimately and necessarily connected with the mind. It is one of the means, simply considered, by which we acquire intelligence; and, connected with other senses, its importance can scarcely be overrated. In some of the other senses—in hearing, in sight, in smelling, and in the power of muscular motion generally—man is excelled by many of the lower classes of beings; but the immense range given to the organ of touch—the power of prehension and adaptation which it enjoys in consequence of its connexion with that wonderful machine the hand—and especially the results of its association or co-operation with the organ of vision, whether, consistently with the purpose of our lecture, we regard the power which they give the surgeon to detect and alleviate disease, to extirpate morbid growths, to remove extraneous substances, to perform a thousand manipulations connected with the relief of pain and the prolongation of life; or whether we take a higher, holier ground, and regard the fruit of their co-operation, in the productions of the pencil of the artist,

the chisel of the sculptor, and the pen of the teacher, we shall understand and admire the development of this portion of the nervous system in the most intellectual creatures, and the comparative want of it where the noblest of its purposes could not be accomplished.

The Construction of the Skin.—The skin or common integument of every animal is composed of three distinct layers or coats. The inner one, the corium, composed of dense filaments, crossing each other in every direction, presents beneath an irregular surface adapted to the adipose tissue on which it lies; and, outwardly, a smoother face, but covered by innumerable little eminences or papillæ. These are the projecting terminations of the nerves of sensation, and each seemingly covered by a delicate and vascular membrane, the prolongation or the termination of the proper neurilema or coat of the fibril. Upon these lies a viscid, semifluid substance, principally connected with the colour of the skin, and called the rete-mucosum: and, covering the whole, is the epidermis or cuticle, a pellicle of skin destined to protect the subjacent highly sensitive expansion, and perforated by innumerable pores through which a fluid exudes which gives a certain degree of flexibility to the whole. This applies to general sensation as well as to the sense of touch; and sensibility, or common feeling chiefly, although not exclusively, resides in these terminations of the nerves in the true skin.

THE SENSE OF TOUCH CONTINUED.—There are some parts, however, of the frame where the surface of the corium is more thickly covered with these papillæ than at others, or, in other words, where the terminations of the sentient nerves are multiplied—where the epidermis is thin, and where the perspiration is abundant and continual. These are the parts possessed of the greatest sensibility. With them nature has usually connected great flexibility or freedom of motion, so that the external object shall not only come in contact with them, but its form, its magnitude, its consistence, and many of its most important qualities, shall be thoroughly examined and ascertained. Therefore, in the human being, the terminations of the nerves are multiplied, and the epidermis is thinnest, and the cutaneous perspiration is most constant, and the flexibility or freedom of motion is greatest, and consequently the sense of touch is also most perfect, and the knowledge of surrounding objects is thereby rendered most complete, and the mind is most enlarged.

The Sense of Touch in inferior Animals. Quadrumana.—Amidst considerable variety, dependent on the uses and destinies of different beings, there is much uniformity in all the works of nature. The hand—the fore extremity—is the organ of feeling to

a certain extent in every quadruped. In the quadrumana the sense of touch is chiefly resident there; but it is much impaired by the inability to use the fingers to any considerable extent separately, or readily to bring the thumb in opposition to the fingers, and the consequent difficulty or impossibility of becoming so readily acquainted with the properties of bodies. This alone would form an insuperable barrier between the bimana and the quadrumana, so far as intellect is concerned. The sense of smell is often summoned by the latter to the aid of the defective sense of touch.

Digitigrades.—The tribe of the Digitigrades obtain some important information from the expansion of nervous fibrils on the foot, and particularly from the flexibility of the toes and the insertion of the nails. Although the nails are hard and insensible bodies, they are useful auxiliaries. The part of the true skin on which they are placed, or into which they are inserted, is highly vascular; and the nervous papillæ are numerous and prominent, and the least pressure on the nail is immediately and fully recognized. You may often see with what pleasure the young dog, or the carnivorous animal of any kind, is employed in thrusting about, and playing with every little moveable object within his reach. In addition to this, the deficiency of sensibility in the foot is, for the wants and the usefulness of these animals, abundantly supplied by the sense of smell.

The Solipede and the Ruminant.—The hoofs of these animals are attached to the feet by means of duplicatures of membrane covered, or in a manner composed, of bloodvessels and nervous papillæ, and by means of these a sufficient degree of feeling is conveyed for the purposes of progression, and too often a great degree of torture when the foot is diseased. For other purposes the lips are employed or the faculty of smelling, and that quite as far as the well-being of the animal demands.

Birds.—Here we trace the principal residence of the sense of touch to the foot; but it is most imperfectly developed. There cannot be much sensibility, where the laminæ or the scales are so hard and so thick as they are generally found to be at the base of the foot. The villous projections are, nevertheless, evident enough when the cuticle is peeled off. In birds that use their feet as hands, as in most of the parrot tribe, the cuticle is thinner, and the whole of the inside or lower part of the foot softer and more elastic.

In other birds who search for food under the water and among the mud, the extremities of the mandibles are usually of a softer texture than the base, and possess a considerable degree of sensibility.

Other Situations of the Sense of Touch.—In many quadrupeds, the sense of touch seems to be nearly or altogether removed from

the foot, and to reside in the lips, or one of the lips. The snout and moveable bone of the hog, the central prolongation of the upper lip of the rhinoceros, the short proboscis of the tapir, and the prolonged and wonderfully constructed one of the elephant, are illustrations of this, which you observe with considerable interest, when you visit the gardens of the Zoological Society of London.

Reptiles and Fishes.—In reptiles the sense of touch evidently resides in the feet, the fingers of all of which are well calculated to seize and to examine objects in every direction. Some fishes have organs of touch round the mouth. The barbs of the cod, the surmullet, the carp, and the barbel, are familiar instances of this; others have fingers projecting from some part of the body—all of them have fins serving the double purpose of propelling them through the water, and advising them of the existence of near objects; and in all that have scales, it is probable that this coat has a double function, not only to protect from external injury, but the scales, being connected with nervous papillæ at their base, like the nail or the hoof on the foot of the quadruped, they give quick notice of contact with other bodies, although not of their nature or form.

Of the sense of touch in invertebrated animals, I will not detain you. You have observed them in the antennæ of insects and the tentacula of snails. In the delicacy of this sense they seem far to surpass all larger animals. It is interesting to observe the complete manner in which, by means of his feelers, the insect explores the state and condition of an object which he is thinking of selecting for his habitation or his food; but this delicacy of touch is in him limited to particular qualities, and confined within narrow bounds, and cannot for a moment be compared with the more extensive and perfect organs of touch which we possess.—And now, gentlemen, having detained you far longer than I am accustomed to do, or, probably, shall do again for a long time to come in mere physiological inquiry, I should proceed to consider the pathology of the nerves of sensation—but that this, although necessarily defective and incomplete, contains too much important matter to be duly considered in the little time that now remains. It will form the subject of the next lecture.

TAIL-SLIP—*alias* PERICARDITIS & HYDROTHORAX.

By Mr. W. YOUNG SWINTON, of Old Monkland, N.B.

ON January 25th, 1836, I was requested by Mr. Ferguson, of Wester Camp, Old Monkland, to visit a cow that had been ill since the 22d, and now refused her food, did not cud, and

yielded scarcely any milk. A neighbour of his, an old farmer who was skilled in cattle doctoring, had seen her on the 22d, and was sure it was tail-slip, and, consequently, had made a cut in her tail, and thus had bled her well, and had dressed the wound with salt, &c. and had bound it up *secundum artem*, but still the animal was no better. I replied that I need not go, for I knew nothing about such a disease, and regarded it a delusion either of craft or ignorance. However, on being much pressed, I went, and found the patient lying down, moaning—the pulse quick—the bowels constipated, for the feces were hard, of a dark colour, coated with mucus, and mixed with grain—the paunch full and hard.

I gave it as my opinion that it was a case of indigestion, and bled her, and threw up injections, and administered laxative medicine.

27th.—She was better—evidently more easy—beginning to cud, and eating a little; but her former appetite and secretion of milk were not returned.

I did not see her again until February the 11th, when I was requested to visit her. On entering the byre, the mistress, begging my pardon, declared that she thought the cow was *bewitched*, or there was something wrong with her mouth. I found an œdematous swelling, with considerable deposition of fluid, on the brisket and sides, and the beating of the heart, though it was very singular, was apparently distant; yet I could almost fancy that I heard it. I ordered her to be well fomented occasionally until I saw her again, which would be on the 13th.

Feb. 13th.—The enlargement has increased, and the beating of the heart can now be heard at a distance of some yards. On applying my ear to the side, I could plainly recognize the existence of a fluid. I declared it to be a case of water in the chest, and that I had no hope of her recovery; but if there was any one who thought he could cure her, he was at liberty to try, and I should be much pleased if my opinion turned out to be an incorrect one. The owner of the beast urged me to do what I could, and I accordingly inserted a seton on each side of the chest, perpendicularly, and punctured the œdematous enlargement, from which a considerable quantity of serum escaped. I also blistered the sides, and gave diuretic medicine.

This course was pursued until the 16th, when a person who follows the business of making and retailing about the country blacking and ginger beer, and who also practises medically on the credulous biped, and also on horses and cattle, called on Mr. Ferguson in his regular round. The cow was shewn to him, and

he said that he would soon cure her, for she had had from the beginning, and still had "the tail slip." Accordingly he amputated a portion of her tail, and ordered her brisket to be fomented with a decoction of chamomile flowers.

On the 19th I had occasion to pass by the farm, when the owner asked me whether I would not once more look at the cow, although I had given her up. I did look at her, and I found that my two perpendicular setons had been abstracted, and a transverse one substituted, and that the swelling now extended posteriorly to the udder, and anteriorly to the lower jaw. Both tail-slip doctors of medicine paid her a visit while I was there, when the amputation of a second portion of the tail took place, and four good hen-eggs were ordered to be administered.

I loitered awhile, in order to hear their conversation. They were both in good hope that the case would terminate favourably; but they differed sadly in their respective theories of the disease. The old farmer said that it commenced at the root of the horns, and came along the marrow of the back, and if it did not get out it killed the beast. The hawker declared that he had often taken worms out of the tail—that tail-slip began at the head of the tail, and that, if it did not get out, it killed the beast: and that my denying the existence of such a disease was weakness in me, both of them brotherly agreed. I was asked what I thought of her now, and I replied that the case was altogether hopeless.

At his next visit, the hawker advised that she should be destroyed, but the owner would not permit it, and on the following morning she was found dead.

I was requested to be present at the post-mortem examination. The hawker attended, and on cutting into the fourth stomach, and observing some inflammation in it, declared that the cause of death was evidently there. I was then employed in examining the sternum, which I did as carefully as I could. I found two gallons and three quarts of a brownish fluid in the pericardic bag. The surface of the heart was in a softened macerated state; and the pericardium was enormously thickened. In the left side of the chest were three gallons and a half of a greenish fluid. Still pursuing my examination, I found a needle $2\frac{1}{2}$ inches long, which had found its way from the anterior and inferior portion of the paunch, through the diaphragm, and which was then entangled in the posterior part of the pericardium.

TAIL-SLIP.

By Mr. ———.

IN the spring of 1827, I was sent for to a cow that was supposed to be "at tail," as it is termed among us. I found her lying down, and unable to rise: she had some fever upon her, but she ate and drank well. I bled her from the jugular vein and gave her a dose of physic, and was urged to cut off her tail: I laughed at this, and refused.

She continued down for full three weeks. When lifted up, she could not support herself; yet her appetite was very little, if at all, impaired. I adopted what I thought was proper treatment—kept her bowels open with medicine, and stimulated her loins; yet she would not get up. At last I was compelled to yield to the urgent entreaties of her owner, and did cut off a small portion of her tail. On the next day she was up, and seemed to have the full use of her limbs. This is rather perplexing to the young practitioner.

[The coincidence of time was certainly annoying, and our young friend lost the praise, which was justly his due, for persevering so long in the use of that treatment to which, and not to the docking, the recovery of the animal is to be traced. Never mind: science and honesty will triumph in the long-run.—EDIT.]

AFFECTIONS OF THE SPINAL CORD.

By Mr. T. CHAPMAN, Nottingham.

Aug. 17, 1835.—I was desired to examine a chesnut horse, the property of Mr. Clark, of Southampton. It appeared from the statement of the groom, who had been a few miles from town with him in a light cart, that he dropped suddenly with his hind quarters, but immediately recovered himself; still, however, staggering and appearing weak. He got home with some difficulty, and I was consulted. The pulse was 50, but irregular; the animal shrunk when pressed upon the loins; he still staggered as he walked, and the weakness was evidently referrible to the hind legs.

I abstracted blood 10lb. Gave a cathartic ball, and ordered him to be kept warm.

18th.—He is much better; still very weak; and turns in his stall with difficulty.

20th.—The physic had operated very well. I ordered gentle exercise, and in a few days he returned to work and appeared very well.

I was again consulted in September, when he had become suddenly lame in the near fore leg, and without any apparent cause. I examined him, and found him shrink when pressed upon the shoulder and withers. I abstracted blood from the jugular vein, ordered warm fomentations to the shoulder, and gave a cathartic ball, which operated well; and in a short time he was at work again.

I left home in October for a few days, and on returning, I learned that my old patient had that morning been found unwell. He appeared to be very well on the preceding day, had performed his usual work, and had fed as usual. He was standing with his legs wide apart, his nose poked out, and the respiration very laborious.

He was constantly moving his fore legs, as in an attack of inflamed laminæ, the feet, however, were perfectly cool; but, on examining the shoulders, he shrunk when they were pressed upon, and appeared to be in great pain, as he did also when pressure was applied to the back and loins.

The pulse was 70; the bowels rather confined: and he staled with pain and difficulty.

I abstracted eight pounds of blood; he then became very weak, and the pulse indistinct at the jaw. I gave ten drachms of aloes; ordered mashies; and directed him to be clothed and kept warm.

10th, 7 A.M.—The bowels still confined, and he refuses all food. I ordered thick gruel to be given, and administered as an enema half a pound of Epsom salts dissolved in two quarts of warm water. He then had a ball composed of one drachm of digitalis, a scruple of opium, and two drachms of nitre with simple syrup.

7 P.M.—The physic is operating a little. Give a ball as before; and administer gruel, since he still refuses his food.

11th, 7 A.M.—He appeared to be easier; ate a little hay; and the respiration was more tranquil. Give ball as before.

12th.—Considerably worse; the respiration very much increased, and performed with jerks: the sides are very tender; there are evident symptoms of pleurisy. I took away 4 ℥ of blood, which was all that could be obtained without danger of his falling. I then gave him a drachm each of digitalis and emetic tartar, and two drachms of aloes, and ordered his sides to be well

rubbed with a liniment composed of one drachm of emetic tartar and oil of turpentine ; which, however, produced very little effect.

13th.—He is becoming considerably weaker. The same treatment was continued through the day, but without any beneficial result ; and, by my advice, he was destroyed on the 14th.

Sectio Cadaveris.—The chest was the first part examined. The pleura was very much inflamed, both the costal and pulmonary portions. The chest contained two gallons of a thick purulent fetid fluid : the liver, and other viscera, were comparatively healthy. The vessels of the brain were congested with blood, more particularly those of the base. The spinal cord through its whole extent was inflamed, but that portion given off at the 5th, 6th, and 7th cervical vertebræ, and two first dorsal ones, presented a most beautiful and variegated appearance, being covered with small bloodvessels, which also entered into the substance of the cord. The theca in this part was of a dirty black hue. The lumbar portion of the spinal cord was also inflamed ; and running through the centre was a black line of extravasated blood. The spinal cord through nearly its whole extent was of a pulpy consistence, very similar to thick pus. *The lumbar portion of the spine exhibited marks of old inflammation, and was nearly ankylosed.*

On making stricter inquiry about my patient, I found that he had been subject to attacks very similar to these ; suddenly falling while he was drawing the phaeton, and then recovering himself and proceeding on his journey. Was it inflammation primarily of the cord, or of the spine ?

A CASE OF PARAPLEGIA.

By Mr. W. C. SPOONER, Southampton.

ON the 8th of December last, I was requested to attend a horse belonging to Mr. Vaughan, coal merchant, of this town. He had been employed on the previous day in moving a heavy waggon, and his hind feet had slipped, but no notice was taken of him until this morning, when it was found that he could not move. I saw him in the evening, and found that the horse had almost lost the use of the hind extremities ; and although he was still able to stand, he could not be moved without extreme danger of throwing him down : considerable fever was present, as well as loss of appetite. I bled him very largely, and administered laxative medicine and injections, and applied a strong

stimulant to the loins, which gave way considerably on pressure.

The next day he appeared no better. Febrifuge medicine and injections were continued, and a fresh sheep skin was thrown on the loins, which produced excessive perspiration: no amendment, however, was perceptible, and the appetite was totally gone. He was drenched with gruel, but with great difficulty, owing to the weakness in the loins.

Similar treatment was continued for six days, when, as the horse got worse, he was shot.

Sectio cadaveris.—On opening the spinal canal at the lumbar region, a considerable deposition of blood was found on the cord, particularly on its under surface, extending for the space of three inches at and just previous to the enlargement of the spinal marrow, where the nerves of the hind extremity are given off. The membranes of the cord were much inflamed; a considerable effusion of serum was found in the pericardium, and there was much inflammation of the lungs. This I expected, because, several days antecedent to the horse's death, the respiration was much accelerated. Was this effusion of serum the effects of sympathy, or the result of an independent disease?

A CASE OF TETANUS JOINED WITH CATARRHAL FEVER.

By Mr. J. STORRY, Pickering.

Feb. 14th.—MR. HUMBLE, of Wrelton Carr, in this neighbourhood, had a young horse docked, but the actual cautery was not applied. On the 24th I was sent for to see him, and found symptoms of tetanus of the worst description, accompanied by catarrhal fever. The nostrils were distended; the ears erect; the jaws unnaturally fixed, and nearly closed; the back and loins stiff and unbending; the muscles of the belly affected with spasms, and the belly itself very much contracted; the tail erect and quivering; and the legs stiff and immoveable as so many wooden progs: in fine, almost all the violent symptoms had become manifest in this case before I was called in, the owner having observed many of them for two or three days, *but thought they proceeded from cold, and would go off again.*

I abstracted four quarts of blood; gave an aperient, with the assistance of a curved stick, and ordered gruel to be slung within his reach, of which he drank a little. Pulse 92, and thready.

25th.—He purges well : pulse 110. He drinks a little gruel. I took away three quarts of blood, and six hours afterwards gave a drachm of white hellebore, and half a drachm each of digitalis and tartarized antimony ; and blistered the spine.

26th.—Trismus unabated ; I repeated the sedatives every six hours. An uncommon quantity of saliva now issued from the mouth : pulse 90.

27th.—V.S., three quarts : pulse fallen to 72. I gave sudorific medicine, with twenty grains of calomel. A profuse sweat soon afterwards came on, which continued for several hours. I then returned to the antispasmodics.

28th.—Pulse 90 : drinks gruel, and eats a little soft mash. Continue treatment.

March 1st.—Pulse 90 : drinks gruel, but very little alteration in the symptoms. I gave a gentle aperient. On the 2d he was again bled, and on that and the following day two doses of the antispasmodic were administered.

4th.—Pulse 64 ; spasms somewhat abated ; eats a little mash ; still stands stiff on his legs. Œdematous swellings had taken place in the cellular membrane on various parts, and I gave half an ounce of aloes, continuing twice daily somewhat smaller doses of the antispasmodics.

From this time to the 17th, there was a gradual improvement. The pulse had fallen to 48, and every tetanic symptom diminished daily. The legs, however, continued as stiff as posts. I ordered them to be frequently and well hand-rubbed, and applied stimulants to the œdematous swelling of the belly, all the while administering such medicine as the altered state of the disease seemed to require ; and the horse got well by the beginning of April, and is now as useful as ever for the cart and the plough.

By pursuing this mode of treatment, I have cured five horses in the last five years ; but I record this, because it followed docking, when the cautery, to which all this mischief is generally attributed, had not been used, and also on account of its complication with catarrhal fever.

RABIES IN A COW AND PIGS, AND ON RABIES GENERALLY.

By Mr. R. PRITCHARD, Wolverhampton.

[We have much pleasure in presenting our readers with this valuable Essay on Rabies. It cannot but be gratifying to us to find so many of the opinions which, several years ago, we had ventured to lay before the public on this neglected subject sanctioned by Mr. Pritchard's extensive experience. We can afford to differ from each other on some minor points, when, very soon, Rabies Canina will form the subject of half a dozen successive lectures.—Y.]

A RABID dog entered the farm-yard of Mr. George Strongitharm, of Calderfield, near Walsall, on the 27th December, 1835. Mr. S. had previously heard of the dog worrying his neighbour's sheep, and, from the outward character of the animal, at once recognized him as being the same, and supposed to be mad. The dog immediately attacked the house-dog of Mr. S. which was chained up in the yard, and the gun was hastily run for. The powder and shot being unfortunately mislaid, some time was lost; and in the meanwhile the mad dog escaped, and no trace of him could be discovered. It was afterwards supposed that the animal had secreted himself in the buildings, for he returned again to the yard about one to two o'clock the following morning, and attacked some pigs, which making a considerable outcry, roused Mr. S. and his servants from their beds, and they, proceeding with the gun already loaded, discovered him, and succeeded in destroying him.

He was of the bull and terrier breed, exceedingly tucked up in the belly from fasting; and the inside of his mouth so dry and parched, that it more resembled the surface of an unplanned board than a mucous membrane.

Two of the pigs had evidently received wounds in their noses from the dog, which soon got well, no curative or preventive measures being had recourse to, and without much irritation or swelling taking place. These two pigs were kept in a sty for a fortnight, and then, appearing to be quite recovered from their wounds, and nothing untoward being observable in them, they were again turned into the yard to their old companions.

On the next day or the day following that, the man-servant threw the entrails of a sheep to the pigs, all of which came and fed upon the bowels except the two pigs that had been bitten in the nose by the dog. One of these was found dead in the litter, with a quantity of froth and slaver about his mouth; the other, in coming out of his bed into the air, immediately jumped up on all four legs like the bound of a deer, a yard, at least, from the ground, and threw from his mouth a portion of a thick slaver and froth, and refused to join the others in feeding. He was placed again in the sty; he was much convulsed; he made a shrill squeaking noise; his mouth, filled with saliva and mucus, was held continually open about half an inch, except when champing his under jaw, which he frequently did with considerable twitching of the superficial muscles. He refused to eat or drink, gradually got worse, and died on the third day.

Three weeks exactly from the day on which the dog was killed, one of the other pigs was taken ill. The symptoms were much the same as in the previous case. The effect of water was tried on this pig; some of which being thrown upon him, caused him considerable distress: he leaped into the air, and dashed his head against the wall with considerable violence. He appeared quite delirious, and died on the second day. In a few days more, another pig was attacked. The symptoms were similar to those of the others, but much more violent; and he died twenty-four hours afterwards, nothing having been done to him that could disturb him. None of the pigs ate or drank any thing after they were taken ill.

On Friday, February 5th, 1836, Mr. S. requested my attendance to examine and give my opinion on a cow, eight months gone in calf, that had been taken ill on the previous day, and was suspected to be rabid, although no one knew that she had been bitten; but she was in the yard when the pigs were bitten by the dog.

I was informed, that the first symptoms observed in this cow, hitherto a good-natured, quiet creature, and fond of having her poll rubbed, was an inclination to run at the other cows, dashing at the man who went to throw her a cabbage, and then bellowing in an extraordinary manner. She was with great difficulty driven into an inclosed yard, where she had plenty of room, but could do no mischief, and there she awaited my arrival on the next morning.

I first observed that she had fixed on one spot as being most agreeable to her, and, if excited to leave it, she immediately returned to it after the paroxysm of rage had passed. She dashed herself about, and raged and bellowed in a remarkable way whenever any thing was presented to her over the wall where she stood.

It made no difference whether it was a handful of hay, a pail of water, or a hat taken from the head; she was equally furious, dashing at it, and occasionally coming in contact with the wall. A cow-crib which stood in the yard she had demolished into firewood. When more excited, she became exceedingly furious; roared, tore up the soil with her fore feet, and then becoming terribly convulsed, she fell down, rolled on her back, forced her horns into the manure, and in this position lay a few seconds, as if dying: she would then rise from the fit and resume her favourite spot. The eye was, during the tranquil state, half closed, as if drowsy; but she readily caught sight of everything offered to her, and when infuriated, her eye was fiery and wild, as if starting from its socket. The saliva frothed in white foam from her mouth, a yellow inspissated mucus covered her tongue, and a yellowish slaver drivelled to the ground. The pharyngeal muscles frequently contracted, giving a kind of gulping action to the throat, as if to force something down. When she lifted her head so as to receive the breeze over the wall, a spasmodic twitching of the superficial muscles passed over her in tremulous undulation. I saw her stale, which she accomplished in the usual way, and without agitation.

Being perfectly satisfied as to the nature of the case, I ordered her to be shot. Previous to this, I did not observe any movement of the calf; but it kicked very much while the cow was dying. Mr. S. was exceedingly alarmed for the safety of his stock, and particularly desired that no post-mortem examination might be made; consequently, I have no record of the morbid appearances after death.

I have forwarded these cases of rabies to THE VETERINARIAN for insertion, thinking they may be interesting to some of its readers. It is a dreadful disease. It makes one shudder to think of the suffering which accompanies it, and the horrid termination of it in the human subject; and in the quadruped it requires some degree of resolution and power of mind to approach and witness the frightful character of the malady, to say nothing of the agonies of the animal labouring under it.

I do not know what information English veterinary surgeons may possess on the subject of rabies; but, with some few exceptions, what they do know they keep to themselves. The profession will pardon me for saying, I fear that with us it has not been sufficiently studied. It is a disease with which the veterinarian should make himself, to the utmost of his power, acquainted. It strictly belongs to the diseases of the quadruped; and from him—the veterinarian—it is but reasonable to expect the most satisfactory and valuable information respecting it. The safety of

ourselves, our employers, and the animals on which we practise, demand of us the most perfect acquaintance with it that punctual observation and anxious research can obtain.

In what an interesting situation is the veterinary surgeon placed when called upon to decide as to whether an animal is rabid or not; and if this disease in its commencement should, unsuspected by the owner of the animal, be presented for treatment, of what importance is the veterinarian's well-grounded information and accurate distinction of its early symptoms? In such a case, how many valuable lives may owe their existence to his knowledge, or their deaths to his ignorance?

These are questions sufficiently important to prompt us to inquire into its causes and symptoms, and best mode of prevention. In regard to its cure, I scarcely know what to say: in all probability powder and shot will, in our patients, prove the best remedy for some years to come.

The true origin or remote cause is evidently but little understood, if not entirely unknown. In what way the disease is generated in the dog, is still, in my opinion, a very obscure subject. So far as the present knowledge of medical men extends, it is in favour of contagion. The disease is traced to contact of the rabid virus with an abraded surface, or the wounds inflicted by the biting of a rabid animal. Mr. Coleman, however, is of opinion, that it is occasionally spontaneous; and with him are Mr. Frankum, Dr. Elliotson, and many others.

It is difficult to prove the spontaneous origin of the disease; still it is possible. *The question, How was the first case of rabies produced? renders it so.* No one has described what other countries possess to produce it, that our own does not.

Some medical gentlemen are of opinion, that it is not only spontaneous, but that dogs bitten by a rabid dog do not become rabid. A disease takes place by which they are destroyed, but the rabid malady is not reproduced by the inoculation. This opinion is erroneous, without a doubt. If it were true, the disease could never take place otherwise than spontaneously.

My own experience goes to prove, that the disease is communicable by the bite from one dog to another; and that the power of the virus does not diminish by passing through the system of several animals that have bitten each other in succession, the malady being as well marked in its symptoms in the last dog as in the first.

Whether it is communicable through an unabraded healthy mucous membrane, is a very important question to be absolutely and positively proved. There are two cases on record in favour of the possibility of this: the first, in a child, from kissing his

hydrophobic parent* ; the second, in a man from untying a knot in a rope with his teeth, by which a rabid dog had been fastened : these cases, however, are far from being satisfactory. The mucous surfaces of the lips in both subjects might very possibly have been broken.

Another very important question is, Whether the virus is infectious after death, or loses its power of inoculation as soon as the animal dies. There are opinions and cases in favour of both. The secretion of saliva and mucus must cease on the death of the animal ; and if the fluid collected for experiment has the power of producing the disease by inoculation, that which remains in the mouth after death must be precisely of the same quality. Many instances of escape from the disease by those who have been engaged in post-mortem examinations of rabid subjects, and whose hands have not been sound, may be produced in favour of the opinion of its non-contagious quality ; and also the inability to generate the disease by inoculation with the saliva taken from the animal after death : still the innocuous and harmless condition of the saliva is not proved. It is at all times uncertain and difficult to produce the disease by experimental inoculation, even in circumstances most favourable for its accomplishment. I have no doubt in my own mind, that hundreds of individuals have escaped hydrophobia who have received wounds and scars from rabid dogs, and in which preventive measures had never been resorted to. I am attached to this opinion, from the circumstance of so many rabid dogs, after having become fractious and snappish, and producing slight lesions of the skin on servants and others, leaving their homes, the real disease remaining unsuspected, and probably doing fatal mischief, too distant to be heard of by their owners.

A question yet unsettled is, Whether any other than carnivorous animals are capable of propagating the disease ? I have witnessed rabies in the dog, the horse, the cow, the sheep, and the pig ; and in each of these animals the disease was so fully developed, that I am firmly convinced the saliva or mucus of the mouth was sufficiently saturated with the virus to convey the malady to others. The seeming incapability of propagating the disease in herbivorous animals is owing to the circumstance of their mouths being inappropriate for the purpose of inoculation : their weapons of offence being not situated in the mouth, they consequently are not so dangerous as the carnivorous ones. There is some doubt with respect to the poison of rabies—whether it is contained in the saliva or the mucus of the mouth. Medical

* If this be true, it proves the capability of the human subject to propagate the disease.

men generally, I believe, are of opinion that it is the saliva which is enpoisoned ; but Mons. Troillet, author of a Treatise on Madness, thinks that the mucus of the bronchi is the vehicle of it. He gives the following aphorisms—"1st, the saliva is not the vehicle of the virus of madness ; 2d, the salivary glands present neither grievance through the course of the malady, nor marks of alteration after death ; 3d, the slaver differs from the saliva—it comes from the air-passages ; 4th, the mucous membrane of the bronchi is the seat of a specific inflammation, which produces the virus of madness, in the same manner as the mucous membrane of the inflamed urethra produces the virus of syphilitic gonorrhœa."

So far as the character of the saliva is to be considered from its appearance to the eye there is no change. The frothy saliva, formed by the champing of the animal, is white and apparently healthy, while the mucus of the mouth is certainly deepened in colour, and inspissated ; and the slaver that drivels from the animal is evidently, from its colour, a morbid secretion of mucus. I am not from experiment empowered to decide the question ; but, *à priori*, it would appear most likely that the virus is contained in that fluid which has evidently and conspicuously undergone a morbid change in its character.

Much has been said, and many excellent opinions offered, upon the mode of the poison entering the system, and the peculiar condition of the constitution at the time of inoculation, as favouring or repelling it. This, after all, is but conjectural reasoning. One thing we do know,—that the disease is transmitted from the carnivorous animal to the herbivorous and the omnivorous one, whatever be the *modus operandi*. We have heard the opinions of many practitioners in human medicine and surgery, and I hope to hear much from our own profession ; and if not soon, yet I trust in the course of a few years.

I now proceed to the *symptoms*. These are not developed in every case alike in the same species, and, unfortunately, at the commencement of the disease they are not readily discerned. I must here be understood, that previous to the dog being disposed to bite, and capable of propagating the malady, the symptoms are not sufficiently obvious, but on a first slight and unsuspecting examination they may be overlooked : one or two of the most obvious and certain indications in dogs are, lapping their own urine ; eating their own fæces ; fixing the eyes on vacancy ; an industrious licking of the nose, anus, or genitals of another dog, or something cold that comes in their way ; an eager gathering of small bits of wood, straw, thread, &c. and running with them to some particular spot ; a curious jumping

up with all four legs; an incessant licking, nibbling, or scratching of some part of themselves.

In many dogs, however, not one of these symptoms may occur: the dog may retire sullen, morose, and ill-tempered to his bed or kennel; he may snap and fly at every strange object that comes near him; and, although it has been observed by Mr. Youatt and others, that previous temper has something to do with this disposition to bite, dogs remarkable for their previous inoffensive good nature are often, when rabid, fractious and ferocious to the highest degree. There is occasionally seen, early in the disease, an objection to food and to water; but I never saw any thing amounting to a dread of the latter in the dog. It has always struck me as an exceedingly singular circumstance, that the rabid dog should communicate the disease to the human subject characterized by a symptom which that malady never exhibits in himself. However, from the perusal of various cases on record of what is usually termed hydrophobia in man, the dread of swallowing fluids, rather than the mere sight of them, appears to predominate; the patient, after repeated and forcible entreaties to take liquids, and from time to time pitifully begging hard to be excused, at length grasps the cup with both hands, convulsively conveys it to his mouth, and swallows it to the dregs. I find this opinion is not exclusively my own, and I may, perhaps, be allowed to adduce the following extract: "The dread of water, which is said, though erroneously, to be peculiar to hydrophobic patients, appears to depend upon the morbid excitement of the nerves of the pharynx and larynx, giving rise, at each attempt to swallow, to the most violent contractions of those parts, and sympathetically of the lower part of the œsophagus and cardiac extremity of the stomach; thereby producing a distressing sense of suffocation, and consequent convulsive action of the whole system. That the dread expressed is of the act of swallowing, and not of the water, is proved by the fact, that the sight or noise of any liquid with which the idea of deglutition is associated, is sufficient, in many cases, to excite a paroxysm, whereas the rattling of the urine produces not the slightest uneasiness. Again, some patients will carry a cup of water to the lips with tolerable composure; but as soon as the muscles of deglutition are called into action by an attempt to drink, the whole system is threatened with convulsions, and the resolution fails."

After seeing several cases, observation becomes associated with a particular feature in the rabid dog, by no means easily described, but which is not seen in any other case: it consists of a sharp, lively, fierce countenance, mingled with an expression of serious

unhappiness and affliction. The eye is bright, the ear is pricked up, the face sharpened, while the under jaw may be a little pendent: If the mouth is seen open, the mucous surfaces are deeply injected with blood; perhaps the eye, too, looks red and fiery, with some strabismus outward. As the disease advances, the animal begins to slaver; inflammation gets deeper in the throat, by which the voice is changed, and the rabid howl produced; and now the presence of the malady is fully confirmed. As the malady proceeds, many other signs confirmatory are observed; but I before stated that they very much vary, no two cases presenting identity of symptoms. In the raging madness, the animal grows hourly more terrific and furious in his manner, gnawing and tearing to atoms every thing within his reach; and where no softer material is at hand than the bricks of the kennel wall, I have been truly astonished to witness the action of his teeth upon them.

In horses, the earliest symptoms to be confided in are, untractable disposition; the eyes look fiery, and the general countenance is wild and fierce. They never eat any thing after they are attacked, but champ and grind the teeth, and slaver at the mouth, with tremulous agitation of the superficial muscles and gulping of the throat. The progress of the disease is rapid. The animal soon becomes furious; attempts to kick and bite at every thing that comes near him, and at length he begins to dash himself against the walls, or, losing his equilibrium, he falls violently to the ground. His struggles and plunging, in order to get up, are attended with dreadful blows and bruises from re-falling when he has partly risen, during the interval of relaxation of the violent paroxysm, and his hinder extremities beginning to be palsied. I have generally found that some particular part of the stable is fixed upon where he stands in tremor, with the eyes half closed, or continually pawing, or engaged in some particular action, and, whatever that may be, he continues to practise it so long as he is able. A mare that I saw some time ago in Shropshire, after having levelled every thing with the ground, fixed on a cart harness belly-band, with links of chain at each end of it, that happened to be left in the stable, which she would take in her teeth about its middle, and continue to throw her head up and down, by which means it was dreadfully beaten and bruised, owing to the loose chains striking it at every action, and so she continued to employ herself while she lived.

In cattle the symptoms are very similar. There is no food taken; and in all that I have seen they have been wild and furious, making attacks with their heads and horns, bellowing loud

and terrifically when excited, with a tone of voice differing much from the natural one. In Mr. Strongitharm's cow I was much interested in observing the effect of the wind, which was high and very cold at that time, upon her. She was screened from it by a wall only: when she lifted up her head, it then blowing in her face, considerable agitation in the superficial muscles was produced. The rapidity with which the motor nerves sympathized with the impression received by the sensitive ones was truly astonishing.

I should have very much liked to have taken away the calf from the cow's side immediately after she was shot. I have no doubt that it would have lived, and if so, that would have been an exceedingly interesting fact in shewing whether the disease could have been conveyed from the mother to the fœtus through the circulation or not, and thus deciding the question of the virus existing in the blood; but, notwithstanding all my entreaties, Mr. S. refused, being much alarmed lest the calf should communicate it to something else.

The rabid sheep is less violent in its manner than any other animal that I have seen. In some six or seven that I saw near this town, a short time since, the symptoms were, a falling forward on their knees; pushing their nose and face against the ground; or standing thrusting their heads against the hedge-bank or the legs of any one that approached them; and slavering and frothing at the mouth. If they got against a hedge, they would bore through it, and proceed to some other obstacle that fell in their way. They rarely lived beyond the third or fourth day.

In regard to the post-mortem appearances of rabid animals, I have not observed any but what have been described with great clearness and precision by Mr. Youatt, and most of the symptoms during life enumerated by that gentleman I have remarked. To all those who feel inclined to pursue these dissections, I would advise every precaution; and not to forget what I have before mentioned, that the true nature of the rabid poison is still unknown.

In respect to preventive measures, an acquaintance with the nature of the virus, its mode of communication, and the most early symptoms of the malady, will enable the veterinary surgeon to render much assistance. If a horse or cow has been recently bitten by a rabid dog, he should, if possible, excise the parts, and apply caustic; and I should give a preference to the nitric acid.

Until further information is obtained on the subject of this dreadful malady, all bitten dogs, in my opinion, should be destroyed. Farm-yards, in which rabid animals have been placed, and litter, on which the contagious slaver has been shed, should

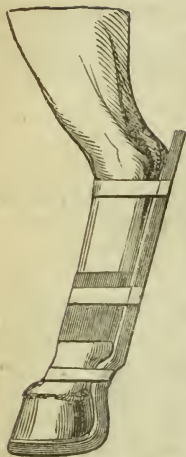
be covered, if it can be readily obtained, with tan, otherwise soil, in order to prevent its being fed upon, and the virus coming in contact with an abraded surface, either in the mouth, stomach, or intestines, and thus generate the disease.

ACCIDENTAL DIVISION OF THE FLEXOR TENDON OF THE HIND LEG—PERFECT CURE.

By Mr. J. HAYES.

ON the 6th of February 1825, I was sent for to Mr. Loyd's, Oldfield Hall, near Altrincham, Cheshire, in which place I then resided. Mr. Loyd had started that morning in his one-horse phaeton, to go to Manchester. When he had got about one mile on the road, the horse took fright, and dashed to the other side of the road, where, coming in contact with some heaps of broken stones, he upset the vehicle, and by his kicking and struggling, completely divided the flexor tendon of the left hind leg, about four inches above the large pastern joint. They managed to get him home with great difficulty. When he walked or stood, the superior pastern joint was resting on the ground, the foot lying with the heel on the ground, and the toe turned uppermost in front of the leg. The opinion of the people about him was, that he should be destroyed; but he being a fine animal, and a favourite one also, Mr. L. was reluctant to give the order. I explained to him the nature of the accident, and what was the general opinion of veterinarians on divided tendon; and I added, I had a doubt on my mind as to the supposed improbability or impossibility of uniting a ruptured tendon, although I was fully aware of the difficulty of the case. I had never seen or heard of the experiment being fairly tried; but expressed a desire to attempt it, and said that if he would allow me to do so, I would charge nothing if the result was unfavourable; to which he readily assented.

I first got a very strong shoe made, with the heels continuing up the posterior part of the pasterns, as far as the great pastern joint, where the two heels, as it were, joined together, and formed a strong iron stay, which continued up the posterior part of the shank, as high as the hock joint. This was made so as to hold the leg, and bear standing on, in the same position as a leg in its proper sound state. This stay was well padded on the inside; with loop-holes made in three different parts of it, for padded straps to go through and buckle round the leg, as seen in the annexed figure.



Thus the two ends of the tendon were brought together, and a little tow dipped in balsamic tincture was applied firmly to the wound by a thin bandage. The shoe with the stay was nailed to the foot, and firmly buckled to the leg. The leg was fomented three times a-day. I abstracted some blood, and gave him two mild doses of physic, followed by a little fever medicine; dressing the wound once in two days, until the beginning of March, when, the wound being healed, I put a large charge on the leg, and buckled on the stay as before: this was suffered to remain until May, when I ordered shoe, stay, and all to be taken off. I then blistered the leg, and turned the animal out to grass, where he remained until the middle of July; he was then taken up and put to work as before,

with not the least perceptible lameness. He remained sound afterwards, although they kept and worked him regularly in the same manner as their other horses for six or seven years.

I should have stated, in a former part of this narrative, that on the second day after the accident, Mr. L. met with a veterinary surgeon, since deceased, who happened to be going that way, and mentioned the circumstance to him; and that he, in a very knowing manner, told Mr. L. that it was quite impossible that the tendon could join together again, so as to be of any service afterwards; but he would see it, and if he found the tendon to be divided, he should at once recommend Mr. Loyd to have the horse shot. Mr. L., with much good and kind feeling, immediately sent for me to be present at the examination. I came; the bandages were taken off; he examined the wound, and immediately declared that the tendon was actually cut in two, and that it was as impossible to unite it again, so as to be of any service, as it was to make a new leg. He then took me on one side, and told me I must be a fool to attempt any such thing; for he could assure me that it had been tried by many of the principal veterinary practitioners, and had never yet succeeded; and that it would lose me the confidence of my employers by its failure, &c. I replied, that I believed his intentions were good, for which I thanked him; but though his name, his age, and his experience, must have great weight, yet I neither did nor would pin my faith or my practice upon any man's sleeve: that I was determined, if Mr. Loyd would keep his agreement, I would persevere, and give the case a fair trial, and then I should be satisfied, but not until then. The result of the experiment was, in due time, communicated by Mr.

L. to this surgeon; and I am sorry that it caused a lasting alienation between us.

I mention this circumstance, in order to encourage the younger members of the profession to cherish a spirit of inquiry and of legitimate experiment, and especially on a subject so interesting and praiseworthy as the improvement of our noble profession.

I will not, however, farther extend my observations, but conclude with assuring you, that I always have been, and shall remain, THE VETERINARIAN'S sincere friend and well-wisher.

SUCCESSFUL CASE OF DIVISION OF THE FLEXOR TENDON IN THE HIND LEG.

By Mr. COWELL, of Hatfield Peverill.

THE history of this case, previous to the operation, I trust will not be uninteresting to your readers. In the spring of 1833, a three-years-old grey gelding, the property of a gentleman in the vicinity of Chelmsford, became unmanageable whilst harrowing, and received a puncture in the off hind leg from one of the harrow teeth, which severely injured the flexor tendon. I enlarged the external wound, and applied a poultice for about a fortnight; at the expiration of which time he was apparently quite recovered. When, however, he was put to work, the lameness reappeared. I then blistered the leg, and ordered him two months' run at grass, after which I wished him to be put to light ploughing. Contrary to my wishes, they took him to carting clay from a very deep pit, and in a few days he could scarcely hobble across the yard.

I advised the application of the cautery, to which the owner would not consent, but very uncourteously, without informing me of his intentions, sent for a veterinary surgeon from Chelmsford, who fired the leg very lightly, so that the lines were scarcely perceptible. He gradually got worse; and in about six months the case was given up by my successor as incurable, with the heel elevated at the least two inches from the ground.

I was again requested to attend the case. Thinking deep firing and a mechanical shoe would succeed, I gave it a trial. The horse got much better, and was put to work; but the heel soon regained its former position.

I now determined to divide the tendon, which was done on the 25th of March, 1835. The tendon was supported by a thick-heeled shoe; a temporary bandage was applied to the incision for about a month, after which the horse was turned out to grass

until the 2d of July. He came up perfectly sound, and continues so at the present time. I believe that he has scarcely had a day's rest since that period.

TUMOUR IN THE ABDOMEN, AND HYPERTROPHY OF THE HEART.

By Mr. J. D. HARRISON, Lancaster.

ON the 6th of January 1835, I was requested to visit the subject of the following case:—An aged bay coach horse, nearly sixteen hands high, very thin in condition, on that morning had, for the first time, refused his accustomed feed. On seeing him, the first thing that attracted and finally arrested my attention was, a very peculiar expression of the eye, combined with a melancholy shaking of the head, and a countenance in which distress was forcibly portrayed: it was wild, haggard, and pitiable; and the remembrance of it will not be easily obliterated. Upon examination, the body and extremities were of a genial warmth; the fæces of a harder consistence than natural, and in very small lumps; respiration not at all accelerated; but the pulse 73, soft, and the sub-maxillary artery yielding at the slightest pressure, and conveying an idea to the mind that the regular quantity of blood was not, through some unknown cause, circulating throughout the system. There was a slight nasal discharge, colourless and inodorous; but the pituitary membrane was not even in the most trifling degree injected, neither was there cough, or any soreness from pressure about the larynx or fauces: in fact, there did not exist one solitary symptom indicative of inflammatory action. In the absence of this I did not feel justified in abstracting more blood, the horse-keeper having bled the animal to the amount of four or five quarts previous to my visit; I therefore, under the hope that some more prominent symptom would exhibit itself for my better guidance, contented myself with administering aloes vulg. ext. ʒii, pulv. antim. tart. ʒi, pulv. potassæ nit. ʒiii, in a bolus.

In the evening I found no amendment. There was still the melancholy, anxious countenance, and the breathing a little quickened. The pulse had increased five or six beats, and was stronger, which induced me again to open a vein; but, although I made a very large orifice, the blood came very slowly, and I had not obtained two quarts before I was obliged to desist, or syncope would have supervened.

It may not be irrelevant here to state, that, during the time the blood was flowing, the horse by a sudden jerk of his head caused

AND HYPERTROPHY OF THE HEART.

some of it to fly upon my shirt, which it *scarcely discoloured*, a circumstance I remarked at the time to the horse-keeper, though not so perfectly aware of the cause as at present. I confess that I then thought it attributable to some diseased state of the heart, of the precise nature of which I was ignorant. A rowel was inserted underneath the chest, and one drachm each of pulv. digitalis and antim. tart., with ziii of nitre, were given; and, as the extremities were cooler than they ought to be, I had them well wrapped up in hay bandages before I left him for the night.

In the morning I found no alteration, neither could I discern any thing characteristic. The nasal discharge had increased; it was green, and of a thicker consistence; yet the horse betrayed no signs of pain when pressed on the larynx or trachea, and respiration was as tranquil as in health. Although the pulse had increased to 85, yet it was soft. There was not the slightest perceptible intermission, yet at times the artery felt under the fingers in an almost collapsed state. The countenance was, if possible, still more pitiable, and the horse had evidently remained standing during the night, without tasting food, and with no apparent inclination to taste it. The faeces were rather softer; the mouth a little warmer than in a healthy state; the tongue clammy, and covered with a white froth. With very faint hopes of success, the same medicine was again administered.

At noon the ears and flanks were wet with sweat, and he was cold, and trembling violently; but the respiration was not disturbed; in fact, it was as regular and easy as when in perfect health, and the pulse still 85, but without intermission. The medicine was repeated.

At six o'clock, P.M., he was much in the same state, but did not sweat or tremble to so great a degree, and a slight warmth was perceptible. As the digitalis had not produced its wonted effect, another drachm, in conjunction with antim. tart. was administered.

Third morning: the rowel has suppurated well; the nasal discharge is greater, green, and slightly offensive; still no pain is evinced from pressing the larynx, and a cough cannot even be produced. The eye and countenance do not so much betray that singularity of expression as heretofore; the respiration is still tranquil, but the pulse has increased to 97, and still without the so much wished-for intermission: another drachm of digitalis was therefore exhibited.

One o'clock, P.M.—He has eaten two or three carrots during the forenoon: pulse 97, as in the morning: no intermission. Medicine repeated.

Six o'clock P.M.—I thought a slight intermission of the pulse

was perceptible, which cheered me a little, and determined me to persevere; and I accordingly gave one drachm more of the digitalis.

Fourth morning.—He is much worse; the expression of countenance is aggravated; the pulse has increased to 102; the respiration has become a little hurried, and the nasal discharge is green, bloody, and highly offensive. Repeat the medicine.

Noon.—Much the same. Continue medicine.

Six o'clock, P.M., no alteration. Still continue the medicine.

During the fifth day he was much the same as on the preceding one. The digitalis was repeated morning, noon, and night.

Sixth day.—It is evident his sufferings are drawing towards a close. The respiration is greatly hurried, and the pulse now beats from 120 to 125; the mouth is cool and clammy; the breath and nasal discharge very offensive, and the latter still tinged with blood. As a matter of experiment I gave ʒiiss of digitalis, and at noon repeated the dose.

7 P.M.—He cannot survive long. The pulse falters; the mouth is cold, clammy, and filled with foam: he has the cold sweats of death upon him, and I leave him until the morning, but with no idea of seeing him again alive.

Upon opening the chest, the most remarkable phenomena first presented themselves in the lungs, upon the right lobes of which were seven or eight air-bladders, beautifully transparent, and the largest of them somewhat exceeding a goose's egg in size. The surface of the lungs was of a very light pink colour, and their substance, when cut into, of the same hue. The right ventricle of the heart was greatly dilated, but the auricle not so much. The left auricle and ventricle not much altered. When the abdomen was opened, a large tumour attached to the posterior and inferior surface of the diaphragm was first seen, which occupied from eighteen to nineteen inches laterally, and five or six inches superiorly, and from three to four inches in thickness. On cutting into it, it was found to be composed of blood, the fibrin lying in clots as large as a hen's egg, in different parts of the colouring matter. The fauces did not exhibit the slightest inflammation; but the mucous membrane of the trachea betrayed a slight blush of it. The intestines, &c. were healthy.

CONTRIBUTIONS TO COMPARATIVE PATHOLOGY.

No. IV.

By Mr. YOUATT.

PHTHISIS, SLIGHTLY CONNECTED WITH HEPATITIS.

1834, *April 29th*.—FEMALE TIGER. Coughs, with apparent attempt to get something from the throat. Taken ill on the same day, and with precisely the same symptoms as the male. Give three grains of emetic tartar in water.

30th.—Was not sick, yet seems to be better. Wait.

May 4th.—She is not right, and is frequently heard to cough. Give three grains of emetic tartar.

5th.—She has been puked, and the cough is relieved. Give daily two grains each of calomel and antimonial powder.

9th.—She still coughs occasionally. Continue powder.

11th.—Still coughs a little, but in tolerable spirits. Give daily four grains of the hydriodate of potash.

15th.—She is better than the male, but I do not like her; her appetite fails her, her coat stares, and the cough is sadly painful. Double the quantity of the medicine.

18th.—Feeds better, takes more exercise, coughs less. Same medicine.

21st.—Continued improvement. Same medicine.

23d.—I saw her to-day in one of her worst fits of coughing. It was short, *cut short*, shaking the whole frame, but interrupted by pain. However more favourably she may appear to go on than the male, *she must die*. Give her also some of the blood, with calomel in it.

25th, 27th.—See account of male.

28th, 30th.—See account of male, with the exception that the medicine purged the female briskly.

June 1st.—She still purges, and has strongly the convulsive motion alluded to. She refused all food.

5th.—She begins to take a little milk: let her have as much as she likes.

9th.—She was sick after food, and cannot be induced to look at any thing eatable or drinkable.

12th.—She took a little milk yesterday, and was sick after it, and vomited a considerable quantity of bile: she would not take any thing afterwards, but, this morning, she lapped a quart of milk.

15th.—See account of male.

17th.—She stands it out better than the male, but she must die.

20th.—Very little change, and therefore not noticed, except that she is gradually sinking. I have tried again and again to cheat her, but she detects the medicine in a moment.

21st.—She has been suddenly seized with a fit of vomiting and purging, and has discharged a great quantity of bilious matter. Give six grains of calomel.

23d.—She, after a long while, did lap the portion of milk containing the calomel, and has voided a great deal more bile. She is more lively and a little stronger, and laps her milk with greater appetite. After consultation with Mr. Bennett and Mr. Yarrell, it was determined to give the calomel a fair trial. Give three grains every night.

25th.—Could I believe that it would be permanent, I should say that she was better. She breathes more quietly, is stronger, and feeds and looks better. Continue the calomel.

27th.—No change. Continue treatment.

29th.—The delusion is at an end. She heaves and staggers, and looks deplorably, and will scarcely touch her milk: she has not taken any thing else for a long while, although tempted in every possible way. Continue calomel, although she has been very sick to-day, and ejected much bilious matter.

July 1st.—The vomiting has stopped, but she voids much bile by stool. She is thinner and weaker. Add half a grain of opium to the calomel. She would not touch it.

4th.—Bleeds from the nose. Two or three ounces are lost in the course of the day. A slight mixture of purulent matter in the blood. Continue the calomel.

5th.—Dead. No inflammation of the intestines, but one or two portions of the rectum spasmodically contracted. Chronic inflammation of the liver; it is friable, and there are a few tubercles in it; the gall-bladder distended. The heart was somewhat dilated and flabby; the pericardium thickened and emphysematous. The lungs were one mass of disease. There were numerous tubercles in some parts, but they were small. The chief character of the lungs was that of universal hepatization, softening at different places, and forming vomicae of greater or less size. One of them must have contained a pint of fluid, of a thick brown colour, and that seemed like the substance of the lung broken down. Its parietes had a kind of honeycomb appearance, and the vessels of the lungs stretched across it, and interlaced each other in every direction. The very edges of the different lobes had the character of induration, and the body of each lobe was more or less hollowed out; it was hardly conceivable how the animal

could have breathed at all. The dilatation of the heart, and the violent heaving of the flanks, are satisfactorily accounted for. We had no chance with her, for she would at last take nothing but milk, and it was not often that she would sufficiently empty the vessel so as to get the whole or scarcely any part of the calomel with which we drugged it.

PHTHISIS.

April 29th, 1834.—**MALE TIGER.** Coughs, with apparent attempt to get something from the throat. He was taken ill on the same day, and with precisely the same symptoms as the female. Give three grains of emetic tartar in water.

30th.—Well puked by the emetic. Wait to see how the case will develop itself.

May 4th.—He is not right, and is frequently heard to cough. Give three grains of tartar emetic.

5th.—He has been puked, and vomited two long portions of a tape-worm. The cough is relieved. Give daily two grains of calomel and the same quantity of antimonial powder.

9th.—He coughs frequently and painfully. Continue powder.

11th.—More frequent cough, short, and interrupted; the coat rough, the countenance anxious, and the appetite impaired. Give daily four grains of the hydriodate of potash.

15th.—I do not like this animal: the cough does not abate; he scarcely eats, takes no exercise, and heaves sadly at the flanks. Continue the hydriodate.

18th.—Every symptom aggravated. Double the medicine.

21st.—Still, I fear, getting worse. Continue medicine.

23d.—He has now given up eating, and it is impossible to get any medicine into him. He is constipated. Try him with some warm blood in which four grains of calomel have been placed.

25th.—He took the calomel in a little blood, but it did not produce the slightest effect. Give eight grains in more warm blood.

27th.—He refused all food on the night of the 25th, but last night the medicine was taken in some blood. It has produced no effect. Wait during the day to see whether purging will be produced, and, if not, give the same quantity to-night.

28th.—The medicine was given, but it also failed to operate. Give them, if they can be induced to take it, three grains each of the farina of the croton nut.

30th.—The moment they tasted the croton, they (the female referred to at the beginning of this case, and this male) refused

to take any more of the blood into which it had been put. They were, however, induced to take the calomel in a little more blood, and that has both puked and purged them. The male vomited a full pint of bilious matter, and his stools, although only pultaceous, consisted principally of bile. They are getting sadly thin; the eyes are sunk; the countenance anxious; there is a spasmodic catching of the legs and tail, and the subcutaneous muscles of the sides. They are continually licking their feet and gnawing their legs. Give no medicine, but endeavour to tempt them to eat.

June 1st.—Depressed and begins to stagger. No medicine, but coax to eat, which he has not done for three days. The spasmodic catching has almost ceased in him.

3d.—They will not touch any thing—not even their water. Coax them in every way, but no medicine.

5th.—He begins to drink a little milk. Let him have as much as he likes.

9th.—Still continues to lap a little milk. I am unwilling to drug it, lest I throw him off his food for ever.

12th.—He will take nothing but raw milk. I put a couple of grains of calomel in his milk yesterday; he detected it in a moment, and turned from it in disgust, tasteless and devoid of smell as it appears to be to us; and he would not take any thing during that day. To-day, after a great deal of pondering over it, he took a little milk.

15th.—He continues to take a little milk, but never without a scrupulous examination of it. He can now scarcely rise, and breathes with difficulty.

17th.—He seems to be rapidly going. The difficulty of breathing amounts to groaning at the slightest change of posture.

18th.—Very little change, except that he is gradually sinking. I have tried to cheat him again and again, but he detects the medicine in a moment.

21st.—Dead. There was not a trace of disease in the abdomen, except very slight inflammation of the liver, and two rings of contraction at the commencement of the colon. A gentleman examined the thorax in my absence, and the parts were buried. His report was, that the lungs were tuberculated, and that many of the tubercles contained purulent matter.

MONTHLY ABSTRACT OF THE PROCEEDINGS OF
THE LONDON VETERINARY MEDICAL SOCIETY.

January 5th, 1836.

PURSUANT to adjournment over the Christmas holidays, the Society again met this evening, when an elaborate and highly interesting Essay on the Atmosphere and its Influence on the Animal Economy, by Mr. R. Lucas, was read.

Its consideration occupied this and the subsequent evening of the Society, the argument throughout being animated. The physical properties of the atmosphere first passed in review; afterwards its composition was examined, and then the changes which are effected in it by the respiration of man and animals. Mr. Lucas considered the oxygen, nitrogen, and carbonic acid gases in a state of mechanical admixture only, the law of equable diffusion of gases keeping them uniformly blended.

The well-known bleaching properties of the air being adverted to, and referred to the deoxidizing rays of the Sun, a member suggested that a deutoxide of hydrogen is the cause. Some considered that chlorine might exist in it, which is derived from the saline matters of the ocean, and wafted by the winds to all parts of the globe.

The source of the carbon, which by union with oxygen forms the carbonic acid found in venous blood, Mr. Lucas stated to be the conversion of albumen into gelatine; an organic principle not found in the blood, yet existing very largely in many parts of the frame, and which differs in its chemical composition from albumen, in having a few proportionals less of carbon; thus adopting the theory of Dr. Prout. It was objected, that as there is constant absorption taking place as well as deposition, there must be also a constant conversion of gelatine into albumen, as well as of albumen into gelatine, so that an excess of carbon cannot be supposed at any time to exist. The chyle was given as another source, and as a third the destruction of parts. But, in fact, no definite conclusion was arrived at. The most simple view which could be taken was that of the lungs possessing the power of discerning carbonic acid gas and watery vapour; the first from its being noxious to the system if retained, and the latter for the perfecting of the incompletely formed albumen of the blood.

The absorption of oxygen during the transit of the blood through the lungs was generally allowed; the union of this agent with the carbon being effected by the vital principle, whence

results the heat of the frame from the capacity for heat in carbonic acid being less than in oxygen.

It was doubted if the small quantity of the oxide of iron found in the blood sufficed to impart to it its colour; rather it was referred to the action of the saline particles, and to the peculiar proximate principle hæmatozine.

The morbid heat of an inflamed part was made dependent upon two causes: first, a greater determination of blood to the part; and, second, an augmentation of nervous energy.

The nature of contagion was much dwelt upon, and no doubt entertained as to the winds being the media by which different kinds of morbid virus are transmitted; this, however, more especially when the air is surcharged with watery vapour.

January 19th.

This evening Mr. Sumner presented for discussion a paper on Contraction of the Foot of the Horse, its causes, modes of prevention, and the curative means to be adopted. The full consideration of this essay also occupied two evenings.

A novel and a bold statement made by a member, and as ably maintained, that the "approaching circle or circular is not the true form of the horse's foot," awakened an animated argument, and drew forth many pertinent remarks. He held, that the normal form can, indeed, be only seen when the animal has arrived at maturity; therefore the inferences drawn from the feet of colts were erroneous. The true shape he considered an oval; and in proportion as the foot approached in conformation to this, so does it approach to perfection. He likewise was of opinion, that the circular foot is neither the best adapted for speed nor for safety; this last position being proved by the form of the foot of the mule and the ass.

Much, he contended, would the actual shape of the foot depend upon the nature of the soil, and also the climate. For instance, in low marshy lands it would be found to be open, and approach to the circle in shape; whilst in hilly and dry countries it would be oblong.

The correctness of this opinion on the true form of the foot was much questioned by many, and particularly combatted by the author of the essay. Respecting the influence of soil, there were many who concurred with him. It was remarked, that a variation in conformation is indicative of design, and evinces wisdom, since in wet lands a horse with a small narrow foot would be sinking in at every step, and, on the other hand, a broad and open foot in a hilly country would be constantly subject to injuries from bruises of the sole, &c. This is to be seen,

in a remarkable degree, in some of the western counties of England, where horses with such feet are comparatively useless for work on the roads.

The most common cause of contraction was considered to be injudicious shoeing. The disease itself by many was viewed rather as an effect of some internal disorganization of the foot, than as an affection *per se*.

The best mode of prevention was thought to be the unilateral plan of nailing so strongly advocated by Mr. J. Turner, or the employment of a leather sole, recommended by Mr. Sewell.

As remedial means—the wall should be rasped generally (and particularly in front, it was said by some), the sole thinned, the toe shortened, and the heels lowered so as to allow the frog to receive pressure, tips to be employed, and afterwards the animal to be turned out. Should much inflammatory action exist, blood-letting and the usual antiphlogistic remedies were advised to be had recourse to. In chronic and otherwise incurable cases, Mr. Sumner recommended an excision of a portion of the plantar nerve on either side of the leg.

February 2d.

This being the close of the duties of the present Committee of Management, an inspection of the essays introduced during the past three months took place, when

Mr. Draper's on Digestion,
Mr. Raddall's on Enteritis, and
Mr. Lucas's on the Atmosphere,

were considered deserving of the thanks of the Society, and the same were directed to be presented to them, acknowledging also an approval of their general conduct, by which the best interests of the Society had been advanced.

During the past quarter the attendance of constituents has been numerous; the discussions animated and useful; many new members have been elected, and several books added to the library.

The following members were chosen by ballot as the Committee of Management for the ensuing three months:—

Mr. Richardson	Mr. Wallis
Mr. Bagnall	Mr. Jeffery
Mr. Jones	Mr. Ferguson.

An interesting paper on the Physiology of the Nerves, by Mr. W. Taylor, was read. The argument which arose might be considered somewhat too metaphysical; it nevertheless possessed some novelty. The first part rested on the influence of the mind

on matter, as proof of which the function of secretion was adduced. This, on the slightest survey, demonstrated how the various secreting organs are acted upon by mental emotions; and instances of the converse were brought forward, namely, that if the function of secretion in certain viscera was deranged or stayed, aberration of the mind was the result.

The mind was considered by Mr. Taylor as something—although he confessed his inability to define it—above the mere instinct with which all animals are endowed. It is immaterial and immortal. It gives to man his proud pre-eminence in the scale of created beings; it renders him accountable for his actions; it endows him with the power of thinking, and of deducing inferences from positions laid down. Too frequently, however, these are not correct, and hence it has been said, reason often errs, whilst instinct never does.

There were those who thought these positions not tenable, and that the mind in man is nothing more than an increased development of that principle which exists in the various classes of animals subordinate to him, and that even the lowest of these possess the power of thought in a certain degree.

Knowledge was defined as emanating from experience, but wisdom was not the necessary result of this, nor this the cause of reason.

It was remarked, that in those animals which have not, strictly speaking, a brain, some other organ exists by which impressions are conveyed to the mind. Mr. Taylor considered such would be found to possess an extended spinal column.

The influence by which the nerves are excited was by a Member considered identical with electricity. This Mr. Taylor disputed. He readily assented to the close resemblance in the effects produced by electricity on the recently killed animal, and those which take place during life by the agency of the nerves, but by no means thought their oneness proved. All that he had been enabled to draw from the many experiments instituted was, that the nerves possess the power of transmitting the electric fluid, and of being called into action by it; but surely, he said, similarity is not identity.

Referring to the function of secretion as dependent upon the brain and nerves, he at once allowed of the closeness of the link; and in reply to the objection raised, that secretion goes on in the horse's foot after an excision of a portion of the nerves which lead to it, he stated, there are yet filaments which have not been divided, and even if these were, the bloodvessels are pervaded with nervous tissue sufficient to carry on secretion.

The further consideration of this essay was postponed.

February 9th.

The subject for discussion this evening was, Hoose in Calves, introduced by Mr. Fry. The remarks which were elicited were founded on an intimate acquaintance with the ravages that parasites produce in cattle, and the means of extirpation had recourse to by him having been uniformly successful. He was of opinion, that the ova float in the atmosphere, and, being taken into the air-passages during the act of inhalation, they lodge upon the mucous membrane thereof, which being a fit nidus, there the worm is developed. The class to which they belong he stated to be a species of the strongyli. A member dissented from him in the view which he takes respecting the manner in which the egg gets into the bronchi. He would rather say, it was through the medium of the circulation, and that the ovum is lodged upon the moist pasturage (since it is a well-known fact, that in low lands, and during the autumnal quarter, the greater numbers are found), which being partaken of by the animal, thus has its entrance into the system, whence it is deposited on the mucous lining of the trachea and bronchi. The means of eradication are, a careful subjection of the animal thus infested to the fumes of sulphurous acid; but should the inflammatory symptoms run high, bloodletting and the usual antiphlogistic remedies must be had recourse to.

February 16th.

Mr. Baddely presented for consideration a paper on the External Conformation of the Horse. Referring to the racer, he stated that he preferred one having a short to one having a long neck, yet he believed such to be more subject to affections of the brain. His reasons were twofold: 1st, the respiration would be attended with less difficulty under increased exertion, from the air having a shorter distance to traverse; 2d, the animal would not have so much to carry.

It was remarked, that in racing the length of the neck often tells; it is therefore desirable that the neck should be long, but not heavy. Some doubted if a short neck is really the best adapted for speed, since but comparatively few racers have been thus formed, at least that have been noted for their feats. Such, too, doubted the existence of a light head upon a short neck; and were likewise of opinion that the angle formed by the placing on of the head on a short neck is frequently very acute, and thus offers an essential impediment to the free ingress of air, whilst the curve formed by the lengthened neck is by no means so objectionable. It was agreed, that it is desirable that a race-horse

should have a short neck with a light head, and an expanded trachea and chest; and as a proof of the beauty of such conformation the deer tribe was referred to.

The more perfect model for animals of speed was stated to be the greyhound.

February 23d.

The continuation of the defence of Mr. Taylor's essay on the nerves was this evening undertaken by Mr. Ferguson. Their structure he believed not to be uniform. Sometimes they appear to be tubular, and to contain medullary matter; at others, fibrous. Their external appearance also varies, some being round, others oval. Again, in some their sheath is so thin that the filaments of which they are made up (and which differ in thickness, some being twice the circumference of others) can be plainly seen; in others, this is so thick, that in order to examine the nerve the investiture must be removed. This he considered to be a continuation of the meninges of the brain.

The whole system he believed to be sympathetically connected, and the well-being of any one part, in a great measure, indirectly dependent upon that of the whole. Also that the action of one organ, or set of organs, cannot be increased without that of others being proportionally diminished. Some parts are also more liable to be affected by the derangement of particular organs than others, thus proving that a greater sympathetic relationship exists between them. In certain cases, he remarked, we can trace the medium of this sympathy. It is seen in the connexion existing between the stomach and respiratory system by the pneumogastric nerves; and thus we can very satisfactorily account for a blow on the stomach causing instantaneous death by a rapid exhaustion of nervous energy. Dissolution, in such cases, is so sudden, that on examining the seat of injury no trace of inflammatory action or extravasation of blood can be detected, since sufficient time has not elapsed for any lesion of the tissues to take place. Another beautiful example of traceable sympathy might be seen in the connexions which exist between the different parts of the respiratory apparatus.

Mr. Ferguson admired the ingenuity displayed in the arrangement of the nerves into systems by Sir Charles Bell, but ventured to express a doubt of its perfect applicability to the horse. The spinal accessory, he observed, Sir Charles makes a nerve of respiration; but he questioned its being so, for on dissection he had found it going to supply the trapezius and sterno-maxillaris muscle, the last of which he did not consider a respiratory muscle.

Speaking of the division of the par vagum, he stated, that besides causing spasmodic contraction of the larynx through the recurrent branches, which we are all aware will, if the operation of tracheotomy be not performed, cause almost instantaneous death by suffocation, it produces direct effects upon the lungs, muscular fibres of the bronchi, and lining membrane of the bronchial tubes and air-cells. The lungs are thus deprived of their sensibility to ordinary impressions, and, even as Brachet has proved, of the necessity of breathing. An animal in which these nerves are divided may be drowned without any manifestations of distress, although it is seen to use its respiratory apparatus; the muscles of which, although supplied with voluntary motor nerves, derive also a supply from the laryngeal branch of the divided nerve; for this branch arises from that portion which has still a communication with the brain, also from the external thoracic and phrenic, which are all nerves of organic life, inasmuch as the muscles to which they go continue to act during the animal's lifetime. The muscular structure of the bronchi becoming palsied, allows of an accumulation of mucus, which, if the animal be not previously destroyed, will cause death by suffocation. This, in his opinion, proves that they are not concerned in the secretions given off from any of the membranes situated in the cavity of the thorax. Diseases of the nerves, he observed, may be seen in tetanus, in which there is an inordinate supply of nervous energy, and in which the voluntary nerves alone are acted upon; in hydrophobia, in which the respiratory system is affected, and on which account so much difficulty is experienced in the act of deglutition; and in stringhalt, in which there is an irregularity in the action of the muscles arising from derangement in the function of the nerves. The morbid appearances found to exist in the gracilis and triceps femoris muscles of horses thus affected, he viewed as an effect rather than a cause of the disease.

W. J. T. MORTON, Secretary.

THE PAST AND PRESENT STATE OF VETERINARY SCIENCE.

No. I.

By Mr. THOMAS WALTON MAYER.

“*Licet omnibus et etiam licet mihi, rerum cognoscere causas.*”

As a good or bad tree is known by the general appearances of the stem and branches and leaves, and particularly by its fruit, so is any science distinguished (whether based on truth or error) by the stem, branches, &c., that it puts forth, and more especially by the connexion of its products with the welfare of mankind. From such a science, originating in the desire to alleviate the sufferings of living beings prone to sundry diseases, striking forth its roots into the soil of anatomical and physiological truth, sprung the trunk of medicine. At first it consisted but of one stem, increasing in height and bulk with revolving years; at length it shot forth two branches, or, rather, they hardly could be called branches, but continuations of the trunk itself: the one destined for the use and benefit of the human race; the other for the brute creation. To follow out the successive growth of these branches would be a pleasing and instructive task: but I will leave the one to pursue its growth, as it has already done—ornamental in itself, and a blessing to the world; while I consider the other, in which we are more immediately interested, and distinguished by the name of “veterinary science.”

To appreciate and understand the past is often difficult, shadowed and veiled as it is by the clouds of superstition and ignorance. However, as it is not only beneficial to every one to review his past life, and to trace the steps he has taken towards improvement, or, perchance, error;—as it not only stimulates him onwards in the path of rectitude, but also causes him to leave the ways of falsehood;—so it is, on reviewing the early state of any science, that we can see the steps it has taken towards improvement or decay, and that we can appreciate the state in which it now is, and form a correct estimate of its prospects for the future. I entreat, therefore, the attention of the readers of *THE VETERINARIAN* while I attempt to sketch the past and present state of the veterinary profession, and venture on some remarks in reference to the future.

As it regards this country, for to it alone will the present sketch

be confined, the past state of veterinary medicine may be divided into two distinct periods,—namely, darkness and light.

The dark period comprehends that time in which the veterinary art was practised principally by the common blacksmith, who acted not upon anatomical and physiological principles, but was guided by certain nostrums, recipes, and observations, handed down from one generation to another ; who was sunk in the lowest depths of ignorance, and whose deeds were characterized by their absurdity and barbarity. The light comprehends that period from the establishment of a school of veterinary medicine to the present time, and during which much has been done towards raising the profession to the rank and station which it so justly deserves.

During the dark period veterinary science may be said to have been at open sea without a compass, without a rudder. It was involved in the densest clouds of barbaric ignorance and superstition. To prove this position, hear what Thomas Blundevil says* : “ In my opinion the gall of a horse is subject to dyuers diseases as well as the gall of a man, as to obstruction whereof commeth fulnesse and emptynesse of the bladder thereof, and also the stone in the gall. But obstruction may chance in two manner of ways ; first, when the way wherby the cholor should proceede from the lyuer unto the bladder of the gall as unto his proper receptacle is stopped, and therby the bladder remayneth empty, whereof may spring dyuers euills accidents, as vomiting, the lax or bloody flux.—The stone in the gall, which is somewhat blackish, proceedeth of the obstruction of the conduits of the bladder, wherby the cholor being long kept in, waxeth dry and turneth at length to harde grauell.”

Again ; “ The most certain method for the cure of splents,” says Forster†, “ is to bore with a small hot iron in several places through the splent to the bone ; then put a bit of sublimate into every hole, and bind on a pledget of basilicon, which will assist the caustics to throw off the adherence of the splent from the bone.”

In addition to all this, their well-known belief in certain charms handed down from one generation to another—their pretensions to work certain mighty cures by the wondrous power of incantation and magic—evidently prove that they must have been far too credulous, or superstitious, or dishonest, successfully to cultivate medical truth.

* In a work entitled, “ The Order of Curing Horses’ Diseases, together with the Causes of such diseases, the sygnes howe to knowe them, and finally howe to cure the same. By Thomas Blundevil, Newton Flotman, in Norfolke, 1566.”

† See “ The Gentleman’s Experienced Farrier, by William Forster, 1786,” page 323.

Let us now advance a step in the ladder of science, and consider how a change from this darkness to light was brought about. It appears that, towards the latter part of the seventeenth and the beginning of the eighteenth century, a considerable interest was excited among the surgeons of the day in behalf of veterinary science. No sooner were the hidden things then belonging to the veterinary art brought to light by being printed, and the egregious errors of the old writers consequently exposed, than many surgeons, bending their attention to the remedy of our defects and absurdities, became authors in their turn; no doubt prompted by the desire to rescue the sister science from the chains by which it was fettered. In consequence of this, the veterinary art began to be studied by men better educated.

Here was the first step towards improvement—here was the break of day—the twilight of the science: but it was not yet perfect daylight; another step was necessary. Accordingly we find, towards the latter part of the eighteenth century, another body of men taking the veterinary art by the hand, to whom the profession is much indebted. I mean, the Odiham Agricultural Association; who, in 1785, formed a resolution, of which the following is an extract:—“That farriery is a most useful science, and intimately connected with the interests of agriculture; that it is in a very imperfect neglected state, and highly deserving the attention of all friends of agricultural economy.

“That farriery, as it is commonly practised, is conducted without principle or science, and greatly to the injury of the noblest and most useful of our animals.

“That the improvement of farriery, established on a study of the anatomy, diseases, and care of animals, particularly of horses, cows, and sheep, will be an essential benefit to agriculture, and will greatly improve some of the most important branches of national commerce, such as wool at least*.”

It was by these conjoint means that the change was brought about—a change from darkness to light—from the paths of error to those of truth.

The speedy result of this change was the establishment of the Veterinary College. The formation of a school of veterinary medicine, where the anatomy, physiology, and pathology of domestic animals was to be taught, promised a glorious result. It was, to use the words of Mr. Blaine†, a period from which the principal improvements in this art must be dated, and which will ever remain a memorable epoch in the history of the veterinary art.

* See the Resolutions of this Society, in *THE VETERINARIAN*, vol. v, p. 27.

† See “Blaine’s Outlines of the Veterinary Art,” 1st edition, page 64.

THE VETERINARIAN, APRIL 1, 1836.

No quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

THE two last have been important months as it regards the veterinary surgeon, and those with whose interests he ought to be identified. On the 8th of February, a committee of the House of Commons was appointed—unfettered, unrestricted in the slightest degree—to inquire into the existence, the extent, the cause, and the remedy of agricultural distress. It is true that the leader of the House of Commons gave no hope that “the distress which now pressed upon the agriculturist could be suddenly or effectually removed by any legislative interference of parliament;” but when he has left the inquiry into the matter as free as air, and expressed his wish that “the question should be fairly sifted,” and deliberately pledged himself that, “if there were any practical means by which agriculture could be improved, it would be the duty of parliament to adopt them,” the agriculturist needs not to abandon himself to utter despair.

On the 12th, the second meeting of the Central Agricultural Association was held. It was even more numerously attended than the first, and delegates from no fewer than 58 country agricultural associations were present. Universal satisfaction was expressed at the promise by government of an impartial inquiry into the causes of agricultural depression, and there was a deep feeling that all practicable redress could not be refused without injustice or delayed without danger pervaded the whole assembly.

If the language of the speakers generally was somewhat strong, their own interest in the affair, and the appalling instances of distress which crowded upon their view, whatever part of the country they inhabited, would form a sufficient excuse. This was no time for “sweet words, low crooked curtsies, and base spaniel fawning.” It could not, however, be denied, that there was a violence of manner—a studied obtusion of demands that never could be granted—an ill-concealed irreconcilable ill-feeling towards those whose impartial consideration they besought—a hint, a threat of possible convulsion and revolution—a studied adoption of measures which must unavoidably lead to the defeat of their professed object, which alarmed the considerate, and excited the suspicion that much more was meant by some of the speakers than met the ear.

On the 18th of March the general committee of the society met in order to report progress, and to take into consideration the measures of government then under discussion in parliament,

so far as they bore upon the agricultural question. The tithe bill formed a prominent object, and the average of the last seven years' produce was pronounced to be unjust and oppressive. All this was fair, and the matter deserves serious inquiry; yet the language of sarcasm and contempt, of menace and abhorrence, which was resorted to, was at least in bad taste, and would be adopted by an enemy to the agricultural cause, *in order to ensure its defeat*: and when, coupled with this, the invidious distinction was drawn between the agriculturist and the commercial man, and the capitalist and the fundholders were held up as objects of detestation—when the old visionary project, the alteration of the currency, was studiously placed in the foreground, and broadly stated to be that without which “they would not be satisfied, and the refusal of which would be followed by revolution,” the honest and considerate well-wisher to their cause began to be alarmed and disgusted. The depreciation of the currency! the virtual destruction of every contract that has been entered into for the last seventeen years, and the robbery and destruction of at least one of the parties—the robbery (scarcely denied even by the currency man) of the public creditor—the commencement of injustice in every department and in every form, without the reparation of any one former injury; when this, at length, is brought forward as an object, not of consideration, but as “a demand which must and shall be granted,” why then it behoves the prudent man, and the well-wisher to the agriculturist and to the country, to look around him.

But why, ask some of our readers, why this in a veterinary periodical? Because the agricultural question is one with which the veterinarian has much to do—because, in all but our large towns, and there too in a considerable degree, he is identified with the weal and the woe of the agriculturist—because he has to do with the usefulness and the very existence of the most valuable part of the property of the agriculturist—because, as was stated in a former number, this very society has plainly and fully recognized the association between the farmer and the veterinarian, and has talked of adopting means to render that association closer, and more beneficial. We therefore have a right to mingle with this society, and to concern ourselves with all those questions which implicate its prosperity, or its utter uselessness and downfall.

The veterinarian is no uninterested spectator of the present contest; and if he can aid in the accomplishment of the ostensible object of the agricultural society, he will be honourably employed. If he has the power to direct and to confine the efforts of the farmer to the accomplishment of the objects which lie within his reach, and to warn him from those on which all his

labour would be thrown away, or which, if obtained, would be delusive and unjust, he will be doing much good.

Government can do something ;—the commutation of tithes being effected (the present bill probably being somewhat or materially altered in its calculations and its averages), the duty on the sale of landed property, and some taxes pressing particularly on the agriculturist being repealed. The landlord can do more, by the reduction of rent, in many situations at least, and to a certain degree ; and by regulating his rent by the price of corn, or of some other farm-produce. The farmer—and aided by the government, which to a considerable extent may readily find the means of doing this—the farmer may do more, by making himself better acquainted with those sciences which bear upon the agricultural pursuits ; by adopting cheaper and securer means of raising the produce of the ground, and securing it from many a source of injury, or even destruction. The veterinary surgeon may contribute to the same important end much more than the farmer has hitherto thought him capable of doing, and far more than the majority of practitioners have dreamed of his being able to accomplish.

One cause of agricultural distress, and not the least, and occasionally bearing heavily indeed upon the farmer, is the mortality among his cattle and sheep. Few of the domesticated quadrupeds are suffered to die of old age ; but, says the author of “ A Treatise on Cattle,” in the first page of his work, “ A tenth part of the sheep and lambs die annually of disease, and at least a fifteenth part of the neat cattle are destroyed by inflammatory fever and milk fever, red-water, hoose and diarrhœa ; and the country incurs a loss of nearly ten millions of pounds annually.” This calculation was the result of much diligent inquiry, and was purposely under rather than over stated. A committee was appointed in 1833 to inquire into the state of agriculture at that time, and the following was the evidence given as to the ravages of one disease alone, *the rot*, in certainly a very bad winter, 1830.

Mr. W. R. Brown, of Broad Hinton, says, that he lost 500 sheep in four months, and that he sold 400 more at 3s. 8d. a piece ; so that he might be said to have lost 900 in all, out of a flock of 1400.

Mr. W. Simpson says, that one of his neighbours lost all his sheep but three. Mr. John Buckley says that many lost all their flocks. Mr. John Western Peters states, that he knew some instances in which the farmer lost the whole of his stock, and bought a second stock and lost that too.

Mr. Smallpiece asserts, that in some parts of the Wealds of Surrey and Sussex, where there used to be two or three thousand

sheep, there is not one now. He adds, "the loss extends beyond the mere value of the sheep: it embarrasses the whole operation of the farm, and throws it out of cultivation, for the farmer depended on his sheep for much of his manure, and probably there are no other means of procuring it."

In consequence of this there were in Smithfield, during 1833, five thousand sheep less than the usual average number on every market day, and 20,000 less than the usual number at Weyhill fair.

Mr. John Cramp, of the Isle of Thanet, adds, "in 1824, I had improved my farm at Ashford, in the Weald of Kent, and I had a great stock upon it; but in the ensuing winter I was visited by that dreadful disease the rot, which carried away £3000 worth of my sheep in less than three months, and I gave up my farm."

Of the truth of the assertion, then, that the mortality among farming stock is one cause of agricultural distress, there cannot be a moment's doubt; nor can there be a doubt that it is an evil which to a certain extent admits of remedy.

What has been the case with the horse? Opportunity has been given to study well the nature and the causes, actual and predisposing, and the proper treatment, of his diseases; and, as has again and again been proudly and truly asserted, many diseases most frequent and most murderous have in a manner disappeared, and hundreds of thousands of pounds have been annually saved to the cavalry service and to the country. The success of the veterinarian in his treatment of the horse is a pledge of what he would be able to do were his education and opportunities the same as it regards neat cattle and sheep. We state without fear of contradiction, that the number of deaths from inflammation of the lungs, staggers, glanders, is not one-fourth part of what it was forty years ago; and there is no reason to doubt that the diseases of cattle and sheep would diminish fully as much in number and in fatality if equal opportunities were afforded for obtaining a correct knowledge of their nature and causes.

We are not wandering, then, from the legitimate object of our periodical when we occasionally notice the professed object and the real progress of the great agricultural society lately formed. Statements like those which we have made are intimately connected with the prosperity and honour of our profession; and the time is not far distant when veterinary science will proudly assume her true station as identified with the vital interests of the country.

Let veterinary surgeons coalesce with the district societies around them, and let them use the little interest which they possess in preventing the noble objects which such societies, properly conducted, can accomplish, from being sacrificed by the demand of that which it would be neither honest nor possible to grant, and by covertly making their assemblies the engines of political faction.

Review.

Quid sit pulchrum, quid turpe, quid utile, quid non. —HOR.

A Comparative View of the Form and Character of the English Racer and Saddle-horse during the last and present Centuries. Illustrated by eighteen Plates of Horses. London: Hookham, Old Bond Street, 1836.

WE feel a degree of pleasure in introducing the work now lying open before us to our readers, not only from its affording them, as well as ourselves, some change from the monotony of relations of cases with which our Journal is, confessedly, apt to be redolent, but also from its bringing under our combined notice a subject which, in the hurried march of improvement, seems undeservedly to have lost much of its importance. In breeding and rearing animals of all kinds, not excepting the lords of the creation themselves, it is universally seen, that art has contrived means to enlarge their structure and enhance their physical powers; but it does not seem to have been so generally observed, or, if noticed, had sufficient regard paid to it, that while art was thus achieving for us, to all appearances, most desirable ends, she was sacrificing a portion of Nature's inherent energy, or vital power—her *vis insita*, or vigour—the loss or diminition of which rendered the animal, so impaired by art, a much more tender production than the original stock. This is not only the case with animals, but it holds good in regard to vegetables likewise: we by culture and artificial heat obtain a finer plant, but it proves unfit to contend with frosts and storms, which pass over the natural herb with impunity. Although we are most certainly gainers therefore, and to a great amount, in our present system of breeding and rearing horses, there cannot be a doubt but that we, at the same time, are losers; that the wild horse can undergo, if not greater fatigue, at least greater privations than the domesticated animal; and, consequently, it becomes an interesting question to learn how far it is advisable to lay aside nature for art; or rather, to what extent the two may be most advantageously combined. This appears to be the object of the work before us.

The trite remark of the breeder, that “it must all go in at the mouth,” is almost of itself sufficient to shew that what our author calls “enlargement of structure,” luxuriant growth—is the effect of food, rich in quality and abundant in quantity; subsidiary to which may be taken into account, temperature and general care or management. An animal thus artificially produced requires artificial sustenance. And “to what,” observes

our author, "can we attribute the inability of the larger animal to subsist on natural food, but to a loss of some of that power connected with animal life, which, call it what we will, is not material, and is greatest when animals are in a condition nearest to that of nature?" Habit will go some way in explanation of this; but only some way. There would, indeed, appear to be some "loss" or diminution "of that power connected with animal life:" at all events, it is manifestly weaker or less resistant in one case than in the other; nor does it seem capable of being very sensibly either increased or diminished in the same individual; but to accomplish that end requires a succession of generations or changes of constitutions.

Other striking facts connected with our subject are, that while "an endless variety of form is displayed by domesticated animals," there exists a singular resemblance among wild ones of the same race;" and though "disease resulting from insufficiency of food often reduces them to a miserable condition, they either recover entirely or perish; the natural vigour of a racer in a state of nature seems never permanently injured."

We may close the "introduction," from which the foregoing observations have been derived, with the following deductions, or rather with one out of which springs another; viz. that "enlargement of structure (the result of domestication) injures the balance of vital and material power;" for although the animal "having the most muscle can make the greatest muscular exertions;" still, "if we change the nature of the trial, and render it one of time or privations, the greater vital power of smaller but well-formed animals becomes apparent."

In confirmation of these positions, our author has brought forward many facts and records; among which, while some are notorious enough, there are others no less curious than interesting. Our grazing cattle are almost wholly bred on poor lands, while our dairy cattle are often reared on rich land; the consequences are, that the udders of the latter become more developed, and more milk is produced: this milk, however, yielding but comparatively scanty proportions of curd or butter, it was deemed advisable to cross the improved with a more natural and hardier breed, and the produce has turned out a still further improvement. And it is to be moreover observed, that, while such dairy districts as are distinguished for their rich pastures have been driven to this change in their breed, those that occupy poorer districts retain their old stock.

In the grazing breeds of cattle, however, few or no change seems to have taken place: they have existed in their present form for ages; and the excellency of their breed is in a great measure proved by their great endurance of weather, and priva-

tion of food, and their powers of rallying after such trials, so as in a short time, upon an improved diet, to become fit for the butcher; whereas, in the case of the improved dairy breed, every one knows how difficult it is to restore them when once they have been suffered materially to lose their condition.

Keeping his principle of *stamina* or "nature" in view, our author next combats, and not altogether unsuccessfully, the doctrines on breeding first promulgated by the celebrated Mr. Cline, and subsequently adopted by many engaged in the breeding and rearing of cattle. Mr. Cline contended strongly for *size* in the female, compared to the male; arguing, that this capaciousness not only afforded more room for growth to the fœtus, but that more nourishment also would thereby be supplied for it. Against this our author advances, that, in the natural state of things, males are in general larger than their correspondent females; *ergo*, Mr. Cline's theory is one *contra naturam*. Not only, however, is it incongruous with what we see passing in nature, but it also is dissonant from practice. The Hereford cow is a small, delicate, and, comparatively, inferior animal, and yet her produce, the Herefordshire ox, "stands without a rival."

From cattle we pass to the race-horse; and, first, our author's object is to shew "the great tasks performed by the race-horses of the last century, their useful symmetry, and the long time they remained on the turf: the small tasks performed by modern race-horses, their bad symmetry, and the short time they remain on the turf."

The annals of racing date no farther back than the beginning of the last century. At that time, the common racing distances were four and six miles, carrying from eight to twelve stone; and at such distances, and with such weights, great feats were performed by the horses of those days. Six miles, however, had ceased to be reckoned a racing distance before the conclusion of the last century; and even four miles, except for Kings' plates. And, now-a-days, two miles is reckoned a long distance; the more usual ones being under that—single miles, nay, even half miles. The natural consequence of this shortening of distances—this less trial of strength than speed—has been, a change in the conformation and stamina of the animal produced for the race. In all departments and employments of life, men generally, in the long run, discover the nearest and surest road to profit, and they have done no more than this in racing; but in doing so, though they have benefitted themselves, they appear to have deteriorated the breeds of their horses. They have gained their object—speed for a short distance; but they have effected this at the sacrifice of more generally useful qualifications—strength and durability—*stamina*. What, perhaps, has contributed more

to this change and deterioration than any one thing besides, is the conversion that has been made of the turf from an arena where honour and laurels were won, and with pride worn, into a circle of gambling and fraud, where only sharpers, and not the best horses, can hope to win. For the purpose of further elucidating this acknowledged deterioration in our breed of horses, the author has introduced into his work a series of well-executed lithographic portraits of celebrated racers of the past and present day; and as far as pictorial representations can illustrate points of strength and stamina, they appear well adapted to their end.

Along with the decline in stoutness and vigour of the race-horse, we may sensibly enough trace that of the saddle-horse: indeed, farmers and breeders of half-bred horses are so completely dependent for their progeny on the stallions—which for the most part are racers—that the falling off of the hunter and hackney is but a natural consequence of the decline of the racer.

In speaking of brood-mares, our author condemns such as are large, “roomy” as they are commonly called; at the same time they should not run too small, but “exhibit that symmetry, on a moderately enlarged scale, which is best in reference to their race.” Experience proves that large mares are not absolutely necessary to the production of a large produce: pony mares produce to full-sized horses an offspring much larger than themselves. “The material object to look to in a brood-mare, next to race, is true symmetry of skeleton, accompanied with a full amount of pure muscle.” “If good symmetry denotes vigour, bad symmetry denotes a want of it.”

With a view of amending our breeds of horses, our author recommends the formation of “a national establishment,” furnished with “well-selected ponys” from the East—with animals “as nearly in a state of nature” as could be found, having good symmetry, a full amount of muscle, and whatever speed the best of them possess. The “first step must be a recurrence to nature for those properties which art has destroyed.” The objects sought are “a more compact form and greater vigour.” “Artificial structure is obtained by rich food, and artificial speed by continued selection.” He likewise recommends the introduction into this national breeding establishment of a “pure race of British ponys,” as being “strikingly muscular when compared with any enlarged horse of equal breeding.”

We are far from wishing our readers to be satisfied with this imperfect outline of the work before us: on the contrary, such of them as feel any desire to look into the past and present stock of British horses, and indulge in speculations on the causes that appear to have led to the acknowledged changes in our breeds, cannot do better than peruse it. The subject is

interesting to every horseman : nay, it is even of *national* importance. It has long been our pride to boast that our country produced the finest horses in the world : to retrograde in this respect would not only reflect great discredit upon us, but in various ways would affect our national interests : it would considerably lessen the commercial traffic in horses at present carrying on ; it would lower the estimation in which our cavalry are now so deservedly held ; and it would injure and detract from the enjoyment of both the turf and the hunt.

It is therefore, we repeat, of vast import to all engaged in horse concerns to ascertain whether we really are retrograding in our breeds ; and if so, what steps should be taken to avert or put a stop to the evil courses. How far our author's views and plans be correct and worthy of adoption, must form the subject of a future article. In the meantime, we most cordially tender him our thanks for agitating the question.

P.

[To be continued.]

A Compendious System of VETERINARY INSTRUCTION, by Question and Answer, prepared and arranged upon modern and scientific Principles. By B. BULL, *Veterinary Surgeon, Launceston.* Simpkin, Marshall & Co. ; and H. & W. Wright.

WE confess that we object to the title of this book. In "a compendious system" of instruction on any science, we expect to find not only brevity and condensation, but, most of all, comprehensiveness. The work should contain, in a short compass, all that is valuable relating to that science. "A compendious system of veterinary instruction" should include the anatomy, physiology, and diseases of every domesticated animal. This volume, with all its merit, is confined to the horse ; and the title page, as in the excellent works of Mr. Percivall, should have clearly expressed it. It is high time that the noble scope of our art should be well understood.

We likewise object to the catechetical form which is given to it. We have not forgotten the pleasure and improvement with which, many years ago, we read some of Mrs. Marcet's elementary works ; nor have we forgotten the parrot-like form of other books of our younger years, by which the memory was scarcely burdened, for the impression was evanescent, while the intellectual power was unemployed, and taught habitually to slumber and to waste away under the lethean influence of the mere gabbling by rote.

The charm and the utility of Mrs. Marcet's works consisted in the conversational form into which she contrived to throw them, and the process of reasoning and mental exertion which

was always going forward. Mr. Bull, in the answers which he gives to the various queries, studiously addresses himself as much as he can to the reason and common sense of his supposed pupil, and this is, to a considerable extent, a redeeming quality; yet we cannot help regretting that our art should be degraded to a mere system of children's question and answer. We could forgive it where mere matters of fact are concerned, as in simple anatomy, or where the pupil is preparing for a certain examination—and yet here it would only illustrate the delusion and mockery of such a process, as generally conducted—but we are not quite pleased to see a science like ours, founded, or which ought to be founded, on the severest principles of true philosophy, taught in a volume of questions and answers.

However, Mr. Bull has a right to adopt his own plan; and he seems to come well prepared for the execution of such a work. He is evidently a man of classical education, and a close observer. He thus, and without any offensive obtrusion, speaks of himself:—
 “Another observation which the author would make as an apology for his appearing in the character of a veterinary writer is, that he is not a mere speculative inquirer, or a superficial reader of veterinary books, but has had the advantage of a proper education in his profession; and the observations he has made in the work which he is emboldened to lay before the public, are the result not only of anatomical and physiological study, but of several years' experience enjoyed by himself, and have had the invariable sanction of his late father, during a series of forty years' extensive practice.”

The subjects are considered alphabetically. We will take one or two perfectly at random.

“QUESTION.—What is the use of blisters?”

“ANSWER.—In organic inflammation, such as pneumonia or enteritis, we apply them externally for the sake of making a diversion, or, in other words, for the sake of bringing inflammation from a more important to a less essential part. In glandular inflammations, such as strangles or catarrh, we use them either to promote suppuration, or else to check the inflammatory action going forward in the laryngeal or tracheal membranes.

“QUESTION.—What other case can you advert to in which they are beneficial?”

“ANSWER.—In callous enlargements of the flexor tendons; that is, when a deposit of albuminous matter is left in consequence of their having been strained, we blister as a stimulus to absorption, by which the enlargement is diminished, and sometimes permanent lameness prevented. We also blister when a cold and indurated tumour presents itself, or when an extravasation of blood in the cellular substance is present, to discuss the swelling by repulsion, or promote the formation of matter.

It is necessary whenever a blister is applied to be careful as to the temperature or heat of the part. If it feels the least hot, we should omit its application, for fear an excessive degree of inflammation should follow, and a blemish be the ultimate consequence.

“In nine cases out of ten, however, this is the effect of some caustic ingredient in the blister, and not the heat of the part. No form of blister can be better suited for general application than the *unguentum lyttæ*, or cantharides ointment.”

We will next take an article of the materia medica.

“QUESTION.—Of what service is Fox-glove in veterinary medicine?

“ANSWER.—Its virtues have, perhaps, been too highly extolled by some, while, on the other hand, they have been unfairly underrated by others; it will, however, if seasonably employed, and administered in suitable proportions, be found exceedingly serviceable in inflammatory affections of the lungs and chest, by sensibly diminishing the frequency of the pulse. In pneumonia the dose should be about one drachm with three drachms of nitre and a drachm and a half of emetic tartar. It may likewise be administered both in the acute and chronic cases of catarrh, in smaller quantities, combining it in the latter stage with the expectorating medicines already noticed under that head.”

Part of an article on the treatment of disease shall finish our extracts.

“QUESTION.—What remarks have you to offer concerning that frequent disease called Grease?

“ANSWER.—Grease consists in a discharge of ichorous and offensive matter from the heels, accompanied by swelling and other symptoms, too well known to need comment. Its causes are plethora, insufficient or total want of exercise, bad grooming, and constitutional predisposition. *Plethora* is a general fulness of the vessels, or a state in which more blood is formed than is required to supply the demands of the animal's system; this circumstance surcharges the capillary vessels with more fluid than they are able properly to propel, and consequently an imperfect circulation, or a local debility, takes place in the heels, and grease follows. *Insufficient or total want of exercise*, combined with confinement in a stable whose atmosphere is polluted, and an undue supply of nutritious food or hard meat, is almost sure to produce it. *Bad grooming* is, perhaps, the most frequent of all the causes. The filth and dust accumulated about the heels are allowed to remain on their surfaces unremoved, or, if washed off, the legs are suffered to remain wet and undried, and this suddenly checks the circulating fluid in these parts. *Predisposition* is another cause. Some horses have had it even at grass; and such subjects are sure to have it if brought into artificial

habits, and that, too, far more malignantly than many that are neglected, badly groomed, &c.

“The treatment must depend on the state of the disease and the condition of the animal. If he is plethoric, he must be bled; have a mild purge and a rowel inserted into the thigh. The heels must be poulticed with one part of linseed meal and four of bran, and which must be continued until the stiffness and exquisite tenderness of the affected parts are removed, when the following lotion may be used:—sulphate of zinc ζ iss, alum ζ ij, spirits of wine ζ iiij, decoction of oak bark one pint.

“This will generally dry the heels up, and soon get them well; should it, however, fail after a week's trial, and the parts look foul and ichorous, try the following liniment:—Powdered alum ζ ij, powdered calamine ζ j, powdered crystallized verdigris ζ ij, spirits of wine ζ ij, and sweet oil ζ viiij; put pledgets dipped in this mixture upon the raw surface, and secure it by means of a bandage.

“During the whole course of this disease mild diuretics, with antimonials and cordials, should be given, as the following:—nitre ζ iiij, camphor ζ v, Castile soap ζ ij, sulphuret of antimony ζ iss, liquorice powder ζ ij, oil of aniseed ζ ij, and honey sufficient to form six balls.

“If the patient is very poor, bleeding must be dispensed with, and also the physic; but mild diuretics, with antimonials and cordials, will be found exceedingly serviceable.

“Confirmed grease, or the excrescences called *grapes*, may be cured by cutting them off with a sharp knife, and then searing the surface with the actual cautery. After the bleeding has ceased, apply an emollient poultice for a few days. Should the grapes re-appear, dress them with the following mixture:—corrosive sublimate ζ ij, muriatic acid ζ iiij, tinc. of aloes ζ i, and water a pint. Apply this every day until the healing process commences, when the following may be used, which will soon cure them:—powdered crystallized verdigris ζ ij, powdered alum ζ i, spirits of wine ζ iiij, honey ζ ij, vinegar ζ iiij, hot water ζ x.”

These extracts will enable the reader to judge of the excellencies and defects of this work. It embodies the best part of the old system of farriery, with much that is good in the new one; and as each disease passes in review, a plain straight-forward mode of treatment is recommended. There is nothing visionary about it—no theory run mad—nothing that will lead the young practitioner far astray. To him, as a whole, we cordially recommend it. The more scientific man will possibly wish, that a little more justice had been done to some modern improvements (we particularly refer to neurotomy); and that, occasionally, somewhat more attention had been paid to the style. This work will gradually find its way into the library of most veterinarians.

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ANIMAL PATHOLOGY.

By Mr. YOUATT.

LECTURE V.

Morbid States of Sensation.

THE diseases of the nerves of sensation in animals to whom nature has denied the power of speech, and who only by signs, comparatively inexpressive, and frequently delusive, can enable us to guess at what they suffer, is a subject difficult to treat upon, and on which we can scarcely arrive at a satisfactory conclusion. I fear, too, that the natural difficulties of such a subject are much and disgracefully increased by the inattention of many of us to the indications of pleasure and of pain in our quadruped patients. In our treatment of disease, and in many of the operations which we perform, the value of the animal as the slave of man, and the degree in which we can make him, his services and his very form, subservient to the caprice of man,—these are our primary calculations; and the enjoyment or the suffering of the animal itself are subjects of mere secondary consideration; or, thus far only, taken into the account at all.

Well, gentlemen, we must take this subject in its turn, not deterred by its difficulties, and fully resolved, that even where we have so few facts to reason upon, we will not admit one of them without sufficient evidence.

Lesions of the sensitive Nerves.—We have to consider the lesions or morbid conditions of the nerves that spring from the central columns of the superior (posterior) surface of the spinal cord, including those of common sensation, multiplied chiefly about the skin generally, and those more especially devoted to the sense of touch, and accumulated on certain parts only of the integument. When we considered the physiology of these nerves, an important distinction was drawn between those of common sensation and those of touch; the former being sus-

ceptible of certain impressions, pleasurable or painful, referrible to the general well-being of the animal, the others being intimately and necessarily connected with the mind. We cannot, however, maintain this distinction in a pathological point of view.

Divisions of these Lesions.—These sensitive nerves are the media through which impressions relating to the organic, or the animal, or the intellectual life, are conveyed to the common sensorium; and we can only conceive of three modes, and applicable to them all, in which they depart from their healthy function, namely, when they are too acutely or not sufficiently sensible to impression, whether from external or internal causes, or when they convey impressions not simply too vivid or too obtuse, but otherwise wearing a delusive character. I need not remind you that, in this investigation, we have nothing to do with the nerves of pure sensation deriving their origin from the base of the brain: they will afford matter for future consideration.

The Sensitive Nerves distributed to every Part.—The nerves proceeding from the central columns of the superior surface of the spinal cord are not only, according to their relative position, determined in an especial manner to certain parts connected with animal life, and to which they essentially belong,—perhaps I must not say that *they anastomose* with other nerves, for it is evidently necessary that the impression, pleasurable or painful, beneficial or injurious, should be referrible to the precise point on which it is made, and that no painful feeling should spread around, unless when some injury is extending, and needs instant remedy—I must not say that they anastomose with other nerves, but they ramify into innumerable branches of extreme minuteness, and spread themselves over every portion of both systems. They do so in order to be everywhere the organs of pleasure or of salutary warning; and they keep up a common feeling and a common sympathy, on which the well-being of the system and the proper action of every part depend.

Their natural State.—Are they in a quiescent state when the animal is unconscious of any determinate pleasure or pain?—No, they can never be altogether quiescent; there is a feeling of health, not easily to be described, but having a real and delightful existence when the various parts of the frame are working harmoniously and well; and there is a real and wearisome sensation when disease is about to attack the frame. There are certain acts in which the excitement of a portion of the nervous system is attended by a great degree of pleasure; but, generally speaking, an undue excitement is accompanied by or degenerates

into pain. Their healthy state borders far more upon quiescence than upon excitement.

Fidgettiness.—There are certain states of the constitution in which there is a slight and yet unpleasant degree of exaltation of the sensitive nervous system—a kind of fidgettiness, than which there are few things more annoying. We see it in the stabled horse unexercised and over fed. He is not still an instant; he is pawing, weaving, cribbiting, nibbling, and biting himself in every part. If he is taken out of the stable, he knows not what to do with himself; and his rider scarcely knows what to do with him. He is most annoyingly and unmanageably fidgetty. He is worse, if possible, than the young student who cannot keep himself still for a moment, but worries his neighbours, and distracts the lecturer to a degree of which he has little conception.

There is a species of dog, the favourite of the ladies, the detestation of every man, and the essence of whose character and constitution is fidgettiness or perpetual motion;—I mean the small French poodle. From the earliest to the latest hour he is in incessant action; distinguished by no peculiar intelligence, by no disinterested affection, by no peculiar submissiveness even to those by whom he is fed. He is an apt illustration of that undue accumulation of irritative nervous power which torments himself and all around him except his mistress; until it has found an outlet through which it may be expended.

Irritability at the commencement of Disease.—There is another species of sensorial irritation which is more decidedly connected with disease; not merely a shifting of the posture, or the irregular movement of a particular limb, but a continual restlessness and wandering. The horse at the commencement of almost every febrile attack is shifting his posture and his place every instant; lying down and getting up again, pacing around his box, and measuring it in every direction. The sheep under the influence of the hydatid will wander to the farther part of the pasture; lie down, gaze mournfully around him, and then get up and wander again; some strange convulsive motion of one of the limbs interrupting or giving a singular character to his walk. The dog, when rabies is about to establish itself, is the most irritable restless being that can be conceived of, starting convulsively at the slightest sound, disposing his bed in every direction, seeking out one retreat after another in order to rest his wearied aching limbs, but quiet only for a moment in any one, and the motion of his limbs frequently simulating chorea, and even epilepsy.

Pain from old Wounds and Fractures.—There is another morbid

sensibility of certain parts, very peculiar in its character. There has been lesion or bruise of the integument; and although the wound has healed, and the injured portion appears externally to have been perfectly restored, the nervous fibrils have not regained their healthy tone. Circumstances of the most trifling nature excite a degree of uneasiness that often degenerates into extreme pain. A change takes place in the weather; the weight and pressure of the atmosphere has considerably varied; it has materially diminished; and the balance between the pressure of the external air and the resistance or elasticity of that within the integument is disturbed. If the parts were in a healthy state they would scarcely be affected by, or would accommodate themselves to the change, but they retain, from this previous injury, a degree of morbid irritability, and considerable uneasiness or acute pain is felt in the part. The corn shoots, and the rheumatic joint aches, and the nerve of the carious tooth gives torture scarcely to be borne. There are few persons who have attained to a considerable age without being painfully conscious of many atmospheric changes. The foot, or the stump, is as true an indicator of the weather as the best barometer can be. Some pride themselves on this gift of prophecy with which they are beginning to be endowed; but it is a faculty dearly purchased at the expense of many a twinge and many a cramp.

In Animals: The Horse.—There is scarcely an animal that comes under our medical care in which nearly the same affection is not visible. A valuable horse has been ridden by day and by night, in fair weather and in foul, at moderate speed, and sometimes almost without compassion. He has been lame many a time, and I have traced the situation and nature of the lameness; he has been lame at other times, and there was not the slightest heat, engorgement, or tenderness to point out to me either the one or the other. After awhile it disappears; but it returns again, perhaps after some severe exertion; possibly without any assignable cause; until, at length, I begin to trace a coincidence between a return of the lameness and cold and wet weather. I examine still more carefully, and I find that the lameness precedes the atmospheric change. I dare not go farther. Thus far, however, I have been able satisfactorily to go; and mentioning the circumstances to other practitioners, or observant horsemen, I find that their conclusions and mine do not materially disagree.

The Dog.—The huntsman has better opportunity for observing these things. He has had the chest founder in his kennel, possibly owing to his own negligence, or the aspect of the building, or the soil on which it stands. He has observed these

periodical lamenesses among his dogs; he has connected them with atmospheric change and atmospheric influence; and by degrees he has begun to observe that the change in the dog, at least, accompanies, and mostly precedes the change in the weather; and he begins to regard the tucked-up appearance, or the disinclination to move, or the lameness, or the yelping of old Dido, as a seldom-failing prognostic of bad weather.

All this is referrible to certain parts of the frame once injured, and never perfectly reinstated; still retaining a considerable portion of morbid sensibility, and affected by circumstances that would be powerless with regard to the perfectly healthy constitution or part.

Atmospheric Influence continued.—The quadruped or the feathered biped, however, is far more exposed to the influence of atmospheric changes than is the human being; for he has not the means of sheltering himself from the biting storm, and he is exposed to a greater variety of accidents, and, therefore, he will be likely oftener to have these morbidly sensible portions—these inlets of pain and disease. Nature has been doubly careful of these animals; she has denied them a degree of feeling which would be a curse to them rather than a blessing; and she has furnished them with an apparatus by means of which they may, for a longer time before these changes of weather, and without any of those annoying ailments which make the human being weatherwise, be warned of the approaching storm.

The Nature of atmospheric Influence.—The changes of the weather are dependent upon changes in the electricity of the atmosphere generally, or of some of the gases of which it is composed. An alteration of density, or temperature, or moisture, or drought is the effect of this electric change. Were not the animals who were destined to live amidst these influences protected from their immediate and sudden effects, life, and all the comforts of life, would be endangered or soon destroyed. Were too much of the fluid portion of the frame rapidly absorbed by the surrounding drought, or the necessary exhalations from the surfaces suddenly arrested by the immediate contact of moisture; were the vital heat to be stolen away by the surrounding air more rapidly than it could be generated; were that species of electricity, call it by what name you will, on which the vital power depends, to accumulate rapidly and without bounds, and cause the flame of life to be quickly exhausted by excitation; and were that which exerts at once its negative and depressing power, to rush upon him without warning, existence would often be at hazard, and ere long extinguished. Nature has therefore given to these animals a protection against these influences.

She has covered them, more or less thickly, according to their wants, with hair, or wool, or feathers, bad conductors of heat, of electricity, and of moisture, and resisting for a certain, and often a considerable time, their painful or injurious effects. She has done more; she has placed a centinel that never fails to tell of the distant approach of the most dangerous of these foes. The hair, the wool, and the feathers, are formed of highly elastic substances, and all terminate in points. The slightest impression made on the extremities of them is rapidly conveyed to the root; and that root is imbedded in a tissue of nervous matter; so that from the slightest change of external influence a feeling is communicated, allied to, yet different from, common sensation, and which can never be overlooked or mistaken. We go into a room in which an electrical machine is worked. There is no indication from the skin, or from the more delicate sense of touch, to indicate the change which is taking place in the electricity of the atmosphere of that room, and we should approach near enough to receive the spark or the shock, without being aware of our danger, were it not for the hair, which begins to move and to stand on end, and to tell us what is going forward.

Indications of atmospheric changes by Animals.—The commencement of the electric change long precedes its palpable and manifest effects; and thus the animal is placed upon his guard, and seeks for shelter, or lays in a provision of food to last him during his retreat, before the rain and the storm come on. A connexion between certain actions of the domesticated animals, and certain atmospheric changes, has been observed and registered from time immemorial. I do not know the quadruped slave that does not occasionally give us warning of them. Have you never observed the restlessness, and uneasiness, and the occasional starting of the horse you are riding—or the crowding of the horses that are at grass to that part of the field where the pasture is most luxuriant, and most easily and quickly got at? Have you never attended to the intimation which was given by the frequent and impatient braying of the ass, and the continual shaking of his ears?

'Tis time to cock your hay and corn
When the old donkey blows his horn*.

When cattle begin to chase each other around the pasture, either voluntarily, or in consequence of the persecution of the fly, or bellow as they run,—when they assemble together in a corner or part of the field, and with their tails against the wind,—or when

* “I once noticed,” says Mr. Forster, “that a donkey confined in a yard near the house on a showery day brayed before every shower, and usually some minutes before the rain began to fall.

they stand with extended nostrils, and with the head up snuffing the air, the farmer suspects that rain is not far distant*.

When the swine run squeaking about, throwing up their heads with a peculiar jerk, and carrying pieces of straw in their mouths, it is said that windy weather is near at hand. The country people say that "the pigs certainly see the wind."

The sheep either crowd to the best part of the pasture, or indulge in unusual gambols and vagaries. I once resided near Kingston, and had lodgings opposite to Hampton Court Park; and I needed no more certain barometer than the deer. As soon as I got out of bed, I used to observe in what part of the park they were. If I could see many of them, and towards the Duke of Gloucester's Lodge, it would be a rainy day; and it would be useless for me to get my fishing tackle in order. If there were a few of them straying about in that direction, it would be one of those cloudy and partially showery days when I was sure to get sport. If I could not see one of them, I might be guided by other circumstances as to my expedition; but one thing was certain, that not a drop of rain would fall on that day.

Indications continued.—I will not much longer detain you about this. "When the ducks quack loud, the peacocks cry—" when the cock crows at unusual hours, and crows a great deal in the daytime, and particularly in summer—when the poultry are more than usually busy in oiling their feathers—when the water-fowl more frequently wash themselves, and flutter about in the water, or take wing, and dash along with unusual clamour—when the swallows fly low, and the missel thrush sings most loudly, and yet most beautifully—when the pigeons return slowly and unwillingly to the dove-houses, long before the close of day—when the familiarized and half-tamed redbreast pecks most impatiently against our windows—when the rooks return home early, or if they remain in the fields are joined, in greater quantities than usual, by the jack-daw and the starling, or when they whirl furiously round, and dart rapidly down from an immense height in the air ("they seem precipitate to fall, as if they felt the piercing ball"); rain is at no great distance, and storms will accompany the rain. All these circumstances, gentlemen, do not indicate any morbid state of sensation, but a peculiarity of it, wisely and kindly given to them as a warning of approaching inconvenience or danger. Some of you, who have not quite forgotten your classical learning, will probably recol-

*————— *Bueula cœlum*
Suspiciens, patulis captavit naribus auras.

lect how beautifully Virgil describes these things in his first *Georgic**.

The Pain of an inflamed Part.—The sensibility of the nerves may be increased by certain changes of their condition or that of the parts on which they are distributed. Pain is the constant attendant on inflammation. This has been explained in various ways. The essence of inflammation, or the immediate consequence of it, has been said to be increased determination of blood, turgescence of the capillary vessels, increased interstitial deposit, and consequent compression of the neighbouring parts, and pain as the necessary result of that compression. It is, however, enough to say, that the sensibility or the function or action of every part is in proportion to the quantity of arterial blood—the *primum mobile* with which they are supplied. Those parts which, in their natural state, are the most sensitive are those which are most abundantly furnished with bloodvessels, as well as with nerves; and the increased sensibility in inflammation depends on the increased determination to the part producing a morbid discharge of the natural functions.

Illustrations.—Is any laboured proof required that inflammation is attended by acute pain in the quadruped as well as in the biped? Take that singular disease in the horse, inflammation of the subcutaneous tissue of the hind leg, attended by enlargement, sudden, painful, and enormous. The horse is well to-day, and to-morrow he is gorged from the fetlock to the sacrum. The whole of the integument is tense, red—red even in this animal whose skin is thick and covered with hair: it is of a glossy red, and an ichorous discharge is forcing itself through every pore of the distended integument. The very appearance bespeaks the torture which the animal endures; and if the finger is laid on the part light as a feather, the leg is spasmodically caught up, the animal is thrown quite off his feet, and often falls upon and injures the incautious examiner.

Observe the quickened pulse, the haggard countenance of the horse, labouring under acute founder, the continual shifting while he stands, the resting of the muzzle on the diseased part

* *Haud equidem credo quia sit divinitus illis
Ingenium, aut rerum fato prudentia major;
Verum, ubi tempestas et cœli mobilis humor
Mutavêre vias, et Jupiter humidus Austris
Densat, erant quæ rara modo, et quæ densa relaxat:
Vertuntur species animorum, et pectora motus
Nunc alios, alios, dum nubila ventus agebat,
Concipiunt; hinc ille avium concentus in agris
Et læfæ pecudes et ovantes gutture corvi.*

when he is down, and the groans that are at almost every moment extorted from him, and no doubt can remain with regard to the torture which he undergoes.

Neuralgia.—A painful affection of some particular organ or spot, or the body or ramification of some nerve, is a disease fortunately not of frequent occurrence in the human being. It can easily be imagined that inflammation of a sensitive nerve—the determination of an unnatural quantity of arterial blood to it or its neurilema—would be the cause of exquisite pain; and on examination after death, mechanical injury of the nerve, or inflammation of its substance or neurilema, or of the cellular substance surrounding, with spots of ecchymosis and general thickening of the parts, have occasionally been discovered. In other cases, however, and perhaps the greater number, dissection has cast no light either on the precise seat or the cause of the affection. Scarcely in any case during life is there sufficient acceleration of the pulse, or tenderness on pressure, or heat or coldness of any part, to account for a thousandth portion of the torture which the patient endures.

Neuralgia in the Quadruped.—Then what shall we be justified in affirming of its existence and character in a dumb animal; or how shall we so accurately detect its precise situation as to apply the only radical cure—generally speaking, at least—the division of the nerve? How shall we ascertain the real nature and character of a complaint which demands an essentially different kind of treatment in different cases? How shall we determine whether it be inflammation of the nerve or its neurilema, or irritability of the one, or both?—essentially different states, and demanding, in a variety of instances, the application of almost opposite remedial measures. Here we acknowledge and deeply feel our inferiority.

Rheumatic Neuralgia.—The existence and the treatment of this disease, in one of its associations, we are, perhaps, justified in predicating with regard to the horse. It may afford us a clue to the cause of those flying lamenesses to which I have alluded, and that are frequent in old and rheumatic horses, and younger ones whose powers have been too severely taxed. The lameness is excessive, and the pain is evidently excruciating. The animal dares not to rest the slightest portion of his weight on the limb, or even to touch the ground with his toe. He is heaving at the flanks, sweating profusely, his countenance plainly indicative of the agony he feels; but we can detect no heat, or swelling, or tenderness. It is a pure nervous affection.

Flying Lameness.—What do we do? We abstract a little blood—we give a dose of physic—we foment the whole of the limb—we put some additional clothing on the animal; and the next morning we often find him well, or we find that leg well and another leg similarly affected. Is this neuralgia or rheumatism? or a compound of both? These are questions which we cannot answer; for our patient cannot point out to us the precise situation of the pain, as being in the course of a nerve, or spread over the fibrous membrane of a joint.

French Opinions of it.—In the French school neuralgia is decidedly admitted as a malady to which the horse is occasionally subject; but it is said to be accompanied by that peculiar twitching whence it derives one of its names—the tic douloureux, or painful muscular spasm: at least it is affirmed, that this is the only symptom by which it can be recognized.

Hurtrel d'Arboval, professing to quote from the records of the veterinary school at Lyons, speaks of a horse that had a convulsive agitation of the head up and down, and other unusual but momentary muscular spasms, and evidently suffering a great deal of pain, but in every other respect being apparently well. A long course of anti-spasmodic treatment had no effect upon him; but he was cured by being put to severe post work. This account is very unsatisfactory, and the case appears to be one of chorea instead of neuralgia. I have in vain searched the records of this school for the original description of the case.

Vatel gives the most unobjectionable account of it. He says that “the absence of heat of the skin, and frequency of the pulse, contrasted with the evident intensity of the pain and the disordered function of the part, form the surest diagnosis. Inflammation sometimes succeeds, especially when the attack is of long duration; then the lesions observed on dissection are of an inflammatory character.”

Pruritus.—That the domestic animals are subject to intense and intolerable pruritus, we have almost daily proof. The sufferings of a dog with acute red mange, and the lacerations which he sometimes inflicts upon himself, are dreadful. I have seen him wrought up to that pitch of insanity, that he has torn great pieces of integument, and even of muscular substance, out of his flanks and the inside of his thighs. It was scarcely a week ago that a mare in our infirmary with a papular eruption on her haunches, broke her halter in the night, and blemished herself for life by tearing away mouthfuls of hair and of integument too. A lotion of diluted hydrocyanic acid afforded her almost immediate relief. Sheep affected with the scab appear

to be dreadfully tortured by intense itching. The wool is torn away in mouthfuls—the skin is lacerated in numerous places—the animal is in incessant motion, and pines away and dies in a less time than would scarcely be thought possible.

I do not know any case in which an excess of sensibility spread over the whole of the skin, not as a consequence of cutaneous disease, but an evident affection of the sensitive nerves; a very singular one of hemi-hyperæsthesia, however, if I may so call it, did come under my notice. A horse was bitten in the left hind leg by a mad dog, and in process of time he became rabid. The owner would not have him destroyed, and he was slung, in order to prevent mischief to himself or others. When I approached that side the poor animal was agitated, and trembled, and struggled as well as he could; and if I touched him only with my finger, a profuse perspiration broke out, and the pulsations were quickened more than ten beats in a minute. If I went round to the right side, he permitted me to pat him, and pressed his head against me, and sought my notice. There are several cases recorded of the human being, in which the sensibility was morbidly increased on one side, while on the other side there was the natural degree of feeling, and in some cases much less than the natural degree, and even none at all. Two sets of perfectly opposite symptoms, produced by the same cause, existed at the same time, and the barrier between them was the mesian line of the spinal cord.

Conclusion.—Well, gentlemen, I terminate this obscure and comparatively profitless subject. We have no data, and we must not reason without them. The only conclusion, perhaps, at which we can arrive is, that in the common and healthy state a certain degree of nervous sensibility is, for wise and benevolent purposes, withheld from the brute; but that the diseases of the nervous system present much similarity, or almost identity, and that under disease a great degree of suffering, perhaps not an equal one, awaits both.

Of the treatment of these neuroses I have said but little, because I know but little of their nature and their indications of cure. Perhaps, if our knowledge of them approached to that of the human teacher, I should still be cautious what I said; for, while not a single veterinary surgeon treats on these complaints, I find, when I have recourse to medical authorities, that the physician most uniformly and most strenuously recommends constitutional treatment, and with the surgeon there is nothing like the knife; and with both of them I should begin to fancy that “there is nothing like leather,” did I not recollect an honest and downright difference of opinion between two splendid

surgical luminaries—still, however, teaching me a lesson of caution:—"The principal relief has hitherto been derived from operations," says Sir Astley Cooper: "The division of the nerves does no good," says John Abernethy.

EXTRACT FROM THE REPORT OF THE LABOURS
OF THE ROYAL VETERINARY SCHOOL AT LYONS,
DURING THE SCHOLASTIC YEAR 1834-5.

[We have regularly presented our readers with an abstract of the proceedings of the French veterinary schools. It is pleasing to become acquainted with what our continental brethren are about, and to know how far our art is progressing or retrograding under their management. We have inserted far more important documents than the present, and during the perusal of which we have been enabled better to identify ourselves with the operations of those on the other side of the channel; but, notwithstanding there is somewhat too much of loose and general description in the abstract of M. Raynard, it is deserving of record.—EDIT.]

HOSPITAL: *M. RAYNARD, Professor.*

1182 patients have been received into the hospital during the last year, the greater number of whom were horses and dogs; the rest were composed of cattle, sheep, goats, and a few domesticated birds. Double this number of animals have been brought to us for consultation, or for the performance of certain operations, without taking into account a great many more that our pupils attended on away from the school. Of these 1182 animals, 958 were cured or considerably relieved, 216 died, and 8 yet remain in the hospital. The mortality is always greatest among the dogs: we shall endeavour to account for this when we speak of the cases of distemper.

The diseases which furnished us with cases or observations worthy of being recorded may be divided into three classes. In the first are glanders, farcy, distemper, cutaneous affections, and rabies—maladies which occur in every year, and little differing in each year, either in form or number. In the second class may be placed diseases dependent on change of temperature, on the general character of the season and the food and labour of the respective patients, as coryza, angina, bronchitis, and

other affections of the chest, together with colic, staggers, &c. The third division consists of diseases, the inevitable consequence of the domesticity of the animal.

GLANDERS.—The town of Lyons must always contain a great number of glandered horses, on account of the dampness of the situation and climate, and its being a public market for horses. The garrison at Lyons generally has its share of this disease. During this year, the mildness of the winter, and the heat of the spring and summer have presented circumstances less favourable than usual to the development of this malady; therefore, with the exception of horses from the garrison, and which had been long kept in the infirmary at the barracks before they were sent to us, we have had very few cases of glanders, compared with several preceding years: yet, notwithstanding these favourable circumstances, we are compelled to acknowledge, that it has been as rebellious to treatment as ever. Our means of cure have always possessed too little power, seeing that when ulceration of the pituitary membrane begins to appear, the lungs and the constitution of the animal have undergone a modification which it is exceedingly difficult to remove.

The greater part of the animals that have gone from us apparently cured of glanders have speedily relapsed when they have been subjected to hard work, or have been exposed to neglect and privation.

FARCY.—The same local circumstances are favourable to the development of another malady, which, as being often curable, is not of so serious a character,—I mean farcy. The dampness of the stables and of the atmosphere, and the stagnation of air, are the productive causes of this disease; for when the sun begins to have power, and the atmosphere is dry, and the stagnant air is put into motion, the evil ceases. It is on this account that Limonest, and the neighbourhood of Salvagny on the north-west, and of Saint Symphorien d'Ozou on the south, furnish many fewer cases of farcy than Lyons.

The greater part of the farcied horses respecting which we have been consulted, or that have been treated in our infirmary, have been very quickly cured, and almost by the unassisted power of nature. The farcy tumours, even those on the extremities and the head, and that have usually been most obstinate, have undergone a slight process of suppuration, and have gradually died away without any new eruption. Five horses only, out of twenty-six, died or were destroyed.

There has always been this peculiarity respecting that kind of farcy which attacks the muscular parts about the croup and the thighs,—that there is a marked tendency to gangrene, even after

the lightest application of the cautery. Three horses, in good condition, middle-aged, and strong, died of gangrene in a very few days after the use of the budding-iron. It is not, however, with regard to farcy alone that this disposition to gangrene has been remarked. A strong cart-horse had contused wounds on the withers; the application of the budding-iron brought on rapid sphacelus of the part, and destroyed the animal.

DISTEMPER.—That species of mucous fever, called “distemper” in the dog, and which destroys so many animals in cold and humid seasons, has not been very destructive during this year. Many of those that perished had been reduced to such a state of debility and suffering by previous unskilful treatment, that they may almost be said to have entered our infirmary and died.

There is no disease in the treatment of which so many medicaments are employed, and with so little judgment. Every sportsman, every farrier, every druggist has his specific, which he employs without regard to the degree of excitement, or of debility, or to the form, or duration, or complication of the disease. It is this abuse of measures for the cure of this disease which so often renders it incurable; while the natural preservatives are neglected, namely, the sending of the patient into the country, or to a purer atmosphere, and where, to all the exercise they may be disposed to take, are added the use of milk and the simplest food.

MANGE.—The dog is subject to various psoriform cutaneous eruptions, produced in summer by the heat of the atmosphere, and in winter by the heat of the fire. They have been more frequent than usual this year, and they have been peculiarly obstinate in the horse. In this latter animal they are coincident not only with the returning warmth of spring, but with the production of our artificial grasses. The lucern and the clover, with which at certain seasons horses are almost exclusively fed, speedily produce intolerable itching of the skin, with loss of hair; and these affections rapidly increase by neglect, and are only removed by the employment of the most active treatment. The horses in the neighbourhood of Lyons that inhabit the same stables with the cows are more subject to this complaint than others. The horses also belonging to the better classes in this town are very subject to these eruptions, being much too well fed, and kept in stables small and hot, and unventilated.

The agriculturists in easy circumstances, who possess separate and wholesome stables for their horses—who are not compelled to give them this new and unwholesome food, or who can mix them with good straw or chaff, and who have the opportunity of fre-

quently watering their horses, are taking the most effectual means against the possibility of such diseases: or, should they occur, frequent washing with soap and water, and the application of emollient liquids, and regular and careful grooming, and frictions with oil of cade*, mixed with a third or half the quantity of olive oil, according to the degree of redness or tenderness of the part, will generally suffice for the cure.

Now and then, however, we meet with cases of extraordinary obstinacy. A mare, belonging to General de St. Michel, had mange on her left thigh, which would not yield to any thing but the nitrate of silver. Our difficulty consisted in the almost impossibility of preventing her from gnawing herself; and it was not until after a multitude of contrivances that we could accomplish our purpose.

As for that species of mange in the dog which is accompanied by redness and exudation, we have never been able to produce more than temporary benefit.

RABIES.—The experience of the last year confirms an opinion which we had previously entertained,—that it is not when the heat is greatest, but when the air is moist, whether accompanied by heat or cold, that this disease oftenest attacks the dog. In the months of September, October, April, and May more dogs died rabid than during the other eight months. We have, however, but little advanced towards a knowledge of the successful treatment of this frightful disease. The cauterization of the wound, whether by the hot iron, or the butyr of antimony, or the nitrate of silver, continues to uphold its reputation as a preventive. We have had sufficient proof in the dogs which the police have brought to our infirmary, that rabies does not appear in more than one dog in fifty of those who have been cauterized.

GOÏTRE.—With the exception of some dogs, such as the pugs, with large heads and short necks, and that are half stupid, this disease does not appear until some time after weaning. The gland continues to enlarge as the dog gets old, until it causes great difficulty of breathing, and shortens the life of the animal. The treatment had recourse to for the human being is often successful in the middle-aged dog. The old dog is with more difficulty acted upon, and, as for the young dog, we have observed that he dies within a few days after the disappearance of the goître: the most careful dissection, however, has not detected the cause of death.

* The oil of cade is obtained by the slow combustion of a species of juniper that grows in the south of France. It is of a brown colour, with a disagreeable odour, less fetid than animal empyreumatic oil, and more resembling tar. It is an oil of tar.—EDIT.

INFLAMMATION OF THE RESPIRATORY MUCOUS MEMBRANE.—Among the diseases that we attribute to atmospheric influence, and which have been frequent during the past year, are angina, bronchitis, pneumonia, pleurisy, and mucous and bilious fever. All these maladies are to be attributed to suspended or suppressed perspiration; and although common at all times, are much more prevalent when the air is agitated by frequent storms.

The horses that live in places where the air is little disturbed, and seldom or never go out of them, as in the coal mines, are scarcely influenced by the changes of the atmosphere. It is a common remark, that in these subterranean abodes, the old maladies of the chest with which these animals were affected before they descended, not only do not advance, but in a manner disappear, if the labour to which they are subjected is not disproportioned to their strength. Very often we find that glanders disappears there without any medical treatment.

ANGINA.—The diseases which pass under this name, have principally affected the larynx, and have been attended by great difficulty of breathing. A bleeding practised during the acute stage, and warm emollient drinks, have usually removed the complaint. Sometimes mustard to the fore-arm and to the thighs, setons in the chest, and embrocations of olive oil and oil of morphine under the throat, have been added, and the throat has been covered with sheep-skin.

In three of these cases the inflammation extended to the upper part of the trachea, and was accompanied by a sonorous respiration similar to roaring.

The preceding treatment not being effectual, more copious and frequent bleedings from the jugular were effected, and a large blister was applied to the throat. The difficulty of respiration still increasing, it was necessary to open the trachea in order to enable the animal to breathe through the orifice, and at the same time to place the larynx in a complete state of inaction. Even these means were inefficacious, and in about six weeks, two of the horses exhibiting evident symptoms of glanders, and the third, although he still continued to feed, yet being reduced to a skeleton, they were destroyed. The mucous membrane of the larynx was thickened in all these animals, and ulcerated in one of them. One of those which had shewn symptoms of glanders had agglomerated tubercles, of the size of a small nut, in the interstices of the muscles that occupied the space between the right branch of the thyroid and the cricoid cartilage. Another had the cricoid cartilage ossified, and also the right branch of the arythenoid towards its insertion into the thyroid. The third had

an ulcer on the free border of the epiglottis, and an osseous degeneration of the anterior beak of the cricoid cartilage, and of the kind of crest which the two arytenoids form before the attachment of the epiglottis. The lungs of all three were tuberculous. We may conclude, from these facts, that the horse as well as the human being is subject to laryngeal phthisis.

BRONCHITIS.—A great many horses and dogs were attacked by this disease in the spring and the commencement of the summer; and it was not a simple affection, as when the seasons are tolerably regular. It was complicated with coryza, and engorgements of the submaxillary glands, and phlegmonous tumours of the parotid glands, and angina.

The disease was successfully treated by the ordinary means if the proprietors took care of their horses during the period of convalescence. When, however, they made them work too soon, or exposed them to the wind and rain, and when the dogs were suffered to go into the water, bronchitis soon changed to pneumonia or pleuro-pneumonia, and most of the animals died. Those that were saved were never afterwards perfectly sound in their wind.

In the treatment of these maladies, and of pleurisy generally, we have derived much advantage from repeated small bleedings, as long as the pulse was hard and the respiration laborious. We have preferred setons in the chest, and the application of cataplasms of linseed meal and mustard under the chest, and scarification of the engorgement that was the result, rather than vesicatories, which in these cases are often attended by the inconvenience of irritating the stomach and producing strangury. Out of 51 cases of bronchitis, we succeeded in saving 46.

MUCOUS FEVER.—We had occasion to see from time to time a species of mucous fever prevailing among horses from the latter part of the autumn to the beginning of spring. As summer approached, a new character and a yellow tint shewed that it had degenerated into bilious fever. It was not, as in seasons when much moisture prevails and continues, accompanied by œdematous swellings of the limbs and under the belly, but by a soreness of the throat, even from the commencement of the trachea—a slight cough—a bronchial *râle*—a heaving of the flanks—a clammy state of the mouth—an absence of all muscular energy—a diminution of the temperature of the skin—a disturbance of the pulse without acceleration of the circulation or of the breathing—this was the series of symptoms that characterized the disease. It terminated happily in the greater number of animals after a duration varying from eight to thirty days, or more. The horses that died had from the beginning lost their

appetite, and in the after stages the urine passed from them as abundantly as in diabetes. After the appearance of this symptom their strength declined every moment; they wasted rapidly away, and death closed the scene. In these cases the kidneys were enlarged and reddened, and somewhat softened.

In some of our patients a violent pneumonia or intense gastroenteritis suddenly developed itself; and, after death, there was effusion in the chest, and brown hepatization in some parts of the lungs, and spots of inflammation on the mucous membrane of the digestive passages.

Bleedings that exceeded three or four pounds, and especially if they were repeated, were injurious: they rapidly diminished both the strength and appetite. Smaller bleedings from the thoracic and saphena veins; mustard poultices on different parts of the body; emollient drinks, rendered slightly stimulant and antispasmodic by an infusion of the flowers of the linden-tree, were very advantageous. Bark in decoction or syrup, and given to young dogs during the state of debility and emaciation which this mucous fever produced, contributed materially to their convalescence.

BILIOUS FEVER.—The bilious fever that we have had the opportunity of observing, although accompanied by heaviness of the head, and stupor, and almost perfect inaction of muscular power, and the refusal of all food for many days, yet generally terminated fortunately. Frequent affusion of cold water on the head; acidulated drinks at the temperature of the atmosphere; frequent warm emollient injections; small bleedings at the thoracic veins or those of the extremities; and mustard poultices, changed from one part to another of the body, were the measures that were productive of most good effect. We took great care to keep the stable which these patients occupied as cool as possible, and to place them at night under an open shed, when the vertigo which so often formed a part of this complaint seemed to be at hand. We were thus enabled, in many cases, to prevent its access, and thus, probably, to save the lives of several of them. We likewise cautiously abstained from the use of blisters composed of cantharides. We saved 23 horses out of 34 that were affected by vertigo or staggers.

[To be continued.]

ON IRRITABLE BLADDER.

By Mr. MAYER, Sen., Newcastle-under-Line.

Messrs. Editors,—I HAVE been induced to forward you the following paper upon this rare disease, for the benefit of the profession at large, not knowing that it has even as yet entered into the catalogue of maladies incident to the horse. Fortunately for the brute creation, from the very simple fare they live upon, they are rendered less liable to those complicated diseases of the urinary organs so often met with in man: the latter has his animal frame supported by such an endless variety of artificial condiments and viands, and *so often forgets that he should eat simply to live, and not live for the sake of eating*, that it is no wonder that so varied and wonderful a structure should become deranged, and diseases ensue.

Whenever this affection occurs in a mare, it may, from the very simple conformation of her urinary organs, remain through life, without seriously affecting her, or proving fatal; but in the horse the results are very different, arising out of the peculiar structure of those parts in him. Whenever irritation or inflammation occurs in the mucous membrane of the bladder, it extends itself by sympathy to the kidneys, along the lengthened course of the urethra, producing spasmodic stricture, and, if neglected, permanent stricture; it also affects the prostate gland and vesicula seminalis. In the stallion it might affect the testicle, producing enlargement of it; and also, very often, the inguinal glands, occasioning inflammation and suppuration. Under these circumstances, if death does not occur from a total suppression of urine, it sooner or later takes place from the animal being worn out, not only from the local irritation, but the general constitutional derangement it gives rise to, particularly in the digestive organs; and, on the other hand, deranged digestion, and a consequent morbid secretion of urine, often operates as powerfully in exciting disease and deranged structure in the urinary organs.

Causes.—It may originate from calculus in the bladder; deranged function of the kidneys, and consequent morbid formation of irritating urinary salts; from spasmodic or permanent stricture; or its origin may depend upon chronic irritation and inflammation of the mucous membrane of the cæcum and large intestines, extending their effects by nervous sympathy to the whole urinary apparatus.

Prognosis.—A correct idea of the ultimate issue of these

cases must depend, in the first place, upon its previous duration, and in the next, upon the exciting causes. If it arises from calculus, with removal the effects will cease; if from general derangement of the digestive organs, there is every probability of its being cured when taken early, and a proper treatment adopted; if from stricture, the morbid irritation set up by this will cease upon its removal.

Diagnosis.—This disease might be confounded with stone in the bladder; but it may be distinguished from it in two ways. First, in case of stone you will find a sudden obstruction to the flow of urine; and when the last portions of it are being expelled, it is done with great pain and difficulty, accompanied with frequent discharge of blood. In irritable bladder, although you may have the urine occasionally tinged with blood, yet it is continually dribbling away, comparatively easy and free from pain. Secondly, the calculus may be detected by passing the hand and arm up the rectum, and bringing the bladder within the grasp of the hand, when the stone may be immediately felt. If the cause depends upon stricture, it is easily ascertained by passing a bougie. When there is neither calculus nor stricture to account for the origin of the affection, it may be set down as arising out of the general deranged functions of the system, particularly those of the chylopoietic viscera.

Symptoms.—It is characterized by a continual straining, and voiding of urine, which in mares flows continually down their thighs, staining them, all the way down, with the earthy and saline matter with which the urine is loaded. In horses, the urine is continually dropping from the end of the penis, which is hanging down partially drawn. If the disease continues any length of time, the animal loses its condition, becoming much emaciated, and incapable of work; the appetite is impaired and variable; and, as the disease progresses, abscesses form in the groin, from sympathetic irritation. Spasmodic stricture may also take place along some portion of the urethra, which, if not relieved by the *occasional* passing of a bougie or elastic catheter, excites extraordinary local and constitutional irritation, ending ultimately, if neglected, in permanent stricture, with all its concomitant evils.

Treatment.—The indication of cure is, to put the digestive organs and their respective secretions into a healthy condition—to alleviate and relieve all the local symptoms by those means which will soothe local irritation, and, at the same time, remove the local causes, if there are any. For these purposes alterative doses of aperient medicines should be adopted, so as not to irritate the bowels and parts connected with them, but yet

sufficient to keep up the regular and full action of them. When this is accomplished, vegetable tonics should be administered, in conjunction with the alkalies, so as to increase the general tone of the system, and neutralize not only the acidity of the stomach, but likewise the uric acid which is so abundantly secreted in these cases, occasioning great irritation of the mucous membrane of the bladder. No medicines are better adapted for these purposes than sulphate of magnesia, sulphate of soda, ol. ricini, or ol. lin. The carbonate of soda, conjoined with some stomachic, or given in infusion of gentian, uva ursi, or infusion of chamomile flowers, may be said to be almost a specific. The aqua kali puræ, is likewise an equally if not more excellent remedy, given in linseed tea. The horse should have for his beverage lime-water; and linseed tea should be horned into him, if he will not drink it freely. His diet should consist of the choicest upland hay and linseed mashes. Locally, recourse should be had to warm fomentations along the pubic region and the course of the perineum. Where there is a calculus, this should, be removed in the mare, if possible, by simple dilatation of the urethra, and extracted with the forceps; but in the horse, by performing the operation of lithotomy. In all cases in the horse, it should be an invariable rule with the practitioner, to satisfy himself that there is no stricture, by passing the elastic catheter*, or a bougie, constructed on purpose; for if there should only be spasmodic stricture, it will create more local and constitutional irritation than is generally suspected; and nothing but *stealing* a bougie very gradually along the urethra through the strictured portion *occasionally*, will relieve the symptoms arising out of it. This disease is one of that nature that may be so untractable as not to admit a perfect cure, the irritable state of the bladder remaining, to a certain degree, through life; but the mode of treatment suggested will, no doubt, in the worst cases, alleviate the symptoms, so as to enable the animal to enjoy life, and perform the duties required from it.

Herewith I forward you an account of two cases which have come under my care. The first was that of a mare, in which I found all the symptoms described above. She was in the prime of life, and did not appear much affected in condition by it. This case, from the distance it was from me, I only saw once, and consequently cannot tell what became of it afterwards. The second case occurred in a cart-horse, six years old. He was much emaciated, and incapable of work; his urine was continually dripping away from him, without pain; his penis half drawn

* Elastic gum catheters, of beautiful construction for the horse, may be had of Mr. Arnold, No. 31, West Smithfield, and of Mr. Read, in Regent Street.

out; abscesses had formed in the groin on each side, from sympathetic irritation; and his appetite was indifferent. The history they gave me of the case was, that one day when the horse was standing with his penis drawn, the waggoner wantonly lashed him over it with his cart-whip, and that soon after his water began to dribble from him. Conceiving that this accidental circumstance might give rise to stricture, I had the horse cast, and found that I could pass the whalebone staff with ease. Being satisfied on this point, and taking all his symptoms into consideration, I considered it to be a case of irritable bladder, and immediately adopted the treatment laid down in this paper, under the effect of which he rapidly improved in flesh and strength, recovering his wonted condition and capability to work, and also recovering the power of retaining his water. The swelling and abscesses in his groin were gradually declining, with every probability of his being restored to health. One day, however, I was sent for in a hurry to him, having been attacked with what I found to have been a fit of apoplexy, and which carried him off before I could reach him. In affections of the urinary organs, this sort of metastasis is not unusual. I now made a post-mortem examination, and upon examining the whole course of the urethra I could detect no stricture; the glands in the groin were still enlarged on each side, but the parietes of the bladder were much thickened; the mucous membrane being still inflamed, but not ulcerated. A more beautiful specimen of this disease could scarcely be found; and it affords me much gratification in being able to lay it before my professional brethren.

A CASE OF FATAL CONTRACTION OF THE JEJUNUM.

By Mr. FRANK KING, Jun., Stanmore.

Aug. 17th, 1835.—A BLACK horse, low in flesh, naturally short ribbed, and light in carcass, was brought to our stables very lame in the near fore leg. He had been driven (said to be) moderately, a journey of thirty-eight miles two or three days previously. We proposed blistering the leg at once, adding, that as he was a young horse it would offer a good excuse for turning him out, and that, in all probability, he would come up perfectly sound. A blister was accordingly applied.

18th.—In the morning he was found very uneasy, and soon began to lie down and rise again very quickly, but did not roll over at all. His bowels were apparently confined, nothing

having passed during the night. Pulse 60; extremities cold. I bled him, gave an aperient draught, and injected the bowels. Pain continuing all through the day an aperient ball was given, and the bleeding twice repeated.

19th.—The pain continued through the day. Injection repeated; more aperient medicine was given, and he was bled again.

20th.—The pain continues; the lameness disappears. Injections, aperient medicine, and bleeding repeated. Abdomen soft; the intestines rumbling much; but as yet no fæces have passed.

21st.—Easy, but no fæces pass. Repeat the injections, and more aperient ball.

22d.—Symptoms and treatment the same.

23d.—Ditto ditto.

24th, 25th, 26th, 27th.—Continues easy, but no improvement; no appetite. Treatment continued, with trifling variation; but nothing has yet passed. Calomel ℥ij, were given in ℥iv of cordial mass.

28th.—Repeat the ball and injections; no fæces; pain returning at intervals.

29th.—No fæces. Injections repeated, and pain constant.

30th.—He died.

We commenced the post-mortem examination with the confident expectation of finding some extensive abdominal mischief; but to our surprise, nothing was to be discovered, either in the chest or *abdomen*, except a portion of the jejunum contracted for about eighteen inches in length to the size of a small cart rope, but without the *slightest inflammatory blush* either *within or without*. The stomach and large intestines were comparatively empty, and the contents sufficiently fluid to pass: in fact, we could discover nothing but the obstruction which I have already mentioned; but that was so great, that even when the intestine was held up the contents, although so fluid, would not pass down without considerable pressure.

Remarks.—The above case occupied a great deal of time and attention. The horse was brought here as a lame horse. Could the pain in the limb have been symptomatic? Were not his bowels most probably nearly emptied by his previous journey, and that fact not taken into consideration from his natural washy appearance? Under the first impression we considered the case, from the pain not being violent and no fæces passing, as one of constipation, and gave an aloetic draught ℥iv, with ol. ricini ℥vij.

On the 18th he lost twelve quarts of blood, four quarts on the 19th, and four quarts on the 20th; when, the ab-

domen remaining soft and the bowels rumbling, we had hope of a favourable result, especially as he became easy on the 21st. The lameness disappeared the third day. The adjuvant aperient balls were chiefly sulphur, with occasionally ʒj of aloes. Injections were given daily. From 21st to 27th, very little alteration appeared in any respect, save a diabetic disposition for three or four days. To what was the pain now returning referrible?—Not (I should think) to the calomel. The pulse never exceeded 60, until the last two days. The belly was never hard; the heat of the extremities irregular, sometimes one leg warm, and then another, but always very fine, and quite free from any deposit. He did not, through the whole time, I think, take more than ten pounds of anything solid of his own accord, and that was chiefly grass; and of liquid, he did not take a stable pail full, beside what was given him with the horn. I have heard of disease disappearing and dying away with the patient.

There was no satisfactory assignable cause for death. I confess this case has puzzled me; and if you or any other brother vet. can enlighten me on the subject, I shall feel greatly obliged.

ON INFLAMMATION OF SYNOVIAL MEMBRANES.

By Mr. J. P. ST. CLAIR, Morpeth.

INFLAMMATION of the synovial membranes is not an uncommon occurrence in the horse; in fact, I consider that, in the majority of diseases of the joints, this membrane is primarily affected, as I think I shall be able to shew in the cases I purpose to bring before your notice.

Those that I have met with have generally terminated either in resolution or anchylosis, complete or imperfect, shewing that the articular membrane has been the seat of disease. The inflammation may be either acute or chronic. It may come on spontaneously, or be the effect of an injury. It generally extends to the capsular and lateral ligaments; fluid is poured into the cavity of the joint, the ligaments give way, and an extensive effusion takes place in the cellular membrane around the joint, frequently making its exit by one or more openings in the skin. The fluid, however, is not always discharged, absorption may take place, and by this means terminate more favourably.

I shall not undertake to lay down any regular method of treatment; but I have always found early and repeated blistering to

be the most ready means of effecting a cure. The disease is always most manageable when the skin can be kept entire; for then we have not the dreaded consequences of an open joint to contend against, and we have the best chance of escaping complete ankylosis of the joint; and that having taken place, what has our treatment availed when our patient is rendered useless?

When ankylosis takes place in the human subject, the person may still continue a useful member of society; but a horse that has lost the use of a principal joint can be of no possible utility.

In certain stages of the malady, however, it is indispensably necessary to make an incision, for those very means that we have been employing in order to facilitate absorption have rather tended to increase the secretion of the fluid around the joint. When, also, the disease has been brought to this stage by previous vesicatory applications, an incision may be made with facility, without the capsular ligament being injured, thus shewing the beneficial effects of counter-irritation.

When the disease is allowed to advance, the cartilages and the bones themselves become involved, and ulceration of the former and caries of the latter are the result. In the most particular case that I have seen of this description, the ulceration was not preceded by suppuration; but when the inflammation has arrived at this stage, medical treatment will not suffice much; yet, if any remedy was to be applied, I should be inclined to give the preference to iodine and diluted muriatic acid, the good effects of which I have frequently seen upon diseased bone.

CASE I.

A black draught filly, about two years old, spare in condition, and apparently of an unhealthy habit, has been housed a few days. The pulse is 60; the respiration hurried, but the appetite good; the pastern joint of the left hind leg is very much tumefied and indurated; there is no superficial inflammation; the part is not very painful to the touch; there is no motion whatever in the joint, and the animal cannot set the leg to the ground, and lies down a great deal. Administer aloes ζ v, apply a blister, and throw a rug over the body.

3d day.—The cathartic has operated well: pulse 62, respiration more tranquil; appetite good; she has a little use of the leg; tumefaction much softened: a prominent abscess on the inside of the leg. This was opened with a lancet, and a copious discharge of a bloody serous-like fluid escaped. On introducing my little finger into the orifice, I found the cavity to extend round nearly the whole of the joint. Dress with solution of

acetate of zinc, and apply moderate pressure with a linen bandage; give nitre ζ iv, emetic tartar ζ iss, and digitalis \mathfrak{J} j. Her appetite being pretty good, this was taken in a mash.

6th day.—Pulse 60; respiration regular; much weaker in herself. The anterior of the joint, for about five inches horizontally and three perpendicularly, presents a dreadful appearance, from sloughing: part of the extensor tendon appears also to be involved in the destructive process, and the os-suffraginis can be distinctly felt underneath the tendon. The joint is not open, but a copious discharge of a synovial-like fluid comes from the sore, which I apprehend to be from the bursæ. Dress as before, and afterwards apply the calamine ointment; repeat the fever medicine, and indulge her with any kind of food.

9th day.—Febrile symptoms abated, but she is very much reduced in condition. The sore much improved, and the synovial-like discharge considerably diminished; the granulations rather unhealthy. Dress with a solution of sulphate of copper, and afterwards apply the ointment. Give of powdered sulphate of iron ζ j, in a mash, every evening, and discontinue the fever medicine.

17th day.—Much improved in spirits and condition; makes more use of the affected limb; and the sore gradually filling up. There are two excrescences, one on the superior and another on the inferior parts of the extensor tendon, where it was affected by the sloughing. Dress as before, and apply a blister.

38th day.—The sore nearly closed: tumefaction rather considerable, but the joint admits of a good deal of motion. Use the cautery round the whole of the joint, and blister. She ultimately perfectly recovered.

THE EFFICACY OF THE ERGOT OF RYE IN DIFFICULT PARTURITION.

By Mr. C. DICKENS, of Kimbolton.

June 27th, 1835.—ON riding through a village in this neighbourhood I was hailed by Mr. B., a farmer, who requested me to look at a fine Yorkshire cow, informing me that after having gone within a few weeks of her proper time she had produced a dead calf without assistance.

A week afterwards she again shewed symptoms of great uneasiness, and Mr. Know-all, the blacksmith and cowleech, was sent for. On examination he found another calf coming, with a breech presentation. He set to work, and after pulling her

about for some time ineffectually, he left her, declaring it to be impossible for any man to calve her. Having cut off one of the legs as high up as the hock, the other was left hanging out of her, and so it continued until my examination, which was a month from the first birth, and three weeks from the last effort.

A most loathsome spectacle presented itself, and there was great and offensive discharge from the generative organs. She was sadly emaciated and hide bound, and refused her food. The uterus appeared quite insensible, and contracted not in the slightest degree when I pulled the fœtus. It being then nearly dark, I did not persist in my labour, but sent the following medicine to be given the next morning: pulv. secale cornut. ℥ss, oatmeal ℥iv, to be divided into two powders; one to be given at eight o'clock, and the other at ten o'clock, in a pint of warm ale. At the same time I informed them that I should be there at twelve o'clock.

On my arrival I found the medicine had been given, and that she had been straining a good deal since the last dose, but had now ceased. I repeated the dose, and in about ten minutes the efforts were renewed, and I could readily introduce my hand and arm, and with little difficulty, as you may readily suppose from the terribly decomposed state of the fœtus, I separated the extremities from the trunk, which was afterwards easily extracted. The following treatment was then pursued. The parts were well washed with a weak chloride solution, and a draught was given composed of pulv. opii ʒj, ant. tart. ʒij, solut. chlor. soda ʒj, and aq. tepid ℔j.

29th.—She strains a little. The appetite is good; pulse 65. Repeat the drink.

30th.—She has left off straining, her appetite is good, the bowels in a natural state; pulse 58. Repeat the draught. From this time she began rapidly to recover.

I send this, Messrs. Editors, because scattered through the pages of THE VETERINARIAN I observe great difference of opinion amongst some of your best correspondents as to the efficacy of the drug used; some speaking greatly in favour, others saying that no dependence is to be placed on it. I must admit, that I have at times given it without effect; at others I have been witness to its admirable power in recalling the uterus to action. I consider this as a most important case. The uterus, that had from the constant irritation of an offensive body (for so you may term a dead fœtus) become completely exhausted, was roused again to contract, and assist in expelling its burden. Therefore, although not always having the desired effect, which, I think with the editor of the Farmers' Series,

depends on the state of the digestive apparatus at the time of administering it, we ought to have it at hand, particularly as we can never trace any bad results from its use.

COLIC—THE EFFECT OF OPIUM.

By Mr. T. HOLFORD, Northwich.

January 28th, 1834.—I WAS called in haste to a grey colt, two years old, that had been rolling about the stable for upwards of six hours. Upon inquiry, I learned that the disease was first perceived in the field, from which place he was brought to the stable. On my entering the stable the animal was found stretched out, quite motionless, apparently from exhaustion, and every part of him saturated with perspiration. The ears and surface of the body cold, but the legs of their natural warmth. He does not evince pain from pressure on the abdomen. Pulse varying at times, sometimes imperceptible, and at others of its natural power, but accelerated. The belly rumbles in every direction; when still, he lies on his back, and appears easier in that position than any other. No dung has passed from him since the attack. On passing the arm up the rectum I could not feel any fæces.

From the length of time that the horse had been ill, and no dung being in the rectum, I imagined that there was an obstruction, either from intromission of the intestines or some other cause.

Treatment.—Fearing the speedy approach of inflammation, I abstracted six quarts of blood, when the young animal was evidently distressed. I then gave tinct. opii ℥iiss, ol. tereb. ℥iv, ol. oliv. ℥vj, powdered ginger ℥i, et powdered aloes ℥iv.

An hour and a half after he had taken the medicine he became sleepy, and lay motionless, with his legs in the air. Scalding flannels were now applied to the abdomen without rousing him out of this lethargic state, and clysters were occasionally given.

In this state he lay nearly an hour, occasionally uttering a deep sigh or groan, but evidently in a state of stupor. I then struck him on the ears with a whip, and with difficulty made him get on his legs; he gazed around, shook himself, and staled an immense quantity of water.

The pain has apparently left him. Two men were ordered to wisp him dry. For two hours he remained sleepy, when he gradually became more awake, began to eat a little, and appears in every respect recovered.

29th.—I saw my patient again. He is quite well, but weak from the fatigue of yesterday. This is an unusual effect of so small a quantity of opium; but I attribute the recovery of the animal entirely to it.

A CASE OF INFLAMED LAMINÆ.

By the same.

August 18th.—A VALUABLE grey horse, the property of Mr. Adams, of the Crown Inn, was driven sixty miles in one day by the side of another horse, that was not so free a worker. The following morning he presented all the symptoms of inflamed laminae. Bleeding at the jugular to a great extent was had recourse to, poulticing the feet, and laxative and sedative medicines were given.

19th, A.M.—No better. He refuses all food, and with difficulty stands on his fore legs. I now had recourse to opening the plexus of veins on the coronet on both sides in both fore feet, and allowed them to bleed as long as they would. The blood was of an arterial colour. I encouraged the bleeding by sponging the orifices repeatedly with warm water. Poultices, and the medicine continued as yesterday. P.M., a rapid change, the feet cool, and all the distressing symptoms abated. He feeds a little, &c. Poulticing continued.

20th.—The horse standing firm on his feet; feeds very well. Poulticing continued, and medicine given daily till the 23d, when he was discharged cured.

This was a simple case; but I record it in order to shew the efficacy of copious local bleeding.

GLANDERS AND FARCY—THE HORSE POISONED WITH SYNGIAH.

By Mr. JOHN TOMBS, Pershore.

Oct. 17th, 1829.—AN aged troop-horse belonging to the 2d Brigade Artillery was admitted into the hospital stable at Dum Dum this morning, with a mucous discharge from and ulcers in each nostril, and on the septum nasi. The submaxillary glands were enlarged; the extremities swollen; and there were various tumours in different parts of the body. The pulse 40. Give a liberal allowance of corn, and cupri sulph. ʒj daily.

21st.—The tumours have suppurated. The discharge from

the nasal cavities is become much thicker, and he walks exceedingly stiffly. Apply the actual cautery to the sores. Give $\mathfrak{z}\text{ij}$ of the sulphate of copper every day, and place a rowel in each thigh, with a view to relieve the very great pain and inflammation existing in the hocks.

23d.—The pulse quicker; the appetite impaired. Several fresh tumours have made their appearance in the thighs. Apply the actual cautery to the tumours, and give the sulphate of copper as before.

25th.—No mitigation of symptoms; rowels discontinued; hocks fomented; and $\mathfrak{z}\text{ij}$ of the sulphate of copper given every day in solution.

30th.—Posterior extremities immensely swollen, and completely covered with farcy tumours: the matter sticks like glue to the nose. Give sulphate of copper $\mathfrak{z}\text{iv}$ daily.

Nov. 4th.—The patient is, to all intents and purposes, getting rapidly worse. Give a ball every day composed of ginger $\mathfrak{z}\text{ij}$, and cantharides five grains.

8th.—Declining very fast. Administer sulphuric acid $\mathfrak{z}\text{ij}$, in a pint of water.

9th.—Sulphuric acid $\mathfrak{z}\text{ij}$, water one pint: this mixture produced no perceptible effect.

10th.—Sulphate of copper $\mathfrak{z}\text{ij}$ was given in solution, which caused uneasiness for a few hours. From the 10th to the 15th, the patient took $\mathfrak{z}\text{vij}$ of copper in solution, daily, without the least inconvenience.

16th.—The horse very much emaciated; fresh tumours have broken out in the thighs and on the ribs. The scrotum is dreadfully swollen. The horse refuses his water, but eats a little bheesa, a sort of bran; a spontaneous hemorrhage from his nostrils. Pulse 50, and weak.

I reported to the captain of the troop this morning, that the horse was incurably diseased, consequently a committee was ordered to assemble at the hospital, which recommended that the animal should be destroyed in any way that I thought proper.

Considering this a favourable opportunity, and being previously informed by a skilful veterinarian that several horses had been poisoned by the natives for the sake of their hides, and that great suspicion was attached to the exhibition of syngiah, a native herb, I determined to try the effect of it.

The horse was fasted for twelve hours, and at 8 o'clock this morning, the 17th, an ounce of the above-mentioned herb was given in the form of a ball.—11 A.M. Respiration is laborious; he often looks back at his flanks. At half past 11 he lay down and turned his head back and looked at his flank, and imme-

diately rose again. Pulse 70, and weak. At noon he was in dreadful agony, continually licking his abdomen, and looking at his flank, while there was increased secretion of saliva. 1 P.M. Respiration very laborious: he has just commenced purging violently; frequently grinding his teeth, pawing, kicking, and rolling about, and the eyes drawn into their orbits. His countenance is distorted, plainly evincing the excruciating pain he is suffering. He continued precisely in this state, without the slightest remission of pain, until 12 o'clock, when he lay down, struggled violently, and died.

At 5 P.M. I examined the interior of the body, &c. The villous coat of the stomach was highly inflamed, the centre of it bordering on gangrene. One bot was attached to the cuticular coat, which appeared to be recently dead, probably from the effects of the poison.

Duodenum.—Mucous coat very much inflamed.

Jejunum.—Inflamed and thickened.

Ileum.—Mucous coat inflamed.

Colon.—Villous coat inflamed, gangrenous, and drawn into rugæ as large as a man's finger.

Cæcum.—Highly inflamed; several red patches on the inner coat. Rectum unaltered. The mucous coats of all the intestines were more or less œdematous; and where they were so, the muscular coat was separated from the villous with the greatest ease.

Mesentery.—Greatly inflamed.

Cortical part of the kidneys full of congested pus.

Some parts of the œsophagus were redder than usual.

The lungs and right side of the heart glutted with blood.

Tongue swollen, and very black.

Cranium.—Increased vascularity of the dura and pia mater. Lateral ventricles contained a quantity of non-congested blood. The plexus choroides redder than usual.

To these may be added certain post-mortem appearances evidently produced by glanders. The lungs hepatized and tuberculous. The Schneiderian membrane extensively ulcerated, and gangrenous. A great deal of matter in the frontal and maxillary sinuses. The submaxillary glands enlarged and indurated; and an astonishing quantity of pus in the scrotum.

ON EARLY ŒSTRUM IN ALDERNEY COWS.

*By Mr. W. CLARKE, Importer of Alderney Cows,
Southampton.*

HAVING read with interest the numerous articles which have appeared in *THE VETERINARIAN* on the early parturition of cows, I beg leave to state, that the earliest periods, and named as "extraordinary," are very frequent in the Alderney breed. On my first visit to Jersey (from whence they chiefly come), I noticed this striking property; and on mentioning the subject some years since to that old and highly respectable dealer, Matthew Fowler, of Little Bushey, and asking his opinion as to the effect it would have on the duration of their qualities as milkers, he said that it appeared perfectly natural, and that he believed they retained their milking qualities quite as long as English cows, which is generally believed in the island.

In proof of the correctness of this, among many other cases a friend of mine in this neighbourhood had an Alderney cow which produced a fine calf when some days less than fifteen months old; and having kept my eye on her and her now numerous progeny up to the time of writing this article, I regret to find, on inquiry, she met with an accident a short time since, which caused her death, soon after giving birth to a fine calf, which made her seventeenth in less than sixteen years. Up to this period she had not sensibly declined in appearance or milk; and had as lately as the last summer frequently made twelve pounds of butter per week.

I have also noticed the same property, but not to such an extent, in the Ayreshire, my opportunities of observing them being limited.

I have tried the experiment in two instances, of keeping Alderney heifers from the bull until two years old, in the hope of obtaining something superior; but what I have gained in size and appearance I have lost in milk. In one instance at the second, and the other the third calving, they both declined so much as not to be worth keeping. These, however, may be unfortunate exceptions. I have now a third cow, which is as fine an one as ever I possessed, which I expect to calve in the last week in April; but I am not more sanguine of her than the others.

I always aim, if possible, for my young stock to calve about May; experience having taught me that their qualities are more fully developed then than at any other season of the year; and this, I believe, has an important effect upon them ever afterwards as milkers.

WEED IN THE HORSE.

By Mr. J. ANDERSON, *Leicester.*

Artem experientia facit, exemplo monstrante riam.

THE subject of this communication is one which I have not seen fully delineated in the pages of THE VETERINARIAN, although it is true Mr. Youatt in his admirable lecture (No. ix) on Farcy, does approximate to it.

It may be necessary to premise, in the first instance, a few observations on the nature of weed, for the sake of elucidation, as the term is not generally known.

The ephamera, or weed, is a fever of short duration. Agreeably to the etymology of the word, it is a fever which begins, is perfectly formed, and runs its course in the space of twelve hours. It seems to arise from a general irritability of the whole nervous system, or from some local affection: the glandular parts are peculiarly liable to become inflamed and suppurate.

The weed in the horse is evidently an inflammation of the absorbents.

Symptoms.—The horse is attacked with rigors, caused by the contraction of the capillaries forcing the blood back into the veins. He looks dull; the mouth is hot and parched; and he refuses his food. The respiration is hurried, and there are all the symptoms of fever; the pulse ranging from 80 to 130 in a minute. In a few hours swelling commences in the groin, and in many instances extends to the mammæ, scrotum, and abdomen, and descends down the hinder legs. Great inflammation ensues; the swelling becomes enormous, attended by excruciating pain, tenderness, heat, and throbbing of the arteries. The inflamed lymphatics become inadequate to perform their functions, hence the great engorgement of the parts affected, suppuration occasionally takes place in the groin, and the discharge is, for the most part, healthy.

Causes.—Change of diet from hard to green food; exposure to cold and wet; the stomach being surcharged; and the horse not having regular exercise. It frequently takes place on a Sunday afternoon or Monday morning, which may be accounted for from many horses not being out of their stable from Saturday night, and during the antecedent week having been at hard labour. When the animal has been once affected, a relapse frequently occurs.

Treatment.—Phlebotomy is indicated, either from the jugular,

saphena, or foot veins. Fever medicine is indispensably necessary at the commencement; and it should be followed up with purgatives and bran poultices; and, when they are removed, the inflamed parts should be kept wet with liquor ammoniæ acetatis, and the legs bandaged. When the inflammation is subdued, diuretics may be exhibited; and when the abscesses are matured, exit ought to be given to the matter with the lancet, and the wounds should be washed with the chloride of lime. They should also be dressed twice a-day with unguentum resinosum spread upon tow, until the parts are properly digested, and afterwards with ceratum calaminæ. Should the enlargement become chronic or scirrhus, take of hydriodate of potash ʒj, lard ʒj, rub them well together, and form an ointment, a little of which should be rubbed into the tumour night and morning. If this has not the desired effect, then blister.

In most cases, the above mode of treatment will produce a cure. Should not that, however, be the case, I then pursue the same line of treatment as if I had true farcy to combat. If the constitution once becomes affected, the practitioner will have need of patience and perseverance; and I am sure much anxiety will be his portion; and, after all, he may lose his patient, and then, with some ignorant employers, and by means of the false insinuation of artful empirics, his reputation may suffer for a time. Let him, however, be assured, that the paths of duty and science will ultimately lead to honour and profit.

The appearances usually to be observed on dissection are, inflammation of the lungs, liver, and pericardium, and often with pus effused in the cellular tissue.

This complaint may be distinguished from farcy by the more rapid obstruction of the lymphatics; a swelling of a larger magnitude and much more painful, beginning at the groin, and descending; and the pulse more accelerated. In farcy, the swelling proceeds upwards, "the invariable course of the affection is towards the thoracic duct;" the engorgement is comparatively small; debility is always present, and the ulcers discharge purulent or thin sanious matter.

CONTRIBUTIONS TO COMPARATIVE PATHOLOGY.

No. V.

By Mr. YOUATT.

INTESTINAL FEVER AND ULCERATION.

THE CHIMPANZEE belongs to the ORDER QUADRUMANA, the genus SIMIA, and the sub-genus Troglodytes. From the colour of his harsh and scanty hair, he is called Simia Troglodytes Niger, and, improperly, "the black orang." While the orang utan is of Asiatic birth, the chimpanzee is an inhabitant of the intertropical portion of Africa, and there alone has hitherto been found. He is, probably, the Barris, or great wild man of the African woods, of which vague and often incredible accounts have been given by travellers. Of his natural habits little is certainly known, although he was seen more than 300 years before the Christian æra, by Hanno, the Carthaginian, on one of the islands on the western coast of Africa.

Several crania and skeletons of the young chimpanzee are found in various museums; and the skeleton of an adult one is preserved in the private museum of Mr. Walker, of Curzon Street. The living ones that have reached Europe have been few in number, and have survived their arrival in Great Britain a very little while. They have all, like the young oranges, been mild and docile, and exhibited much affection for those who had the care of them; but no opportunity has yet been given to ascertain, whether these pleasing qualities gave way in the adult animal, as in the orang, to "unteachable obstinacy, and untameable ferocity." The naturalist was very anxious that an opportunity might have been afforded of ascertaining this, by the preservation of the subject of the present contribution until it arrived at mature age; but no one who had witnessed the destructive influence of our climate on the quadrumana generally, dared to hope that this was possible.

In several peculiarities of structure, the chimpanzee approaches much nearer to the human being than does the orang. Mr. Owen, the sub-curator of the Hunterian museum, and a most unwearied and valuable contributor to our knowledge of comparative anatomy, has drawn, in the fourth part of the first volume of the Transactions of the Zoological Society of London, a very interesting comparison between the osteology of the chimpanzee and the orang with each other, and with man. He has proved that the structure of the former approaches much more nearly to that

of the human being than does that of the latter; and, in fact, that the chimpanzee occupies the first step next to man in the descending series of beings. For the short sketch of the bony structure of these animals which follows, I am chiefly indebted to that paper.

The surface of the skull is smooth and convex, on the coronal portion of it, in the chimpanzee, in distinction from the frontal and sagittal crests, which give so strong a carnivorous character to the orang. There is a far greater proportion of brain behind the meatus auditorius externus. The cranial sutures remain in the adult animal. The facial angle in the chimpanzee is 35° in the orang it is but 30° . In the young chimpanzee the cranial portion of the skull preponderates over the facial, and, as in the infant, the development of the brain is great compared with that of the frame. As the animal grows, the brain grows too, although not in the proportion in which it does in man; but in the orang, although the cranium seems to enlarge with the growth of the animal, it is only a thickening of the walls, and a development of the frontal and sagittal crests, and a development of the temporal muscles, while the cavity of the cranium is scarcely enlarged at all.

The projecting nasal bone—the aquiline nose—of the chimpanzee, compared with the flattened elongated bone of the orang, is a startling approximation to the anthropoid character.

The smaller development of the canine teeth in the chimpanzee, compared with the corresponding formidable weapons of destruction possessed by the orang, and the situation of the teeth approaching to the unbroken proximity of those of man, are very striking resemblances of structure.

The clavicle of the simia troglodytes is longer and stronger, keeping the shoulders more widely apart than those of the simia pithecus or orang, and has the same curve as that of man. The humerus closely resembles that of man. The peculiar twist of it is very evident, while the distal articulating surface allows much variety and freedom of action. The radius and ulna are more curved than in man, leaving room for greater muscular development, and for muscular attachments to greater mechanical advantage, but not so curved as in the orang. The upper extremities, although longer than those of the human being, are, compared with those of the orang, short: they reach only to the knee in the chimpanzee, while they extend as low as the ankle in the orang. The carpal bones are smaller in the chimpanzee. The thumb reaches to the end of the metacarpal bone of the fore finger, but in the orang it does not reach so far.

In the hind extremities the chimpanzee differs from the orang

in the greater proportional length of the femur and tibia, and the less proportionate length of the foot—in the greater proportional size of the tarsus—in the relative length of the hind-thumb or great toe—in the projection downwards of the navicular bone, and of the same inclination of the internal cuneiform bone, thus rendering the hind thumb more easily opposed to the other toes; while the extended attachment of the glutæi muscles, and the greater breadth of the ilia between the superior spinous processes, secure the easy maintenance of a semi-erect position. The relative size and strength of the lower extremities is much in favour of the chimpanzee, and in this respect establish a closer relationship to man.

The animal that is the subject of the present memoir was purchased from a party of natives, at Grand Bassan, on the Grain Coast of Guinea. They said that they had shot the mother, who was nursing it in her arms, 120 miles up the country. It was brought to Bristol, and thence transferred to the menagerie of the Zoological Society of London, where it arrived. It was supposed, from the state of its teeth, that it then was about fifteen months old. It was nearly two feet in height. The natives said that the mother was full four feet and a half in height; but it is the opinion of most naturalists, that the wild chimpanzee is not more than four feet high. It soon appeared to have forgotten its mother and its native forests, and so readily attached itself to those who took notice of it and fed it, that it was liberated from its confinement, and suffered to have the whole range of the ship. It would climb up the rigging with an agility which no sailor could equal. It would spring fearlessly, and at a considerable distance, from one rope to another, courted the notice of every one, and, except when too unmercifully teased, was always in good humour, and ready for play.

When he arrived at the gardens, a Guernsey frock was provided for him, and a little sailor's hat; and as he sat within his cage, gazing composedly around, as he would often do for a considerable time, he looked like an old weather-beaten sailor, enjoying his well-earned repose. The likeness was too strong to be pleasing; and the writer of this memoir acknowledges that it was long before he could get rid of a feeling of dislike, and almost of loathing, when he paid him his usual morning visit.

He soon attached himself to his keeper, and would play with him, and cuddle about him, and was never so happy as when he could throw his arms around him, and bury his head in his bosom. Of this position he was never tired.

He was perfectly obedient to this keeper; and never offered to

bite or to resist him. He was also very much attached to the housekeeper. He appeared to have more fondness for her than for the keeper, and this increased when he became ill; he would then cry piteously to be taken into her lap; but he took liberties with her which he never attempted with the keeper,—he would assume all the airs of a sick and petted child, and once bit her very severely in the hand.

He used to have his face and hands washed, and his hair combed, every morning; and, at the command of his keeper he would very orderly strip himself for this purpose. He would grasp the cuffs of his Guernsey frock, and draw his arms out, one after the other, as quickly as any human being could effect such an operation: or, if the sleeves of some of his vests were a little too tight, he would turn the body over his head, and so draw out his arms. He never, however, could accomplish the dressing of himself again, although he often attempted it.

He used to enjoy being tickled by his attendants. He would lie on his back, and hollow, and chuckle, and laugh, while they pulled him about—yes! it very nearly approximated to, or was almost the identical laugh of the human being.

He had all the boy's and the monkey's delight of mischief. He would tease the puppies of a Barbary bitch that was in the same room—he would plague the mother—give no rest to another dog that was there—but then, in his turn, he would submit, without any attempt at retaliation, and would suffer himself to be teased, and not a little roughly handled by them.

When he had not them to play with, or when he was ordered, he would climb a rudely-constructed tree in his cage, and would leap from bough to bough, or would get into his swing, and shew himself an adept in the art of balancing himself, superior to the wandering professors of it; or he would play with a large ball that usually lay in a corner of his cage. His countenance would then brighten up to a degree that could hardly have been expected from its usual staid and grave expression. "In his most sportive play, however," says the author of an interesting account of him in the Penny Magazine, "there was nothing of the restless quickness so observable in the actions of the monkey—nothing of that chattering and grinning on every surprise; but a superiority of character, and an approximation of its manners, however distant, to those of the young of our own race." It must, however, be added, that the approximation was very distant—if the phrase may be permitted; and that on no occasion could I discover—and I looked anxiously for it—any indications of intelligence superior, or even equal, to some of the domesticated animals. There was a quiet gravity of countenance

and demeanour, which seemed in him, as in many a human being, to cover much lack of thought.

The only times when I had some doubt about this matter, and thought that he was playing the hypocrite, and understood a great deal more than he pretended, were, when I have seen him sitting in his quiet observant way, his eyes wandering from one to the other of us, as we were talking, and perhaps talking about him; and I have fancied that there was a pout at the person who was finding fault with him, and a half-smile for his advocate. At all events, he had not, in the slightest degree, the power of speech. He could scream loudly enough, and not unlike a child; but it was only a difference—a considerable one certainly—of intonation in the grunt, that marked his approbation or his displeasure.

His food consisted of fruit, milk, biscuits, and, now and then, a little cooked meat; his favourite food was raw ripe apples, which were always carefully pared for him, and which he would give to his keeper for that purpose. He began afterwards to be very fond of sugared tea, and occasionally he was clamorous for the porter of the keepers. He would take the cup in both his hands, and lift it to his lips, and drink precisely in the same way that the human being would, except that his lips protruded considerable farther.

When occasionally he was put out of temper, he would utter a hoarse guttural sound, and protrude his lips, and look intently, and with the perfectly natural expression of anger, at the offender; and sometimes he would try to seize the hand of the offender and endeavour to bite it: but his anger was a passing cloud, and he was soon the same quiet, melancholy, or harmlessly playful creature as before.

He exhibited no aversion to any of the quadrupeds that were occasionally brought within his view. It has, however, been said, that “the monkey tribes have an instinctive fear of the larger kinds of snakes, to which they occasionally fall a prey: it was considered worth the trial to ascertain whether, in an animal so young, and which most probably had never seen a formidable snake, this feeling was fairly displayed. Accordingly a large snake was shewn to him, on seeing which the chimpanzee was at once filled with terror, and hid himself in a corner. The lid of the basket into which the snake was put was then closed, and an apple placed upon it; and though the animal desired the fruit, it would not venture near the lurking-place of its dreaded foe, but by actions and gestures, too plain to be misunderstood, expressed its consternation;—nothing, in fact, would induce it to approach the basket. This, with the snake, was at length

removed, and the apple was placed upon a chair; then, after a most cautious and keen scrutiny, with many doubts and misgivings, the timid creature at length ventured to take the offered prize. From this experiment it is plain that the snake is dreaded instinctly even by the largest of the simiadæ.”

After all, the real character and habits, and *intellect* of the chimpanzee, remain to be ascertained; and it is to be hoped, that the opportunity may yet occur, by the captivity of one of more advanced age, of forming a more correct estimate of them.

This interesting fellow remained with us, apparently in the enjoyment of perfect health, until the 29th of November, when he was observed to have suddenly lost the use of the left leg. He could not put it to the ground, and when he attempted to do so he cried with pain. In the course of a few hours the use of the right leg was gone: he could scarcely move at all; it was a crawling kind of motion, and as he attempted to move he cried dreadfully. I was in doubt whether it was a case of rheumatism or cramp. I gave him three grains of calomel, and ordered plenty of friction to be used during the afternoon and night. On the following day he was quite well, and so he continued until

Feb. the 27th, when I thought that he did not appear to be in his usual health. His appetite failed; he was restless; he had a dull yet anxious countenance; and his paw, when he gave it to me, for by this time he and I were sworn friends, was hot. There was no apparent local affection. He was feverish. I ordered that two drachms of the syrup of buckthorn should be given in his tea.

28th.—A very eminent surgeon did me the kindness to examine him with me. The case was ultimately unfortunate; and I will record no name. Several medical gentlemen, of whose friendship I am proud, afterwards met me in consultation; and I derived from them many a valuable hint. On me, if there be blame—and my readers will use their own judgment as to that—on me let the blame fall. An evident pallidness was stealing over his dark face; his ears were lividly pale, and his countenance expressed much anxiety and debility. He would play with us a little when we coaxed him; but he was dull, and becoming irritable. Another dose of the syrup of buckthorn was ordered.

29th.—The pallidness increases, and the dulness, and the failure of appetite. He readily takes his medicine in his tea. It has not produced the desired effect—double the quantity.

March 1st.—He does not cough—he does not heave at the flanks—but he is listless; he must be coaxed to take the least particle of food; and he has the sick-monkey expression of coun-

tenance, and that has always been the forerunner of evil. His bowels are not yet thoroughly opened. Give two grains of calomel at noon, and two drachms of the buckthorn at night.

2d.—The medicine has operated well, and the fæces were exceedingly offensive. He appears to be a little better. He ate an apple in his usual way as I stood by him; but he is continually lying on his pillow, or coaxing his keeper or the housekeeper to take him and nurse him. Let him alone to-day.

3d.—Little change, except more decided disinclination for food. Another surgeon joined me in consultation with regard to him. It seemed to us to be a case of fever, infantile fever without any local determination whatever. His pulse had risen in the last twenty-four hours from 94 to 100; but it was weak and irregular. Two grains of the white antimonial powder were ordered to be given to him morning and night.

4th.—He is more dull, and now refuses his food. He is altogether worse. The pulse did not indicate bleeding, for, although it had risen to 104, it was weak, and almost intermittent; nevertheless I determined to bleed him. He was now irritable, and impatient of control, and his hide was tenfold more difficult to pierce than that of a dromedary which I bled almost immediately afterwards, and I did not get more than twenty drops of blood from him. Give him two grains of calomel immediately, and repeat the antimonial powder in the evening.

5th.—The surgeon who first met me in consultation again saw him. He approved of the antimonial, but, as the bowels were now again confined, he advised the union of it with syrup of buckthorn.

6th.—Apparent improvement. The pulse has fallen to 96; but I am not satisfied with him, for his temper is changed, and he is too rapidly wasting away. As soon as I yesterday entered the room in which he was kept, he stripped up his sleeve and shewed me the puncture of the lancet, and scolded at me; and when I offered him my hand, he tried to draw it through the bars, in order to punish me. He did the same to-day, but after much coaxing he shook hands with me, and we again were friends. The bowels are confined. Give two grains of calomel, and, two hours afterwards, two drachms of the syrup of buckthorn.

7th.—The medicine operated well, and he is better. He is a little more lively, not so pallid, and not so peevish. He again shewed me the mark of the lancet, but he immediately afterwards offered me his hand, and told me that he forgave me. Another surgeon of deservedly high repute saw him, and pronounced it to be a case of teething; but on examining his mouth on either side, above and below, I could not find the slightest

enlargement, or heat, or tenderness, and therefore I could not be persuaded to use my lancet on the gums. This gentleman did not approve of the calomel; it was therefore discontinued, but the antimonial powder was given as before.

8th.—He scarcely touches his milk; he will not eat any thing, and, altogether, he is worse. The bowels not acting, I once more gave him his calomel, and the antimonial at night. He is weaker, and certainly he is wasting fearfully.

9th.—The calomel has caused the evacuation of a load of pultaceous fæces, which it seemed scarcely possible for him to have contained: but he is very low and dull, and will now scarcely touch his milk. 'A surgeon that had previously seen him again met me in consultation. We fancied that we felt a slight enlargement now of the posterior part of the gum of the upper jaw on the right side; and there not being, even to the present moment, *the slightest indication of any other local affection*, except that I fancied that his head felt a little hot, we determined to treat it as a case of teething. The gums, above and below, and on both sides, were deeply lanced, and on the right side of the upper jaw I did cut down on a tooth. Give him half a drachm of calcined magnesia in the morning, and two grains of antimonial powder at night.

10th, A.M.—A fearful change has taken place since last night. The pallid look has more than returned, and with an increased pitiable expression of the countenance. The strength is in a manner altogether gone. He can scarcely walk, and will not sit up above a minute or two at a time. He would not drink the milk in which his magnesia was put, and therefore it was forced upon him; and now he is suspicious of everybody and of every thing, and will not touch the slightest portion of food. Try the magnesia once more in a little tea, but never again drug his milk. He will not touch his tea: then force the medicine upon him, and, as that cannot be avoided, give him two grains of ginger in each dose of the magnesia. After the first dose he had a copious, but, for the first time, a mucous discharge per anum, and tinged with blood, and then he appeared to be sadly depressed.

P.M.—He has a little revived, but he is sadly low, and I fear the result. The fæces are now almost the colour of bile, with flocculi of coagulated milk. Give to-night half a drachm of calcined magnesia, with the same quantity of the syrup of white poppies.

11th.—I do not, on the whole, think that he is worse. The mucus has disappeared from the stools, and the fæces are pultaceous. He again drinks his milk. Continue treatment.

12th.—He is more lively, and a little, yet a very little better. The fæces, however, again resemble whey with flocculi of coagulated milk. The same gentleman again met me in consultation: he wished to see what a small portion of mercury would effect, and, in addition to his magnesia and poppy syrup, five grains of the hydrargyrum cum cretâ were given.

13th.—The medicine has frightfully purged him: it operated at least ten times, and at length produced much mucus and blood. The head keeper was terrified, and came down for me. I was compelled to go out of town, but ordered two drops of the “black drop” to be given every two hours in arrow-root. Soon after the second dose had been given, I saw him again. The purging was now staid. I even thought that the animal, although he was dull, looked a little better than yesterday; his pulse, however, was full 120, and very weak. This was Sunday, and there was a grand council of medical men, with whom I was desired to confer. The result was, that we gave him no more of the mercury, but half-drachm doses of prepared chalk with a little ginger, and two drops of the “black drop.” Asses’ milk was ordered to be substituted for that of the cow.

14th.—He is better. He recognizes me the moment I enter the room; he gets into his tree, and climbs his tree when he is bid, and has a little more of his own look. His fæces are natural in quantity, and pultaceous; but his pulse is still 120. He is fond of his asses’ milk. Continue treatment.

15th.—Evidently and much improved. He recognizes every old friend with his usual chuckle. He has eaten a little bit of bread and butter, and sucked the milk from some sop. Give him as much of the asses’ milk as he likes to take. One of the gentlemen whom I met on the 14th again joined me, as was agreed at the conclave on Sunday, and he recommended small doses (five minims) of the liquor potassæ in his milk, with a little ginger. I pleaded for a holiday, at least for one day.

16th.—I do hope that the chimpanzee is going on satisfactorily. He will not eat, but he drinks plenty of milk, and he has more and more of his usual habits. He is to have his potash to-day.

17th.—The liquor potassæ has sadly disagreed with him. He has vomited more than twenty times, with much straining and a few streaks of blood. The fæces were likewise tinged with blood. Give three times daily half a scruple of prepared chalk, with two grains of ginger, and two drops of the “black drop.”

18th.—The sickness and purging have ceased, and the poor fellow is a little more lively, and takes his milk as before, both that of the cow and the ass. Continue medicine.

19th.—Apparently improving, that is, he drinks his milk with

appetite, notices every one about him, and is somewhat better tempered ; but he refuses the choicest fruits, and will not touch any thing solid. *He also coughs.* I would rather say any thing of him than this. We will rest on our oars for awhile.

20th.—Tolerably lively, but his countenance becomes paler and his eye more deeply sunken every day, and the cough was more frequent and evidently painful. This was Sunday, and, although he was secluded as much as possible, he was occasionally broken in upon. The Duchess of Kent, with a large suite, was at the gardens, and, as a matter of necessary courtesy, he was exhibited to her. He seemed to be much fatigued—he was evidently feverish—his head was hot, and he would hardly take notice of any of us in the evening. Indeed, he was very much changed. His pulse rose to 150 : I attribute but little of this, however, to the fatigue of the exhibition, but to the progress of the disease. The gentleman who had attributed the whole affair to dentition was again there, and expressed himself somewhat strongly on the subject in my absence. I was soon told of it, and after consulting with a physician on whose judgment I placed every reliance, and carefully examining the mouth, and fancying that there was a little heat where I had cut down on the tooth before, I again lanced the posterior part of the gums on both sides, above and below ; the incision was a crucial one, but I could not feel any teeth : I also lanced the gums longitudinally in the course of the canine teeth. We had some difficulty in effecting all this, for he struggled with all his remaining strength, and cried most piteously. We agreed that he should not have any medicine at present, as the *fæces* were almost in their natural state, but that we would carefully watch the case. The gums bled freely for some little time. Towards evening he became very much worse : the breathing was dreadfully laborious, and he almost seemed as if he were breathing his last. This, however, passed over in about an hour, and he was quieter.

21st.—The disease has essentially changed its character. I can hear him breathe at a considerable distance, and the cough is more frequent and painful. He has fearfully lost ground within the last twenty-four hours. His pulse is 150, and he is sadly weak. He is half unconscious of surrounding objects ; except that occasionally upon being touched, or even looked at, he breaks out into strange fits of fretfulness and screaming. We put him into a warm bath, but he did not like it ; he struggled and screamed, and was speedily taken out again. The *fæces* are natural. Give him half-drop doses of the “black drop,” with two grains of ginger, three times every day. Dilute his milk, and offer it to him more frequently.

22d.—He does not breathe so laboriously, nor cough so frequently or painfully, and the pulse is 140, but as weak and thready as ever: he is, however, still more lost to surrounding objects. My kind and valued medical friend met me at the gardens. We both regarded it as a lost case, or that the only chance of success lay in rousing and supporting the animal power by some mild stimulant, and we determined to give him a small quantity—a couple of drachms—of ginger tea, three times in the day; coaxing him, at the same time, to take asses' or cows' milk frequently, somewhat diluted. I saw him again in the evening, and, if I could have believed it, I should have said that he was better. He was a little more lively; the respiration was quieter, and he did not cough so much: he was, however, very weak; and although he brightened up for a moment or two, his eyes speedily closed, and he looked as if he were dying.

23d.—He is as weak and low as he can possibly be, but the cough is materially lessened, and the breathing is quieter. The pulse is 130, and as weak and fluttering as it was yesterday. He will take his milk, but a less quantity at each time. On the whole, he seems to be a little better.

In the evening he roused himself, and climbed up his tree of his own accord. Continue the ginger tea.

24th.—In the morning he was cheerful, and took his milk with evident appetite; but his countenance had assumed a still greater degree of pallidness. In the afternoon there was a sad change. The face was *blanched*; the eyes were sunk and almost closed; the lower lip fell, and he scarcely took notice of any one. His milk, however, he would slowly sip when it was put to his mouth, but not more than a table-spoonful at a time. His pulse was with the greatest difficulty felt, and it fluttered in a most singular manner. His fæces begin to pass from him involuntarily. Double the quantity of the stomachic.

25th.—Hope has now quite fled. All his evacuations are involuntary, and although he will sip a little milk when it is held to his mouth, the only notice which he takes of his best friends, even of his old nurse, who loved him almost as if he were her child, was to slowly open his sunken eyes, and gaze piteously for a moment on her or his keeper; and then the lid would droop and fall, and a feeble breathing, attended by a faint moan, were the only indications of life.

I saw him about ten o'clock at night. At eleven, he all at once roused himself, and began to scream violently. He was taken out, and wrapped in a blanket, and held on the lap of his keeper, to whom he clung as closely as he could, frequently feebly raising his head and gazing piteously on his face. This

continued about an hour, when the screams became less violent, and assumed a resemblance, painful to hear, to the cries of a sick and sinking infant. This continued until two o'clock on the following morning, when they gradually subsided. He then was evidently attempting to free himself from the blanket, which with the assistance of the keeper he accomplished ;—then with an effort, of which a moment before he seemed to be incapable, he flung his arms around the keeper's neck, and clenched his hands for firmer hold—he threw back his head a little, and brought it before that of the keeper, gazed intensely on his face, with an expression which the man says he never shall forget :—and so he continued one or two minutes, when his hold gradually loosened, his arms fell, and he had died without a struggle.

He was examined on the following day. It so happened that I could not be present, but Mr. Martin favoured me with the post-mortem appearances. "The death of the chimpanzee resulted from great visceral disease. The spleen was tuberculated, and united to the adjacent viscera by strong adhesions. The lower portion of the ileum was extensively ulcerated, and in several places the coats of the intestines were completely destroyed, and, had it not been for extensive adhesions at this part, the contents of the bowels must have escaped into the abdominal cavity. The cæcum also participated in the disease. The mesenteric glands were morbidly enlarged, and the liver was also diseased, its colour being of a greyish yellow, exhibiting the minute portal vessels gorged with blood. The lungs were tolerably healthy, but the substance somewhat firmer than in their natural state. They may be said to have been hepatized in a slight degree; they were, however, unobstructed. Dentition had nothing at all to do with the affair."

MONTHLY ABSTRACT OF THE PROCEEDINGS OF THE LONDON VETERINARY MEDICAL SOCIETY.

March 1st, 1836.

THE subject for discussion this evening was glanders, introduced by Mr. Hill.

The question which caused the greatest difference in opinion among the members was,—Is this disease as infectious as it is usually thought to be? By the majority this was answered in the negative. Inoculation it is well known will give rise to it, but

simple contact of the virus, it was remarked, has frequently proved insufficient. Thus, glandered matter had on a sponge been placed up the nostril of a healthy animal, and yet this disease had not supervened. But friction, so as to cause an abrasion of surface, thus admitting of the quick absorption of the morbid virus, was generally effectual in producing it.

It being engendered by a specific poison existing in the blood was questioned by many. The influence of the animal poison of Professor Coleman was thus doubted; and an argument brought against its existence was, that at all times it is not productive of the like effects; since sometimes glanders is the result of its presence, sometimes farcy, sometimes ophthalmia, and sometimes grease; whereas the atmosphere rendered infectious by the effluvia of small-pox always produces small-pox, and so of many other contagious diseases.

It was argued by Mr. Hill, that this affection is more commonly brought on by the inhalation of impure air; air which had been respired over and over again, and redolent of the effluvia given off from the dung and urine of animals; this inducing a peculiar state of the system, and rendering it susceptible of taking on glanders on the application of an exciting cause.

It was considered desirable that a distinction should be drawn between the terms contagion and infection; and it was proposed, that the first should apply when bodies came into contact; the second, when the air is the medium by which the virus is transmitted.

An instance of a foal soon after birth having all the symptoms of glanders was related; it, however, got well by administering to the mother the sulphate of copper. This is interesting, inasmuch as it is difficult in the ordinary secretions to detect the presence of this salt even after it has been administered for some time.

The time usually devoted to argument having expired, the further consideration of the essay was postponed to the evening of the 22d.

March 8th.

Mr. R. Rush presented a paper on the Physiology of the Blood, its circulation, and the changes it undergoes; with some observations on foetal growth.

Adverting to the circulation, he said, "how many and important are the uses of this faithfully maintained although complicated function! On it depend nutrition, secretion, respiration, absorption, sensation, motion. What part could be formed, what fluid elaborated, what excrementitious matter removed, or

what sensation exist, without a heart, arteries and veins? On the one hand, digestion would go on in vain; on the other, absorption would be useless. For were there no arteries to carry the newly-formed blood to every part of the body, digestion could not support life; so, if veins did not exist to receive the refuse matter from the absorbents, nutrition could not be perfected."

Speaking of the growth of parts, he remarked, "how beautifully is every particle in the frame deposited, when and where required! Where bone is necessary, osseous matter is laid; fleshy fibre, where muscle is called for; and cartilage, where neither bone nor muscle could be substituted." Likewise "the simple mechanism of the circulation presents a most beautiful display of Nature's skill; a mechanism whereby tissues the most different are constructed out of the same fluid; in which vessels externally alike elaborate secretions having scarcely one character in common. Who has discovered any difference in the blood going to the stomach and the kidneys? Yet the fluids secreted by those organs are very dissimilar. Again, the vessels supplying the brain, and those going to the teeth, are externally alike, and their contents are the same; yet in the body no two substances differ more than medullary matter and enamel. What a display of Divine Wisdom is seen in the timely deposition of each tissue, and that in its exact quantity!"

He afterwards observed, "it is an interesting inquiry, but somewhat difficult of solution, what is the agency by which this machinery is wrought upon; or what are the powers which are brought to bear upon it so as to put it into motion, and to keep up that motion without ceasing, without weariness, without thought, for the most part without our consciousness; and that every moment of our lives, both during our waking and our sleeping hours?"

After having referred to the various theories which are promulgated respecting the manner in which the *fetus in utero* is supported, he preferred the following:—The arteries of the mother deposit in the cellular structure of the placenta a fluid (this, like all others, may be viewed as a secretion) differing in its properties from blood, and which is taken up by some of the veins of the *fœtus*. This becomes mixed with that portion of the *fœtal* blood which is returning by other veins; these, taking their origin from some of the minute terminating capillaries of the arteries, and which anastomose to form larger ones and ramify over the membranes, but principally through the amnion, where their course is very tortuous. He was inclined to believe that here the watery or more liquid parts are separated, con-

stituting, in a great measure, the liquor amnii, by which the fluid is rendered more fit for the support of the fœtus.

He asked, If some important function is not performed here, why are the vessels so tortuous? He was well aware that the secretion of urine, which is evidently going on in the fœtus would rid the blood of its watery parts to a certain extent, still the tortuosity of the vessels remained to be accounted for. Continuing his essay, he said, "passing through the umbilical cord, just before it reaches the umbilicus, are two veins; these unite, forming one trunk, which proceeds into the abdominal cavity of the fœtus, in order to reach the liver, where the blood is again subjected to a purifying process."

This was another proof, in his opinion, in favour of the view which he had taken: since, if arterial blood were received by the mother, what necessity was there for its passage through the liver? Why not go directly into the posterior cava? That the liver secretes bile, and a large quantity too, is proved by the inspissated masses of this principle, which are found in the intestines of the fœtus.

Other members agreed with Mr. Rush, that no direct communication by continuity of vessels exists between the mother and the fœtus, since, were this the case, the pulsations of the two would of necessity be alike, whereas it is well known that those of the latter are much more frequent than the former: every derangement also in the circulation of the one would be participated in by the other.

March 15th.

Mr. Rush's essay was continued in discussion, awakening much argument, the spirit of which has been embodied above.

The Society's certificate was awarded to Mr. Rush.

March 19th.

A special meeting was granted to Mr. Fagan, in order that he might introduce a paper on the more common diseases incidental to the foot of the horse; but as circumstances did not admit of more than one evening being devoted to its consideration, a few of them only were discussed. The essay itself abounded with sound practical, and, consequently, useful information, and it afforded an animated debate.

Of *contraction* he appeared to take the same view which Mr. Sumner had done; that it is more commonly the effect of an internal disorganization of the sensitive parts of the foot than a disease *per se*. His remedial means were also similar.

Inflammation of the laminae. This affection he had witnessed as a very common sequela of attacks of the lungs; when, from

long standing, the feet have increased vascular action set up in them, and not unfrequently it constitutes true metastasis.

A member doubted the existence of true metastasis in the horse. He would rather say that the laminae, from being kept so long on the stretch, became themselves the subjects of disease, than that it was a transference of it from the lungs to the feet.

Many interesting cases of laminitis following influenza were related by members, and also the eating immoderately of wheat. This last-named circumstance led to the inquiry of its manner of operating, since many had seen horses partake freely of this grain without any unpleasant consequences supervening; and some persons, it is well known, wholly feed their horses on it. This was readily believed; but it was contended, that little force existed in the objection, as the stomach of these animals had become inured to the influence of the grain, it being thought to possess highly stimulating properties.

There were those, however, who preferred considering inflammation of the laminae as resulting from the uneasiness produced by the quantity taken, and from the change the wheat undergoes in the alimentary canal, which induces the animal violently to paw the ground. Others looked upon it as the result of a change of inflammation from the stomach and bowels to the feet, since such cases as had terminated fatally without laminitis supervening presented the intestines in a highly diseased state. Instances, it was remarked, are recorded of inflammation of the laminae following enteritis; and Mr. Fagan remembered a case of hypercatharsis leading to the same result.

In the treatment of this disease, he strongly objected to the withdrawal of blood from the sole, and as strongly recommended warm applications in preference to cold.

The horny covering of the foot he described as being made up of a great many tubes, containing a fluid for the purpose of keeping the whole elastic, and these all taking an oblique direction. This structure, he remarked, exists even in the horny sole; so that it is not secreted in plates, as usually taught. He was borne out by another member, who stated he had carefully examined portions of the horny parts by a powerful microscope, and he was convinced that the whole consisted of a congeries of tubes; they were not interstitial spaces left by the arrangement of fibres of horny matter.

Mr. Fagan received the Society's certificate.

March 22d.

The consideration of Mr. Hill's essay was resumed.

Tubercles in the lungs he considered to be more commonly

the effect than the cause of glanders. Others dissented from him, on the grounds that glanders very frequently follows repeated pulmonic attacks, which leave behind a disorganization of the structure of the lungs; whilst some believed the development of glanders and the formation of tubercles to be simultaneous acts.

The question, Whether the blood in this disease becomes vitiated, was mooted. Mr. Hill was of opinion, that as a mass it is not; but that it is the medium of conveying the seeds of the disease to those parts of the frame susceptible of their influence. The greater number, however, believed the sanguiferous stream to be altered in its character, and conceived this to be proved by glanders being produced by transfusion, and also by the foetus in utero becoming diseased.

The affection was thought to bear a very close resemblance to phthisis pulmonalis in the human subject.

As curative means, Mr. Hill advocated large doses of sulphate of copper given in the form of draught. To this agent he gave a twofold action; 1st, that of increasing the tonicity of the system; 2d, that of restraining inordinate secretions from surfaces.

Small quantities of cantharides, in combination with the mineral and vegetable tonics, were recommended by several members, as was the ioduret of iron, in doses of from thirty to forty grains twice in the day.

To Mr. Hill was awarded the certificate of the Society.

W. J. T. MORTON.

MR. MORTON'S FAREWELL ADDRESS.

To the Constituents of the London Veterinary Medical Society.

Gentlemen,

This is the last Report I shall have the honour of offering you. Circumstances have arisen which have compelled me to resign the conjoint offices of Secretary and Librarian to your institution; but I cannot withdraw from among you without acknowledging the many obligations I am under to you for your repeated kindnesses. You have been pleased, during the nearly ten years I have held the office of Secretary, to accept my endeavours as the actual performance of my duty; and from time to time you have, in a way most gratifying to my feelings, manifested your disposition towards me. These tokens of your esteem will ever unite me to you in bonds of gratitude, never, I hope, to be broken. They will

be so many pleasing mementos to which I shall be able at all times to refer, although no longer in your service; and they will awaken those sentiments which ennoble man, and link him with his fellow.

Accept my farewell, and unfeigned thanks,

And, Sirs, believe me to be ever your faithful servant,

W. J. T. MORTON.

Royal Veterinary College,

April 23, 1836.

THE readers of THE VETERINARIAN, a great portion of whom are fellows of the London Veterinary Medical Society, and who have spent in it many a pleasant and instructive hour, will regret to hear of the retirement of Mr. Morton from the office of secretary to that society. Allusion was made in the last number of this periodical to certain transactions then taking place at the Veterinary College. *The tale must now be fully told*; and I do not know on whom this painful duty more clearly falls, than on him who struggled hard to found that society, and who had the honour (and the remembrance of which he will ever dearly cherish) to preside over it during the first eighteen months. It shall be truly told, and without comment, until the close.

Previous to the session 1831-2, Mr. Vines had for a considerable time held the office of librarian to the Society; but complaints having been made of occasional negligence in the discharge of his duty, and rudeness of manner, and particularly the loss of certain books, several of the members waited on Mr. Morton, and requested that he would permit them to propose him as librarian. It was an office of honour, and of trifling emolument. He endeavoured to persuade them from this; and, unwilling to injure or annoy his colleague, he would not promise to accept the office even if he was elected to it. Some of the students, however, were determined to persist; and on the 15th of November 1831, Mr. Morton was elected by a majority of one, twenty-seven members voting. Mr. Vines rushed forward and endeavoured to seize the balloting papers, with the avowed purpose of seeing who had voted against him. This was resisted by Mr. Morton, and they were torn to pieces. Mr. Vines then accused Mr. Morton of previous misconduct with regard to the Society. "Well," said Mr. Morton, "I did not mean to have accepted the office of librarian, but I will do it now, because

you must then come forward and establish, if you can, the foul charge you have brought against me.”

I shall now quote from the records of the society,—at least I shall give the substance of them.

The numbers being declared, Mr. Vines protested against the election, and threatened the Society with the loss of his communications; and, in fact, with its almost total annihilation, for not re-electing him as librarian.

Nov. 22d.—Mr. Vines gave notice of his intention to bring forward a motion respecting the librarianship at the following meeting.

Nov. 24th.—Mr. Sewell, the President, in the chair. Mr. Vines rose to introduce his proposed motion, when the President observed, that a law existed, by which it was ordained, that all complaints were first to be heard by the Committee of Management, and who were invested with all due power to dispose of the same. He therefore requested that Mr. Vines, in accordance with that law, would submit his complaint to the Committee; for, were not this law invariably enforced, the time that should be devoted to other and more useful purposes would be unnecessarily wasted.

Mr. Vines then sat down, and remained in the theatre during the discussion on Mr. Byers' paper on Opened Joints, and Mr. Templar's on Inguinal Hernia; but just before the close of the meeting he arose, and drew from a tin case the certificate of the Society, and, tearing off the Professor's head from it, he consigned the remainder to the flames, observing, that, since justice was not done towards him, he would no longer remain a member of such a society, and begged that his name might be withdrawn as an honorary associate. At the same time, said my informant, Mr. Vines used the most insulting and ungentlemanly language towards certain individuals and the Society generally, saying, that they were a parcel of — scoundrels, and that he washed his hands of them all.

The report of this meeting is confirmed by Mr. David McTaggart.

Dec. 6th.—The Committee held their meeting, Mr. McTaggart in the chair. Some works were directed to be added to the Society, and the following resolutions were unanimously passed:—

“That, as the fountain of our future reputation as practitioners, we are collectively and individually interested in the welfare and respectability of this Institution.

“That we consider the London Veterinary Medical Society as an important auxiliary to our regular studies.

“That, while we feel grateful to our President for his indefatigable attention to our improvement, we are compelled to recognize a disagreeable contrast in the conduct of our late librarian, Mr. Vines; conduct at once injurious to us as members of the London Veterinary Medical Society, and derogatory to himself as an officer of this Institution.

“That, in justice to the spirit and independence of our yet infant society, we are compelled to pass a vote of censure on Mr. Vines; and further, that we do accept his uncourteous and ungentlemanly resignation both as a fellow and honorary associate of the Society, made at the last night of meeting.”

The meeting of the Committee was then adjourned; and on the same evening the regular meeting of the Society was held—Mr. McTaggart in the chair. The members confirmed every act of the Committee of Management; and the resolutions respecting the late librarian being severally put and carried, without a hand being held up against them, were, at the close, received with acclamation.

Four years passed on, and Mr. Vines lost no opportunity of ridiculing the proceedings of the Society, disavowing all connexion with it, and endeavouring to persuade the students from belonging to it, and occasionally succeeding in that attempt; when on March the 8th, 1836, an Essay on the Circulation and General Physiology of the Blood, by Mr. Rush, was read by the secretary. It contained a rapid sketch of the discovery of the circulation of the blood, and of the several steps by which its composition and functions had been elucidated. Honourable mention was made of the earlier labourers in this field; and then an able exposé was given of the opinions now generally entertained on this subject, and with which he mainly coincided. It was a laboured performance, and reflected much credit on the writer.

A short pause, as usual, ensued; when Mr. Vines, who, attracted by the information he had obtained that his own favourite subject, the nature and the circulation of the blood, was to be the matter discussed had attended the present meeting, arose. He acknowledged that the essay that had just been read was the result of much research; but complained in strong terms of the injustice that was done to himself. Not one of the discoveries which he had made on this subject, he said, was fairly acknowledged; and even the new and correct theory of the function of the foramen ovale was not attributed to him. Then, growing more warm, he denounced the essay as one tissue of plagiarism; and said that he could not believe that Mr. Rush was or could

be the author of so infamous a thing, but that it was the work of some one who wished to deprive him of the honour which was his due as the discoverer of many important facts connected with the subject.

He then addressed the Society in a sarcastic style: they were becoming authors, he found; he came among them to enlighten them; they had need enough of some one to guide them.

He was in vain called to order by Mr. Spooner, the vice-president of the society, and by Mr. Ferguson, who was then acting as chairman; and he replied to both by gross abuse.

He was reminded that he was not a member of the society. He affirmed that he was—that his resignation had been informal, and therefore could not be legally accepted; and that he had a right to attend, and would do so. Many members now mingled in the quarrel; the regular subject of discussion was forgotten or abandoned; and it was one scene of uproar and confusion, in which language that would have disgraced the lowest assembly was too freely used. At length Mr. Vines withdrew; but it now being impossible to return with pleasure or advantage to the discussion of the original physiological question, the meeting very soon broke up.

On the following day Mr. Rush sent a memorial to the Committee of Management, complaining of the ungentlemanly attack which had been made and urged upon him, and praying them to take the matter into consideration, and to adopt such steps as would prevent the future occurrence of such a scene.

The Committee met, and replied to Mr. Rush's memorial, That Mr. Vines was not a member of the society; but that they would be careful that such conduct should not again take place. A communication was also sent by the Committee to Mr. Vines, informing him that complaint had been made of his conduct at the last night of meeting, and that they did not consider him to be a member of the society.

The whole College was now at war; and, instead of the quiet pursuit of their studies, even the dissecting-room was made the scene of discord. Some of the members of the committee were personally insulted there: they were pointed out as those who had expelled Mr. Vines, and they were hooted out of the room. These gentlemen called a special meeting of the society, in order that their conduct might be investigated.

At that meeting the documents which I have quoted were read; and, on the motion of Mr. Rush, it was decided, by a majority of fifteen, that "the committee is exonerated from the charge of having acted partially in the exclusion of Mr. Vines as a member of the society."

At the close of this meeting one of the pupils said that it was desirable to know whether Mr. Vines was or was not a member; and he moved that another special meeting might be convened for this purpose.

This meeting took place, and Mr. Vines was present at it. The president, Mr. Sewell, seeing him there, requested that he would withdraw. This Mr. Vines refused, saying, that he was a member, and that there he would sit in his own right. The president again requested him to withdraw, and again he refused. Mr. Sewell immediately arose, and, adjourning the meeting, quitted the theatre. He was followed by the vice-president and by the secretary.

Mr. Vines remained, and a stormy discussion ensued, the result of which was, that several of Mr. Vines's friends waited on Professor Coleman, requesting him to point out to them what steps they ought to take in order to the introduction of Mr. Vines. He advised them to wave the question of his being a member, as one on which they were not competent to decide, but to elect him as an honorary associate; at the same time suggesting certain alterations in their rules.

On the following morning a special meeting of the society was held, at which Professor Coleman had been requested to attend, but with which request he refused to comply, stating, that the advice which he wished to give to his class he preferred to give from the chair. Accordingly nothing was done at this meeting.

After his next lecture, the Professor did address his class. He said "he was sorry to hear of the dissensions which existed among them, and particularly in relation to Mr. Vines. That if there was any one about the College who ought to be a member of the Veterinary Medical Society, it was Mr. Vines; and that if there was any one who, next to Mr. Sewell, ought to hold office in that Society, it was Mr. Vines."

He was reminded of the insults which Mr. Vines had offered to the society, and for which not the shadow of an apology had been offered. He replied, that "that had taken place a great while ago, and should not now be raked up against Mr. Vines." In conclusion, he hoped that these dissensions would not continue.

At the general meeting, the amendments which were suggested by Mr. Coleman were brought forward; but it appeared that they could not be taken into consideration, as they had not received the sanction of the Committee. Mr. Vines, however, was regularly proposed as an honorary associate.

At the following general meeting, the president, Mr. Sewell, occupying the chair, the election of Mr. Vines as an honorary

associate was moved. Mr. Sewell immediately rose. He said, "that as president of that society it was his duty, and he felt it to be so, to maintain the honour of that society. He trusted that it was as dear to him as his own. It would be compromised if a person who had so flagrantly insulted the society at a former period, who had since availed himself of every opportunity to do so, and whose recent conduct so plainly exhibited a similar spirit—the honour of the society" he said, "would be irreparably compromised, and its power of being useful for ever marred, if that person was again admitted into it, until he had made an apology so unequivocally and so strongly worded as to be a kind of guarantee that such conduct would never again be repeated. He saw what the result of the motion would be; but such degradation should never fall on the society while he held the chair: therefore, with sincere regret, and with unfeigned thanks for the kindness with which they had supported him for more than twenty years, he now retired from among them." He rose, and quitted the theatre.

Mr. Spooner expressed his full approbation of every sentiment the president had uttered; and as he could no longer, with satisfaction to himself or profit to them, continue to act as their vice-president, he also, thanking them for the kind support he had ever received from them, must bid them adieu.

Mr. Morton, before he followed his colleagues, and now probably addressing the society for the last time, begged to be permitted to say a few words. It was his pride to have devoted himself to their service; he found the library possessing a scanty supply of books, and in a most dilapidated state; he left it containing almost every book that could be useful to the student, and an honour to any society. He had introduced that best stimulus to exertion, that which had been the parent of so many valuable papers, the award of the thanks of the society to the authors of those papers which possessed more than usual merit; and from him had proceeded the election, as honorary associates, of their teachers, or those who by their writings had promoted the improvement and advancement of the veterinary art. He could not separate himself from those with whom he had so long acted, and he, too, must retire.

Much stormy discussion then followed; after which a vote of thanks was passed to the retired officers, and a deputation was appointed to wait on Mr. Coleman, to request his advice as to the course they ought to pursue.

The deputation did accordingly wait upon him. Mr. Coleman eulogized the pupils for their manly and independent conduct; but, at the same time, he regretted the resignation of Messrs.

Sewell, Spooner, and Morton, and he advised them to re-elect those gentlemen. The student who had been appointed spokesman for the deputation then said, that after Mr. Sewell had so plainly stated the grounds on which he and the other officers of the society had retired, it seemed to be ridiculous to re-elect them, without giving them the possibility of again taking office. He added, that it appeared to him, that the society should suspend for awhile the election of Mr. Vines as honorary associate, in order to give him time to offer that apology which he confessed he thought should be made, and without which it was a mere farce to re-elect those gentlemen.

Mr. Coleman turned away without making any reply. But the student who had proposed Mr. Vines as an honorary associate did reply; and said, that he objected to Mr. Vines making an apology, as injurious to his character; and that he, having proposed him, would not allow him to think of any thing of the kind—that he would not withdraw the proposition—that he would not delay it for a moment, and that Mr. Vines should not apologize.

Mr. Coleman then said, that *he thought it would detract from Mr. Vines's respectability if he did apologize.*

Another student then requested Mr. Coleman again to address his class after the next lecture.

Mr. Coleman did so; and stated that he had advised his pupils again to re-elect those gentlemen, after thanking them for their former services, and expressing their regret that they should have resigned at all. He said, that he did not see the impropriety of their accepting office again; for by their willingness to resign they had sufficiently evinced their spirit and independence, and their regard for the supposed honour of the society. They had expressed their sentiments—they had discharged their conscience—and he did not see any impropriety, or absurdity—as it had been called—in their return.

They were accordingly re-elected, and the notes to each, informing them of this circumstance, were worded not in the most courteous stile.

The reply received from Mr. Sewell was,—that he much regretted the cause which compelled him to retire—that his sentiments on this point were well known and unchanged—and that he would most willingly re-accept the office which the society had done him the honour to confer upon him, when Mr. Vines had made such an apology as could be considered as a guarantee for the propriety of his future conduct. The replies from the other officers were of a similar character.

The society took no notice of these replies, except with little

delay to demand the cash and the books ; but proceeded to elect Mr Coleman as president, Mr. Percivall as vice-president, Mr. Miles as secretary and librarian, and Mr. Vines as honorary associate. Perhaps they were induced to do the latter by the again-repeated expression of Mr. Coleman's private feelings, for he had told them that "*he did not think it at all likely that Mr. Vines would offer an apology to his apprentice and deputy!*"

Mr. Coleman, however, refused the presidentship, on the ground, that he did not know how he could legally accept it, being an honorary associate, and, as such, forbidden by the laws of the society to interfere with its governance—and he likewise thought that his presence in the chair would materially interfere with the freedom of discussion which was necessary in order to the full accomplishment of the useful purposes of the society.

Mr. Percivall, after expressing his thanks for the honour conferred upon him, declined to become their vice-president, on the ground, that it was only one year out of three, and that at present nearly expired, that he resided sufficiently near to them to enable him regularly to discharge the duties of such an office.

Mr. Bracy Clark and Mr. Blaine were then proposed, and it was determined by a majority of the members to invite the former to accept the office of president.

Mr. Bracy Clark accepted the office, on condition that his doing so would not be displeasing to Professor Coleman.

Mr. Coleman, hearing that the office had been thus conditionally accepted, desired the secretary to wait on Mr. Bracy Clark, and to express his thanks for the delicacy and courtesy with which he had acted, and requested him to allow the question of the presidency to stand over for a week or two, in order that he might try, if possible, to effect a reconciliation between the late officers of the society ; and that in the interim he would discharge the duties of the president, as honorary chairman of the society.

Mr. Coleman after that saw the committee, and told them that he did not understand the exact purport of their former message to him. If he had thought that it was, as it now seemed to have been, a notice of his actual appointment to the office of president, he would have immediately accepted the honour they conferred on him ; but he imagined that it was a request that he would take upon himself the duties of chairman ; and then, as he thought himself bound to do, he had stated the objections which pressed upon his mind. Now, however, understanding them better, he would certainly accept of the office *pro tempore*, hoping that he might be enabled to effect a reconciliation between them and their former officers.

In conformity with this he waited on the three ex-officers, and proposed that the matter in dispute between them and Mr. Vines should be submitted to arbitration, which they refused to accede to. Mr. Sewell added, that the governors should be his only arbitrators, and to whom he should submit the whole affair. I understand that he still expresses the same determination; and, except in case of certain events, it does seem to be his paramount duty to lay this business before the governors of the College.

On the following night of meeting Mr. Coleman was not present at the time that the chair should have been taken; but messenger after messenger was dispatched for him. In the meantime the business of the evening was entered upon, namely, the reading of Mr. Sander's paper on the Influence of impure Air in the production of the Diseases of Animals.

Half an hour before the usual time of separation the Professor came in. He apologized for his late appearance, and stated his earnest wish that matters might be yet arranged between the society and the ex-officers; and then the business of the evening proceeded.

Mr. Vines was also present. He thanked the society for the honour they had conferred upon him, and said that he regretted the unpleasant circumstances that had attended his re-election.

On the following day a deputation waited on the Professor, to inquire what objection he had to Mr. Bracy Clark, whom they had appointed chairman to the society, but with whose occupancy of the chair he had interfered by the message which he had sent to Mr. Bracy Clark.

At the regular meeting of the society on the 26th, Mr. Vines was elected a vice-president, and Mr. Coleman was considered to remain president, *pro tempore*.

I offer no comment on this plain, and, I believe, faithful narrative. None is needed. Some parts of it speak much too plainly for themselves. I have, however, an imperative duty to perform, namely, to return my own thanks, and, I believe those of every past member of the society, to the late officers of it, for the noble stand which they made in defence of its honour.

If the narrative has not been told with perfect accuracy—and it was difficult to get at certain parts of it—the error shall be promptly rectified; with this indispensable proviso, that every letter on this subject shall be authenticated by the name and address of the writer.

The recent scientific discussions of the London Veterinary Medical Society have done it infinite honour. I have no hesitation in saying, that the debates in former times—in my time—

were *maigre* and unsatisfactory compared with theirs. The Editors of *THE VETERINARIAN* will have much pleasure in continuing to insert the monthly abstract of them, and will readily afford every facility, and lend every aid in their power.

And now—to close this painful history—the battle has been thus far fought, and a certain object has been attained, at a cost far, far beyond its value. Needs there to be pointed out the step which might be, which ought to be taken; implying, not the shadow of degrading concession, but, rather, being the expression—the pledge—of good and honourable feeling and purpose. *What would the heart of every honest man now prompt?*

W. YOUATT.

THE VETERINARIAN, MAY 1, 1836.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

[WITH pleasure and with pride we adopt the following letter as our leading article. It had been a feeling dearly cherished, but deeply buried in our bosoms,—whispered not to the winds,—for there were those among our elder brethren who spurned us from their association, and at a time to which we still look back with a loathing that we cannot suppress, declared that “they would not sit with us” around our own—by every right, our own—board; it was a feeling, we say, deeply buried in our bosom—but there it lived—it was nursed in our heart’s core, and now, now we dare avow it, *that we had the power, and that we should glory in its exercise, to contribute our portion, although a little one, towards the honour of our common house.*

Many thanks for the kindness of our elder brother—one of our best beloved—and whom posterity will acknowledge as an unwearied and invaluable contributor to the progress of medical science. Yes; we will be up and doing. We cherish no presumptuous spirit of rivalry; but, henceforth, he who traces the onward march of that art with which are identified the health and the well-being of all who are susceptible of pleasure and of pain, shall be compelled to acknowledge, that the veterinary surgeon was not a lagger.]

EDIT.

THE IMPORTANCE OF COMPARATIVE PATHOLOGY.

To the Editors of "The Veterinarian."

Gentlemen,

HAVING become a constant reader of your very excellent periodical, to which my attention was first directed by finding an old and esteemed acquaintance, Mr. Youatt, one of its editors, I am desirous of expressing to you my obligations for the information it conveys. There is no undertaking in your branch of medical practice nearly so well calculated as it is to promote the science and respectability of veterinary surgeons, whom I am happy to consider our younger brethren; and there are very few in ours, which throw equal light with it, upon human pathology and therapeutics.

I have glanced over all your volumes, have read with great pleasure many of the articles, and have been extremely gratified by the science, by the judicious views of morbid actions, and by the active benevolence generally characterizing the papers of your correspondents.

The extended field of comparative pathology cultivated by you, increases the utility of your work, and recommends it more particularly to those who are anxious to derive every information calculated to elucidate different topics in human pathology and practice. The principal object of this communication is, to express a hope, that this end, to which, indeed, your researches necessarily tend, will not be lost sight of by you; and that, although the nobler animals must engage your chief attention, those with which man has only a casual intercourse will not be overlooked by you whenever their diseases are likely to advance our knowledge. The particulars of disease in animals in the Zoological Gardens, published by Mr. Youatt, are particularly interesting; and it is to be desired that he will persevere in this department of medical observation and instruction.

I need not remark, how much those maladies which are common to the lower animals and to man, or those to which the latter is subject only by being infected by the former, require investigation, further than to suggest, that a more precise research may be instituted into their nature, at various periods of their progress, than has hitherto been attempted, or indeed can be contemplated in the human subject; and to recommend the trial of new or active medicinal agents with a close observation of their effects, as preliminary to, and illustrative of, their use in human practice.

There is one thing which has gratified me in your work, and has convinced me that many of your contributors are perfectly competent to this mode of advancing medical science ; and this is, the very philosophical spirit in which many of the articles are written, and the circumstance of your basing your pathology on physiological views. The many occasions you have furnished of illustrating physiological pathology, I perceive have not been neglected by several of your contributors. The independent influence of the organic or ganglial system of nerves, although taught long before I wrote on the subject, was, I believe, first applied to pathology by me ; and it has been very ably illustrated, with reference to the diseases of the lower animals, by Mr. Youatt. I hope that he will continue his investigations into the pathological relations of this system of nerves ; for I am convinced that it is to this quarter especially that we must refer a great many of the earliest changes from the healthy condition, the numerous sympathies attending internal irritation or slow organic lesion, and the *modus operandi* of many remedial agents.

The attention you have directed to the diseases of a considerable variety of animals has induced me, on several occasions, to avail myself of the information furnished in your work ; and I expect to derive further knowledge from your labours, which are well calculated to throw light upon many of the more obscure subjects with which I have been, and shall for a short time longer be, engaged.

Permit me to hope, that yourselves and your contributors will proceed as you have begun—in the cultivation of comparative pathology and therapeutics ; and that you will have the regard to human pathology which I have suggested—that, in short, as cultivators of the same science, although directed to different objects, you will not neglect whatever may come within the scope of your investigations calculated to serve the cause of medical knowledge generally.

In conclusion, if the circumstance will serve to convince you of my estimation of the importance of comparative pathology and therapeutics, I may state, that the volumes of your Journal are placed in my library amongst works most frequently referred to in the course of my researches into the nature and treatment of disease.

I am, gentlemen, yours, &c.

JAMES COPLAND.

Miscellaneous.

VETERINARY PUPILS WHO HAVE OBTAINED THEIR DIPLOMAS SINCE THE LAST REPORT.

Mr. J. Fagan, Liverpool.
 Mr. T. G. Habin, Chichester.
 Mr. R. Bailey, Canonbury.
 Mr. E. Scott, Newcastle.
 Mr. J. Warner, Thorpe.

PRICE OF OXEN IN 1674.

SIR Roger Moyston had a great intimacy with Pyers Pennant. The following is the copy of a letter from the former to the latter:—

“Dear Pyers, *Moyston, March 14, 1674.*

“I hope you will excuse me for the £4 you owe me for the pair of oxen, for I want the money to make up £20 to send my son to Oxford next week.

“I am, dear Pyers, &c.
 “Roger Moyston.”

It appears, then, that £4 was the price of a pair of oxen in 1674, and that the Baronet of Moyston sent his heir apparent to the University with £20 in his pocket.

FORMER CONTRACT PRICES FOR HORSES AT THE WAR OFFICE.

IN 1766-67, £21. 1768 to 1792, £23..2s. 1793 to 1802, £26. 5s. From 1803 to 1810 an allowance of 2s..6d. per horse was made for every eighteen miles travelled, except the first eighteen, from the place of purchase to the head quarters of the regiment. This was raised to 3s. in 1811.

CONTRACT FOR MEAT AT THE VICTUALLING OFFICE.

	Beef.	Pork.	Butter.	Cheese.
1687 — 1700 — 17 yrs.	$2\frac{1}{4}d$ per lb.	$3d$ per lb.		
1701 — 1766 — 66	$2\frac{1}{4}$ —	$2\frac{1}{2}$ —		
1767 — 1789 — 23	$2\frac{3}{4}$ —	$4\frac{1}{2}$ —	$6\frac{1}{2}d$ per lb.	$3\frac{1}{2}d$ per lb.
1790 — 1803 — 14	5 —	6 —	$7\frac{1}{2}$ —	$5\frac{1}{2}$ —
1804 — 1810 — 7	$6\frac{1}{4}$ —	$6\frac{1}{4}$ —	10 —	$7\frac{1}{4}$ —

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ANIMAL PATHOLOGY.

By Mr. YOUATT.

LECTURE VI.

Diminution of Sensibility.

WE shall have still fewer plain and palpable facts to guide us while considering the phenomena of diminished sensibility in the inferior animals than we had during our review of the indications of morbidly increased feeling; we must, therefore, proceed with caution, lest these lectures should become a mere tissue of analogical, and, probably, delusive reasoning.

A diminution or absence of feeling, is, in the human being, a frequent precursor of loss of motor power, or an accompaniment of it, or existing independently of it. Of the first we know but little. We have not been sufficiently attentive to the expression of pleasure or of pain in our quadruped patients to be aware of, or perhaps it is impossible that we ever should be aware of, that feeling of creeping or numbness which so often ushers in the loss of power over the voluntary muscles. In the majority of cases there is probably nothing of this in the brute; the approach of paralysis is usually in him too rapid and the attack too violent to admit of this precursor stage.

Spinal Lesions attending the Loss of Sensation or Motor Power.—As to the connexion between, and co-existence of loss of feeling and voluntary motion, our records afford us many interesting and satisfactory illustrations of it; and especially since we have begun—even the veterinarian has slowly begun—to adopt that theory of the spinal cord, and of the nervous system generally, which will immortalize the name of Bell. I will quote from others here, and from those few of whom thoroughly understood, and some of whom did not, and do not to the present day, believe in this system; and who most certainly did not dream how incontestably they were proving it while they were relating a few anatomical and pathological facts.

Loss of Motion, Sensation remaining perfect.—M. Bouley, an intelligent veterinary practitioner in Paris, and first among his brethren in the pursuit of science, says, that he had under his care an entire draught horse, with total want of power of motion of the hind legs, but the feeling remaining perfect. These symptoms continued three days, and then the animal died. “All the inferior part of the spinal marrow was softened and semi-fluid, while the superior part had undergone no change*.” The inferior motor columns were diseased, decomposed, and then their function ceased; the superior sensitive columns exhibited no morbid lesion, and perfectly discharged their duty.

Loss of Feeling, the Power of Motion being retained.—On the other hand, M. Bouley quotes a case from M. Kerseau, of a cow that fell the day after calving; she was able to move her hind limbs, and that with considerable violence; but they had lost all feeling. Remedial measures appearing to have no effect, she was destroyed. “The lumbar portion of the spinal cord was very red on its superior part, and the fasciculi were injected for the space of two inches. The lower fasciculi presented no other alteration than a yellow tint, which was perceived through the whole course of the spinal marrow.” Can any thing be more decisive?

Loss of Feeling and Motion.—Take another case, recorded by the same accurate observer. The hind limbs of a seven-year old horse were entirely deprived of feeling, and the power of motion. The animal lingered five days; he seemed to suffer little, and he was anxious to eat—(another illustration of the nervous system, gentlemen, and shewing you the independent function of the organic nerves)—he lingered five days, and he died: feeling and motion had disappeared, and what do we find? “The spinal marrow, the whole of it, was softened and semi-fluid from the 10th dorsal vertebra to the lumbar enlargement, and including it.”

Take an example from Professor Renault. A horse injured in casting was kept during a month; the power of motion in the hind extremities was gone from the beginning, and that of feeling gradually, and at length perfectly disappeared; but the horse continued in good spirits, and feeding well. He was at length destroyed. “The spinal marrow at the bending of the neck was softened and changed to a pultaceous and red matter for about two inches in extent.”

If I had fabricated these cases—and I have purposely introduced no case of my own—could they have been more conclusive?

* Rec. de Médecine Vet. 1830.

The Difficulty of the Subject.—I do not mean to tell you, gentlemen, that spinal lesions, so strictly in accordance with the symptoms during life, are always to be found. In the majority of cases they are perfectly satisfactory to the practitioner and to the physiologist. In a few cases, loss of voluntary motion is accompanied by increased and agonizing sensibility during life. This you will ofteneſt observe in the horse; his struggles, his cries, and his universal perspiration, will tell you too plainly what he suffers. Here you will find injection of the membranes of the cord, or of the substance of it, and confined to the upper surface—while perhaps the inferior column will be pulpy. An old and hardly-worked horse will almost invariably present lesions of chronic spinal meningitis; indeed, during life, he will scarcely labour under any inflammatory affection in which he will not shrink when the hands are hardly pressed upon his loins.

Ramollissement of the Spinal Cord.—The most frequent change in the spinal cord connected with diminution, either of sensitive or motor power, is *ramollissement*, or softening. I cannot give you any clear and definite account of it, for it differs in almost every subject. It is the change of the pulpy medullary matter to a liquid of various consistence, sometimes of the natural colour of the spinal marrow, or whiter, or tinged with red, or of a dirty brown, occasionally mixed with a serous fluid, at other times evidently mingled with pus or with blood. Sometimes the softening is complete, but the cellated membrane remains; at other times, a small medullary band connects the anterior sound portion with the posterior one; and, again, this and the cellated, and the investing membrane, have, in a few instances, disappeared, and nothing was left to connect together the distant portions of the sound cord but the dura mater.

Sensation and voluntary Motion still remaining.—Then comes another puzzling fact—through a certain extent the whole of the spinal cord is gone, or, at least, there is no connexion but by means of the dura mater, and yet sensation and voluntary motion, the one, or the other, or both, may be somewhat impaired, but still they have palpable and useful existence. I must not draw my illustrations of this from the human being, and I have not many resources in veterinary records, for few, until of late years, few have been the veterinary surgeons who have acknowledged, or at least framed, their post-mortem examinations and their language according to that which in every school but theirs was acknowledged to be the true structure of the spinal cord.

Singular Case.—I have, however, a case by means of which I can, to a certain extent, illustrate the subject. It is taken from the records of the Alfort school. A horse fell; all attempts to

raise him were fruitless; he therefore was placed on a kind of carriage, and brought to Alfort. Feeling was altogether destroyed in the middle and posterior regions of the body; pricks with a pin, and even with a bistoury, caused no pain. The hinder limbs, however, could execute some very extensive motions. On the second day, sensibility, to a certain degree, returned to the hind limbs; but on the third day, all feeling, and the power of motion as it regarded the hind legs, were gone, and he died. Examination after death presented the following lesions:—"There was much gangrenous inflammation of the muscles, ligaments, and periosteum of the dorsal portion of the vertebral column, and appearing again towards the fourth lumbar vertebra. The cellular adipose tissue, by means of which the dura mater adhered to the walls of the bony canal, was infiltrated with a reddish serous fluid. The substance of the spinal marrow, from the third cervical vertebra to the tenth dorsal, was completely softened. From this point to the third lumbar vertebra, the natural consistence of the cord was nearly preserved; but there the softening appeared again, but in a manner less complete, for it included only the superior fibres (the sensitive columns) of that portion of the spinal marrow."

Our limited Knowledge of the Subject.—It may be taken as a general rule in the examination of the spinal cord, that, where there is complete *ramollissement* of any portion of the cord, no voluntary motion can take place below it, nor the impressions of surrounding objects made on parts below the incision be conveyed to the sensorium: but here is a space from the third cervical to the tenth dorsal of softening of the cord, and yet the hind limbs were moveable; and there was a second space in which also the sensitive columns were wanting, and yet sensibility was returning. I can only say that I cannot altogether account for this. If I dared to allude to the human being, I occasionally find a considerable portion of the cord softened, gone, and yet there is very little lesion either of sensibility or motion. I will not say with a certain writer, that "the general opinion of the brain being the exclusive seat of these functions falls to the ground;" but that we have much to learn of the causes by means of which the function is perfectly arrested in one case, and discharged by some circuitous but not inefficient channel in the other. We have yet much to learn on this and various other important points of physiology and pathology.

Loss of Feeling produced by Pressure. Apoplexy.—Anæsthesia, or the diminution of feeling, may be produced by pressure on any portion of the sensitive columns, whether contained in the spinal canal or traced up to their centre or origin within the

cranial cavity. Thus we account for the stupidity or insensibility which is one of the diagnostic symptoms of cerebral congestion or apoplexy, staggers as it continues inconsistently to be called in our nosology. The circulation through the brain is impeded—the supply of arterial blood which is necessary for the discharge of every function, and most of all for those of the sensorial system, is diminished or for awhile suspended, and utter unconsciousness is the immediate and necessary result. Or effusion takes place within the cranial cavity, and a similar effect is produced. It is thus that we account for the frequency of amaurosis as a consequence of staggers produced by over distention of the stomach, and determination of blood to the brain, or impediment to its return, and by means of which it presses, in some cases at least, on the nerve of vision. It is thus, that by introducing a more regular system of feeding, that simple instrument the nose-bag saves the lives of thousands of horses every year, and, in fact, has exterminated one of the most destructive pests—an epidemic one as it used to be thought—of the equine race.

Hydatids in the Brain.—It is on a similar principle,—the pressure on the brain, and its influence on the intellect, and on general sensibility,—that the sturdied sheep, or the animal in whose cranium an hydatid has taken up its residence, is languid and stupid, and goes staggering about, lost in his fit of musing, and wastes rapidly away, and dies a perfect skeleton.

It is thus that the ox or the cow, infected by the same parasite, goes stupidly round and round, the food neglected, and rumination having ceased, and she also pining quickly away.

Hydatids in the Brain of the Horse.—A somewhat different account is given of the ravages of the hydatid in the brain of a horse. He had been observed for eight days to be apparently lazy, and perfectly insensible to blows—he would not draw at all, but stood stupid and careless about every thing; when, being forced by dint of threats to trot, although at the most gentle pace, he suddenly fell as if struck by lightning, and, recovering himself soon afterwards, shewed symptoms of the most violent phrenzy. After death an hydatid as large as a billiard ball was found pressing upon the left lobe of the brain*.

Hydatids in the Spinal Cord.—It is thus when the hydatid finds its way into the spinal canal of the sheep, and there collects to itself groups of its own species, and lies between the dura mater and the arachnoid membrane, or in contact with the cord itself, and furrows its surface and renders it irregular and covered with false membranes, that, by impeding the circulation, and

* Journal Prat. xxvi, 531.

preventing the access of arterial blood to this important part, this animal becomes dull and wastes away, and at length is truly paralytic in its hind legs, and loses entirely the sense of feeling as well as the power of motion*.

In a more singular way the hydatid commits his ravages on the pig. The young hog, from fourteen to twenty months old, if badly kept, occasionally pines away without any ostensible cause, and at length becomes paralytic, having lost both feeling and the power of motion; and numerous cysts containing hydatids are found embedded in the psoas and other lumbar muscles; while the spinal marrow, participating in the irritation and inflammation without, becomes softened and reddened about the lumbar and sacral regions†.

In many cases of extreme sensibility of the integument, and evident pain, the pressure of an elastic bandage, equally and not too tightly applied, will give almost incredible ease to the swollen and inflamed and agonized limb. It yields mechanical support to the distended vessels; it enables them to contract on their contents, and prevents the influx of that arterial blood whose presence in undue quantity constitutes the essence of inflammation, and prolongs its duration. Here, however, much judgment is required, and the adaptation of this means of relief must be regulated and adjusted according to the circumstances of the case.

Fracture of the Spine.—On the same principle, the loss of sensibility which is the consequence of fracture of the spine is explained. Displaced portions of the bone press on the spinal cord, and arrest the passage of the medullary vibrations, or of the nervous fluid, or prevent the circulation of arterial blood to the part. Mr. Hudson, of Lincoln, gives a case of this. “An aged mare fell while endeavouring to clear a ditch. The hinder limbs were completely paralyzed, and insensible to every stimulus. The first lumbar vertebra was fractured, and its spinous process pressed on the theca vertebralis, where there was also a considerable quantity of extravasated blood. In the human being the depressed portion of the arch and spinous process of the fractured vertebra has been removed by a dextrous operation, and sensibility and the power of voluntary motion have been sometimes restored; but on our patients this has never been attempted. I should consider him a bold operator, but I should not dislike him, who made one trial, at least, how far surgical skill might be available here.

Partial Insensibility.—Many very curious cases of the loss of

* Réc. de Méd. Vet. xxvii, 394.

† Veterinarian, iv, 286.

sensibility in certain portions of the frame are recorded in the annals of human medicine: we have not had much opportunity to observe this, or have not availed ourselves of it, in veterinary practice. A gentleman, however, under the title of a "certified practitioner," (I know him well; why should he scruple to sanction with his real name important contributions to our art?) has described one that possesses some interest. The sphincter ani, and that of the bladder of a mare, were paralyzed, as were the muscles of the tail and croup; the tail dangled up and down in a singular way as she trotted. The parts were perfectly insensible, for she shrunk not when she was pricked with a pin. The upper lip was afterwards attacked and drawn on one side. She partially recovered by the administration of laxatives and tonics and blisters, so that she could feed and retain or discharge her dung as she pleased*.

Insensibility of the mucous Membrane of the Bladder.—There are few practitioners who have not observed a certain degree of incontinence of urine in horses that have ankylosis or stiffness of the spine. May not this be referrible, in some cases at least, to insensibility of the lining membrane of the bladder, more than to want of power in the sphincter muscle? It is the stimulus of the urine on the mucous membrane which governs the motions of the sphincter; and when the bladder becomes insensible to the presence of the urine, the sphincter will cease to act†.

Flying Lameness.—How many cases of flying or periodical lameness may be accounted for by pressure on the course of certain nerves! If any nerve is long and unduly pressed upon, a numbness steals over the limb with which it is connected, and the unconsciousness of the true bearing and action of this will produce as awkward and as veritable lameness as any want of power in the muscles of the limb.

The Tourniquet.—The application of a ligature to a limb diminishes or suspends its sensibility in the part further removed from the source of the nerve, and that either by the mechanical pressure on the nerve or the interruption of the circulation; and therefore it is that the application of the tourniquet is not only useful in temporarily controlling the bleeding, but in lessening the suffering of the patient during a serious operation.

The division of the trunk or of the ramification of a sensitive nerve produces temporary or permanent loss of feeling in the parts beyond, which were supplied by that nerve. This, however, is a most important branch of our subject, and will be considered in the next lecture.

* Veterinarian, ix, 136.

† Todd, Cyc. Pract. Med. iii, 242.

THE ANATOMY OF THE FORE FOOT OF THE OX.

By Mr. W. C. SPOONER, *Southampton*.

[Concluded from p. 135.]

THE VEINS—The *anterior plantar vein* is formed, about half way between the hoof and fetlock, by two branches, each of which proceeds from the front and medial part of the coronet. It then passes up in front of the fetlock, and becomes the *anterior metacarpal vein*, which is joined by an important branch, about one-third above the joint; after this it proceeds in front of the shank to the knee.

The *left or external plantar vein** is formed chiefly by a network of vessels superficially situated at the coronet, and which proceed from the laminæ of the foot. As it passes up the pastern, it receives numerous branches from both deep-seated and superficial parts. This vein takes its course by the side of the fetlock, and becomes the *external metacarpal vein*, which receives a branch from the dew-claw, and a smaller one from the neighbouring parts; and, about one-third of the distance between the fetlock and knee, it sends an important anastomosing branch to the anterior metacarpal vein: just above this, the vein communicates with the *right metacarpal*, by a large branch coming from between the ligament and tendons, and then proceeds up the shank, closely adherent to the suspensory ligament, and deep-seated between it and the bone, and again becomes superficial at the knee.

The *right or internal plantar vein* has a similar origin to its fellow, and receives like branches in its course; and at the fetlock becomes the *internal metacarpal vein*, which, a little above the joint, gives off the *large anastomosing* branch before spoken of. It then proceeds up the leg by the side and a little in front of the suspensory ligament, receiving several branches in its course.

NERVES.—The *posterior metacarpal nerve* is situated just below the knee, at the side of the leg, between the suspensory ligament and flexor tendons. At about one-fourth of the distance

* The terms made use of to distinguish the different vessels, perhaps, require some little explanation. It must be borne in mind, that the parts below the knee in the *near leg* are the subject of this essay: the terms *right* and *left* will, therefore, only apply to the *near leg*, but the word *external*, which corresponds to the *right*, and *internal*, which signifies the *left*, would be more appropriate for either leg, but must be distinguished from the *middle* portions of the division of the foot.

between the knee and fetlock, it gives off the *inner* or *right metacarpal nerve*; it then takes an oblique direction at the back of the tendons, and about midway between the knee and fetlock a branch is given off, which becomes the *left* or *external metacarpal nerve*. The main trunk continues at the back of the tendon to the fetlock joint, giving off superficial branches; and, passing between the dew-claws, becomes the *posterior plantar nerve*, which accompanies the artery, dividing and subdividing with its branches.

The *right* or *internal metacarpal nerve* advances towards the side of the flexor tendons, and is continued between them and the suspensory ligament. About midway between the knee and fetlock two filaments branch out, one going to the extensor tendon and the other to the superficial parts. At the fetlock joint this nerve becomes the *right* or *internal plantar*, which sends off the following branches:

(a) a filament very closely connected to the artery.

(b) another, which advances downwards and forwards, passes under the artery, and then divides into two portions, one of which joins the branch (a).

(c) a filament, supplying the pastern joint.

(d) one supplying the tendons.

(e) a branch which subdivides to reach the superficial parts.

After giving off these branches, the *right plantar nerve* passes under the perforatus tendon, then emerging, distributes filaments to the extensor tendon; after which, in numerous divisions, it enters the coronary ligament.

The *left* or *external metacarpal* and *plantar nerves* have a very similar distribution with those just described.

The *anterior metacarpal nerve* is found with the vein just below the knee, and continues its course in front of the metacarpal bone to the fetlock, where it becomes the *anterior plantar nerve*. Its branches are,

(A) which proceeds to the superficial parts a little below the knee.

(B) an important branch which is given off about one-third of the distance between the knee and fetlock, and takes an oblique course (giving off a few superficial filaments) to the inner part of the fetlock joint, where it is situated upon the suspensory ligament. Above the fetlock, a filament proceeds to the extensor tendon, and another to the fetlock joint; and below this, branches are sent to superficial parts, and to the front of the small pastern joint, and the continuation of the nerve is distributed on the coronet.

The *anterior plantar nerve*, just below the fetlock, gives off a branch whose divisions proceed to the antero-medial parts of both coronets. The nerve then takes a more deep-seated course, and midway between the fetlock and hoof divides into two parts, whose ramifications are distributed to the fatty substance between the pastern bones, extending as far as the heels and to the middle portions of each coronet.

THE FOOT.—The coffin bone is covered on its superior part, both externally and internally, by the continuation of the thickened cutis, called, in animals of the solidungular order of Blumenbach, the *coronary ligament*. It is convex, in order to fit the concavity of the *coronary ring*, but it is much more extensive than in the horse, covering a greater portion of the os pedis. This *coronary ligament* ends posteriorly in the *sensible sole*, and from it inferiorly proceed the *sensible laminae*, which cover the lower part of the sides of the bone and part of the cartilago-ligamentous heels. The laminae, in proportion to the increased extent of the coronary ligament, are diminished in length, and join at the inferior edge of the coffin bone the *sensible sole*, which, after covering the inferior surface of the coffin bone, is continued over the greater part of the cartilago-ligamentous heel, and joins the coronary ligament. The *horny sole* (of course double) is very thick, and resembles in shape a bisection of the same part in the horse. It increases in thickness as it approaches the heels, where it is more prominent than the crust. The *horny crust* corresponds in shape to the os pedis, its outer surface being convex, and its inner rather concave. Its substance is harder but much thinner than the sole, except at the posterior part, where it is more elastic and nearly as thick. The *horny laminae* are shorter than in the equine genus, so that the part called in the horse the *coronary ring* is considerably more developed in the ox.

On a superficial view of the *horny sole*, we are struck with the dissimilarity which exists between it and its synonym in the horse, and, on a deeper examination of its structure, we find that in its physiology it must also equally differ. It serves, of course, as a protection to the sensible parts above, but, from its great thickness, it is doubtful whether it admits of any descent, yet its convex posterior surface, touching the ground at every step, supports a large proportion of the animal's weight. The ox, not being intended for quick movements, neither requires nor possesses the same degree of elasticity as the horse; yet from the springy nature of the posterior part of *the crust*, and from the yielding quality of the *cartilago-ligamentous heels* above it, together with that arising

from the spreading of the cloven foot, enough is provided effectually to guard against concussion, and to afford the animal a firm footing in his natural pastures.

In reviewing our subject, we must observe that there is a much less extent of articulating surface in the fetlock joint, allowing a less free and extensive motion, than in the horse. When fully extended, it does not vary so much from a straight direction; in fact, a superficial observer of the animal must notice the apparently upright position of these parts. This arrangement lessens the grasp of the fore extremity. A diagram of these bones in their greatest degree of extension will bring this fact strongly into view. The same variation in these parts in the greyhound and the bull-dog, connected as it is with the diversity of speed, forms an interesting point of analogy. In examining the foot it will be seen that the angle formed by the large pastern and the cannon bones in the horse is 60° from a perpendicular line, in the ox only 30° , making thirty degrees difference in the angles of extension. In observing the contour of the lower part of the fore leg of the ox, we cannot but be struck, too, with the absence of that comely elegance which we admire so much in his rival. In the ox (if an architectural simile be allowable) we are reminded of the ponderous Tuscan; in the horse we seem to view the graceful and chaste model of the Corinthian column. The progression of the former appears to be only a few links from the sure-footed fidelity of the elephant; while the latter, though inferior to the deer in elastic bound, yet possesses a union of strength, security, and swiftness, peculiar to itself, which stamps his superiority for the use of man in all the temperate climates of the world. It is now however, I believe, pretty generally decided, that, for common agricultural purposes, working oxen of the fast breed are equally useful with horses, and ultimately more profitable to the farmer, in a pecuniary point of view. On account of the comparative slowness of their paces, and their peculiar structural provisions, oxen are much less subject to that almost infinite variety of injury to which a constant and great degree of concussion renders horses liable. This circumstance, connected with the numerical preponderance of horses in the actual service of man, accounts for the profuseness with which authors have dilated on the foot of the one, and their comparative silence on the same subject in the other animal. I do not believe that there is in the English language a single anatomical description of the fore extremity of the ox which can guide a student in his dissection; but I have not had an opportunity of examining the French authorities, and therefore cannot state what information on this subject our ingenious neighbours may possess. I have said that

oxen are by no means so subject to lameness as horses; they are not, however, entirely exempt. Ligamentous lamenesses are comparatively the most frequent, and, as oxen are shod for working, they must be subject to some of the maladies which the application of this useful invention unfortunately produces. It is, then, by no means an unimportant desideratum to obtain a full account of the parts below the knee. Such is the object of this essay, which the writer has endeavoured to render as correct as his moderate abilities, the novelty of the subject, and the unbroken nature of the ground, he has had to tread will allow. And if it should have the effect of assisting the student in his dissections, or smoothing in a slight degree the rugged path of anatomical pursuits, he will not consider his labour to have been uselessly bestowed, or this humble essay to have been written in vain.

A CASE OF HEMIPLEGIA IN A COLT.

By Mr. ROBERT READ, Crediton.

ON Wednesday, March 12th, 1834, I was sent for in haste to the farm-yard of R. Tuckfield, Esq. of Fulford-park, to look at a colt that had fallen down with some sudden seizure half an hour before. On my arrival I found him again standing; the pulse 56, and full; the head hanging down; the right eye amaurotic; the pupil expanded to its utmost: there was general trembling; the countenance expressed great terror; and the tail was slightly elevated. On his attempting to walk, he suddenly fell, and after much scrambling got up again: his gait was afterwards very rambling, and occasionally his fetlocks bent under him, and he walked on them.

I ordered him to be put into a loose shed, which we accomplished with some difficulty, he having repeatedly fallen before we could get him there. If he in the least degree overbalanced himself, he had no power to recover himself, but would fall heavily on the right side. He would drink a very liquid mash, which was all he was allowed to have.

On the fourth day I had him taken out. He could not walk any better, and in scrambling about the yard fell several times, and always on the right side. He had no power of lifting his off legs over any uneven surface, but only that of dragging them. It seemed like the useless half of an animal joined to a living one. The treatment was bleeding and purgatives. In about fourteen days he slowly began to improve, until at last he was able to be turned out; but up to the present time he has an occasional limp or twitch in the off fore leg, which does not shew any disposition to leave him.

When he was first taken ill, he was in the highest state of plethora from gross condition, which, as indicated by his head constantly held down, was probably the primary cause of the disease. There was not, at any time, a total loss either of feeling or power.

LESIONS OF THE SPINAL CORD IN PARALYSIS (PARAPLEGIA) IN THE HORSE.

By Mr. H. Daws, London.

24th April, 1834.—A GREY mare, six years old, was destroyed on account of a paralytic affection of the hind quarters, and of which there seemed to be no hope of cure. The kidneys and the bladder, and the generative organs, were in a state of considerable inflammation. The vessels of the membranes of the medulla spinalis were exceedingly turgid, and especially about the lumbar region, and there were patches of extravasated blood on the marrow itself.

12th May, 1834.—A grey mare, aged, died in eight hours, after an attack of paralysis.—Not opened.

28th Aug. 1834.—A bay gelding, six years old, was destroyed on account of paralysis of the hind extremities. He had been ill six weeks, and there appeared to be no chance of relieving him. There were spots of ecchymosis in various places on the surface of the medulla spinalis at the lumbar region.

2d Oct. 1834.—A brown gelding, aged, died two days after an attack of paralysis of the hind extremities. The same appearances presented themselves as in the former cases, but I think that his death was accelerated by his having been slung, and subjected to the annoyance of electricity.

14th Nov. 1834.—A bay gelding, six years old, was attacked with paralysis of the hind extremities three days ago. He has been slung. He has undergone a severe antiphlogistic treatment—counter-irritation has been tried to its full extent, and the tail has been amputated, and the blood suffered to flow *ad libitum*. No relief being experienced, the poor fellow was destroyed. There was increased vascularity of the membranes of the spinal cord at the lumbar region, with extravasation of blood on the cord.

[These notes of the lesions of the spinal cord in palsy are short, but they are exceedingly valuable, and perfectly satisfactory. They do credit to Mr. Daws, and we return him our cordial thanks for them.—Y.]

NEURALGIA OF THE FEMORO-POPLITEAL NERVE (DISLOCATION OF THE PATELLA?) IN THE HORSE.

By M. DUBUISSON, Château Thierry.

NOTWITHSTANDING the rapid progress which veterinary medicine has lately made, it is far behind that which appertains to man. The observations which have yet been recorded respecting the diseases of our domestic animals are too few in number to enable us to state with certainty their resemblance to, or difference from, kindred affections in the human subject. This is especially true with regard to the neuroses in general, and the neuralgiæ in particular; a class of maladies as yet imperfectly known in human medicine, and the existence of which is problematical in the quadruped.

I am not able to throw much light on the neuralgiæ, which certainly rarely attack the quadruped, and never endanger his life: such a task is undoubtedly beset with difficulties, and can only be undertaken after long experience and careful observation; but I will relate two cases in which I think that I have seen it in the horse.

CASE I.

An entire draught-horse, five years old. A sudden cold succeeded to a great deal of rain. The disease appeared in both hind limbs at the same time, and was accompanied by the following symptoms:—The animal remained standing—the two fore legs were wider apart from each other than in the natural way of standing; while the hind limbs, placed far more backward than usual, could not be in the least degree moved forward. This fixedness of position did not last long. It was frequently interrupted by great agitation of the whole body, and by convulsive contractions, more or less prolonged, of the femoral muscles. One symptom was contraction of the digital portion of the leg to such a degree, that the weight was supported by the anterior portion of the fetlock. In this last position of the hind legs the hocks were stiffened, and the body was carried so far forward, that it seemed almost incredible that there should not be a luxation of the articulations: and such was the peculiar appearance of the horse, that he seemed as if he were pinned to the ground by these two hind limbs. This extraordinary position, however, was continually changing, and then he found great difficulty in regaining his natural position, and seemed to suffer extreme pain, his hind limbs being in one continual con-

vulsive motion, and almost depriving the animal of the power of bringing them forward: indeed, at last, he could only effect this by means of the spinal and croupal muscles, which did not appear, like those of the popliteal region, to be withdrawn from the influence of the nerves of voluntary motion. In order to bring himself back to his natural position, he threw as much as possible of his weight on his fore legs, lowered his head, curved his spine, and then, by certain muscular efforts, dragged his hind legs forward. Many a time I have seen the proprietor of this horse take the hind legs, one after another, and bring them forward, surmounting with some difficulty the convulsive contraction of the muscles, and thus place the animal in his natural position. After this, the pains ceased.

In every paroxysm the greater part of these symptoms returned, and presented the same degree of intensity at the commencement as at the end of the fit. The convulsions returned whenever the horse was teased, and especially when he was forced to move his hind limbs forward. During the remission he had all his usual gaiety, fed well, and did not appear to suffer any considerable pain:—the pulse was natural, and there was no other deviation from a state of perfect health, than the inability of bringing one of the hind limbs before the other.

All these symptoms disappeared from both legs at once, at the expiration of about forty-eight hours, and it returned sixteen days afterwards, when, as in the first instance, a cold temperature of the air followed considerable rain. This new attack did not last long.

My treatment consisted of a mash diet, the internal administration of small doses of spirit of turpentine, and of embrocations with an opiate liniment over the whole extent of the limb. I meant to have applied other means, had a third attack occurred; but a twelvemonth passed, and the horse continued well.

As to the causes of this affection I have little to say. The owner had purchased the horse only eight days before the first attack; and I cannot tell in what state he was before the sale, nor whether the causes of it dated their existence before or after this period.

The change of locality might have had some influence in the production of it; it was probably the principal cause, for all traces of disease disappeared at the end of a month. To this, perhaps, may be added the equally powerful influence of the hard work and high keep which he had experienced with his new master. As to the treatment employed, it could have very little influence in removing the complaint.

CASE II.

This also was an entire horse, twelve or fourteen years old. As in the former case, the disease was preceded by cold and wet weather: the symptoms were the same, except that they were not so violent, nor of so long duration. When he was quiet, the animal did not appear to suffer, and ate and drank well: it was only when he moved his hind limbs in the act of progression that the pains and convulsive contractions were perceived.

If, however, the neuralgia was not so intense as in the preceding subject, it lasted longer; for it was not until the tenth day that it began to disappear suddenly in one leg, and in consequence perhaps of the weather suddenly becoming warmer, or spirit of turpentine having been given internally, and the cautery having been applied to the coxo-femoral portion of each limb. On the following day the spasms left the other leg, and the horse returned to his work. During the whole of the attack there was not any evacuation of urine, but, as soon as the animal began to get better, it was voided in great quantities.

The cause of this last attack probably was some excessive fatigue which the horse had experienced, and the being exposed to cold when covered with sweat, and the custom of many cabriolet proprietors (and this horse belonged to one of them) to turn out their horses into the wood during night.

If I propose to designate this affection by the name of femoro-popliteal neuralgia, it is because I think that its seat is the great femoro-popliteal nerve (the great sciatic of some French anatomists, perhaps here the nervous popliteus, or internal and larger division of the sciatic nerve), and, perhaps, also the smaller (external) popliteal. I confess, however, that I cannot base my theory on the symptoms which I have described; and I do not deny that that theory is manifestly incomplete which is not supported by facts of pathological anatomy: nevertheless, if it be evident that the muscles which undergo these unusual spasmodic contractions are those on which the femoro-popliteal nerves are distributed, it is not illogical to account for these spasms by supposing them to indicate a morbid affection of these nerves. As to the question which of these nerves is chiefly, or, perhaps, alone affected, I should say that it is the great femoro-popliteal, which sends branches to the extensors of the hock and flexors of the foot. If the other nerve had been similarly affected, there would have been powerful contraction of the pre-tibial, and the posterior femoral muscles, and the hock would not have been so extended, nor the foot so flexed.

Réc. de Méd. Vét., April 1836.

[These are plainly cases of dislocation of the patella. The projection backwards of the hind leg, and the flexion of the pasterns, and the sudden disappearance of the lameness, sufficiently mark it. There can be little doubt, that if the stifle had been examined, a slight projection would have been found on the inside or outside of it, and probably on the latter. The method of reducing the dislocation is well known to every practitioner. Even a lash of the whip, although it may be a somewhat unsurgical and perhaps dangerous application, has often wrought a sudden and effectual cure. In case of relapse, a blister round the stifle will prevent a repetition of that.—Have any of our readers seen a case of veritable or probable neuralgia in the quadruped? It would be satisfactory to clear up certain points of pathology as we proceed; and we would earnestly entreat the co-operation of our brethren for this purpose.—Y.]

INTESTINAL TYMPANITIS REMOVED BY PUNCTION.

By Mr. STEWART, Andersonian Veterinary Professor, Glasgow.

April 14th, 1836.—A BAY saddle-mare, six years old, the property of Alexander Grahame, Esq. had symptoms of gripes when the groom entered the stable this morning at half-past five o'clock. The shoeing smith was sent for, who bled, gave a clyster, and a ball composed of aloes, castile soap, and ginger. The mare continued to get worse; and I saw her at half-past nine o'clock. She was very uneasy; the abdomen was swollen all round, but most on the right flank; and there had been no evacuation since the mare was first observed to be ill. She was immediately removed to my stable, and placed in a large loose box. A stimulating drench was administered; dry heat and friction were applied to the surface of the abdomen; and an attempt was made to back-rake and clyster. Upon introducing the hand into the rectum, I found its sides in contact, and the pelvis completely filled by an intrusion of the intestines. The mare strained violently, and almost without ceasing, to produce an evacuation; but nothing passed, save a very small quantity of air at distant intervals. The clysters were rejected almost as soon as they were given.

The swelling of the belly remained stationary for about two hours after the drench was given; but at the end of this time it began to increase. The mare perspired, though not very profusely; the temperature of the body and the extremities was rather below than above the healthy standard. The pulse was quick, but

full and soft. The mare was excessively weak: she staggered, and frequently sunk on the front of the hind pasterns. Another dose of medicine, more potent than the first, was given; dry heat and clothing were applied to the surface of the body; and the apartment was carefully closed. I was absent from twelve o'clock till four; and the mare upon my return was in much the same state as I had left her: she had rolled about a good deal, had been rather less violent, but there had been no complete remission of pain, and nothing had passed from the anus. A third dose of medicine was given. It produced a short interval of comparative quietness. I went in search of a trochar, and selected one of that size which is usually employed by the medical practitioner in operating on hydrocele.

At seven o'clock the mare had been nearly half an hour in extreme agony. Had she not at this time been suddenly relieved, she would have been dead in another hour. Having determined to perforate the intestine, I waited a few minutes, expecting a momentary remission from her struggling; but she continued to be very violent, and it was necessary to have her held down by force while she lay on the left side. I thrust the trochar into the middle of the right flank: a large quantity of air escaped, and the intestine was soon emptied. I cleared the canula by a probe; but it was evident that no more air could be extracted from this quarter. Although a great quantity escaped, yet the abdomen did not appear to diminish in size. I thought it less tense, but the relaxation was by no means very apparent. I immediately made another perforation, lower down, into the cæcum, or rather to the right of the cæcum; it might be the colon, for in these cases the bowels never occupy their ordinary relative position. I was guided in my choice of a place by percussion. (See the article Abdomen, Exploration of, in the Cyclopædia of Practical Medicine). Upon withdrawing the perforator, the air rushed through the canula with great rapidity and noise. The mare hastened its expulsion by frequently straining, as if she were sensible that she could then empty the bowels. The canula, as the stream of air diminished in force, was several times plugged up by stercoraceous matter, which was removed by a probe: at last a few drops of fluid came; the belly appeared to be sunk to nearly its natural volume, and it was quite flaccid. The canula was removed as soon as it was evident that the air was all evacuated.

After the operation, the mare lay for nearly three hours without the least struggle; she seemed to enjoy entire exemption from pain. I sat up with her till six o'clock next morning, having resolved to puncture again, should it become necessary,

and to introduce some hydrocyanic acid through the canula into the intestine. During the night the mare was tolerably quiet; now and then she appeared to suffer some pain, but it was of short duration, and never very intense. The clysters were often retained for a long while, and, when evacuated, some air escaped with them: the belly was noisy during the paroxysms of pain. Prior to the operation, no borborygmus existed. The pulse remained quick, and rather small, but it was not wiry; the membranes of the eye and nose were of a dark red colour. The mare would not lie a minute on the right side, either before or after the operation. The temperature of the surface frequently sunk, and the muscles quivered precisely as they do at the commencement of a shivering fit. Rigor, in cases of this kind, and in all others attended with much exhaustion, ought to be arrested as speedily as possible. I conceive that fever and inflammation frequently arise from this cause alone: hence, I was anxious, in this mare, to maintain the heat of the body, and did so by friction and the application of heated bars of iron.

About nine o'clock on the morning of the second day the mare was again back-raked, and a little dung was found in the rectum: soon afterwards the bowels were freely opened. That which came away was mixed with hard, unbroken beans. During all this day she did not shew any symptom of pain: she had a little walking exercise, drank a good deal, managed to swallow some bran mash, and attempted to eat hay, but was deterred, apparently by the soreness of her mouth and throat. On the third day she had a mild cathartic, and was dismissed to her own stable. For several days she was very weak, dull, and without appetite; but, by coaxing her with bread, carrots, grass, potatoes, &c. she gradually recovered. She is still rather weak, easily fatigued, and dry in the hair; but is kept from work only in consequence of a sore on the haunch, produced by rolling and falling.

The above is, I believe, the first case of intestinal paracentesis performed in this country. On the continent it has been tried several times. The last vol. of the *THE VETERINARIAN* contains an account, translated from the *Rec. de Med. Vet.*, of two horses that were saved by puncture after all other means had failed. The editors of *THE VETERINARIAN* have rendered us most essential service in making us acquainted with many valuable points in the practice of the French practitioners; but I think we do not, in general, pay sufficient attention to their suggestions. An operation performed in France is not exactly the same to us as an operation performed in our own country. We are almost as loath to try it as if the precedent were of doubtful authority, or too far-fetched to be worthy of imitation. This is

not the way to improve. Our power is not yet so very great that we may say, there is no want of this new operation, or that new medicine: the utility of either may be doubted; but, are we not to employ any agent until we are certain that it will achieve the object?

Vatel and D'Arboval both speak of intestinal puncture; but neither recommends it very strongly. Both concur in representing it as a very dangerous operation. The former says, that the majority of the patients die; and the latter directs that we inform the owner of the probable bad consequences, while we assure him that, without it, the animal is certainly lost. Chabert has performed the operation from the rectum; but the danger is equally great, or rather greater.

I am disposed to think that the danger has been needlessly increased; first, by using too large a trochar, and, next, by allowing the canula to remain too long in the orifice—so long that the part loses its elasticity, and remains wide open after the canula is extracted. The instrument I used made so small a wound that no part of the solid intestinal contents could escape by it; and a small quantity of air or fluid, which might possibly find its way into the abdominal cavity, would be absorbed before peritonitis could be excited. On the morning after the operation, no orifice could be discovered in the skin; the points at which the trochar had entered were marked only by the adhesion of a few of the hairs. Still much may be said against the operation. It is a last remedy. It can never be necessary when the disease is seen at its commencement, nor when there is any passage through the bowels.

A CASE OF SUCCESSFUL PARACENTESIS THORACIS IN A HORSE.

By Mr. W. SCRIVEN, Aberford.

A BAY horse, belonging to the Union Canal Company, which had been accustomed to hard labour for two years and a half without intermission, was on the 5th January last attacked with inflammation of the lungs. He was bled, and z\ij of aloes were given to him by the agent, Mr. Lambert, a fellow pupil with me under Mr. Dick; and other proper treatment was pursued.

At his request I saw the horse on the 9th. The pulse was 60, hard and full; the heart bounding against the ribs; extremities colder than ordinary, and the appetite much impaired. I abstracted four quarts of blood, and ordered of nitre and emetic

tartar each ℥iss, digitalis ʒvj, with sufficient linseed meal to form six balls, one of which was given three times a day. Clysters occasionally; body and legs to be kept warm; bran mashes and gruel diet.

10th.—Symptoms much the same; blister his sides; other treatment continued.

11th.—Pulse diminished in volume, and rather intermittent. Omit the digitalis; the other treatment continued.

16th.—Pulse increasing in strength and frequency. He is now very restless, constantly pawing his litter, and attempting to lie down, yet afraid to do so; the fæces are thin and fetid. I took away three quarts of blood, and prescribed catechu ℥j, digitalis ʒij, opium ʒij, to be made into four balls with linseed meal: one to be given night and morning.

17th and 18th.—The irritation abated; pulse 54, and softer; dung firmer in consistence. He eats better. Give of nitre and emetic tartar each two drachms night and morning.

22d.—He is very dull; appetite impaired; pulse increased in frequency; purging considerable, and emitting a fetid odour. I gave one of the following powders three times a day in gruel: catechu ʒij, chalk ℥j, opium ʒj, with starch injections.

23d.—The purging continues; appetite more impaired; the horse is becoming very weak. Continue the treatment, with the addition of half a bottle of port wine to each dose.

25th.—He is no better, and is rapidly losing flesh, so much so as to extinguish all hope of recovery. Give the following powder: chalk ℥j, catechu ʒj, opium ʒj, Peru bark and gentian āā ʒij night and morning.

27th.—Purging gradually subsiding; eats better, but is extremely emaciated. The wine was omitted yesterday, now discontinue it altogether, but give the medicine as before in gruel.

28th.—The dung is now of a firm consistence, and emits the common odour; his appetite is better, but he has great difficulty in breathing. On auscultation I found the respiration greatly impeded in the right lung, and on percussing the chest it yielded a dull sound. On the same night I related the whole history of the case to Mr. Dick, who immediately replied, that from the account I had given, and the continued purging and rapid loss of flesh, he suspected that the inflammation had terminated in hydrothorax.

29th.—Mr. D. accompanied me to see him; and after a short examination, was confirmed in the opinion he had given on the previous evening. The effusion which had taken place was chiefly in the right side, and to a considerable extent; and the left was nearly free from it. The operation of paracentesis tho-

racis was at once determined on, and performed as follows:—After counting the ribs from behind forward as far as the eleventh, a small incision was made through the integuments with a lancet, between the last-mentioned and the twelfth rib. The integument being drawn aside, the trocar was introduced, about four or five inches above the cartilages of the ribs, close to the anterior margin of the posterior rib, in an oblique direction upwards, and rather forwards. On withdrawing the trochar from the canula, the fluid appeared in a full and copious stream, which was allowed to flow as long as possible without the admission of air through the canula into the thorax. Eight quarts were taken away, the canula was then withdrawn, and the skin allowed to return over the wound. The horse experienced great relief, and immediately began to breathe more quietly. The fluid on standing to cool quickly coagulated. About three-fourths of it assumed the nature of fibrine, and the remainder was of a serous character. I then ordered the following ball to be given three times a day: sulph. ferri and resin. āā ʒij, camph. ʒj.

30th.—He eats better, respiration is more natural, and the wound is closed. Treatment continued.

31st.—On auscultation some fluid being found to exist in the left cavity of the chest, paracentesis was performed on that side also, but scarcely a pint was abstracted. Treatment continued.

Feb. 3d.—The pulse increasing in frequency, the breathing more laborious, the appetite on the decline, and fluid again accumulating in the right cavity of the chest. The operation was once more performed on the right side, in the same intercostal space, and a little inferior to the former opening. Five quarts were obtained in a full stream, which again appeared to afford great relief. Continue treatment.

13th.—The former symptoms have again returned, with considerable increase. The operation was again resorted to, and four quarts were abstracted; after which a sudden prostration of strength, threatening fainting. The pulse was greatly reduced in strength and frequency; but after a short time it returned to the former standard. Treatment continued.

14th.—Pulse harder and more frequent. Treatment continued, but with the addition of digitalis ʒj.

16th.—Pulse rather softer, and diminished in frequency; appetite better, and respiration not so laborious. The digitalis omitted, but the iron, resin, and camphor still continued.

21st.—He is very restless; abdominal respiration laborious. He frequently turns his head towards his sides, and occasionally gives a deep sigh. The pulse hurried, and very irregular; extremities cold; in short, a train of symptoms was now ap-

pearing, which betokened a speedy dissolution. The operation was again performed on the same side, in the same intercostal space as the first, but with considerable difficulty. Three quarts were drained off, but the stream was much impeded, either by adhesions of the pleuræ, or by clots of fibrine plugging up the mouth of the canula. The patient, however, experienced much relief, and rallied again. Continue the same medicine.

25th.—He now appears much better, and about the same as after the previous operations. Continue treatment.

March 3d.—He has again had a relapse. The symptoms presented themselves as before, but with increased aggravation. He was exceedingly weak, and lay down for the first time since the commencement of his illness. This appeared to aggravate the symptoms, and to be so threatening to life, that he could only lie for a few moments at a time. He then rose in a staggering manner, was constantly looking round at his flanks, as if pointing out the seat of pain and imploring relief. The operation was performed in the intercostal space anterior to the latter puncture on the right side. No sooner was the trochar withdrawn from the canula, than it was followed by a copious flow of a turbid and whey-like fluid, seemingly a mixture of pus and serum, which had a very offensive smell. It was allowed to flow as long as it would without the admission of air through the canula into the thorax. Eight quarts were taken away; after which the horse experienced more relief than from any previous operation. Treatment continued.

5th.—He eats better, and has lain down two or three times. Treatment as before.

7th.—He improves gradually; the appetite increases; he lies down frequently without any seeming disturbance. Treatment continued.

12th.—He eats and rests well. Treatment discontinued.

April 22d.—He is doing well.

[We had the pleasure of seeing Mr. Lambert on the 19th ult., and the horse was then at work, and apparently well.—Y.]

ON THE USE OF CANTHARIDES IN ANASARCA AND GENERAL DEBILITY.

By Mr. J. W. HALES, Oswestry.

IN a previous communication to THE VETERINARIAN, I stated that I had not found Mr. Vines's plan of treatment recommended for glanders to be successful when that disease had established itself in the constitution of the horse; and I am sorry to say, that subsequent experience has not altered that opinion: but whilst I consider that we have, as yet, no cure for genuine glanders, I feel compelled by candour to acknowledge the advantages I have derived from Mr. Vines' treatment in cases of debility, œdema, &c.; more particularly in those anasarcaous swellings of the limbs and abdomen which every now and then succeed to strangles or catarrhal affections, and which are sometimes accompanied by red or purple spots on the lining membrane of the nose. It, perhaps, will be said, that these cases, if neglected or improperly treated, would degenerate into glanders or farcy: that this may occasionally happen, I will not take upon myself to deny; but by far the majority of them, when they terminate fatally, do so by effusion into the chest or abdomen, or as being concomitant with some internal organic disease; and, indeed, an anasarcaous state of the extremities is not very unfrequently one of the symptoms produced by chronic disease of some internal organ (the viscera of the chest, perhaps, most commonly), and is in these cases an indication of the breaking up of the constitution, and a pretty sure harbinger of the fell monster death. There are, however, many cases of anasarca, either idiopathic or following catarrh or strangles, unaccompanied with organic disease, and in these instances (especially the cases following catarrh and strangles) I consider Mr. Vines' treatment preferable to any other with which I am acquainted. I have seen purgatives and diuretics do decided harm—the constitution becoming impaired, and the swellings increased by the employment of them; and when the treatment has been reversed, and the stimulant plan adopted, the patients have sometimes rapidly and at other times more tardily recovered.

I am fond of endeavouring to illustrate my meaning by cases in point, and shall, upon the present occasion, give a brief sketch of two cases, selected from amongst others, which I think will shew the efficacy of the treatment I am recommending.

In the summer of 1834, I was requested to visit a fine four-

years old horse, the property of a respectable farmer in Montgomeryshire. I found him with his fore legs very much swelled, and a great ridge of œdematous enlargement extending under his belly, from his fore legs to the sheath, which was also swollen; the membrane of the nose was spotted with small pale red spots; the other parts of the membrane being, perhaps, of a paler colour than in health. The horse had recently had strangles, and before these swellings occurred was supposed to have recovered from them. His appetite being good, and the horse full of flesh, I ordered a laxative ball, containing aloes Barb. ʒss , having made up my mind to wait the operation of the laxative before any thing else should be done. The ball purged the horse more than I intended it should have done: the day following that on which it set, I received a message to desire that I would immediately visit my patient, as he was worse in every respect. I went to him, and certainly could not congratulate myself on any improvement: the swellings were no better, and the horse appeared exhausted. I ordered him a feed of corn, and directed that he should be kept upon moderately good diet, and prescribed for him the tonic ball of Mr. Vines, containing cantharides gr. vj to be given every other day. From this time I had no difficulty; the swellings gradually subsided, the spots on the nose disappeared, and the schneiderian membrane assumed its natural colour and appearance; and I had the satisfaction to see the horse restored to perfect health. The cantharides were increased from six to eight grains, and continued until the disease had entirely disappeared.

In the last summer I was sent for to a village nine miles from hence, to give my opinion upon a mare, the property of the surgeon of the place. She had had distemper, and after getting better for a short time, was attacked with œdema of the extremities. The veterinary practitioner of the village had been treating the mare for nearly three weeks before I saw her, and had been giving her purgatives and diuretics; but as the disorder did not give way to the plan adopted, it was agreed that I should be consulted. The mare was a good deal reduced; there was œdema of the four legs, extending up the arms and thighs to the abdomen. The outsides of the buttocks were studded with small tumours, not much unlike small farcy buds, neither painful to the touch nor following the course of the absorbents, but diffused generally over the parts. The membrane of the nose was mottled with reddish purple patches, which appeared to me like so many spots of ecchymoses; and between these spots the membrane was pale, or, indeed, quite blanched. Appetite moderate, but rather more defective than in health. The practitioner in

attendance was anxious to insert a rowel; but upon my telling him that I wished what I intended to prescribe should be tried first, he immediately acquiesced, and I must do him the justice to say, that, although my treatment was not in accordance with his notions, he faithfully and zealously put it in practice. Six grains of cantharides, with gentian, ginger, &c., were prescribed, to be given every other day, and the cantharides to be increased to eight, and, if necessary, to ten grains, and a drachm or two of aloes to be occasionally added, if the state of the bowels required it. The mare was to have liberal diet, good grooming, and moderate exercise. In a week I received a message from the owner, stating that the mare was fast improving, and in another week after this the practitioner before alluded to called upon me, and with some surprise told me that she was nearly well, the swellings having gradually disappeared. The membrane of the nose recovered its natural appearance, and her condition and spirits were greatly improved; and in a few weeks she was well, and at her work again. I saw her a fortnight ago in perfect health.

I consider the above cases fair specimens of anasarca, to which cantharides and tonics are applicable, being those which occur in a constitution previously debilitated by the existence of another disease. The spots upon the Schneiderian membrane sometimes assuming a purple or livid appearance, and, perhaps, if neglected, even running on to superficial ulceration, may, and I am pretty sure occasionally do, give an appearance of glanders, which may be confounded with the genuine complaint, and very probably has led to the assertion, that cantharides and other medicines have the power to cure glanders; for I am sorry to repeat, that I do not believe we have any remedy, as yet known, for that scourge of good horse-flesh.

There is a species of œdema which is the result of inflammation of the absorbents, chiefly of the hinder leg, to which, at least in the first instance, I consider tonics and stimulants inapplicable. A horse becomes very suddenly lame in one hind leg; and as the affection usually comes on in the night, it is first seen at the morning stable hour. When moved in the stall, he heaves up the disordered limb in evident pain. Upon examination, an œdematous swelling of the inside of the thigh is discovered; slight pressure on the part produces very great suffering, and an inflamed and enlarged lymphatic can most commonly be traced running up the thigh. The swelling and œdema rapidly increase if not early attended to. Sympathetic fever often accompanies this affection of the lymphatics of the thigh. The treatment which I adopt, and which very shortly removes the

painful state of the disease, is a good smart bleeding, a purgative, and frequent sponging of the limb with warm water; mash diet, &c. After the inflammatory symptoms are removed, the œdema will remain for some time; and, perhaps, at this stage of the complaint the stimulating treatment may be useful; but I usually content myself with gentle exercise, hand-rubbing, and an occasional alterative.

There is another state of the constitution of the horse in which I attribute much good to the stimulating method of treatment. A horse is brought to the veterinary surgeon with an unthrifty look; his coat rough; he is languid, does not eat as usual, nor does his work so well, and he easily sweats. His bowels act properly—he stales freely—there is no cough—no appearance of organic or scarcely functional disorder—and yet the animal is not well. The vital powers want rousing. Under these circumstances cantharides, with the vegetable tonics, constitute the best medicine we can adopt, and the restoration of our patient to health will generally follow their use, if continued with regularity for a few weeks.

INFLAMMATION OF THE SPLEEN IN A MARE.

By Mr. W. A. CARTWRIGHT, Whitchurch.

ON Monday night, 6th March, 1836, I was sent for to see a chestnut mare, seven years old, nearly thorough-bred, that had apparently a bowel complaint.

I saw her about eight o'clock; she had been ill nearly two hours, and nothing had been done to relieve her. She had been ridden quietly to this town in the afternoon, and the owner thought she was not so gay as usual, and believed she had not dunged while out.

Symptoms.—Those principally of colic; such as lying down often, rolling over occasionally, and, at first, a tucking up of the flanks, with the hind legs more under the belly and the back humped; pulse about 50, full and smart; breathing natural; legs and ears warm; not swelled in the least.

Treatment.—I took away four quarts of blood, and gave a soft ball, composed of aloes Barb. ʒij, opii ʒi, tart. antim. ʒi. Raked her—the dung was hard and slimy.

10 P.M.—About the same. I made a drink of aloes Barb. ʒij, opii ʒi, antim. tart. ʒi, and gave her two or three horns full, but could not get her to swallow it; we, therefore, did not try her with any more. I then made two balls, with aloes Barb.

3j, opii ʒss in each, and gave one immediately, and ordered the other to be given in two or three hours; and I desired that frequent clysters might be given to her.

7th, 10 A.M.—I was told that she had been very uneasy all night at times, but did not roll or tumble about so much. She was, however, continually pawing, and shifting her legs about. She is now in a similar state. The pulse higher—about 70. No dung has passed yet. I raked her, and found the dung hard and slimy, and could feel the dung hard in the intestines underneath. I took four quarts more blood; continued the clysters; and gave, in the course of the day, doses of opium and antimony.

4 P.M.—She continues about the same.—I abstracted four quarts of blood; blistered the belly on one side with ung. lyttæ; and wrapped the legs with bandages. I sat up with her all night, and she continued in a very similar state, viz. shuffling about and pawing. She lay down two or three times in the night for a minute or two. She was tolerably warm, and urined often in small quantities—the effect, I imagine, of the absorption of the flies; for the blister never rose, although more of the ointment was rubbed on at different times, and on the other side of the belly. She is very peevish—the eyes are bright—and several persons that saw her when she was pretty easy thought there was little the matter with her.

8th, 12 Noon.—We have got away a considerable quantity of dung by clystering and raking; but it is slimy and hard. The bowels have not acted. The pulse continues about the same, and the legs and ears are at times rather cold, but generally pretty warm. She continued for the day in about the same state as before. We gave her, in the course of the day, about ʒij aloes, and ʒj doses of antim. tart. with small quantities of opium. She had also ʒiij aloes Barb. at six in the evening.

9th, 10 A.M.—From the last date to the present she has continued rather more easy; but still there is that occasional uneasiness and pawing and moving about which indicates that all is not right within. We rubbed more of the blister on the belly and legs, as the other had scarcely risen; but gave no more medicine, as I thought I would wait to see if the bowels would act; for there was reason to fear superpurgation, she being a delicate mare. We walked her out for about five minutes, but she was very weak.

4 P.M.—The boy came for me, as she was worse, and had been so since about twelve o'clock. When I arrived I found she was more uneasy—her respiration increased—her belly swollen—continually pawing with her fore legs. She was colder all over:

the blisters had not risen to any extent; the pulse was from 90 to 100; she was getting weaker; in short, she was evidently worse, and I now had little hope of her. I remained in the house, occasionally visiting her: she continued pawing nearly the whole time, and the pulse remained the same. We did little to her besides keeping her warm and comfortable, and occasionally drenching her with gruel, or offering her chilled water.

At 2 o'clock in the morning we went to see her, and found her dead. I am inclined to think that when she fell she had got into that position which had caused her death sooner than it would have otherwise occurred. She had been standing close to the manger where she dropped down, and her head was pressed under the manger, and under a cross piece that supported the manger; and I think she probably was suffocated. We had seen her a few minutes before.

Examination.—A few hours afterwards we examined her. There was no inflammation in any part of the bowels. The mucous coat of the small intestines was coated with bile, but contained no fæces; the larger ones had a little liquid fæces in them, and all the intestines were distended with flatus. The bladder, liver, kidneys, and every viscus in the abdomen, were perfectly sound, with the exception of the spleen. The *spleen* was double its wonted size, gorged with blood, black as jet. Its natural tough texture quite broken down, and it was soft, and, in a manner, approaching to gangrene. The lungs and costal pleuræ were very slightly inflamed.

Observations.—This is a case that points out to most of us how little we know of the symptoms of inflammation of the spleen, and how liable we may be to attribute them to other complaints: had I, however, known that the spleen had been diseased, my treatment would scarcely have been different.

I acknowledge that in this case I was mistaken. I took it, from its commencement, to be obstruction of the bowels. When I first saw her, I found dung in the rectum and other intestines, very hard, and covered with slime; and throughout the whole time she never dunged or had raked from her so much as would go into a half-peck, although she had taken twelve drachms of Barb. aloes, and about one ounce of tartar emetic. The bowels, it is true, had very little in them to be expelled; but then it is singular that purging did not come on, and that there should not have been some inflammation produced in them from the effect of the aloes.

The principal symptoms in this case may be summed up as follow:—At its commencement, those of common colic; the breathing, until within about six hours of death, was perfectly

natural; and when quicker, it was so in a very trifling degree. As the case proceeded, she scarcely lay down above once in an hour or two, and then not for long, or rolled about; but seemed uneasy, standing, pawing and moving about a little. She scarcely ever looked towards her flanks throughout the complaint. The pulse increased in number, but it had not that peculiar small, thready feeling, as in enteritis; nor did it beat so quick as in that complaint. During the last twenty-four hours she was almost incessantly pawing with her fore feet. She ate scarcely any thing during the whole of the time, and was generally warm and comfortable. When I was raking her, it seemed to give her pain if I pressed about the seat of the spleen. It is the only case of this kind that I have ever seen.

DIAPHRAGMATIC HERNIA.

By Mr. JOHN CLEAVER, Darlington.

A BAY mare, belonging to Mr. Strother, surgeon, Darlington, seven years old, in good condition, was ridden gently by Mr. S. to Croft, a distance of three and a half miles, and back, on the 29th March, 1836. She did not sweat, neither was any fault found with her until she got to her own stable. The groom had washed her feet, and was dressing her, when she of a sudden became very uneasy, drawing herself together, and wanting to lie down. Her legs were bandaged with flannel, she was sheeted, and walked about. I was sent for, and was with her within ten minutes after the attack.

Considering it be a case of colic, I gave an antispasmodic mixture, back-raked her, and administered injections. She rapidly got worse, throwing herself down, and plunging violently; rolling upon her back, but finding no relief in whatever position she placed herself.

Mr. S. being present, I told him that I now thought it to be a case of introsusception, and that unless she was speedily relieved she would be lost. I then proposed bleeding to the full extent, which was agreed to. A large orifice was opened in the jugular, on the under side, as she lay, and the blood flowed in a full stream. The blood was not measured, as her frequent struggles prevented the vessel from being held until the object was decidedly obtained,—*syncope*.

It was now remarked by the groom that I had bled her to death,—that she would never rise more. We put some clean straw under her head; and where it was put, there it continued.

She presently, however, broke out into a cold sweat. A sheet was then thrown over her; she lay quiet about ten minutes, when, after several attempts, she got up. Her flanks now worked violently; she rocked, her legs tottered, she stood trembling a minute or two, and then dropped as if she had been shot. I now hoped that the object was obtained, viz. a relaxation of the bowels. She lay quiet about a quarter of an hour, when she became as violent as ever.

I then gave a pint of castor oil, with two ounces of spirit of turpentine. The pains increasing, I bled again, without measure, as she lay. I could not find any pulsation at the jaw from the commencement of the affair; and there was the most violent and peculiar lifting of the chest I ever saw. She died in less than five hours from the attack.

Post-mortem examination.—On opening the abdomen, and tracing the small intestine, I discovered an opening in the left side of the diaphragm, through which six yards and a half of the small gut were drawn into the chest; and the gut was so firmly strangulated, it could not be moved either way without danger of breaking. One part of it adhered to the posterior part of the diaphragm. The intestine within the chest was in the highest state of inflammation. The mesentery was torn in several places. There was also a tumour on the mesentery, which contained about a pound of dark coagulated blood, and about four quarts of blood were effused within the chest, which had flowed partly from the various lacerations, but principally from this tumour. Part of the small intestines within the abdomen were slightly inflamed, and filled with flatus; the other parts were tolerably healthy, except the liver, which had patches upon it similar to a sheep's liver in the rot.

This mare had been in Mr. S.'s possession about six weeks, had been dull, and fed delicately the whole time. She looked sleek of her skin, and in good condition, but had a languid pulse. On this account I had proposed a gentle purge; but she could not be spared.

She had been hunting with the fox-hounds three weeks previously, carrying fourteen stone, and fell, quite exhausted, at a fence. She was in the field once after this, but had little to do. Might the breach have been made in the diaphragm when the mare fell at the fence?

CONTRIBUTIONS TO COMPARATIVE PATHOLOGY.

No. VI.

By Mr. YOUATT.

CHOREA.

May 30th, 1833.—A jackal (*canis aureus*) has not been well for some time, but is now getting thin and weak, and the weakness is principally referrible to the hind legs and loins. Within the last two days, a spasmodic twitching of the hind legs, and particularly of the right one, has come on. Give one-third of a grain of nitrate of silver, morning and night.

June 3d.—No change. Continue the pills, and chain the animal outside, where he may have plenty of air.

6th.—The eye does not appear so sunken, and the countenance is somewhat brightened; the bowels constipated. Give two grains of calomel, and continue the nitrate of silver as before.

7th.—Little change. Give a drachm of Epsom salts in the morning, and the nitrate of silver at night.

10th.—Very little change. The animal struggles violently against the salts, and, in fact, one half is wasted. Give the nitrate morning and night, and one grain each of calomel and antimonial powder at noon.

13th.—The spasm of the legs as violent as ever, and the animal rapidly losing flesh: medicine as before.

17th.—Little change, and yet the countenance is brighter. Continue medicine, and coax occasionally with a live rabbit.

19th.—No change. Insert a seton in the poll. Continue the aperient when necessary; and give morning and night a scruple of carbonate of iron, with five grains of ginger.

21st.—Died. He was almost a skeleton. The membranes of the brain were injected, and exhibited traces of intense inflammation at no distant period. The whole of the brain, particularly about its base, was softened, and the spinal cord through its whole extent was not merely pultaceous, but semifluid.

CHOREA WITH EPILEPSY.

June 6th, 1833.—African jackal was apparently well on the fourth; yesterday it had a violent fit, succeeded by others, and to-day has chorea in both fore legs. Appetite gone: bleed to eight ounces, calomel gr. ij, and then the nitrate of silver pills.

7th.—Evidently worse—unable to stand, and every limb in

rapid and violent motion—will not feed. Give a drachm of Epsom salts every morning; in the afternoon give four grains of antimonial powder, and one of opium; and the nitrate of silver at night.

10th.—Very much better—the spasms have left all but one hind leg, but that works as violently as before. The animal sits up, looks around him, and eats fairly. Medicine as in the preceding case.

13th.—Both the fore and hind leg on the left side are involved, but not working violently. Continue medicine.

22d.—This treatment has been rigorously pursued. The spasms not so violent, but the animal seems to be sinking. Continue medicine, and stimulate the spine with spirit of turpentine.

27th.—No progress towards a cure, but, on the contrary, although the animal feeds well and the eye is clear, it is getting thinner and weaker every day. Continue treatment.

July 1.—Rapidly sinking.

3d.—Hope having been long gone, and maggots beginning to burrow in him even while alive, I obtained leave to destroy him. The viscera, thoracic and abdominal, were somewhat collapsed, but presented no trace of inflammation. The brain and spinal cord were in the same softened and semifluid state as in the other jackal.

EPILEPSY.

June 6th, 1833 —Another African jackal was well on the 4th inst. : yesterday it had several fits, and now sits in the corner of its cage trembling all over, and the eyes continually closing, as if impatient of light. Bleed to eight ounces; give calomel gr. ij, and afterwards give a drachm of the following alterative powder daily,—Æthiops mineral two drachms, nitre one ounce, and sulphur two ounces.

7th.—No return of the fits. Give a drachm of Epsom salts every morning, and the alterative at night.

10th.—The countenance has cleared up, and the animal has few marks of indisposition about it. Medicine as in the two preceding cases.

13th.—Well, and sold.

PARALYSIS, WITH INFLAMMATION OF THE BOWELS OR URINARY ORGANS.

1833. July 5th.—FISHER MARTEN.—She was observed this morning to get from her inner to her outer habitation with some difficulty, and which speedily increased to perfect loss of power over the hind limbs. She is said to be constipated. Give a table

spoonful of the castor oil mixture (castor oil, and syrups of buckthorn and white poppy, in the proportions of three, two, and one), and rub the ammoniacal liniment on the loins.

8th.—The bowels are fairly opened, but the palsy continues. Continue the mixture and the embrocation daily.

12th.—The palsy extending, and the animal refusing to eat. Continue mixture, and add two drachms of spirit of turpentine to every ounce of liniment.

14th.—The animal died this morning. There had evidently been inflammation of the mucous membrane of the intestines; there were still red streaks and spots, but the inflammation had been subdued. There had also been inflammation of the mucous membrane of the bladder. That viscus was filled, but not distended with bloody fluid, and was now, and including all the coats, almost in a state of sphacelus. Did the palsy proceed from that sympathy of the lumbar and sacral nerves, and all those of the hind extremities, with the mucous membrane of the intestines which we see in so many quadrupeds? Nephritis, and afterwards cystitis, are likewise associated with palsy, or simulate palsy. Is this from the unwillingness of the animal to move, on account of the intense inflammation which is propagated from the urinary organs to the neighbouring muscles? or is it a metastasis or extension of inflammation?—In whatever way it is to be accounted for, there is evident affection of the urinary organs in most cases of paralysis of the hinder extremities. It is a connexion well worth tracing, as elucidating the cause and treatment of nephritis and lumbo-spinal diseases.

1833. *October 26th.*—WILD BOAR.—Lately sent to the gardens, and not quite well when he came. He suddenly purges mucus and blood, and can scarcely drag his legs after him. Give an ounce of castor oil, and afterwards the castor oil mixture morning and night.

27th.—Still purges mucus and blood—the palsy of the hinder extremities complete. Give the castor oil mixture.

28th.—Dead. The disease was chiefly confined to the colon, the mucous membrane of which was highly inflamed. The cellular substance—the bands—forming and binding down the cells of the colon, was thickened and injected: it might almost be said to be congested. This had evidently been a disease of considerable standing, but had lately taken on an acute character. This connexion between inflammation of the bowels and palsy of the hinder extremities is common enough in the carnivora, and I have seen it before in the omnivora.

PARALYSIS FROM AFFECTION OF THE SPINAL CORD.

1833. *November 5th.*—BROWN COATI MUNDI.—Was apparently well yesterday; to-day has nearly lost the use of his hinder limbs: he drags them after him; or if he stands upon them, it is in an uncertain balancing manner. A table spoonful of castor oil mixture was given; it produced one black stool, and, after that, some yellow ones. The mixture was repeated at noon; a warm bath was used; plenty of warm broth poured down, and the animal put into a warm place.

6th.—He has a little regained the use of his hind legs, but his fore ones are now powerless. Keep him warm, give warm broths, and continue the castor oil mixture.

7th.—More powerless, but he still eats. Continue treatment.

8th.—The palsy increases, and the animal rapidly loses flesh. Continue treatment, and embrocate the whole course of the spine with a liniment composed of one ounce each of spirit of turpentine and liq. ammoniæ, and half an ounce of laudanum.

10th.—Has rallied a little; can scramble a little on his fore-legs; eats as heartily as ever. Continue the mixture and liniment. Give one-eighth of a grain of nitrate of silver morning and night; and supply well with warm bread and milk, and broth.

13th.—Little change, except progressive emaciation. Continue treatment.

16th.—Losing now the use of his fore-limbs, but gaining some power over his hinder ones. Thinner than ever. Continue treatment.

24th.—This poor animal continued gradually to sink until last night, when it died. The thoracic and abdominal cavities presented very slight appearances of disease; but the mystery was unfolded in the spinal cord. As soon as the spinal cavity was opened, injection of the membranes of the cord was sufficiently evident, while the inferior (anterior) portion of the marrow itself was almost semifluid. The roots of the nerves from the inferior (anterior) columns were of a pinkish hue, and that could be plainly traced to the ganglia belonging to the superior (posterior) roots, and even a little beyond this. About the humeral and sacral plexuses this was beautifully evident.

THE LONDON VETERINARY MEDICAL SOCIETY.

CORRESPONDENCE.

Circular of the new Committee of Management.

IN consequence of a very unfair and unfounded article, purporting to be an account of the proceedings of the London Veterinary Medical Society, which led to the late resignation of its officers, having appeared in the May number of THE VETERINARIAN, a letter from a member of the present Committee of Management, replying to such article, was intended to have been forwarded to the Editor of *The Lancet*, with a request for its immediate insertion; but Professor Coleman having expressed his desire that the Society's affairs should not find their way into the columns of the latter Journal, the writer of such letter, as well as the other members of the Committee, anxious to evince to the Professor their readiness to oblige him by any means in their power, have consented to withhold it; but, inasmuch as the Annual Meeting of the Governors of the Institution is expected shortly to take place, and the Committee and majority of the Pupils are apprehensive that the article in THE VETERINARIAN, if permitted to go altogether uncontradicted, *might* operate to their prejudice; and, inasmuch, as time greatly presses, they have deemed it right to get a few copies of the above named Letter, in the contents of which they entirely concur, struck off for the purpose of being placed in the hands of the Governors and Medical Examining Committee; and the Committee of Management hope the Governors and Medical Examining Committee will withhold their judgment upon the article in question, as well as upon any other statement which may be laid before them, until a full and *true* statement of the Society's late transactions, containing a complete refutation of the unfounded statements of THE VETERINARIAN, shall have been laid before them, and which the undersigned members of the Committee of Management pledge themselves to publish within one month from the present time.

JOHN SAUNDERS.

JOHN BAILEY WELLS.

W. F. BUTLER.

JOHN B. A. MINIKIN.

HENRY HOGREVE.

JAMES W. WINTER, Treasurer.

W. MILES, Secretary.

(Committee of Management of THE
LONDON VETERINARY MEDICAL
SOCIETY).

5th May, 1836.

To the Editor of "The Lancet."

Royal Veterinary College, 2d May, 1836.

SIR,

You have probably seen THE VETERINARIAN for the present month, containing, what the Editor of that Journal is pleased to designate "A Faithful Narrative," but which I consider in most respects a very partial and garbled, as well as untrue statement of the occurrences which have led to the resignation of the three gentlemen who held, among them, the offices of President, Vice-President, and Treasurer, Secretary, and Librarian of THE LONDON VETERINARY MEDICAL SOCIETY. The author of the Narrative in question, with the affected candour which partisans in disguise frequently assume, tells us that, "if the Narrative has not been told with perfect accuracy, the error shall be promptly rectified;" but he seems to forget, or to wish others to forget, that a month must elapse before the "prompt rectification" promised can possibly take place; and that as in the meantime the General Annual Meeting of the Governors of the Institution will take place, the "faithful," alias the partial and garbled, "Narrative" may pass current for and be received as a true statement. It is to prevent this evident manœuvre that I beg the favour of your giving insertion to this hasty letter. You will observe, it is stated that Mr. Vines was ousted from the office of Librarian, and Mr. Morton elected to it, by a majority of One in 1831. I am not personally acquainted with the facts which actually occurred upon that occasion; but I confidently believe, and it will hereafter be proved, that Mr. Vines was most unfairly ousted, and Mr. Morton most unfairly elected to that office; and that there may be no doubt as to who it was that tore up the balloting tickets upon that occasion, I beg to add my belief (but it shall hereafter be proved), that Mr. Morton was the person who so tore them; and that he did so, not for the purpose, as is ridiculously pretended, of preventing Mr. Vines from seeing who had voted against him, but to prevent several members who had demanded a scrutiny (and who suspected Mr. Morton might possibly have made some *mistake* in checking the ballot in his *own favour*) from having such demand complied with. Unfortunately for Mr. Morton he was prevented from destroying the whole of the balloting tickets, for a dozen of them was saved, *seven* of which are favourable to Mr. Vines.

As the writer of the "faithful Narrative" quotes the "records" of the Society, I will only mention here, that they were kept by Mr. Morton, the person directly interested in having them appear favourable to himself and unfavourable to his opponent. The author of the "faithful Narrative" says, "that his inform-

ant (whom he does not name) states, that Mr. Vines upon one occasion in 1831-2, used insulting and ungentlemanly language." Ought not the said author to have said who this informant is, that the world may have an opportunity of judging how far his statements are entitled to credit for veracity?

The writer also quotes a pretended vote of censure upon Mr. Vines. In whose writing, sir, do you think this vote is, and by whom signed? It is in the handwriting, and verified by the signature of Mr. Morton!! And this vote of censure was neither produced, nor heard of, until a fortnight after the resignation of the late officers!!! Does this need comment? I think you will say it does not; but I believe, notwithstanding, it will hereafter receive it. One word upon the then Committee of Management, which is *said* to have passed the vote of censure. The Society was at that time (indeed it was down to within a few weeks past) made a close corporation, in which none but the aldermen—I beg pardon, the men of office—had influence, and the Committee were the tools of Mr. Morton. Are we, then, to be surprised at such a vote?

We next get a statement that "four years past on, during which Mr. Vines lost no opportunity of ridiculing the proceedings of the Society, disavowing all connexion with it, and endeavouring to persuade the students from belonging to it, and occasionally succeeding in that attempt." As the paragraph quoted happens to be utterly untrue, are we to assume that the author of the "faithful Narrative" has been deceived by his informant, or has he volunteered a fib of his own? I give both author and informant credit for contributing a little to this statement; and for their joint (or, as they are fond of the word, for their conjoint) edification, I will remind them, that during the period lastly alluded to, Mr. Vines, instead of "ridiculing the proceedings of the Society," actually presented some veterinary works to it, of which he is the author, and for which he received the Society's thanks, as evidence of which I now beg to refer to the Society's "records." Perhaps when the author of the "faithful Narrative" favours us with another edition, he will be kind enough to say, whether the late officers of the Society have presented any works of which they are the authors, towards the augmentation of the Society's library?

As allusion has been made to the paper of Mr. Rush, I will only say, that *I* fully concur in the opinion attributed to Mr. Vines, that it was "one tissue of plagiarism;" and as I happened to be present at the discussion, I can bear testimony to the fact, that much of the matter of which Mr. Rush's paper was composed, was taken without acknowledgment from papers published with Mr. Vines's signature several years since in *The Lancet*. It

is not the fact that Mr. Vines sarcastically or in any way exceeded the bounds of fair observation and discussion; and the statement that he replied to Mr. Spooner and Mr. Ferguson by gross abuse is *grossly* untrue. It is true that Mr. Vines was informed, or rather misinformed, that he was not a member, and that he "affirmed" that he was; but it is not true that there was some or any "uproar and confusion," save what emanated from Mr. Rush and a few partisans of Mr. Spooner, to whom Mr. Vines is an eye-sore; and it is true, that "language which would have disgraced the lowest assembly has been "too freely used;" but, alas! for the author of the "faithful Narrative," it was only used by the clique whose cause he now encumbers with his help; and even on the following day Mr. Rush used language to Mr. Vines, in the clerk's office at the College, which, if it had not been beneath contempt, should have subjected the utterer of it to a cooling in a horsepond.

It is not true that the Committee made a communication to Mr. Vines; but a communication was made by Mr. Morton, to which Mr. Vines replied; and if this impartial author, who doubtless knows the contents of such reply, had set it forth, I should not now have to trespass on your valuable columns. The "impartial author" is not a good logician: by attempting to prove too much, he has proved nothing; for can it be supposed that if Mr. Vines had misconducted himself, the great majority of the pupils would have hooted the Committee of Management out of the dissecting room? *It is utterly untrue* that any such hooting took place. It is true that a special meeting was called, and that "the Committee was exonerated from having acted partially towards Mr. Vines," and for this reason, i. e. because a vast majority of the meeting saw most clearly that the Committee had been imposed upon by misrepresentation, and, in consequence, four honourable and spirited gentlemen of the Committee resigned.

I wonder this impartial author could even do Mr. Vines the justice of stating, as he does, the well-merited eulogium passed upon him by Professor Coleman; and I do not believe he would have stated it, but for a sinister object, which is to me apparent in other parts of this faithless Narrative.

It is very true that Mr. Sewell did, previously to his resignation, make the speech, or rather a much *stronger* speech, than that attributed to him; and I think his speech is much to be regretted, because, even admitting, for argument's sake only, that something of an unpleasant nature did emanate from Mr. Vines in 1831, giving offence to the Society, the Society, by re-electing him an honorary associate (the highest title it can confer), clearly wiped off all remembrance of the supposed offence; and Mr. Sewell's resentment must therefore look like private and personal

anger, for that which he was only entitled to notice in his public and official capacity of president. I do not however wish to dictate to Mr. Sewell (from whom I have received every gentlemanly attention); and I should not have made this observation but for this meddling observer upon what does not concern him.

Mr. Spooner also made a speech; but unless my recollection fails me, the substance of it is not correctly stated; for I understood him to say, not "as he could no longer with satisfaction to himself, and profit to them, &c. &c.," but "as he could no longer with profit to himself, &c. &c.;" and I confess I was rather startled at the observation, because I had previously supposed that Mr. Spooner officiated for *honour*, and not for *profit*.

Mr. Morton also made a speech, and, doubtless, took great credit to himself for many things which he *said* he had done for the Society's advancement; but I confess that, in common with many others, I did not pay very profound attention to this gentleman's observations; and for that reason I have no comment to offer upon them, nor am I aware that any could be necessary.

Thus far I have come down to the resignations. It is insinuated that the letters announcing the re-elections were not couched in the most courteous style; but I defy criticism to point out any word or passage in them which is or was disrespectful. I feel that I have already greatly trespassed upon your space: I will therefore make a general observation upon the pretended account of the interviews which took place between Mr. Coleman and his pupils, by saying, that although some few of the facts are true, or rather partially true (the worst kind of falsehood), they are altogether so garbled and misrepresented as to warrant me in saying that they must not be relied upon, and in particular the observations attributed to Mr. Coleman, "that he thought it would detract from Mr. Vines's respectability if he did 'apologise;'" and that "he did not think it likely that Mr. Vines would offer an apology to his apprentice and deputy," *are wholly and utterly unfounded*. And it is equally untrue that "messenger after messenger was dispatched for Mr. Coleman" upon any occasion.

I will only add another word, namely, that the cash and books were not demanded from the late officers until about a fortnight after their resignation from, and their refusal to resume, office: and with respect to "cash," I may as well observe, that the Society is left perfectly insolvent; a thing which could never have happened if the funds of the Society had not been diverted from their original object, namely, the purchase of books for the Society, not of presents to its officers.

I am, Sir,

Your most obedient servant,

A VETERINARY STUDENT.

Mr. McTaggart to the Editor of "The Veterinarian."

Dear Sir,

I HAVE received a letter from the Royal Veterinary College, signed a "Veterinary Student," giving the lie direct to your statement of the London Veterinary Medical Society's transactions in 1831, in reference to the election of Mr. Morton to the office of Librarian, and the Society's acceptance of Mr. Vines's resignation as a fellow and honorary associate of that Society. As I was then a student at the Royal Veterinary College, and a member of the said London Veterinary Medical Society, and one of the Committee of Management at the time, it becomes me to testify to the verity of the then proceedings. Your statement in THE VETERINARIAN of May, in allusion to those proceedings, is perfectly correct.

On the night of election the chairman read over the ballot tickets, Mr. Morton and Mr. Vines being the candidates. Mr. Morton had a majority of one, and was declared duly elected; and which was evinced from the circumstance of a scrutiny not being demanded. At the close of the meeting Mr. Vines (very ungentlemanly) made a snatch at the ballot papers which were lying upon the table, and said he would see who had voted against him; Mr. Morton, however, prevented him, and most of the papers were destroyed.

I was likewise present on Nov. 24th, the night on which Mr. Vines consigned his certificate of the Society to the flames, and, denouncing it in no simple language, he declared that he would no longer be a *member or honorary associate* of such a Society. My signature is attached, confirmatory of that evening's proceedings.

The resolutions quoted of the Society's transactions, Dec. 6th, accepting the uncouth resignation of Mr. Vines, are likewise perfectly correct: I had the honour of being in the chair that evening. The resolutions of the Committee were every one confirmed by the members of the Society.

It says little for the calumniator of the Society's proceedings in 1831, to shelter himself under the signature of a "Veterinary Student:" let him avow himself, and he will then be noticed as he deserves.

I have the honour to be, dear Sir,

Your's, very respectfully,

DAVID MCTAGGART.

Liverpool, May 16th, 1836.

Mr. Ellis to the Editors of "The Veterinarian."

Gentlemen,

HAVING just received a circular from the present Committee of Management of the London Veterinary Medical Society, containing a slanderous anonymous letter, evidently designed to vilify the statements which appeared in your last number relative to the proceedings in that Society in 1831, I should not do my duty were I to be silent. Being at the College in 1831, and present at every meeting, and an eye-witness to the proceedings, I have had better opportunities of becoming possessed of the facts than any one can have who was not there at the time; and I am bound to state that the report as given in your last number is strictly correct, being a faithful narration of the facts as they occurred, and not favourable to either party.

I am, gentlemen, your very obedient servant,

JOHN ELLIS, V.S.

Upper Pitt Street, Liverpool,
May 15th, 1836.

REPLY OF MR. MORTON TO THE CIRCULAR.

To the Editor of "The Veterinarian."

Sir,

I CERTAINLY should have considered a circular I have obtained possession of, dated from the Royal Veterinary College, May 2, 1836, perfectly unworthy of my notice, because it is anonymous, were it not that seven of the students of this institution have been pleased to affix their names to some prefatory remarks, and to say that in its contents they entirely concur.

The letter is intended as a reply to the account given in your last number of the proceedings which have lately taken place in the London Veterinary Medical Society; and which, although denounced as "partial, garbled, and untrue," is, I have reason to believe, in its essential points, correct.

I shall extract one paragraph only for comment, as the remainder merits little more than contempt from me: it is as follows:—

"You will observe it is stated that Mr. Vines was ousted from the office of librarian, and Mr. Morton elected to it, by a majority of one, in 1831. I am not personally acquainted with the facts which actually occurred upon that occasion; but I confidently believe, and it will hereafter be proved, that Mr. Vines was most unfairly ousted, and Mr. Morton most unfairly elected

to the office; and that there may be no doubt as to who it was that tore up the balloting tickets upon that occasion, I beg to add my belief (but it shall be hereafter proved) that Mr. Morton was the person who so tore them; and that he did so, not for the purpose, as is ridiculously pretended, of preventing Mr. Vines from seeing who had voted against him, but to prevent several members who had demanded a scrutiny (and who suspected that Mr. Morton might possibly have made some *mistake* in checking the ballot in his *own favour*) from having such demand complied with. Unfortunately for Mr. Morton he was prevented from destroying the whole of the balloting tickets, for a dozen of them was saved, seven of which are favourable to Mr. Vines."

Belief being credit given to something which we know not of ourselves, when this becomes confident, it implies freedom from doubt in the statements made by another: but should these be proved to be false, how stands the believer? Now I do not hesitate to tell this champion for truth! who, with his attendant knights, has entered the lists, and, with his vizor down, has made a thrust ere he has learned to poise his lance, that he has given credence to that which is untrue. I would hope that he has unwittingly done this, and has been undesignedly the instrument of propagating that which is false, and intended for my injury: but such a spirit of malignity pervades the whole of his production, that it requires the utmost stretch of charity to be enabled to do so. The intentions, however, whether of him or of another, have been happily frustrated. The lance has been shivered against the shield raised by my friends, and I now look down with complacency upon its pointless head and scattered remains.

But "that there may be no doubt as to who it was that tore up the balloting tickets upon that occasion," although his belief might appear to have settled that question, I at once acknowledge that I did it; nor has the act ever been denied, or attempted to be denied, by me. And I did it for what he is pleased to consider a ridiculous pretence. If it be so, it rests with Mr. Vines; who, after the ballot, grasped some of the papers, saying he would have them, and see who had voted against him (or words to this effect), which I at once prevented, by seizing the remainder, and tearing them up before him: *and this took place after the business of the evening was over, when the members were about to leave the theatre.* What now becomes of the charge that I did it to prevent a scrutiny taking place, which "had been demanded by several members?" I most solemnly and unequivocally declare, that *no scrutiny was demanded by any member or members at this or any other subsequent meeting of the Society.*

And this asseveration is made, not for the sake merely of contradicting the calumny, but I am prepared with indisputable evidence to prove the verity of my assertions, and am ready and willing to do so whenever called upon.

I could have selected another mode of combatting the imputations cast upon my character; and have asked if the statement bears not with it its own refutation? Would it for a moment be believed by thinking persons? What! were not the members of the Society as "independent and as high spirited" in 1831 as they have been said to be in 1836? or, were they so basely subservient that they sanctioned that in me which is opposed to all order and justice? I firmly believe, if I had acted as I have been represented to have done, my friends, even my very best, and that to a man, would have turned against me; and they would have done so justly. Allowing, however, that by trickery, and the confusion created, I had been able to get over one evening, and a scrutiny was thus prevented from taking place, could not the question have been mooted at another? Was there not one friend of Mr. Vines who could have held up his hand against the confirmation of the acts of the preceding evening? Not one who could have asked for a fresh ballot? Not one who could have entered his protest against such proceedings? These questions I leave to be answered. And to what I have said on this head I will only add, that it was not my intention, even up to the evening on which I was elected librarian (and many of the students were informed of this, or my majority would have been larger), to have accepted the office, although I had been earnestly solicited to do so for the two preceding years, until Mr. Vines thought fit to insinuate that I had improperly disposed of the Society's funds. I was then filled with indignation, and who would not? and being so, I accepted the librarianship, defying Mr. Vines to a proof. I failed, however, in obtaining this: but as since that time no repetition of the insinuation has been openly made, I suppose he has been convinced of his error; if not, my accounts are now in the hands of a party which it would seem is not very favourably disposed towards me; and I with perfect confidence refer to the books, and, indeed, *court both in this and in all other circumstances connected with my offices, during the time I held them, the fullest and the freest investigation.*

Thus have I answered that which, to a person unacquainted with the facts, might appear both dishonest and dishonourable on my part. An adherence to truth has been maintained, as the best means of refutation; and I only ask those to whom the circular letter has been addressed to "look on that picture and on this."

Having so done, I now, for a minute or two, advert—although I fear I am occupying your space to the exclusion of more valuable matter—to my having kept the records of the Society, &c. Why, whose duty was it but the Secretary's? Was it not his duty also to write whatever he was directed by the Committee of Management, and to whomsoever, and to sign it with his own name? Whether the Committee were my "tools" or not, I leave them to consider: I can only say I acted under their sanction at all times; and my reports were publicly read by me at the meetings of the Society, and thus received the confirmation of the body. I thought I was doing right: such being, as far as I was acquainted with the matter, the usage of secretaries of other societies; and no fault was found with me, nor any objections raised against me. If, however, votes of censure require another course to be adopted, I confess my ignorance of it, arising, perhaps, from the fact that I never received one.

One word more, and I have done. The Society, we are told, "is left perfectly insolvent; a thing which could never have happened if the funds of the Society had not been diverted from their original object, namely, the purchase of books for the Society, not presents to its officers." I beg to state that the Society was not left insolvent by me. Its finances were as favourable as they were wont to be, and its prospects as bright, nay, brighter; nor do I for a moment doubt that at the close of the session I should have had as favourable a report to offer as heretofore. I freely confess, however, that I am guilty of having received presents from the Society: some were paid for out of its funds, and some were the purchase of voluntary subscriptions among its members. In their possession I pride myself, and I trust they will always be highly esteemed by me. I look on them while I am now writing: they tell me that my labours in the cause of the Society were approved of by its constituents; and they convey the kindly feeling of those with whom I had the pleasure of co-operating "to promote the well-being of the Society."

But the plural is made use of—"officers." If by this an impression is intended to be conveyed that some portion of the Society's funds was abstracted for the purpose of aiding in the purchase of the handsome and well-merited present lately made to their then President, Mr. Sewell, I, as the Honorary Secretary of the Testimonial Committee, declare that not one farthing was taken from the Society's funds. Further, that our subscriptions were ample; and the promptitude with which they were transmitted is highly creditable to those who contributed to the service of plate. This, however, surely cannot be. It may, perhaps, refer to some who have preceded me in office, and, if

they feel compunction for having accepted that which the Society or its members had a most unquestionable right to bestow, I have no doubt they will express due contrition: for my part I am stoical enough to feel none; but I regard these presents as flattering testimonials of the esteem of those with whom I was a fellow-labourer in a good cause, and the remembrance of the friendship and the worth of many of whom I shall cherish as long as I live.

Need I, in conclusion, add, that neither this nor any other anonymous writer will again be noticed by,

Sir, your's, &c.

W. J. T. MORTON.

Royal Veterinary College,
May 25, 1836.

Mr. Youatt to the present Secretary of the London Veterinary Medical Society.

MR. YOUATT presents his compliments to Mr. Miles, and informs him that the Monthly Abstract of the Proceedings of the London Veterinary Medical Society should go to press on the 23d inst. at the latest.

Mr. Youatt will be happy to render Mr. Miles any assistance in his power in condensing, or taking extracts from, any papers that he may think deserving of particular observation.

Reply of Mr. Miles.

Royal Veterinary College,
May 20th, 1836.

Sir,

I HAVE the honour of informing you, in reply to your note of yesterday, that a Special Meeting of the Committee of Management of the London Veterinary Medical Society was convened this morning, for the purpose of taking into consideration the propriety of continuing to furnish the Editors of THE VETERINARIAN with a Report of the Discussions of the Society: when it was resolved, "That the Committee, considering the article in THE VETERINARIAN of May 1st to be a false and garbled account of their proceedings, and the remarks accompanying it to be a scandalous reflection upon the honour of the Society, the Secretary do not furnish any more Reports of the Discussions of the Society to THE VETERINARIAN until the *amende* has been made."

I beg leave to enclose for your perusal the copy of a Circular addressed to the Governors of the Institution, pointing out some

of the errors in the report in *THE VETERINARIAN*; and further, I beg leave to inform you, that a full report of the proceedings of the Society, in relation to the late differences, shall be furnished to you at the earliest opportunity,

I have the honour to be,

Sir,

Your most obedient servant,

WILLIAM MILES,

Secretary.

To *W. Youatt, Esq.*

THE VETERINARIAN, JUNE 1, 1836.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

IN order that the veterinary readers of this Journal may be in full possession of the question lately at issue at the St. Pancras College, the Circular of the new Committee of Management of the Medical Society has been printed at length. It had been pretty extensively circulated among the old members of the Society, in various parts of the kingdom; but every one shall now have an opportunity of judging for himself, and shall be left to draw his own conclusion on many points; for the writer of the "faithful narrative" of these proceedings, in the last number of *THE VETERINARIAN*, will not disgrace himself by entering the lists with an anonymous and scurrilous antagonist.

One point only will be contest. He is accused of "meddling with that which does not concern him." What! has the founder of an useful institution like this, nothing to do with its welfare? Is he to divest himself of all human feeling? Mr. Coleman is made to call himself the founder of this Society. That gentleman was its most strenuous opposer—he fought as long as he could—his opposition was one of "the difficulties that attended its establishment;" but when he saw that *the pupils would have it*, and that its views and purposes and manner of working were right, he politically, and with as good a grace as he could, yielded. "That which does not concern him!"—Good God! of what materials is this anonymous libeller composed? I can, perhaps, form some shrewd guess at them, when I read the utter and wilful falsification of Mr. Spooner's address. This stamps an indelible character of mendacity on the whole account.

The ground of quarrel is simply this, —that in 1831, an insult, accompanied by circumstances of the grossest aggravation, was offered to this Society by one of its members. All connexion with the Society was for ever abjured in the most offensive terms. The Society accepted of this resignation, and passed a unanimous vote of censure on the individual by whom it had been thus insulted. This is established, beyond the possibility of denial or doubt, by the testimony of Mr. Ellis and Mr. M'Taggart; the one a member of the Society at that period, the other the chairman of the meeting at which this resignation was accepted, and vote of censure passed.

Can that individual be again received into such a society until he has atoned for his error—until he has made the most ample apology? In private life, would not the person be for ever disgraced who, until the proper *amende* had been made, quietly associated with him by whom he had been thus insulted; and, in a society of young men training up for an honourable profession, is it not more imperiously necessary that the common usages of mutual intercourse should be observed? This is the simple state of the question.

The person by whom the Society had been previously outraged, after an interval of five years, appears again among them: he asserts his right to appear; and he declares that he will come whenever he thinks proper. He offers no apology, but his language is that of defiance. His friends propose him as an honorary associate of that Society, “the highest title it can confer, and wiping off all remembrance of the supposed offence”—the record of former transactions still standing on the books—the vote of censure still uncanceled. They are the numerous party; but rather than witness this degradation and dishonour, the President, who had occupied the chair in that Society more than twenty years, and the Treasurer and the Secretary, resign. Who does not applaud them for the act?

The accuracy of the account of the early transactions, as given in the last number of this Journal, has been proved to a letter; and the writer pledges himself, that with the change of the word “hooting” to “hissing”—the insertion of the word “written” before “apology” in Mr. Sewell’s address—and a slight alteration as to the *order* of some facts, the history of the latter part of the affair is substantially correct. Do we wonder at the violent proceedings of these young men? We regret them—but too many instances occur in society, in which young men, well and honourably disposed, are led astray by the artful misrepresentations of the jealous and the malignant, and are guilty of strange and unjustifiable conduct. The cloud after awhile passes

away, and they wonder at themselves, and acknowledge and endeavour to repair their error. So it will be here ere long: but, as will presently appear, the error which these young men have committed will not be easily repaired, and will give them cause for lasting regret.

On the 26th of this month, another and more laboured defence—*but an anonymous one*—of the Committee appeared, and was circulated among the governors and the Examining Committee. The following is an extract from the introductory paragraph:—
 “It was not our intention to have published the late transactions of the London Veterinary Medical Society, but for a mendacious article, pretending to be a report of its proceedings, which lately appeared in *THE VETERINARIAN*, for which, we presume, the ‘sole proprietor’ of that Journal has received, or at least expects to get, value. The objects of the article in question were, doubtless, to throw discredit on the Society as a body, and on Mr. Vines individually; to break up the one, and break down the other: but we think the worthy individuals who purchased, and the ‘impartial author’ who concocted or invented this notable scheme, will be equally disappointed when the governors, Medical Examining Committee, and the veterinary profession, shall have perused the report which we now submit to them, and which we pledge ourselves contains ‘the truth, the whole truth, and nothing but the truth.’”

Am I expected to say more with regard to this, than that, while I despise I pity the writer? In an impetuous and misguided young man, I can forgive much; but the time will come when he will not forgive himself for this infamous, cowardly, *anonymous* attack. Being once known, can he ever rank among honourable writers?

The readers of *THE VETERINARIAN* will be anxious to have a brief history of the after proceedings of the Society. Some parts of them they will preserve among their *Veterinaria Curiosa*: they will not have choicer specimens: they are extracted from the second defence of the Committee. First stands the letter in which Mr. Bracy Clark accepts the honour conferred upon him:—

“7, Taunton Place, Regent’s Park,
4th Month, 18th, 1836.

“Bracy Clark, with his kind respects to the secretary and worthy members of the honourable Veterinary Medical Society, has to thank them most sincerely for the distinguished notice they have taken of him in electing him their President. He rather fears that years of labour and advancing age may have somewhat ‘damped his wing;’ yet his fondness for the art and its votaries, and for those who are sincerely engaged in it: he would be

at all times happy to meet; and he believes such would be with mutual advantage. One difficulty, however, seems to present itself, which is, how would his acceptance of this post be received by the worthy Professor Coleman? Every day, however, brings a closer admission in the College of the doctrines he (B. C.) has laid down; and he may observe, that the leading Veterinary School in France, at Charenton, have adopted and received his nomenclature and views of the foot; and this will, it is fair to conclude, sooner or later, take place in England. It has been intimated to him, that Professor Coleman, at a late dinner, did him the honour to propose his health as a toast; perhaps thereby intimating an approach in this respect, which would be attended with mutual benefit to both, and all votaries of the science: in this case he may not object to his joining your Society; but without such permission formally obtained, we might possibly be liable to interruption. B. C. has left, therefore, this preliminary little piece of etiquette for being first arranged, and on which afterward he could desire to have the sentiments of the worthy Society, or its Committee.

*“ To William Miles,
Secretary R. V. M. S.”*

The Committee of Management waited on Mr. Coleman, to inquire of him, under the circumstances, if he had any objection to Mr. Bracy Clark taking the chair of the Society. Mr. Coleman declared that he had no objection to Mr. Bracy Clark, as he had before stated; but that he had hoped that they would have allowed the chair to remain open, in the hopes of inducing the late officers to make some little concession in their demands upon Mr. Vines.

One of the Committee replied, that “ they were placed in a very unpleasant situation; they had elected Mr. Sewell president, who had refused; they had elected the Professor president, who had refused; and they now had elected a third, Mr. Bracy Clark, who would accept it if it met with Mr. Coleman’s approbation; and until they had it, or it was refused, they must consider Mr. Bracy Clark as president.”

Mr. Coleman said, “ that his sole endeavour had been to procure a reconciliation, and that he was extremely sorry his endeavours had been unsuccessful; and that the continuance of so agitating a subject must interfere with their studies. In the appointment of their president they were omnipotent; and he repeated that he had and could have no objection to Mr. Bracy Clark taking the chair.”

The Committee then retired, and, deliberating among them-

selves, determined to convene a special meeting of the Society, to take into consideration the extraordinary position in which they were placed, and to come to some conclusion respecting the communication of Mr. Bracy Clark.

This meeting was held, and it was resolved by a large majority that the Secretary should address a letter to Professor Coleman, requesting that he would write to Mr. Bracy Clark as soon as convenient, informing that gentleman whether he entertained any objection to that gentleman accepting the office of President to the Society.

The following is Mr. Coleman's reply:—

“ Sir,—In reply to your letter of the 20th inst., I have to request you will have the goodness to inform Mr. Bracy Clark, that I acknowledge, with feelings of gratitude and respect, the high sense I entertain of his honourable and liberal conduct in consulting my wishes before he accepts the appointment of President of the London Veterinary Medical Society; and as I am apprehensive that the governors of the Royal Veterinary College would consider *my approbation* (within the walls of the College) would be indelicate and offensive to the assistant professor, and my colleague, and as I still hope that peace and harmony may yet be restored in the Society, I feel it my duty to express my objection to Mr. Clark's appointment as president of the Veterinary Medical Society, *at present*, until the consent of the governors of the Royal Veterinary College can be obtained.

“ I beg of you, Sir, to add the high opinion I entertain of Mr. Clark's talents and labours; and although we may differ in various points of physiology, I have never failed to acknowledge and to impress on the minds of my pupils the benefits to be derived from his works.

“ I have the pleasure and honour to be, Sir,

“ Your most obedient, humble servant,

“ EDWARD COLEMAN, *Professor.*”

On the 26th, it was determined that until the permission of the governors to Mr. Bracy Clark taking the chair was obtained, the Professor be requested to act as Honorary President.

He continued to do so through the greater part of the last month; for the governors had intimated that, until, the whole matter came under their consideration at their general meeting, no person, excepting the Professor, should preside.

In the meantime, notwithstanding the professed wishes of Mr. Coleman to effect a reconciliation, the language of the Committee became more and more intemperate. One of them said, that

“it would be disgraceful to them if they troubled themselves any more about them” (their former officers); another, that “he did not think the Society would accept them, if they offered, without an apology,” and this to Mr. Coleman himself. In a public meeting of the Society, one gentleman observed that Mr. Coleman “had refused the chair, but now he wished to take it; and that if Mr. Coleman objected to Mr. Clark being president, he should resign his membership.” Another said, that “if Mr. Coleman took the chair for a week or two, it was for the purpose of introducing the old ones, and that if they submitted to such proceedings they would be contemptible in the eyes of all reflecting people.” The Committee came to this resolution with regard to Mr. Morton, their former indefatigable secretary,—“that by abandoning his services when partially performed, and by his refusal to resume them when requested to do so, he has not only forfeited all claims to remuneration, but has placed himself in such a situation, as, in the ordinary case of master and servant, would render him most deservedly liable to punishment.” A member retiring in disgust from such proceedings, and giving his reasons for so doing, “the Committee were of opinion that as the Society, as a body, were the judges from whom they should expect approbation and censure, it would be beneath them to notice the egotistical effusion of a disappointed partisan.”

It required no gift of prophecy to foresee what must be the issue of such proceedings; and, accordingly, the whole matter coming under the consideration of the Governors, on the 26th ult., it was determined that “the use of the theatre should no longer be granted to the Veterinary Medical Society;” and thus, after three and twenty years’ honourable, and pleasant, and useful residence under the College roof, *it is become an outcast*. And “can such things be, and overcome us like a summer’s cloud, without our special wonder?” The mystery is not hard to unravel—the whole affair speaks far, far too plainly for itself. If it should appear to be necessary, the writer of this will not shrink from the unravelling of the whole plot: but that hardly will be necessary; the prime agents have already smarted, and *they have more to suffer*.

And the Society?—why the present agitators will pass away, or will repent, and honourably endeavour to redeem their error, and the Society will have learned a useful but a painful lesson. It will gradually assume its pristine character, and be honestly devoted to the search of truth; and the governors will not for ever continue to visit the crimes of the guilty upon the innocent; and it will return with joy and gratitude to its parent house—or, and what perhaps is more to be desired, another society will be

instituted, of a kindred and yet a different character, composed of practitioners as well as pupils, and by which the improvement of the veterinary art will be more effectually promoted:—yet many, and the writer among the number, will remember with regret the old “Students’ Society.”

And what shall the “faithful narrator” say to the message he has lately received from the Committee? Why, that they are very naughty, outrageous boys, and deserve a good castigation; but that whenever *they* make the *amende*—how?—by enabling him once more to shew to the world that the London Veterinary Medical Society is worthy of the profession to which it belongs—he will forget all grievances, and zealously co-operate with them in effecting the prosperity of that Society and the improvement of our art.

One word more:—a considerable portion of this number, and far more than the Editors wished, has been devoted to this unpleasant affair: the interest of our general readers has not, however, been forgotten. The cases of Paracentesis Cæci, et Abdominis, we regard as invaluable: the former as the record of the first operation of the kind performed by a British veterinarian—the latter, as proving that our patient ought never to be abandoned, although the first or even the fourth operation may not have produced permanent relief. The paper on the exhibition of Cantharides in certain cases of Œdema accompanied by Debility is an important one; and we are glad that it is inserted at this juncture, as shewing the spirit and principle on which this Journal has been, and ever will be, conducted. We are the stern opponents of those who designedly or incautiously are doing injury to the cause of our profession; but we will acknowledge, and gratefully accept, that which tends to the improvement of our art, from whatever quarter it comes. The case of Splenitis is a useful contribution to our pathological knowledge. The completion of the Anatomy of the Fore Foot of the Ox will be duly estimated: we know not the British nor the foreign source from which it could have been otherwise obtained. The illustrations of Palsy, complete the sketch of the morbid lesions of that disease, and the account of the Diaphragmatic Hernia possesses great interest.

We should be far better pleased thus to collect, and as in the present number rapidly so, useful hints of improvement, than to engage in angry contest with those who are really, or incautiously, the foes of our profession.

W. YOUATT.

EXTRACT FROM THE REPORT OF THE LABOURS
OF THE ROYAL VETERINARY SCHOOL AT LYONS,
DURING THE SCHOLASTIC YEAR 1834-5.

By M. RAYNARD, Professor.

[Continued from page 254.]

FOUNDER.—We recorded a certain number of cases of founder in the last year, and which we attributed to the heat of the season, and the heat and hardness of the soil. The same affection has reappeared this year in a great many horses, doubtless from the influence of the same causes in some of them, but in others being evident instances of relapse. In almost all of them it attacked the four feet at once. Although some writers have stated that founder is most serious and obstinate when it attacks the hind feet, we have always seen the pain and inflammation cease comparatively quickly in these feet, while it has continued longer, and in many instances has become incurable, in the fore feet. However, after the disappearance of inflammation of the laminæ in the hind feet we have seen a very considerable glistening painful tumour appear in one of them which no medical treatment could remove.

THRUSH.—There is a disease situated between the lobes of the frog, termed, in its mildest form, inflammation of the frog (*fourchette echauffée*), in its more advanced stage, rotten frog (*fourchette pourrie*), and which at length degenerates into the affection called *crapaud*. Although this disease has been neglected by some practitioners, and treated contrary to all common sense by others, it has for many years been the subject of our study. It commences with considerable pain in the back part of the foot—lameness quickly follows, then a purulent discharge from and a fungous softening of the two lobes of the frog.

To remove this disease, which may be followed by a cancerous degeneracy of the frog and the loss of the horse, the ulcerated and softened portions are cut away, even from the pyramidal body itself, and as far as the plantar aponeurosis (the aponeurosis of the flexor perforans tendon), if the disease should have penetrated so far. A simple dressing with diluted spirit of wine, and pressure carefully made on the part by means of longitudinal and cross splints (*au moyens d'éclisses et d'une traverse*), will usually effect a cure. We have no instance of a return of the disease, although we have operated on more than twenty horses.

STRAINS OF THE SCAPULO-HUMERAL JOINT.—A practitioner has lately boasted much of the employment of a long

seton, which descends along the anterior line of the scapula, passes under the *ars* (a fold of integument between the chest and the articulation of the scapula with the humerus), and returns along the posterior border of the scapula, as an infallible cure for all chronic lamenesses, dependent on sprains of the scapulo-humeral joint. We have applied this seton to four horses. In three of them it produced engorgement so great, that we were afraid of gangrene in the part, and hastened to withdraw the seton, and lay open the wounds which it had made. The last, being taken away by its owner after the operation, died in consequence of this gangrenous engorgement. These mishaps caused us to renounce this form of setoning; and, instead of passing a seton under the *ars*, we place one or two, according to circumstances, towards the borders of the scapula, and in front of the scapulo-humeral articulation. There is no novelty in this operation, but we have, nevertheless, cured many valuable horses by adopting it.

FRACTURES.—Experience has long ago proved that fractures of the bone in the human subject are much more common in old men and in adults, than in infants; but daily observation has shewn us that it is not so among the smaller animals, and particularly among dogs. Five-sixths of the fractures which occur in these patients take place between the time of weaning and six months old. It is not because from their chemical composition the bones are more fragile at this age, but because young dogs are more exposed to falls from the hands of the persons who carry them, or from the places to which they climb, and because the extremities, then in the state of epiphyses, are easily separated from the body of the bone. When the fracture takes place in the body of the bone, it is nine times out of ten transverse, or a little oblique, but there is scarcely any displacement.

For the reduction of these fractures we are rarely obliged to have recourse to extension and counter-extension: we content ourselves with a simple bandage, which we remove ten or twelve days afterwards, when the preparatory callus has acquired some consistence. One only out of twenty-six dogs that came to us with fractures of the extremities died. Four cases of fracture of the lower jaw have presented themselves this year, one of which in a horse was oblique, and extended to both branches of the jaw. From the incisors to the first molars there was a separation of the bones. He was kept five or six days on injections of gruel, and afterwards his muzzle was loosened for a while, to enable him to take his oat or barley mash. At the expiration of twenty days he could feed as usual. The fracture of one branch of the lower maxillary in a horse reunited without

bandage, because for eight or ten days we took care that the horse should have nothing but liquid food.

Two dogs had their jaws fractured by kicks from horses, and lost several of their teeth. In one of them the anterior part of the jaw was fractured perpendicularly; in the other both branches were fractured obliquely. They were kept on broth, which was injected into their mouths. In ten or twelve days they were suffered to lap it, and, a little while afterwards, they were dismissed cured.

PALSY OF THE LIPS.—On occasion of a wound in the coffin-joint of one foot in one horse, and in the fetlock of another horse, palsy of the lower lip supervened. In the first horse it spread to the upper lip, so that the horse could not take any nourishment, and the poor animal wasted away, and died. Post-mortem examination discovered a softening of the brain, occupying the whole of the corpus striatum, and on the side opposite to the wound.

In the other horse the palsy did not spread beyond the part in which it first manifested itself. The horse recovered, and returned to his work. We must confess, however, that in the first case we did not trace any certain connexion between the palsy and the cerebral lesion.

Three cases of palsy of the upper lip, and in which it was turned on one side, presented themselves about the same time. In one of them, belonging to the waggon-train, it was supposed to be occasioned by the blow of a hammer on the temporal apophysis, for a tumour appeared on that spot soon after the blow. The most persevering treatment could effect no change, and the animal was cast. The other two horses remained only a little while in our infirmary. They did not appear to amend, and we afterwards lost sight of them.

Of our horses in the course of the session, 19 were destroyed, as being glandered. Of 34 with staggers, 23 were cured. Of 21 that were farcied, 5 were destroyed. Of 50 cases of inflammatory affection of the chest, 46 were cured. Of 3 tetanic horses, 2 were cured; and out of 9 cases of founder, 7 were discharged well and useful. Twenty-eight dogs died rabid. Of 26 dogs with fractures, 1 died; and out of 11 dogs or cats brought on account of laborious parturition, 7 were saved.

CHAIR OF ANATOMY—M. LECOQ, PROFESSOR.

1. In the sac of the chorion of a fœtus of about six months, beside one *hippomane**, free and floating, other similar bodies,

* The ancients gave this name to small rounded masses, composed of coagulated lymph, which were found swimming in the fluid contained within the allantois. They are found oftenest in the mare, sometimes in cows and swine. They were occasionally dried and used as love-powders, and many a ridiculous superstition was attached to them.—EDIT.

but smaller, were observed, each inclosed in a membranous envelope, and adhering to the chorion by a peduncle. On attentively examining the place of adhesion, there was seen distinctly on the external face of the sac, an opening, through which the hippomane might be easily made to protrude. Around this opening, and occupying a space of five or six millimetres (about the fifth part of an inch), the villosities of the placenta were scarcely perceptible, but instead there was a white areola. This disposition of them indicates that the hippomanes are formed between the uterus and the foetal membranes, and penetrate into the sac of the chorion in the same way that certain fibrous rounded bodies reach the serous cavities.

The presence of hippomanes in the sac of the chorion of the mare, while in ruminants they are found only in the cavity of the allantois, is a circumstance favourable to the opinion of those anatomists who regard this latter membrane as lining the internal sac of the chorion of monodactyles.

2. In the hind leg of a horse, besides the small muscle, the peroneo calcaneus (plantaris), another was found, slender, having the same direction and insertion, but taking its origin from the superior tendon of the femoro phalangeus (gastrocnemius internus).

3. In a female hocco, from Cayenne, which had been barren during the four years that had elapsed since its importation, the ovary presented a great number of ovales, the largest of which were about the size of a millet-seed. The oviduct, sufficiently developed, communicated only with the cloaca, the mucous membrane of which projected over the termination of this canal.

4. A she-goat, two years old, had wanted from its birth one of the hinder limbs. On examination after death, the basin of the pelvis, on the side on which the limb was deficient, was almost wasted away. The pubis alone remained incomplete, attaching itself to the sacrum by a ligament. On the same side—the left—the kidney was wanting, and there was a supernumerary rib.

CHAIR OF PHARMACOLOGY—M. GROGNIER, PROFESSOR.

EXPERIMENTS ON POISONS.—Much has lately been said of the oxide of iron as an antidote against arsenic. In the course of the last year we have put it to the test on dogs; but the result has not been satisfactory. Shortly after the ingestion of the arsenious acid, we have given double the quantity of the oxide of iron; but all the symptoms of poisoning by arsenic have appeared, and death has followed. We have given the poison and the antidote at the same time, and the animal has died as in the other case.

The clinical professor has employed a preparation of arsenic and iron as a cure for mange. The use of it was continued for a long time, and on many animals, but without success. Was the arsenic absorbed? Was it used in too small quantities, or did the iron neutralize its effects? Admitting the last supposition to be true, there can be little hope of success in the employment of the oxide of iron as a counter-poison; because the arsenic, when used as a poison, is almost always taken in very large doses.

Recueil Méd. Vet., Jan. 1836.

Miscellanea.

A RECIPE TO MAKE A PAIR OF BOOTS FROM THE HIND LEG OF A HORSE.

THE following curious method of making the most of the skin of the hind leg of a horse is related by Temple, in his Travels in Peru.

“I have lately supplied myself with a pair of light summer boots, called *botas de patro*; that is, boots of the skin of a colt, which are, I believe, peculiar to this country: but in any country where a horse is to be had, they also may be had without the necessity of employing either boot or shoemaker, for there is not a single seam or a single stitch used in their construction; leg, foot, and sole, being all of one piece, and fitting admirably. This may appear difficult, but nothing is more simple. Here is the recipe: Take a horse; cut off his hind legs considerably above the hocks; pull the skin down over the hoofs just as if you were pulling off a stocking: when off, scrape the hair from the skin with a sharp knife, and remove every particle of flesh that may have adhered to the inside; hang the skin to dry, and in the process of drying draw them two or three times on your legs, that they may take their shape, form, and figure.

“The whole operation may be performed and the boots ready for use in the course of a week. The people here do not even sew up the end of the foot, but allow the great toes to project for the convenience of the stirrup, which is made so small as only just to admit them, and they occasionally support the whole weight of the body. The boots are very light, and, in every sense, ‘easy as a glove.’ I have seen some that had been tanned, and had soles added, which render them the perfection of comfort.”

SIR WALTER SCOTT AND HIS DOGS.

But looking towards the grassy mound
 Where calm the Douglas chieftains lie,
 Who, living, quiet never found,
 I straightway learnt a lesson high:
 For there an old man sat serene,
 And well I knew that thoughtful mien
 Of him whose early lyre had thrown
 Over those mouldering walls the magic of its tone.

It was a comfort, too, to see
 Those dogs that from him ne'er would rove,
 And always eyed him rev'rently,
 With glances of depending love.
 They know not of the eminence
 Which marks him to my reasoning sense ;
 They know but that he is a man,
 And still to them is kind, and glads them all he can.

And hence their quiet looks confiding ;
 Hence grateful instincts seated deep ;
 By whose strong bond, were ill betiding,
 They'd risk their own, his life to keep.
 What joy to watch in lower creature
 Such dawnings of a moral nature,
 And how (the rule all things obey)
 They look to a higher mind to be their law and stay !

HENRY HALLAM.

 COWS FED ON FISH.

THE cattle in Lapland and Finmark are uniformly fed on fish. The animals devour this kind of food with the greatest eagerness, and thrive and do well upon it. About five o'clock in the evening a large iron pot is placed on the kitchen fire, partly filled with water, and into which are put a large quantity of fishes' heads and bones, with the addition of some hay ; and this is suffered to boil gently for some time, until a kind of fish soup is prepared. This is suffered to cool a little, and then poured into their mangers. "I was much surprised," says Mr. De Capel Brooke, "to observe the extreme relish and greediness with which they devoured this. Both sheep and cows appeared equally fond of it. The milk is of a remarkably rich flavour, and the beef and mutton very good. Horse-dung, when it can be procured, is boiled up with the fish bones, and greedily eaten by the cattle in Lapland and Norway.—*Travels in Lapland.*

A LIST OF THE PUPILS WHO HAVE OBTAINED THEIR DIPLOMAS AT THE ROYAL VETERINARY COLLEGE, ST. PANCRAS, SINCE THE LAST REPORT.

Mr. F. Faulkner, Portsmouth.

Mr. J. B. Martin, London.

Mr. C. J. Dawson, Frating Hall, near Colchester.

A LIST OF THE PUPILS WHO OBTAINED THEIR DIPLOMAS AT THE ANNUAL EXAMINATION IN APRIL LAST, AT THE EDINBURGH VETERINARY COLLEGE.

Walter Butler, Dalkeith.

Alex. Gray, Edinburgh.

John Baxter, Campbeltown.

William Johnston, Roslin.

James Whyte, Longside.

Alex. Robertson, Hockaliers.

John Bryce, Downe.

George Rennie, East Lothian.

Gilbert Fulton, Maybole.

John McNaughton, Stirling.

Gilbert Smith, Closeburn.

William Scriven, Abberford.

Thomas Phillipson, Stainfordham.

John Aikin, Edinburgh.

Robert Aikin, Dunse.

TO CORRESPONDENTS.

We must again appeal to the forbearance of two or three of our friends. Their communications shall certainly appear.

The supposed "Tissue of Plagiarism" shall certainly appear in our next; with references to *The Lancet*.

To many, many of our friends we express our gratitude for their communications; and we ardently entreat them, so far as they are enabled, to confirm or to rectify our statements on any essential point, and before the publication of the next number; for then all controversy must cease.

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ANIMAL PATHOLOGY.

By Mr. YOUATT.

LECTURE VII.

Neurotomy.

THE division of the nerve, as a remedy for intense pain in any part of the frame, was known, or at least was hinted at, more than fifteen centuries ago: it does not, however, appear to have been systematically practised until the middle of the last century, and was then confined, or nearly so, to inflammation or disease of the sensitive nerves of the face. It was a remedy for *neuralgia*—pain in the nerve—from whatever cause it might arise, and generally bidding defiance to the power of medicine.

Simple Division of the Nerve.—The pain being clearly referrible to a particular spot, and not to be traced to any local inflammation or mechanical cause, an incision was made in the known direction of the nerve, and between the immediate seat of torture and the brain. The result of this was usually instantaneous relief, but too often of a temporary nature: the divided edges of the nerve again united, and with that re-union the communication between the diseased part and the brain was again established, and the former agony returned; or, in some instances, the pain was translated to another place, generally a neighbouring, but occasionally a distant one.

Extirpation of a Portion of the Nerve.—When that grand improvement on neurotomy, the extirpation of a portion of the nerve, took place, I am not sufficiently versed in medical literature to be able to tell you; but there is a very interesting account of the operation given in Majendie's *Journal of Physiology*. A French soldier was wounded in the leg in the battle of Wagram, in 1809. The ball was extracted, and the wound healed; but the man was subject to very extraordinary nervous paroxysms in the part, and convulsions, commencing from the cicatrix, spread over

the whole body, and gave him the most dreadful pain. A surgeon who was consulted advised that the external popliteal nerve should not only be divided, but that a tolerably large portion of it should be cut out. Eighteen lines of the nerve were excised. The patient, to whom sleep had been almost a stranger, sunk into repose, and said, when he awoke, that a thorough revolution had taken place in him, and that he was no longer the same man. The spasms occasionally returned for awhile, but in another place, and with less intensity; the interval between them gradually increased: and, at length, they disappeared altogether. This is the first case of which I am aware of the excision of a portion of the trunk of a nerve in the human being for the relief of pain.

Mr. Moorcroft studies the Foot of the Horse.—There are records, however, of its earlier introduction in veterinary practice. Mr. Moorcroft, for awhile the colleague of Professor Coleman at the Royal Veterinary College after the death of St. Bel, was devoting his powerful energies to the discovery of the causes and cure of lameness in the fore foot of the horse. It was a subject worthy of him: it involved the interest of the proprietor, and the comfort of the slave. He found that, partly from the faulty construction of the shoe, but more from the premature and cruel exaction of labour, the horse was subject to a variety of diseases of the foot, all of them accompanied by a greater or less degree of pain, often of a very intense nature, and ceasing only with the life of the patient.

Contraction.—He studied the nature, and cause, and consequences of contraction—usually the effect of other injury or disease; but when existing in a great degree increasing, if not perpetuating, all other mischief. He thought, however, that he was approaching towards some improvement in practice, for he was able to remove the contraction of the feet in many cases; and in all he could say, with tolerable certainty, whether he should succeed or fail.

Navicular Disease.—He found a more formidable foe in what was then improperly called coffin-joint lameness. The coffin-joint, or that between the os pedis and lower pastern, was never primarily, and with very few exceptions not at all, involved. Mr. Sewell afterwards called it “joint-capsule lameness,” a term still more objectionable from its being so indefinite. Mr. James Turner first gave it its proper name, “navicular joint disease,” and likewise gave the first satisfactory explanation of its precise seat and character. It is inflammation of the synovial membrane, either of the flexor tendon or the navicular bone, or both, where the tendon plays over that bone; and it is accompanied by

pain, abrasion, and gradual destruction of these parts. In his attempts to remove or even alleviate this disease, Mr. Moorcroft was almost invariably foiled, although he adopted every mechanical contrivance which could be suggested, and every variety of temperature, and every soothing and stimulating application.

Tying the Metacarpal Artery.—He then had recourse to the cutting off of the supply of blood. He imagined that he should thus lessen the degree of inflammation, and give a better chance to other means and appliances. First he tied one of the metacarpal arteries, but without alleviating the pain. He then—having a little while before tied both the carotids, and successfully, in another horse labouring under inflammation of the brain—passed ligatures round both the external and internal metacarpal arteries. In no instance, however, was the horse benefitted; on the contrary, contraction of the foot seemed to be hastened thereby, and the lameness proportionably increased.

Dividing the Nerve of the Leg.—He at length turned his thoughts to another way of subduing the increased sensibility of the part, viz. by diminishing the proportion of nerve naturally distributed on the foot. He laid bare, he does not say whether one of the metacarpal or the plantar nerves, and cut it with a pair of scissors. There was “immediate and decided lessening of lameness,” and sometimes the horse rose perfectly sound: but this happy result was not always permanent; for the lameness returned after the lapse of a few weeks, and often after very slight exertion. It was supposed that the divided ends of the nerve had re-united; and therefore, in order to prevent this, about a quarter of an inch of the nerve was excised. The reproduction of nervous substance was not at that time dreamed of. If nervous influence was subsequently restored, it was supposed to be in some roundabout way, or a mere accidental affair, and not to be effected in the line from which a portion of nerve had been extracted. By this operation considerable relief was usually given; but the lameness was not quite removed in every case, and in too many it speedily returned.

The Division of both the Nerves.—He now tried a bolder experiment. He determined to excise a portion of both the outer and inner metacarpal, and thus to destroy the whole sensibility of the foot. It was a noble experiment. He selected for this purpose a mare that had been operated on by the division of the nerve on one side with evident advantage, but who had relapsed. I will give you the history of this experiment in Mr. Moorcroft's own words. I make no apology for the length of the story. It is the history of the first case of complete neurotomy—excision of the nerve on both sides of the leg—that was ever performed. “The

animal on rising, trotted boldly and without lameness, but now and then stumbled with the foot operated on. The wounds healed in a few days, and the patient was put to grass. Some weeks afterwards a favourable account was received of her soundness; but she was soon brought again to us, on account of a large sore on the bottom of the foot operated on, and extending from the point of the frog to the middle and back part of the pastern. The mare, in galloping over some broken glass bottles, had set her foot full upon a fragment of the bottom of one of them, and which had cut its way through the frog and tendon into the joint, and stuck fast in the joint for some seconds, while the animal continued its course, apparently regardless of injury. The wound bled profusely, but the mare was not lame. Many days had elapsed before I saw her, and large masses of loose flesh were cut from the edges of the wound without the animal shewing the slightest sign of suffering pain. The processes usually attending sores went on with the same appearances that took place in sores of parts not deprived of sensibility. Such extensive injury, however, had been done to the joint, as rendered the preservation of free motion in it very improbable, even were the opening to close, which was a matter of doubt, and therefore she was destroyed. It appeared clearly from this, that, *by the destruction of sensibility the repairing powers of the part were not injured*; but that the natural guard against injury being taken away by the division of both the nerves, an accident was rendered destructive, which, in the usual condition of the foot, might have been less injurious.

“I do not recollect the number of horses operated upon by me successfully after this, although it was somewhat considerable. Some of them were worked by myself; but the general impressions on my mind are that horses so operated upon, when they did not again become lame, were more apt to stumble with the limb operated upon than with the other, and that this mode of treatment is more likely to be usefully applied to carriage horses than to those intended for single harness or for the saddle.”

Neurotomy abused and getting into disrepute.—Soon after this, and before the beautiful operation of neurotomy had become sufficiently known and established in public estimation, and it had been ascertained in what particular states and diseases of the foot it would be beneficial or would aggravate the evil, Mr. Moorcroft departed for far distant climes. It had also unfortunately happened, that, without the slightest disparagement to his judgment, he had originally adopted it as a remedy for that disease of the foot in which there was not only the possibility but the probability of its hastening or producing a fatal result. It was

impossible for any practitioner to determine, in a case of navicular disease, to what extent the cartilaginous or the ossific portion of the navicular bone might have been corroded, or the flexor tendon abraded—how soon in the *natural action* of the horse the one would be fractured or the other ruptured—and how far it would happen as a matter of certainty that, when the stress upon them and the concussion were so much increased by the altered action of the horse, the sensibility of the parts being destroyed, one or both must give way. This could not be ascertained, even in cases that were not of very long standing; and the operation was often performed by incautious persons when the lameness had been of considerable duration, and when it ought to have been supposed that the internal mischief was of a serious character. It consequently happened, that, while the horse generally rose relieved to a great degree, or apparently sound, there were annoying cases in which he almost immediately broke down and became useless for life.

Inconsiderate Operations.—Such an operation could not long be confined to one disease of the foot, but was hastily and at hazard adopted for every kind of lameness. It was resorted to in partial ankylosis of the coffin or pastern joints; and with good effect, for the bold and, occasionally, violent action which was superinduced was calculated to give greater play to the joint. In cases of ringbone it would in the same way, and for the same reason, be beneficial. In cases of contraction it would call into something like their natural action the beautiful mechanism of the foot to oppose or to obviate the narrowing of the heels. In cases of obscure disease, where there evidently was little inflammation, and no ulceration, it might have good effect. In chronic founder, its use might be questionable, yet if every thing else had failed, the trial of neurotomy might be permitted; for the former inflammation might not again be set up, and the natural action of various parts of the foot might be restored. But when there is evident, and, perhaps, considerable inflammation—a state for which rest, and the absence of every internal and external stimulus, afford the only direct means of cure—in which there is nothing so prejudicial as the natural action of the limb—nothing so destructive as its early or violent use—when, by the very circumstance of relieving pain, the action of every part of the foot and the concussion and the pressure are almost beyond comparison increased—the operation of neurotomy must be certain destruction. The animal feels no pain, but the inflammation proceeds with increased rapidity, and is attended by consequences of the most fearful character. So if the feet had been previously bruised or ulcerated; or if there had been bad corn, or canker, or

quittor, the inevitable destruction of the horse must follow the operation of neurotomy. In case of much ulceration or under-running, how much mischief will one day's hard work effect, even although the horse bears as lightly as he can on the painful part, and permits no concussion that he can possibly avoid! What would become of the pumiced foot if sensibility were withdrawn? With his present careful way of placing his feet, and all the protection that we can afford to the attenuated and projecting sole, we are in daily fear lest it should fail to support the weight that is thrown upon it. Alter the action of the horse, and let his foot come with that power and force to the ground, which the concave and healthy sole will hardly bear, and what will become of the pumiced foot?

Few lessons having been given upon these points, and little about them being generally understood, is it to be wondered at that this operation should have been abused—that instead of increased usefulness it should be followed by fearful inflammation, rapidly spreading ulceration, and loss of the hoof, and inevitable death?

Prejudice against it—In addition to these things, it had to encounter the prejudices of the ignorant, and the determined opposition of those who would allow no need of praise to any improvements that emanated not from themselves. The true theory of the nervous system was then altogether unknown. That the nutrition of every part depended on nervous influence was then as now believed; but no master mind had arranged this wondrous system according to the distinct and important functions which it exercises; and to destroy the nerve of the leg, was supposed, of necessity, to destroy the nutrition and life of the part. When the hoof occasionally dropped off, a plain and palpable proof was affirmed to be given of the folly of these would-be improvers. You may judge, gentlemen, what was then said of the absurdity of this new operation when you listen to the following remarks on it, proceeding—strangely proceeding—from a Professor in a foreign school. “Far from believing them unconcerned with nutrition, we think that the nerves composing the axillary and lumbar plexuses preside equally over the sensibility, and the nutritive, and the secretory actions of the parts on which they terminate; and we ask, if the nutrition of the foot depends on the influence of any other nerves than the plantar, why should the division of these be followed by the loss of the hoof?*” Stranger still is the language of a very superior writer of

* MM. Dupuy and Prince, Journ. Prat. Oct. 1830.

I think that a very promising and talented young veterinarian will, upon consideration, a little modify the language which he adopted in the discussion on the nervous system on the 2d of last February. “Referring to the

our own country, a man of humanity too. He is speaking of those who refuse to adopt, and he thinks unfairly and illiberally oppose certain notions and imagined discoveries of his; "and, what is worse, when the truth in clearest evidence lies before them, instead of embracing it joyfully, they have tried every way of stifling her, by wilful misrepresentations and abuse of those who had espoused her cause. And, next to these miserable courses, they have added a barbarity surpassing in refined cruelty even the unsoling or any other cruelty ever proposed by the old farriers, that of nerving the horse's legs when they were not relieved by their injudicious measures, and so destroyed the very fundamental properties of the foot, instead of pursuing the natural and most obvious means of prevention and relief from the evil. Seeing and deeply feeling the very great injury done to the animals as well as to the public and ourselves, we cannot on such an occasion but express warmly our natural and we believe just indignation at such conduct*." I can only say of a passage like this, that, instead of being compelled to record it, I wish that I could blot it out for ever.

Mr. Sewell advocates the cause of Neurotomy.—Well, gentlemen, this noble operation (which I have no hesitation in predicting will be practised and valued in proportion as veterinary science progresses, and interest and humanity, here inseparably combined, operate on the mind of the horse-owner) for awhile fell into disesteem and disuse. It could never have been lost to the world—but its triumph might have been delayed and impaired. It however fortunately happened that Mr. Sewell, very soon after his appointment as Assistant Professor at the Veterinary College, hesitated not to avail himself of every opportunity to put it to the test, and expressed his firm conviction of its value. He at once adopted the plan of *excision* of a portion of the nerve. He made a variety of experiments on the states and diseases of the foot in which it would be beneficial or injurious; and those in which its important effects would be best promoted, and the usefulness of the horse most effectually secured by

function of secretion as dependent upon the brain and nerves, he at once allowed of the closeness of the link; and in reply to the objection raised, that secretion goes on in the horse's foot after an excision of a portion of the nerves which lead to it, he stated that *there are yet filaments which have not been divided*; and even if these were, the bloodvessels are pervaded with nervous tissue *sufficient (!) to carry on secretion.*" Is the theory of the nervous system taught at the Royal Veterinary College so loose and unsatisfactory, that even one of the rising luminaries of our profession should thus express himself? He is to be forgiven when a veterinary professor uses the language quoted in the text—but such times ought to be passing away with us.

* Mr. Bracy Clark on the Foot of the Horse, p. 56.

diminishing, or for awhile *destroying*, the sensibility of the foot, or, in other words, by the operation below or above the fetlock ; and, as being really and mainly instrumental in establishing the credit and high value of the operation, he deserves much commendation. If to Mr. Moorcroft is to be yielded the first adoption of the practice, the praise of having rescued it from neglect and disgrace belongs to Mr. Sewell.

And now, regarding the operation of neurotomy as one of the most signal triumphs of our profession, and with full confidence anticipating the near approach of that period, when, if it is not extended to other diseases of the horse—and of this I do not quite despair—it will at least be made the means of alleviating the sufferings of other patients, I make no apology for this introductory history of it. We must, however, proceed to take a brief survey of the anatomy of the parts on which we are to operate.

[To be continued.]

THE PAST AND PRESENT STATE OF VETERINARY SCIENCE.

No. II.

By Mr. THOMAS WALTON MAYER, Jun.

[Continued from p. 224.]

IN my last paper I attempted to elucidate three points—the state of veterinary science during the dark ages, the manner in which a change was effected, and the result.

I might have enlarged more on these heads, and have traced the improvements, step by step, that were made by the respective authors and practitioners during that period ; and I might have also gone into several minor results that were effected by this change : but this was not my object. My desire was merely to give a general outline of the science during the past, and a more extended view of the present, in order that we may form some correct views of what is necessary to be done for the future. Having said thus much by way of preface, I proceed to that second division of my subject, “the period of comparative light.”

It will be seen by a reference to various sources, that veterinary science, at the time when the light began to dawn with regard to the administration of its medical part, was but little

improved ; and that if the anatomy of the horse was better understood, little or nothing was known with regard to the power and effects of medicine.

In an account of the Veterinary College, from its institution in 1791, it is complained of, that the "treatment of our cattle hath been universally restricted to those who are the most remarkably unqualified to undertake the charge." And, speaking of the time when the care of the human health was entrusted to the barber, it is stated, "that at that period medicine was nearly in the same state in which we see the veterinary art at this day." "The incompetency of the persons (it is further stated) to whom it has been abandoned, has drawn contempt upon the art itself." Is not this a deplorable picture of the state of the science? Still in the hands of blacksmiths, who were boldly mangling the organized parts of the body without knowing any thing of its structure—looked on with contempt by the respectable portion of society, and the laughing-stock of the medical profession.

I extract from a work from which its title would lead us to expect great things, a specimen of the state of veterinary medicine*. The author, speaking of inflammation of the lungs, says, "In these cases you must not be too busy with the lancet. We advise *no blood to be drawn on any account*. The method of practice here laid down, we flatter ourselves will be found more useful than any yet offered by other authors, if strictly adhered to." The following is one of the recipes for pneumonia. Take elecampane root and Florentine orris, of each three ounces, in gross powder; boil them in twelve pints of water to eight pints; then strain it, and add gum ammoniac four ounces, dissolved in a pint and a quarter of good vinegar; honey two pounds; Russia castor, gentian root, and savin, in powder, of each one drachm and a half: boil them and skim off the froth, and strain. Every morning, noon, and night, give the horse a pint of it, either blood warm, or cold, as it is immaterial whether warm or not. "This," says the author, "will incite tough phlegm, open the obstruction of the bronchia of the lungs, and may be much depended on in shortness of breath and wheezing; and, if properly applied, may put a stop to the disease commonly called broken wind, in horses, if taken in time." Of its efficacy in these particulars, I leave your readers to determine.

To shew what was the state of anatomy and physiology about this period, I extract a paragraph, the more valuable, because

* See the Classical Farrier, by W. Merrick, 1788, p. 212.

it is the knowledge said to be obtained from a practice of forty years. "A nerve," says the writer*, "is a *long small bone*, with very *fine pipes* or *hollow fibres*, wrapped up in the *dura* and *pia mater*, which not only covers them all in common, but also incloses every fibre in particular."

Nevertheless, more was known about this time among the respectable portion of the practitioners, respecting the anatomy, &c. of the horse, in consequence of a great deal having been borrowed from the French, and from human anatomy. Also from surgeons turning veterinary authors, the structure of the animal was better described; but the practice of physic was undergoing little or no change. This, then, was the state of our science at the time the Veterinary College was established. Let me now direct your readers to the progress of the science, from the establishment of the College to the present time, and the obstacles it has had to surmount.

A school of veterinary medicine, established in order to give that education which is essentially necessary to constitute a good veterinarian, was the setting up of a mighty engine, by which veterinary knowledge might be distributed through the length and breadth of the land. It did not, however, make that progress during the first years of its establishment that might have been expected; but this, from the obstacles it had to surmount, was not to be wondered at. During the time that M. St. Bel was Professor at the College, little was done towards the advancement of veterinary medicine; but some of his observations on the art generally tended much to give a tone and character to the science which it did not then possess. One extract from his writings will suffice to shew the truth of the foregoing remark. "The object of this art is, therefore, not only congenial with that of human medicine, but the very same paths which lead to a knowledge of the diseases of man, lead equally to a knowledge of those of brutes. An accurate examination of the interior parts of their bodies, a studious survey of the arrangement, structure, form, connexion, use, and relation of these parts, and of the laws by which they are intended to act, as also of the nature and property of the various foods, and other agents, which the earth so liberally provides for their support and cure; these form, in a great measure, the sound and sure foundation of all medical science, whatever living individual animal is the subject of our consideration†."

On the accession of Professor Coleman, the veterinary art

* W. Perk's *New Treatise on Farriery*, 1783, p. 140.

† See St. Bel's *General Observations on the Art of Veterinary Medicine*.

began to make greater strides. His experiments on the power and effects of medicine, and his physiological inquiries and observations, added to the researches of the indefatigable Hunter, materially aided and advanced the science. The formation of an Examining Committee, whose constitution remains unaltered, was another material help. But the obstacles that the science had to surmount were so great, that in spite of the progress that it had already made, and was making, it was looked upon by the public with contempt. To give respectability to the profession was the object of Professor Coleman when he demanded that veterinary surgeons should be appointed in the same way as the medical practitioners to the cavalry regiments, and should be made commissioned officers: the effecting this object reflected the highest credit upon the originator, and gave that tone to the profession which it justly deserved. Nor was the progress of the art visible in these matters alone. The works that were issuing from the press upon some branch or other of the science proved that the art had made much progress. Mr. Blaine's *Outlines* deserve especial notice, which I am sure no person can read without being struck by the scientific and systematic manner in which the subjects are handled, forming a great contrast with the works of the previous century.

Since the beginning of this century the veterinary art has advanced with a sure and steady pace, and forms a retrospective picture which we may look upon with pleasure; diversified as it is with points of attraction, which cannot fail to strike the eye of the scientific beholder, so that I scarcely know to what part of it I shall first direct the attention of the reader.

Consider how the anatomical structure of the animal has been studied and accurately described—its physiology developed—the power and effects of medicine known and appreciated. Look at the progress that has taken place in veterinary operative surgery—how the art of shoeing has become improved—disease cured, or pain alleviated. I would say to my readers, look at these improvements, reflect upon them, and you will then have some idea of the progress the science has made. Its progress has been also marked by the scientific and improved state of its works. The additions that have been made to the common stock by the works of Coleman, Blaine, Clark, Percivall, Goodwin, Youatt, and others, shew forth, in an eminent degree, that veterinary science is based on a solid durable foundation, entitling her to rank upon an equality with her sister science.

[To be continued.]

PUERPERAL FEVER IN CATTLE, AND THE THEORY OF RUMINATION.

By Mr. J. ANDERSON, *Leicester.*

ON the 29th December, 1835, I was called to an aged cow, belonging to Mr. Walker of Rothley. She had calved the previous day, with little or no difficulty in parturition: the placenta came away; the calf was healthy, and every thing seemed to be doing well: notwithstanding which, this morning she suddenly dropped. Mr. Thomas Walker, one of my pupils, was in attendance from the commencement of her parturient pains, and had used the treatment adopted generally in the present practice; the disease, however, progressed with great rapidity.

I arrived in the evening at 7 o'clock, and found that the patient was fast sinking. There was great prostration of the vital powers; pulse scarcely to be felt; respiration laborious; rumination suspended, and suppression of milk. The udder was engorged and inflamed; the rumen distended; there was obstinate constipation, and the power of deglutition was lost. I tried various means for her relief, but to no purpose; she died at 10 o'clock P.M.

I immediately proceeded to the post-mortem examination. The contents of the rumen and reticulum were soft; but those of the manyplus were impacted, dry, and hard, and the folds were very tender. The medicines had not acted on this stomach. The contents of the abomasum were in a semi-fluid state, the medicines having here exerted their principal influence. A few scybalæ were found in the small intestines: the gall cyst was charged with foetid bile. The udder was full of coagulated milk. The suppurative process had begun, and the lactiferous tubes were obstructed. The lungs and liver were unaffected. The head was not examined, for I was fatigued by a long journey, and I did not expect to find any lesions of the brain that would throw much light on the subject. By the time the examination was over, and which had occupied the greater part of the night, decomposition had advanced to a considerable degree, and the air of the place was scarcely bearable.

From this case, in addition to too many others, I am inclined to believe, that the morbid appearances observed on dissection will not, in many instances, satisfactorily account for the death of the patient. In the above case, however, it would seem to have been a deficiency of nervous energy.

Puerperal fever is a very obscure disease; it is one *sui generis*.

Occasionally we have it connected with peritonitis and enteritis ; and at other times it assumes a typhoid character.

When I read in *THE VETERINARIAN* for March Mr. Friend's theory of this fever, I confessed to myself that I had long been somewhat of his opinion, and traced it to disease of the organic motor nerves. When speaking of his practice, he says, "I succeed better, but still fail on too many occasions (as I am afraid we must continue to do)," as soon as I came to that portion of the sentence within the parenthesis, I exclaimed "*Nil desperandum!*" and the old adage came into my mind, "a knowledge of a disease is half the cure." May it be realized in this instance.

As Mr. Friend has promised to give the history and treatment of two cases of a recent date, both extreme ones, and both saved by a new mode of treatment, based on the diseases of the organic motor nerves—if his curative treatment has the desired effect, he will, indeed, be *Friend* the human practitioner as well as the veterinarian ; for three-fourths of the women attacked by puerperal fever have fallen sacrifices to it.

Some affirm that the cause of this disease is in the third stomach : with all due deference to them, I would say that the state of the third stomach is the effect, and not the cause. I attribute this to a want of a sufficient quantity of saliva, in consequence of the suspension of rumination, arising from a deficiency of nervous stimuli on the muscular coats of the stomachs, by which they should have been enabled to propel the indigested portions of their contents up into the mouth, in order to be a second time masticated and mixed with the saliva ; and then, being re-swallowed, it enters directly into the manyplus, where comminution commences under the sole influence of the *cerebro visceral nerve*. In this mill (if the name be appropriate) both mechanical and chemical processes are going forward preparatory to the mass being passed into the abomasum, or true digesting stomach.

When it is deprived of a fresh supply of saliva, and the nervous action withdrawn, the mill stops ; the thin and thoroughly ground portion escapes into the fourth stomach, the residue is pressed into an indurated mass, and which is found almost invariably to be the case on examination after death.

It has been supposed that a quantity of saliva, equal in weight to the dry food which he eats, is consumed by the horse in the act of mastication. This is an extraordinary quantity. Nearly as much is consumed by cattle in the act of rumination ; and that act being suspended, and so much being withheld from the manyplus, the dry state of the contents of that stomach is no longer a matter of wonder.

We have instances on record of ruminating men, particularly of one at Bristol, of whom Dr. Slare gives the following account, in *Philosophical Transactions*, No. 193: "He would begin to chew his meat over again, within a quarter of an hour after his meals, if he drank upon them; but if not, it was somewhat longer*. His chewing after a full meal lasted an hour and a half. The victuals upon their return into the mouth tasted somewhat more pleasant than at first †; and liquids, as broths and spoon meats, returned the same as dry and solid food; and he always observed, that if he ate a variety of things, that which he swallowed first would come up again first to be chewed‡. Also, if this faculty intermitted at any time, it produced sickness; and he was never well until it returned again§."

Comparative anatomists say that the ruminant animals are all hairy quadrupeds, viviparous, and have four stomachs; they also want the incisor teeth in the fore part of the upper jaw: there is an exception to the general rule in this extraordinary man. Will any of your learned correspondents inform me if there is any report of his death, and the appearance or structure of the stomach after death?

I am not aware that there is any recorded account of the structure of the stomach of a human ruminant; and, indeed, there is no apparent necessity for it. The alteration, if any, would be found in the greater development, as connected with the greater power, of the tenth or cerebro-visceral motor nerve; for, on the supposition of a somewhat different, and perhaps more energetic discharge of the functions of that nerve, all the phenomena of rumination may be readily explained.

* If we may judge from analogy, hence the propriety of drenching cattle with gruel, &c. when the cud is lost.—J. A.

† Physiologists are generally agreed, that during the time of digestion, both the cardiac and pyloric orifices of the stomach are closed. If a mouthful of wine or food is returned from the stomach some minutes after it has been received, the odour, taste, and all the qualities, both physical and chemical, of these substances are so altered, that we can with difficulty distinguish them; and vinous liquors, more or less acid, are no longer susceptible of spirituous fermentation.—J. A.

‡ Dr. Albert Haller quotes many authorities to prove, that the food does not pass from the stomach successively in the same manner as it was received, but agreeably to its greater or less degree of digestion.—J. A.

§ Might this not, among many other reasons, be ascribed to a deficiency of saliva or gastric juice: the secretions do not appear to have been morbid, or gastrodynia would have been present.—J. A.

In confirmation of this, I would refer our friend, Mr. Anderson, to that excellent note (K) of Dr. Copland, appended to his translation of Richerand's Physiology. Y.

RABIES IN THE COW.

By Mr. JOHN TOMBS, Pershore.

IN THE VETERINARIAN for April last, at page 204, Mr. Pritchard expresses some doubt whether rabies can be conveyed from the mother to the fœtus through the medium of the circulation. The following case may probably throw some light on the subject:—

February 4th, 1836.—At seven o'clock yesterday morning a mad dog entered General Marriott's farm-yard, at Avon Bank, and bit a four-year-old cow that had two calves by her side, one her own calf, and a fortnight old. This morning I was requested to visit her. I found several wounds on the cheek, os frontis, and eyelid, to all of which I applied lunar caustic, and recommended an application of the same to be repeated during five successive days. The dog was shot and buried immediately after he had bitten the cow. He was disinterred for my examination. The following appearances will, doubtless, prove that he was labouring under rabies. The base of the tongue was black, and covered with small vesicles. The fauces, epiglottis, and larynx black, and covered with slaver; the pharynx bordering on gangrene; the stomach distended with indigesta; the small intestines highly inflamed; and increased vascularity of the membranes of the brain.

March 5th.—The cow refuses her food and water, appears dull and stupid, and takes no notice of any thing.

7th.—Eats nothing, and is very thin, and tucked up at the flanks: pulse 60, and weak: a copious and perpetual flow of saliva from the mouth. She is not in the least degree excited when water is put against her mouth. She never lies down, but sleeps as she stands; and is fast pining away.

8th.—Discharge of saliva abundant: sets her back up. I entered the shed, untied her, and roused her up; when a hen came in by chance at the time, which she ran at, and pawed the litter with her fore feet: this was the only time she ever appeared to be in the least excited. She lingered in this drowsy state until the 12th, when she expired.

On examination after death, I found the rumen, reticulum, manyplus, duodenum, jejunum, and ileum perfectly empty, but

dreadfully inflamed. The fauces, larynx, pharynx, and root of the tongue highly diseased; the membranes of the brain distended with black blood; the substance of the brain was of a pink colour. The two calves sucked her from the day she was bitten until that on which she died; and they are both in perfect health at the present time, June 9th, 1836.

The same morning, the dog, previous to biting General Marriott's cow, bit a man (at four o'clock, at a village four miles from Avon Bank), in the thigh and hand. The bitten parts were cut out and cauterized a few hours afterwards. Several days elapsed, and the man was dipped in the salt water near Bristol; but on the 18th of April, an excruciating pain came on in his hand. On the next morning, all the horrible symptoms of hydrophobia were manifest. He was taken to Worcester infirmary in the evening, and died there on the ensuing morning.

ANOTHER CASE OF RABIES.

By the same.

Feb. 24th, 1836.—I was requested by — Hanford, Esq., of Woolershill, to examine a heifer which he suspected to be mad. When I saw her she was in a yard, prostrate on the ground, and unable to rise. The nose was poked out in a line with the spine. She bellowed loudly, and very peculiarly, the tone of voice being the most singular I ever heard. The mouth was extremely black, and a great secretion of saliva ran from it. She was now scarcely conscious of surrounding objects, but had beaten a hole in the ground with her horns. I introduced a stick into her mouth, which she bit in a ferocious manner. When water was offered to her, she made several ineffectual attempts to swallow it.

On inquiry, I learned that she was found four days ago running about the ground, separating herself from her companions, butting them, and bellowing till she was nearly exhausted. Little notice was taken of her until the next day (the herdsman thinking that she was at heat); but she then ran at and butted a boy that was feeding the others; and she frequently attacked them with great fury. These symptoms attracted attention, and she was consequently ordered to be driven home. On her way thither, when she arrived at a particular spot, she repeatedly ran back to her companions, in defiance of sticks and other weapons. At length she was driven as far as her old bolting place, when she fell down quite exhausted

and insensible. She was drawn on a gate, and placed in the yard, where I saw her two days afterwards. It seemed to me to be a decided case of rabies, and she was destroyed. The appearances after death were precisely the same as in the preceding case, with the exception of the œsophagus being inflamed and the membrane of the frontal sinuses in a state of putrefaction.

A great number of cows, sheep, and dogs, died rabid in this neighbourhood in April last.

SCOTCH VETERINARY JURISPRUDENCE.— GLANDERS.

Communicated by Mr. TAIT.

Banff, 17th May, 1836.

Unto the Honourable the Sheriff of Banffshire.

The Petition of ARCHIBALD YOUNG, Solicitor in Banff, Procurator Fiscal of Court for the Public Interest,

Humbly sheweth—THAT your petitioner has just now received information, by a writing herewith produced, subscribed by one Huitor, of the county, and by sixteen respectable farmers and tenants in the parish of Marnoch, and adjoining parts of the parish of Rothiemay, stating, that for months past they have considered their horses in considerable danger from two horses affected and labouring under that dreadful, most infectious, and fatal disease, called glanders, now in the possession of George Harper, tenant in Brae of Cudmellie, in the said parish of Marnoch and county of Banff; and the petitioner has also been informed, that several other horses, belonging to and in the possession of the said George Harper, have recently died of that disease. That the petitioner feels it his duty to state these circumstances to your lordship, and to pray,

That it may please your lordship to appoint this petition to be served on the said George Harper on a short induciæ, and with or without answers, to appoint a Veterinary Surgeon, of knowledge and experience, to repair to the residence of the said George Harper aforesaid, and to inspect the said horses; and if such Veterinary Surgeon is satisfied that the said horses, or any horse or horses in the said George Harper's possession, or on his premises, are labouring under the said disease called glanders, that he shall forthwith kill, or cause to be killed, the said horses in his sight, and to be buried so as to prevent the spread of infec-

tion; and to report to the sheriff thereanent, upon oath if required; and farther to do in the premises as to your lordship shall seem fit.

According to Justice,
(Signed) ARCHD. YOUNG, P. F.

Banff, 17th May, 1836.—Appoints this petition to be intimated to the said George Harper, and ordains him to lodge answers or objections thereto, if he any has, in the hands of the clerk of the court, within two free days, after being served with a full double of the petition, and this deliverance by an officer of court with certification.

(Signed) JOHN PRINGLE.

Forbes, for the said George Harper, holds this petition as intimated, and consents to the prayer being granted, if the Veterinary Surgeon remitted to shall report the horse in question to be affected with glanders; reserving always the claims of the said George Harper for relief and damages against all concerned as accords.

(Signed) GEO. R. FORBES,
17th May, 1836.

Banff, 17th May, 1836.—In respect of the consent of the agent of the said George Harper, grants warrant to and authorizes Joseph Tait, Veterinary Surgeon in Portsoy, to inspect the horses belonging to and in the possession of the said George Harper; and if he is satisfied that they, or any of them, are labouring under the disease called the glanders, that he shall forthwith kill, or cause them or any of them to be killed, and buried at his sight, and report on oath thereanent *quam primum*.

(Signed) JOHN PRINGLE.

I, Joseph Tait, Veterinary Surgeon, residing at Portsoy, in consequence of a remit made to me from the sheriff of Banffshire, dated the 17th of May current, to inspect and report upon the horses belonging to Mr. George Harper, farmer, Brae of Cudmellie, being affected with glanders; hereby report, that I have this day examined the only horse in the possession of the said George Harper, and found him labouring under decided glanders; and that, according to said remit, I caused him to be killed and buried.

J. TAIT,
V. S. to the Banffshire Farmers' Club.

Portsoy, 28th May, 1836.

FUNGUS HÆMATODES IN A POINTER.

By Mr. R. ADAM, Beaufort, Invernesshire.

IN the month of March last, a valuable pointer dog was sent to me, quite emaciated, with total loss of appetite, and with a large fungus hæmatodes about the middle of the right side of his neck. It had begun to appear about five months before, and was not at first larger than a pea. I gave him ʒiiss. of Barb. aloes, followed soon afterwards by ʒi of castor oil, which caused the discharge of a great deal of fetid matter from the intestines, after which there was a marked amendment in the system.

At the end of three days, I removed the tumour with the knife: there was a full discharge of healthy matter from the wound; and during the period of its healing the animal had a diet of soup and rabbit-meat, and tonics of iron, &c.

In a little more than three weeks, the wound had completely filled up by granulation; and he was sent home, to all appearance quite well.

At the expiration of three months another tumour made its appearance near the former one, growing fast; and by three days from its being first seen it had attained to near the size of the former one. I removed it immediately, ordering a change of food, and tonics: it appeared at first to go on favourably towards healing; but five days after the removal of the second one, another tumour made its appearance, near the seat of the former ones.

I removed that also; but at the expiration of another five days, the animal was sent up to my house quite unable to walk, with very laborious breathing, and cold extremities. I gave him a cathartic, and bandaged the legs; but during this time the wounds made no progress towards healing, and at the end of three days he died.

In exposing the cavity of the thorax, the lungs were almost covered with variously shaped tumours, from the size of a pigeon's egg to that of a small pea: the intercostal muscles had a great many of these adhering to them, and a few small ones were adhering to the heart. There were three of these on the diaphragm, in the centre of one of which matter was formed. The blood-vessels, kidneys, &c. were free from disease, as also the brain; and the animal retained his senses to the last.

These tumours were white, or nearly so; pretty hard, and of a glandular substance. The external ones were softer, redder, and almost destitute of bloodvessels, except the first, which bled considerably. There was dropsy of the abdomen.

A CASE OF SEVERE PUNCTURED WOUND OF THE FOOT.

By Mr. W. C. SPOONER, Southampton.

ON the 1st of June last, I was requested, by Mr. Bridger, of this town, to attend his bay horse, that was lame in the off hind leg, arising, he thought, from an injury of the foot. He was shod a few days previously, and, finding him lame, Mr. B. had the shoe removed on a journey, and the smith informed him that the nails had been driven too close. There was some degree of tenderness about the foot, but by no means sufficient to account for the severity of the lameness; nor was there any heat or tenderness about the leg; but on pressing the flexor tendons towards the bone, just below the fetlock, at the part where the perforatus is penetrated by the perforans, considerable pain was evinced, and some degree of enlargement perceived, thus clearly pointing out the situation of the lesion. The owner added, that he found him a little lame on first going out, but on the journey he knuckled and dropped suddenly on this leg, and afterwards went much lamer, and the next day was brought home a long distance. I thought the tenderness of the foot might have caused this knuckling, which produced, in all probability, a strain of the sinews at this rather unusual place. He was bled freely from the metacarpal vein, and other antiphlogistic treatment was put in practice; and in the course of a month, when the inflammation had subsided and the horse was getting better, though not rapidly, a blister was applied to the leg. A few days afterwards the groom found that the horse had hung back in the night, and torn down the rack and manger, and a nail had penetrated the off fore foot. I saw him soon afterwards, and found that a large nail had penetrated the lateral cartilage just above the coronary ligament, and had gone for the space of three inches inwards and downwards, towards the centre of the foot. At first it appeared as if the flexor tendon and navicular joint capsule must have been penetrated; but more accurate examination gave me reason to hope that this was not the case, and that the course of the nail had been just posterior to the sinew. My first object was to guard against tetanus by poulticing, &c.; and this being effected, I tried injections of a solution of the sulphate of zinc; but it soon appeared to me that I should be only losing time by thus groping in the dark, and should, at best, have a deep-seated quittor to combat with: I therefore determined to get a depending orifice, at all risks. Accordingly, in the latter

part of July, the horse was cast, and, having had a small seton needle made for the purpose, I began by carefully probing the wound, and found that the sinuses extended in several directions; and I was obliged, in order to afford depending outlets, to insert three setons through the foot, one to the inside heel to the seat of corn from the entrance of the wound, another from this part to the commissure between the bar and frog, and the third from the heel to the centre of the frog. The setons, of course, were regularly moved and dressed; and when healthy matter appeared they were diminished, and the solution of zinc injected. In less than a month the setons were removed, and the coronet blistered; and during this time the hind leg had been again blistered. The horse now becoming free from lameness in both legs, was soon afterwards put to work, where he has continued for the last four months and upwards, never doing less than one hundred miles per week in a four-wheeled phaeton. The result was the more pleasing and satisfactory, as during the time the setons were in the foot the owner was advised by a friend to have the horse shot.

This case being in some respects novel, I send it for insertion in *THE VETERINARIAN*. The short period between the insertion of the setons and the healing of the ulcers deserves remark, and prompts me to suggest the propriety of inserting setons in many cases of deep-seated quitters, with a needle purposely prepared for the sinuses.

THE PROCESS OF DIGESTION VISIBLE TO THE EYE.

By Dr. BEAUMONT.

[We account this one of the most valuable contributions to physiology of which modern times can boast. What will become of many of the pretty theories of the process of digestion, we presume not at present to determine.]

“IT is rarely, indeed, that we can *actually see* what is going on in a healthy stomach; but in a few instances this advantage has been enjoyed, and turned to account in investigating the phenomena of digestion. By far the most instructive example of this kind, which has ever occurred, has lately come under the observation of Dr. Beaumont, of the American army; and, as that gentleman eagerly embraced the opportunity so unexpectedly afforded him of testing the prevailing doctrines by a series

of experiments, continued during a period of several years and under various conditions of health and external circumstances, it will be useful to give a brief outline of the case.

“Dr. Beaumont, while stationed at Michilimackinac in the Michigan territory in 1822, in the military service of the United States, was called upon to take charge of Alexis St. Martin, a young Canadian of eighteen years of age, good constitution, and robust health, who was accidentally wounded by the discharge of a musket on the 6th of June, 1822. The charge,” says Dr. Beaumont, “consisting of powder and duck-shot, was received in the left side, at the distance of one yard from the muzzle of the gun. The contents entered posteriorly, and in an oblique direction, forward and inward; literally blowing off integuments and muscles to the size of a man’s hand, fracturing and carrying away the *anterior half of the sixth rib, fracturing the fifth, lacerating the lower portion of the left lobe of the lungs, the diaphragm, and PERFORATING THE STOMACH.*

“On the fifth day, sloughing took place; lacerated portions of the lung and stomach separated, and left a perforation into the latter large enough to admit the whole length of the middle finger into its cavity, and also a passage into the chest half as large as his fist. Violent fever and farther sloughing ensued; and for seventeen days every thing swallowed passed out through the wound, and the patient was kept alive chiefly by nourishing injections. By-and-by the fever subsided, the wound improved in appearance, and after the fourth week the appetite became good, digestion regular, the evacuations natural, and the health of the system complete. *The orifice, however, never closed;* and at every dressing the contents of the stomach flowed out, and its coats frequently became everted, or protruded so far as to equal in size a hen’s egg, but they were always easily returned.

“On the 6th of June, 1823, a year from the date of the accident, the injured parts were all sound, except the perforation into the stomach, which was now two and a half inches in circumference. For some months thereafter the food could be retained only by constantly wearing a compress and bandage; but early in winter, a small fold or doubling of the villous coat began to appear, which gradually increased till it filled the aperture, and acted as a *valve*, so as completely to prevent any efflux from within, but to admit of being easily pushed back by the finger from without.

“Dr. Beaumont began his experiments in May 1825, and continued them for four or five months, St. Martin being then in high health. In the autumn, St. Martin returned to Canada, married, had a family, worked hard, engaged as a voyageur with

the Hudson's Bay Fur Company, remained there four years, and was then engaged at a great expense by Dr. Beaumont to come and reside near him on the Mississippi, for the purpose of enabling him to complete his investigations. He came accordingly in August 1829, and remained till March 1831. He then went a second time to Canada, but returned to Dr. Beaumont in November 1832, when the experiments were once more resumed, and continued till March 1833, at which time he finally left Dr. Beaumont. He now enjoys perfect health, but the orifice made by the wound remains in the same state as in 1824.

“Dr. Beaumont describes the aperture in St. Martin's stomach as being situated about three inches to the left of the cardia, near the left superior termination of the great curvature. When the stomach was nearly empty, he was able to examine its cavity to the depth of five or six inches by artificial distention. When it was entirely empty, the stomach was always contracted on itself, and the valve generally forced through the orifice, together with a portion of the mucous membrane equal in bulk to a hen's egg. After sleeping for a few hours on the left side, the protruded portion became so much larger, as to spread ‘over the neighbouring integuments five or six inches in circumference, fairly exhibiting the natural *rugæ*, villous membrane, and mucous coat, lining the gastric cavity. This appearance is almost invariably exhibited in the morning before rising from bed.’ Such was the very favourable subject on whom Dr. Beaumont's observations and experiments were made, and such were the numerous opportunities which he enjoyed for repeating them, and verifying their accuracy. Having given this outline, we now return to the consideration of the gastric juice, on the origin and qualities of which it throws much light.

“The first disputed point which is conclusively settled by Dr. Beaumont is, that *the gastric juice does not continue to be secreted between the intervals of digestion, and does not accumulate to be ready for acting upon the next meal.* By inducing St. Martin to fast for some hours, and then placing him with the opening in the left side exposed to a strong light, so as to give a distinct view of the cavity of the stomach, Dr. Beaumont found its only contents to consist of a little viscid and occasionally slightly acidulated mucus mixed with saliva; and in no instance did he perceive any accumulation of the proper gastric juice. The same results had indeed been obtained by Tiedemann and other physiologists before the publication of Dr. Beaumont's memoir; but the evidence of the latter is so much more direct and incontrovertible, that it may justly be regarded as setting the question for ever at rest.

“ Having proceeded so far, Dr. Beaumont next endeavoured to discover at what time the gastric juice begins to be poured out, and under what conditions its secretion is carried on; and here again ocular inspection afforded him satisfactory results.

“ It has already been remarked, that, on pushing back the valve which filled up the opening into the stomach, the cavity within became visible to a considerable extent; and that when St. Martin lay for a time on the left side, a portion of the villous coat, large enough to exhibit several inches of its surface, generally protruded. Owing to these circumstances, Dr. Beaumont could easily observe what changes occurred, both when food was swallowed in the usual way, and when it was introduced at the opening left by the wound. Accordingly, on examining the surface of the villous coat with a magnifying glass, he perceived an immediate change of appearance ensue whenever any aliment was brought into contact with it. The action of the neighbouring bloodvessels was instantly increased, and their branches dilated so as to admit the red blood much more freely than before. The colour of the membrane consequently changed from a pale pink to a deeper red, the vermicular or *worm-like* motions of the stomach became excited, and innumerable minute lucid points and very fine nervous and vascular papillæ could be seen arising from the villous coat, from which distilled a pure, colourless, and slightly viscid fluid, which collected in drops on the very points of the papillæ, and trickled down the sides of the stomach till it mingled with the food. This afterwards proved to be the secretion peculiar to that organ, or, in other words, the true *gastric juice*; the mucous fluid secreted by the follicles, which some have mistaken for it, is not only more viscid, but wants altogether the acid character by which it is generally distinguished.

“ Pursuing his experiments, Dr. Beaumont then found that the contact not only of food but of any mechanical irritant, such as the bulb of a thermometer, or other indigestible body, invariably gave rise to the exudation of the gastric fluid from these vascular papillæ; but that, in the latter cases, the secretion always ceased in a short time, as soon, apparently, as the organ could ascertain that the foreign body was one over which the gastric juice had no power. But the small quantity obtainable in this way is, perhaps, more pure and free from admixture, and therefore better adapted for examination, than any which can be procured under any other circumstances.

“ Gastric juice, in its purest form, and unmixed with any thing except the small portion of mucus from which it can never be obtained entirely free, is described by Dr. Beaumont to be a

clear transparent fluid, without smell, slightly saltish (probably from the admixture of mucus), and very perceptibly acid. Its taste, he says, resembles that of thin mucilaginous water, slightly acidulated with muriatic acid. It is readily diffusible in water, wine, or spirits, and effervesces slightly with alkalies—a direct proof of its acid nature. It coagulates albumen, and is powerfully antiseptic, checking the progress of putrefaction in meat. When pure it will keep for many months, but when diluted with saliva it becomes fetid in a few days. According to Professor Dunglison, to whom some was submitted by Dr. Beaumont for analysis, it contains free *muriatic* and *acetic* acids,—*phosphates* and *muriates* with bases of *potassa*, *soda*, *magnesia*, and *lime*, together with an animal matter soluble in cold, but insoluble in hot water. Tiedemann and Gmelin, again, describe it as composed principally of *muriatic* and *acetic* acids, mucus, saliva, *osmazome*, *muriate* and *sulphate of soda*, with little or no albumen; and, according to the same physiologists, the proportion of acid is always greatest when vegetables or other substances of difficult digestion constitute the chief part of the diet. Other chemists give an analysis somewhat different from either of these; a circumstance which was, indeed, to be expected, considering not only the differences caused by variations of diet, but also the necessarily different degrees of purity of the fluid submitted to examination.”

“Another important principle, which Dr. Beaumont conceives to be established by his numerous experiments, and which forced itself upon him by degrees, is, that in health *the gastric secretion always bears a direct relation to the quantity of aliment naturally required by the system*; so that, if more than this be taken, there will necessarily be too small a supply of the juice for the digestion of the whole. The principle here laid down is in perfect harmony with the sympathy which we have seen to exist between the stomach and the rest of the body, and therefore not only is highly probable in itself, but, if sound, will prove a most valuable guide in the practical regulation of diet.

“The gastric secretion, and the appearance of the villous coat, undergo great modifications during disease, and on this subject also Dr. Beaumont’s observations are highly valuable; because, instead of merely inferring, as others are obliged to do, he enjoyed the privilege of *seeing* with his eyes what was actually going on. In the course of his attendance on St. Martin, he found that, whenever a feverish state was induced, whether from obstructed perspiration, from undue excitement by stimulating liquors, from overloading the stomach, or from fear, anger, or other mental emotion depressing or disturbing the nervous system, *the villous*

coat became sometimes red and dry, and at other times pale and moist, and lost altogether its smooth and healthy appearance. As a necessary consequence, the usual secretions became vitiated, impaired, or entirely suppressed; and the follicles from which, in health, the mucus that protects the tender surface of the villous coat is poured out, became flat and flaccid, and no longer yielded their usual bland secretion. The nervous and vascular papillæ, thus deprived of their defensive shield, were then subjected to undue irritation. When these diseased appearances were considerable, the system sympathized, and dryness of the mouth, thirst, quickened pulse, and other symptoms shewed themselves; and *no gastric juice could be procured or extracted even on the application of the usual stimulus of food.*

“To enable ourselves to appreciate correctly the nature of digestion, we must begin by considering the conditions essential for its performance, or without which it cannot be carried on. The first indispensable requisite is, an *adequate supply of gastric juice*, and its *thorough admixture with every particle of the food* on which it is to operate. The second is, *a steady temperature of about 98° or 100° Fahr.*; and the third is, *the gentle and continued agitation of the alimentary mass in the stomach while digestion is going on.*

“To test the reality of the solvent powers ascribed to the gastric juice, Dr. Beaumont withdrew from St. Martin’s stomach about one ounce of it, obtained after a seventeen hours’ fast, by introducing first a thermometer to induce the secretion, and then a gum-elastic tube to carry it off. Into this quantity, placed in a vial, he introduced a piece of *boiled recently-salted beef*, weighing three drachms. He then corked the vial tightly, and immersed it in water raised to the temperature of 100°, which he had previously ascertained to be the heat of the stomach when the secretion was going on. In *forty minutes*, digestion had distinctly commenced on the surface of the beef. In *fifty minutes* the fluid became quite opaque and cloudy, and the texture of the beef began to loosen and separate. In *sixty minutes*, chyme began to be formed. In *one hour and a half*, the muscular fibres hung loose and unconnected, and floated about in shreds. In *three hours*, they had diminished about one-half. In *five hours*, only a few remained undissolved. In *seven hours*, the muscular texture was no longer apparent; and in *nine hours* the solution was completed.

“To compare the progress of digestion in the natural way with these results, Dr. Beaumont, at the time of commencing the experiment just described, suspended a piece of the same beef, of equal weight and size, within the stomach, by means of a

string. At the end of the *first half hour*, it presented the same appearances as the piece in the vial; but when Dr. Beaumont drew out the string at the end of *an hour and a half*, the beef had been completely digested and disappeared, making a difference of result in point of time nearly seven hours. In both, the solution began on the surface, and agitation accelerated its progress by removing the external coating of chyme as fast as it was formed.

“ To ascertain still more accurately the difference between *natural* and *artificial* digestion (the one *in* and the other *out* of the stomach), Dr. Beaumont put twelve drachms of *recently-salted boiled beef* into a vial, with the same number of drachms of fresh gastric juice obtained through the opening of the stomach after a fast of eighteen hours; and then placed it in a basin of water on a sand-bath, where he kept it at the heat of 100° Fahr., and continued to agitate it gently. Digestion soon commenced, and progressed uniformly for about six hours, when it ceased. One-half of the meat was then dissolved, and the texture of the remainder loosened and tender,—resembling the same kind of aliment when ejected from the stomach, partly digested, some hours after a meal, as frequently seen in cases of digestion. On weighing the undissolved portion which remained after all action had ceased, six drachms and twelve grains of the beef were found to have been digested by twelve drachms, or nearly double its weight, of gastric juice. It thus appears, that a given quantity of gastric fluid can digest only a relative proportion of meat; so that, when more is eaten than what there is juice sufficient to dissolve, stomachic disorder must necessarily follow. In this latter case, Dr. Beaumont found that the addition of fresh juice causes digestion to be resumed.

“ To discover what influence would be exerted on food masticated, swallowed, and mixed with the gastric juice in the usual way, and then withdrawn from the stomach, Dr. Beaumont gave St. Martin an ordinary dinner of *boiled salt beef, bread, potatoes, and turnips*, with a gill of pure water for drink; and twenty minutes afterwards drew off through the opening about a gill of the contents of the stomach into an open-mouthed vial. In this short space of time digestion had already commenced, thus negating the common notion, that an hour elapses before it begins. The vial was now placed in a water-bath, at a temperature of 100°, and continued there for five hours. Examined at the end of that time, the whole contents were found to be dissolved. On then extracting an equal quantity of chyme from the stomach, and comparing with the solution in the vial, little difference was observable between them, except that the process

had been somewhat more rapid in than out of the stomach. But this experiment is remarkable in another point of view, as shewing, that in the short space of twenty minutes, enough of gastric juice had been secreted for the entire completion of digestion.

“With a view to verify these results, and also to discover the comparative digestibility of different kinds of aliment, Dr. Beaumont gave St. Martin for dinner eight ounces of *recently-salted lean beef*, four ounces of *potatoes*, some *bread*, and four ounces of boiled *turnips*. After fifteen minutes he withdrew a portion of the contents of the stomach, and found that some of the meat had already been slightly digested. In a second portion, withdrawn at the end of forty-five minutes, fragments of the beef and bread were perceptible, and in a still more advanced state of digestion; the meat was in small shreds, soft and pulpy, and the fluid containing it had become more opaque and grucl-like in appearance. When two hours had elapsed, a third quantity was taken out, at which time nearly all the meat had become chymified and changed into a reddish-brown fluid; but *small pieces of vegetable matter now presented themselves for the first time, but in a state of digestion so much less advanced than the meat, that their peculiar structure was still distinctly visible.* Some of the second and third portions, put into a vial and treated in the usual way, advanced to complete digestion, as in the other experiment, except that the process was slower, and that a few vegetable fibres remained to the last undissolved; thus confirming the general opinion, that vegetables are more difficult of digestion than animal substances.

“Such being the influence of gastric juice on different aliments at the natural heat of the body, we have now to ascertain, in the SECOND PLACE, what share the *high temperature* has in the result. To determine this point, Dr. Beaumont took out two ounces of gastric juice, and divided it into two equal portions, in separate vials. He added to each an equal weight of masticated fresh beef; and placed the one in a bath, at the temperature of 99° , and the other in the open air, at 34° . As a contrast to these, he placed beside the latter a third vial, containing the same weight of masticated meat in an ounce of clear water.

“In two hours the meat in the warm vial was partially digested; that in the cold gastric juice was scarcely changed; and the third portion, in the cold water, seemed only a little macerated. In six hours the meat in the warm vial was half digested, while that in the two others had undergone no further alteration. The gastric juice in the first vial having by this time dissolved as much as it could of the beef, four drachms more were added

from the stomach, and the vial was replaced in the bath. *Digestion, which had previously ceased, was now resumed, and went on as steadily as if it had not been interrupted*; thus shewing, in a striking manner, the impropriety of exceeding in our meals the quantity for which alone a sufficiency of gastric juice can be provided.

“At the end of twenty-four hours, the three portions were examined. That contained in the warm juice was completely dissolved, and presented the usual appearances. The portions contained in the cold juice and in the cold water very much resembled each other, and exhibited no appearance of chyme whatever. They were macerated or softened, but not digested. These experiments, and others of a similar nature, shew clearly that a temperature equal to ordinary blood-heat is requisite for chymification.

“To make sure that it was the low temperature alone which prevented the occurrence of digestion in the experiment detailed, Dr. Beaumont now placed the vial containing the meat which had been exposed without effect for twenty hours to the action of the cold gastric juice, on a water-bath at the ordinary blood-heat. In a very short time, ‘digestion commenced, and advanced regularly as in the other parcels.’ The same results were always obtained from a repetition of these experiments, so that they may be held as perfectly conclusive in establishing the essentiality of heat to the digestive process.

“THIRDLY.—The necessity of *gentle and continued agitation* for the accomplishment of digestion is so obvious from the preceding exposition, that it requires no direct experiments to establish it. When portions of meat were suspended in the stomach by a string so short as to prevent them from being fully subjected to the motion already described as always going on during digestion, the action of the gastric juice was confined almost entirely to their surface, and a longer time was consequently required for their solution than when they were left at liberty. In the like manner, when meat out of the stomach was placed in a vial containing gastric juice, its solution was uniformly accelerated by gentle agitation, which acted simply by removing the coating of chyme as it formed on the surface, and thus affording to the gastric fluid an easier access to the undigested portions below. Accordingly, when in one of Dr. Beaumont’s experiments two ounces of unchewed roasted beef were introduced through the external aperture into the stomach, and held by a string, only one-half of it was digested in four hours, evidently from the want of mastication confining the action of the gastric juice to the surface of the mass, and because the

string prevented it from following the regular motions of the stomach.

“Such, then, are the phenomena and conditions of healthy digestion, and such is the light thrown upon them both by the valuable publication of the American physiologist. Before leaving this branch of the subject, however, it may be useful to lay before the reader, as a kind of summary, the principal inferences deduced by Dr. Beaumont from his numerous experiments and observations. But, in doing so, I shall attempt to arrange the results in their natural order; for, in the original work they are given without reference either to logical sequence or to time.”

From Combe's Physiology of Digestion, Lancet, 35-6, ii, 239.

THE PHYSIOLOGY OF THE BLOOD.

By Mr. R. B. RUSH, St. Lopham.

[Read at the London Veterinary Medical Society, March 8th, 1836.]

THE subject I have selected comprehends the physiology of the blood, its circulation, and the changes it undergoes in respiration and circulation; likewise a few remarks on the foetal circulation and growth. I have endeavoured to be as concise as possible, from a conviction that much more benefit is derived from argumentative discussion than from lengthened, wordy essays.

As many volumes have been written on the respective parts of this subject, it may appear presumption in me to attempt its compression to so small a compass; but as I hope it will be the means of eliciting the views of others, I have no doubt that you will be lenient towards me.

A good knowledge of this subject is so important to us as professional men, that no student of the veterinary or medical science, who values his own interest, will be satisfied without it.

Ancient physiologists, to shew the importance of the blood, called it the life of the animal. That it is necessary to existence is proved by the fact of its conveying vitality to every part of the system; it is also the source on which the brain and nerves depend for their action. Another proof of its importance will appear evident, when we call to mind the effects produced by the extraction of too much of it even in health, but more especially when under the influence of disease.

The blood is called a fluid, because in the vessels of living animals it is always found in a liquid state while under the

influence of circulation ; but it is not essentially, so, fluidity being only necessary for its motion, distribution, and the easy separation of its parts. Were it not so, how could it be propelled through flexible tubes over every part of the body, or divided as the vessels branch off? How could it pass through the smaller vessels, or admit of the various separations of its parts, which are to produce the increase and repair of the whole body? How could it be adapted for furnishing the various secretions, or be returned to the heart?

The fluid state of the blood undoubtedly depends on the vital principle, and its immediate connexion with the formation of living parts. It has been said, that its constant motion, and its being continually in contact with living parts, were the principal causes ; but that motion cannot have much to do with it, a few well known facts will tend to confirm. It remains fluid some days in persons in trances, where, to all appearance, it is perfectly at rest, and no action of the vessels is going on : even in extravasation, or accumulation of it in large quantities in different cavities of the body from the rupture of some vessel, and where it could have no motion depending on the vessels, blood has continued fluid some weeks, and in that state has been absorbed. Indeed, the fact of its coagulating when abstracted from the body is a proof of its vitality, and that after the death of the animal it coagulates even when exposed to the same chemical influences as when living.

The general and chemical Properties of the Blood.

The blood, while circulating, appears to be a homogeneous liquid ; but when examined by the aid of a powerful microscope, it is found to be mechanically divisible into two parts ; the one essentially liquid, called liquor sanguinis ; the other essentially solid, suspended in the former, and imparting its red colour. The liquor sanguinis consists of fibrine, held in solution with albuminous, oleaginous, and saline matters by means of water. The solid part is composed of red globules made up of a central nucleus of fibrine, with an envelope or film of colouring matter, which last is not essential to the formation of blood, as in cold-blooded animals it is colourless. It is the opinion of some, that it imparts strength, as animals of great strength and exercise have more than weak ones, and wild animals more than tame ones, and from the strongest muscles and those most in action being most supplied with it. But the same is found in white-blooded animals, in which those parts most called into action are supplied with white blood ; especially some powerful fish. It is true they

have red blood, but that supplies the viscera and those parts which have the least powerful action to perform. In the cases above-mentioned the particular redness is caused by their great supply of blood, so that the argument, in my opinion, is controverted.

Sir E. Home supposes the red part which envelopes the globule may be for the purpose of keeping them separate, and thus assist in preventing coagulation while circulating. He also remarked, that while the globules are enveloped in their colouring matter they are not seen to run together on the field of the microscope; but when deprived of it they seem to attract and be attracted so as to unite themselves together, and form a mass. According to some physiologists these globules have different shapes; but the generally received opinion is, that in birds and cold-blooded animals they are elliptical and flattened; and in the mammiferous, spherical and flattened. By the calculation of Dr. Wollaston, the globule of human blood is about $\frac{1}{5000}$ part of an inch in size.

On the abstraction of blood from an animal a mechanical separation of its parts takes place, dividing it into serum and crassamentum, which last is divided into fibrine and colouring matter. This process is termed coagulation. To account entirely for the property of coagulation would be difficult and perhaps impossible; but many have attempted it, and I will give you the result as far as it agrees with my views. It is not confined to the blood when out of the body. The importance of this property is evident; for if it did not coagulate, the existence of animals would be most precarious, since on the slightest injury they would be liable to bleed to death; therefore in cases of hæmorrhage it is essential. It appears that fluidity was only intended for its motion, and its motion is to carry life and living materials to every part of the body: these materials, when carried, become solid, so that solidity is the ultimate end of the blood.

Its coagulation out of the body undoubtedly is occasioned, for the most part, by the vital principle not being communicated as in the body; for when extravasated in the living subject, it does not coagulate so rapidly; indeed, it remains fluid some considerable time: also when an artery is secured by two ligatures, the blood retained between them continues fluid a long time. When abstracted from the body it may be influenced by various circumstances. The application of heat hastens coagulation: when contained in the exhausted receiver of an air pump it coagulates more quickly than when exposed to the atmosphere. When received into a narrow spherical vessel, its coagulation appears to be quickened, as the particles of fibrine are not so far removed from a common centre, therefore are more powerfully attracted

to and by each other, in consequence of which more serum is forced out; on the contrary, if received into a shallow, wide vessel, where the particles are spread over a larger surface, it is longer in solidifying, and does not afford so firm a clot, from the serum remaining more mixed. Stirring the blood also retards coagulation. The admixture of a solution of muriate of soda has the same effect.

John Hunter observes, if there was not a mechanical force, as abovenamed, the serum would remain mixed from capillary attraction, as in a sponge; whereas the blood requires some days for complete coagulation or contraction, the clot becoming smaller and firmer from more serum being forced out. As the colouring matter is specifically heaviest, it gravitates to the bottom, in doing which it is arrested in some measure by the coagulation of the other component parts. As the blood is longer in solidifying, more will be precipitated, and *vice versâ*.

The temperature of the blood varies from 98° to 100° and 102°, while in the living subject.

The general time for coagulation of the blood in the human subject varies from ten to fifteen minutes, and in the horse from fifteen to twenty-five.

The chemical composition of blood in a healthy state, as given by Berzelius, is as follows:—

	In 1000 parts.	
Water	- - - - -	780.145
Fibrine	- - - - -	2.100
Colouring matter	- - - - -	133.000
Albumen	- - - - -	65.090
Crystalline fatty matter	- - - - -	2.430
Oily matter	- - - - -	1.310
Extractive matter soluble in water and alcohol	- - - - -	1.790
Albumen combined with soda	- - - - -	1.265
Chloride of sodium	- - - - -	} 8,370
Chloride of potassium	- - - - -	
Carbonates, phosphates, and sulphates of potass and soda	- - - - -	} 2.100
Carbonates of lime and magnesia	- - - - -	
Phosphates of lime, magnesia, and iron	- - - - -	
Peroxide of iron	- - - - -	2.400
Loss	- - - - -	2.400
		1000.600

In addition to the constituents just enumerated, a volatile principle has been found to exist peculiar to each species of animal. This principle, in its odour resembles the perspiration, both in the human subject and the horse; in the ox, that of a cow-house. It may be disengaged by mixing sulphuric acid with the blood.

The chemical constituents of the serum in 1000 parts, as given by Berzelius, are,

Water	-	-	-	-	-	-	-	-	-	906
Albumen	-	-	-	-	-	-	-	-	-	080
Chloride of potassium and sodium	-	-	-	-	-	-	-	-	-	006
Lactate of soda united to an animal matter	-	-	-	-	-	-	-	-	-	004
Carbonate and phosphate of soda, with animal matter	-	-	-	-	-	-	-	-	-	004
										1000
										1000

On minute examination the cruor or crassamentum is found to consist of two parts, very easily separated by immersion, or washing in water. The more solid becomes whitish, and appears fibrous; it is designated fibrine. The colouring matter is more or less dissolved in the water, and is denominated hæmatozine, which Berzelius, by burning it in the open air, found to consist of oxide of iron, a mixture of carbonate and phosphate of lime, phosphate of magnesia, and subphosphate of oxide of iron, but was unable to detect iron by the liquid tests. Others have established these facts, and have also succeeded in testing iron by the liquid reagents. On transmitting a current of chlorine gas through a solution of red globules, the colour entirely disappeared; white flocks were precipitated, and a transparent solution remained in which peroxide of iron was discovered. The real state in which it exists in the blood is unknown.

Fibrine is found in the blood in two states; as the central nucleus of the red globule and in solution it constitutes serum: muscular fibre is principally formed of it, and probably most of the fibrous membranes; so that it may be said to constitute the greatest part of the soft solids of animals.

The serum being solidified by exposure to a heat of 160° Fahr., a small quantity of a colourless limpid fluid may be pressed from it, which is termed serosity; this contains about half its weight of animal matter combined with chloride of sodium. Of the animal matter a portion is albumen, which may be coagulated by galvanism. Serosity is supposed to prevent friction in the serous cavities, being secreted by the minute capillaries in the form of vapour, and again absorbed.

The blood is subject to disease, and is also the medium by which many diseases are conveyed to their respective organs.

The first morbid change we shall notice relates to its quantity, which may be excessive or deficient. The former is denominated plethora, and is generally caused by too much nutritious food with too little exercise: the latter is termed anæmia, which is occasioned by a morbid state of the organs, or functions, that concur to effect the formation of blood. A common cause of anemia is dyspepsia; a more immediate cause is the loss of

blood, either artificially or by natural hæmorrhage. The next changes are excess or deficiency of its component parts.

The blood frequently contains foreign matter, as pus, the contagious effluvia arising from diseases, gases, &c. Two familiar instances I will mention: in jaundice the bile enters the circulation and is distributed to every organized part of the body. In case of suppression of urine, urea may be detected in the blood. Prevost and Dumas, having secured the renal arteries of a dog, and excised the kidneys, succeeded in obtaining, two days after the operation, twenty grains of urea from five ounces of blood. The experiments of Christiern and Dr. Prout substantiated the correctness of this statement. Although the secretions cannot easily be detected in the blood, yet I am of opinion, could it be collected in sufficient quantity from the vessels immediately supplying the part, it is possible to be done; for instance, the calculi found in the kidneys and bladder, are not formed at once, but by the constant supply of blood, and, consequently, the gradual accumulation of the ingredients which compose them.

The blood may become morbid from the influence of impure air, also from a deficient quantity of food, or from noxious matter incorporated with the food. There are many interesting cases on record as proofs that deleterious substances may be conveyed, more or less promptly, into the circulating system through the means of diet. Marshall Hall observes, "there is no point in pathology more instructive than that of scorbutus in the human subject. The morbid influence of salt meat, the curative influence of acids, the baneful effects of impure air and diet, and the beneficial effect of a change of atmosphere and regimen, are shewn more clearly in this disease than in any other." He also remarks, "that inflammation of serous membranes has chiefly the effect of producing the buffy appearance of blood when abstracted in such cases; but inflammation of mucous membranes is seldom attended with this appearance, or frequently occurs without it." I think this appearance deceptive, and, if depended on, without strict attention, calculated to mislead, as it is greatly influenced by circumstances: much depends on the size of the orifice from which you bleed. In cases of extreme debility I have seen the buffy appearance more developed than in any other, although not so firm or tough.

Before I mention the changes the blood undergoes during respiration and circulation, I will briefly notice

The Physiology of the Circulation.

How many and important are the uses of this faithfully main-

tained, although complicated, function! On it depend nutrition, secretion, respiration, absorption, sensation, motion. What part could be formed, what fluid elaborated, what excrementitious matter removed, or what sensation exist, without a heart, arteries, and veins? On the one hand, digestion would go on in vain; on the other, absorption would be useless. For were there no arteries to carry the newly-formed blood to every part of the body, digestion could not support life; so, if veins did not exist to receive the refuse matter from the absorbents, nutrition could not be perfected. How beautifully is every part of the frame deposited, when and where required! Where bone is necessary, osseous matter is laid; fleshy fibre, where muscle is called for; and cartilage, where neither bone nor muscle could be substituted.

The simple mechanism of the circulation presents a most beautiful display of nature's skill; a mechanism, whereby tissues the most different are constructed out of the same fluid, and in which vessels externally alike elaborate secretions having scarcely one character in common. Who has discovered any difference in the blood going to the stomach and the kidneys? Yet the fluids secreted by those organs are very dissimilar. Again; the vessels supplying the brain, and those going to the teeth, are externally alike, and their contents are the same; yet no two substances in the body differ more than medullary matter and enamel. What a display of Divine wisdom is seen in the timely deposition of each tissue, and that in its exact quantity!

That side of the heart which propels the blood through the system, and the arteries which convey it, are much stronger than the veins which return it and that side of the heart which merely propels it through the lungs. The arteries have three coats, an external elastic, a middle muscular, and an internal serous. The elastic is more developed near the heart, and the muscular less so; but as they proceed, the elastic becomes less, and the muscular more. The advantage of this appears evident; for as they are more distant from the heart, and consequently receiving less influence from its action, they require more power in themselves to keep up the regularity of the circulation. That they have this power has been proved by numerous experiments, especially where the heart has been removed. In the fish tribe, there is only a pulmonic heart to carry on the circulation. It is an interesting inquiry, but somewhat difficult of solution, what is the agency by which this machinery is wrought upon; or what are the powers which are brought to bear upon it so as to put it into motion, and to keep up that motion without ceasing, without weariness, without thought, for the most part without conscious-

ness; and that every moment of our lives, both during our waking and our sleeping hours?

Harvey thought the heart was the only organ conducting the circulation; but it has been shewn that the circulation may go on without a heart, its existence being only necessary when organization becomes voluminous, and structure complex. Arteries terminate principally in veins, capillary and discerning tubes, in cells and on surfaces. Their course is generally well protected against injury. They are not so numerous as veins, nor do they anastomose so freely. They have no valves, except at their origin from the heart. The blood in them is a bright scarlet, with the exception of the pulmonary, which performs the office of a vein, and in which, at its origin, the blood is the darkest in the body. Thus far we see the blood is propelled to all parts of the body by the combined action of the vital principle, the heart and arteries. Its return, which is not so easily explained, is effected by the veins, which are thin elastic tubes, possessed of two coats essentially. The external appears a mixture of elastic and muscular fibres, and the internal a serous coat, taking their rise from cells, sinuses, surfaces, but principally from the minute terminating capillaries of the arteries. They are far more numerous than arteries, anastomose very freely, generally have valves, and are rather superficial in their course. The circulation in them appears to be influenced by many circumstances; first, and most important, the vital principle, next the impetus from the contraction of the heart and arteries; the equal pressure on all sides from muscular action, &c., assisted by the valves in preventing the return of the blood, and becoming larger from their origin, thus presenting less obstruction to its passage. Respiration has also a material effect. In inspiration the lungs are in the best state for the passage of the blood, their distention with air straightening the vessels, thus allowing a free passage; whereas in expiration the collapsed state of the lungs makes the vessels more tortuous and compressed, so as in some degree to retard it. The free passage of the blood through and into the lungs in inspiration, produces a partial vacuum in the right ventricle of the heart, into which the blood from the right auricle immediately rushes from the large veins into the auricle, and from the smaller branches into the larger. These circumstances connected, appear to me to account satisfactorily for the circulation of the blood to and from the heart. The formation of blood commences in the stomach and intestines, and is completed in the lungs.

[To be continued.]

CONTRIBUTIONS TO COMPARATIVE PATHOLOGY.

No. VII.

By Mr. YOUATT.

MANGE, PLEURISY, HYDROTHORAX—METASTASIS OF DISEASE.

June 13th, 1833.—BROWN COATI MUNDI. As fat as a pig. The hair is coming off from the tail, and from the hinder parts generally, and the skin of the belly and thighs is red and scurfy. Dress for a few days with the mange ointment (simple sulphur ointment with common turpentine). Give two grains of calomel and an equal quantity of antimonial powder every fourth day, and one drachm of the alterative powder (black sulphuret of mercury, nitre and sulphur) on each intermediate day.

17th.—He looks a little cleaner. Continue treatment.

27th.—The skin is perfectly clean and healthy. Dismissed.

July 2d.—He seemed to be perfectly well until this morning—and even this morning he played about as usual—when suddenly he fell, struggled during about a minute, and died. The brain was congested both in its substance and its membranes, but the immediate cause of death lay in the chest. The lungs were flaccid, yet emphysematous. Nearly one third of each lung was lost for the purposes of breathing, and had apparently been so for a considerable time; there had, in fact, been asthmatic cough of long standing. We had succeeded in removing the mange, perhaps too rapidly so, considering the asthmatic cough: it was the work of a fortnight. The old chest affection, which was somewhat in abeyance while the skin suffered, immediately returned—inflammation of the pleura was set up: the intercostal pleura was partially covered by an adventitious membrane of a flaky character; the chest became filled with a yellow serous fluid, and the animal was suffocated. The peculiarity of the case is, that there was no symptom of illness sufficient to generate the slightest suspicion of the mischief that was going forward.

This will somewhat painfully remind us of the connexion there frequently is between these cutaneous and asthmatic affections in old animals, and the strange intensity which the one acquires when the other is hastily withdrawn. If I could cure a confirmed asthmatical dog of mange, I would not do it; if I could quite get rid of asthma in a mangy dog, I would not do it. They counterbalance and in a manner neutralize each other. Either can undermine and destroy, but together they are comparatively harmless, until one gets a little too much the master, and then

he must be forthwith subdued to his proper level. I had heard the animal cough two or three times, but I did not suspect how confirmed was the pulmonary disease.

But, then, the symptoms of this pleuritic affection which so suddenly destroyed the animal. Why, seeing these patients only occasionally, and generally at rest, and they having no power to answer the questions he should wish to put to them, the veterinary surgeon has not a fair chance; and even if he had a better chance, he must go to school for a long while ere he will recognize the early symptoms of such patients.

ACUTE INFLAMMATION OF THE RESPIRATORY PASSAGES.

Jan. 5, 1834.—LLAMA. When its place was cleaned out this morning, the animal would scarcely rise, and exhibited none of its habitual ill temper. It ate part of its morning's food, but soon returned to its house and lay down again. In the afternoon I saw it; it had rallied, and was quite itself. I watched it—the flanks were perfectly quiet, and I could not see any symptom of illness. It took some carrot from my hand, and as usual, tried to spit a portion of it in my face. Give three grains each of calomel and antimonial powder.

6th.—It died in the course of last night. The abdomen presented nothing wrong, except slight inflammation of the liver; but the whole of the respiratory apparatus exhibited inflammation of the intensest character. The fauces and larynx, the investing and lining membranes, were of a uniformly deep red hue, inclining to purple: it was the same along the whole of the trachea, and in the bronchi. The lungs, where they were not indurated (a considerable portion of them consisted of a grey, granulated condensed substance, grey externally, and white when cut into), were in the highest state of congestion, and in the midst of this disorganized pulpy mass numerous tubercles of different sizes could be felt.

The heart was in a state of marked dilatation. It was flaccid, the pleuritic coat discoloured, and the lining membrane of both ventricles, and of the left one particularly, most highly inflamed. A very little additional fluid in the pericardic bag—none in the thorax.

It is difficult to conceive of inflammation like this being set up without apparent cause—it is more difficult to connect it with the absence of every symptom of acute disease.

PHTHISIS, OBSCURE DURING LIFE.

May 2d, 1834.—BLACK AXIS DEER. He has been losing flesh, and occasionally breathing hard during two or three weeks;

the coat has stared, and there has been an appearance of mange. Alterative powders have been repeatedly given, but the animal has not been put on the sick list. To-day he is quite off his food, and breathes more laboriously than I have ever before seen him. Give four ounces of Epsom salts, and half an ounce of nitre in gruel.

3d.—Decidedly worse, refuses to eat, sadly weak, countenance anxious, muzzle cold, heaves laboriously, loses flesh fast. He is too much exhausted for bleeding to be of service, and he could not bear the ligature. Give half an ounce of nitre, and a drachm of ginger in gruel.

4th.—He died in the night. The abdominal viscera were all sound. The lungs exhibited no acute inflammation, but they were partially hepatized, and, throughout their whole substance, thickly studded with tubercles, some of which were in a state of suppuration. With all this there had been scarcely any cough; the appetite had never been impaired until the last day or two. The animal would eat every thing that was set before him: he frequently ate his own dung. He was always ready to use his horns when any one came near him. The only indications of disease were, loss of condition—*occasional* laborious breathing, but never violent—scurfiness about the skin—and, very lately, *a cessation of the growth of the horns.*

AN AMPHIBIOUS ANIMAL DROWNED IN HIS OWN ELEMENT.

1834. *May 2.*—A *Seal*, well yesterday, and that had caught every fish, was, on the return of the keeper, found dead at the bottom of his pond. The vessels of the membranes of the brain were highly injected. The lungs were congested, but not to any great degree, and in the larynx were found four strongyli. It is in a manner useless to speculate on the cause of his death: he might have been seized with cramp; or these worms, precisely the same as are found in the bronchi of cattle, and often a source of dreadful annoyance, might by some sudden movement or convulsion have caused him to inhale sufficient water to suffocate him in his own element. There was no apparent cause of death.

A CASE OF POLYPUS IN THE NOSTRIL OF A HORSE.

By Mr. JAMES SEWELL, Brighton.

August 4, 1828.—A CART horse of the Flanders breed, the property of Mr. Burgess, of Cubcastle, was brought to me labouring under great difficulty of breathing from the submax-

illary and parotid glands, and parts round the glottis being very much swollen, extending down nearly to the chest, and the off nostril quite plugged up with a fungus protruding four inches from the nostril.

Upon examination, I found that it extended up the bony cavity, and plugged it up so tightly that I could not pass my little finger. Finding the animal very much distressed in respiration, on account of the obstruction arising from these two causes, I was at first inclined to perform the operation of bronchotomy; but he being a very thick, short-necked horse, and the swelling extending down to the chest, I feared there would be great difficulty in completing the operation, and therefore declined it.

I cut off four inches of the protruding fungus, which weighed four ounces. The wound bled to the extent of about a quart, and then stopped. I ordered fomentations and applications of stimulating liniment, to encourage suppuration from the neck, &c. and gruel to be set before the horse; but he could not swallow any food or fluid until suppuration took place and extended so far that I was able to open an abscess on the 7th, which relieved the animal very much. The respiration was particularly relieved, and he was able to suck in a little gruel. The suppuration continued freely, as from other abscesses when opened; and on the 16th he was so far recovered that I thought I could cast him without the danger of suffocating him, which I most likely should have done if I had attempted it when I first saw him. I divided the integuments of the nostril as high as the bony union of the nasal and maxillary bones would admit, so as to be able to grasp the polypus close to the bones of the nose (I should have observed, that it had protruded in its growth nearly as far out of the nostril as before I cut off the four inches), which I did, and kept steadily pulling at it, shifting my hold as it elongated, and it came out quite whole, with its pedicle, which appeared to have had its origin high up in the frontal sinuses, and was about the diameter of a halfpenny. The polypus had the form of the passage of the nostril, and appeared to have filled up every cavity between the turbinator bones.

The animal lost about two quarts of blood from the nostril and mouth. At first the blood, running on to the glottis, set him coughing, and I was a little alarmed; but it soon subsided. The edges of the wound in the nostril, which I brought together by sutures united by the first intention. The animal was put to work ten days after, and has continued (as he is now in existence) without any return of disease or difficulty of breathing. The polypus was eighteen inches long, and weighed one and a quarter pound.

ON THE WEED IN HORSES.

By a Country Blacksmith.

Messieurs Editors,

BEING a constant reader of THE VETERINARIAN, and also, when the fancy strikes me, an occasional contributor, I am often amused at the various views, treatment, and claims to being the first who have pointed out the characteristic symptoms of certain diseases. On perusing a late number of your Journal, I find a paper on *Weed*, by Mr. Anderson, of Leicester, wherein he states that the disease is not described in any prior number of THE VETERINARIAN. Why, thinks I, this at least, must be a new discovery, as that work now treats upon all diseases; but as I am not in the practice of pinning my faith on any man's sleeve, I must look as I proceed. Accordingly, the volumes of THE VETERINARIAN are unshelved, and carefully examined; and after an hour or two's search, Mr. Anderson appears to be right. What does this mean, thinks I. A common disease, known to every blacksmith and farrier in Scotland these hundred years and more, never published before! I must examine the old authors. After half a day's search, the case was bad as ever; the more modern and post rate—the inestimable *Blaine* and *Percivall*, and “*The Horse?*”—worse and worse; not such a thing as *Weed* in them all! At last I stumbled upon an insignificant volume of about 300 pages, by Robt. Thomson, of Auchterarder, now of Beith, published eight or nine years ago, where I find *Weed*, inflammation of the Absorbents. I read the Essay, and was astonished at the coincidence of the two, “Aha, aha! Mr. Anderson,” exclaimed I, “You have been pirating;” and I strongly suspect Mr. Thomson has been pirating also, from the Lectures of Professor Dick. However, as it is the common established doctrine of the country blacksmiths of Scotland, I will copy it verbatim for the amusement of your readers.

“*Inflammation of the Absorbents (Weed.)*—The absorbent vessels are of a thin pellucid appearance; they are, perhaps, as numerous as the bloodvessels, and, like the veins, are furnished with valves. They exist in all the vascular parts of the system, their office being to take up lymph from the cavities, the chyle from the intestines, and substances that are applied to the surface of the body. Absorbents are divided into two classes, *lacteals* and *lymphatics*; the mouths of the first being placed upon the internal coat of the intestines, and whose office is to absorb the nutritious parts of the food; the last being to absorb lymph and serum from the different parts of the system; and both to be mixed with the blood for the support and renovation of the body. They prevent drop-

sies from taking place, by removing the superfluous secretion; they also remove the worn-out parts of the body into the circulation, either to invigorate other parts of the system, or to be thrown off as excrementitious.

“The disease called *weed*, or by farriers *shots of grease*, is inflammation of the absorbents and their glands. The class of absorbents that are principally affected in this disease are the superficial and deep-seated lymphatics of the hind extremities; the first having their origin in the skin and cutaneous cellular membrane, where they form numerous ramifications running along with the superficial veins: a very large branch may be distinctly felt, when distended, by the side of the saphena major vein of the thigh. The deep-seated take their origin from the feet, and descend along with the corresponding bloodvessels. Both the superficial and deep-seated form a beautiful anastomotic net-work, and all assemble in the superficial and deep-seated glands of the groin—the *inguinal*—there they enter and form a plexus, from whence several large branches proceed to their common termination, the thoracic duct. In this disease the glands of the groin become inflamed, swelled, and tender. The fluid passing upwards in the vessels is thereby checked, and the vessel in consequence becomes distended, as far down as the next valve, and so on to the next downwards. The whole vessels are thereby soon distended; the leg becomes enormously swollen, and large quantities of lymph and serum are thrown out from the arteries and absorbents into the surrounding cellular membrane, which, in some cases, it takes the whole of after-life to remove.

“Weed generally commences with a shivering fit, and all the other appearances of fever. If the finger be placed upon the groin, the absorbent glands will be found firm and painful, and the animal snatches up his leg when pressure is applied. The principal absorbent vessels along the thigh are fully distended, and from their being in the course of the vein are often mistaken for the veins themselves. The leg begins to swell from above downward, in consequence of the channels being obliterated in the glands, until the vessels become loaded to their minutest ramifications. This causes excessive irritation, and the action of the arteries becomes increased in consequence of the pain. The absorbent vessels are now blocked up, and unable to relieve themselves. The consequence of which is, that large quantities of blood, lymph, and serum are thrown out into the surrounding cellular membrane in a few hours, so as often to enlarge the leg to twice its natural thickness. The effusion may also at times extend to the sheath, belly, and udder. In some rare cases sup-

uration has taken place, and sometimes, still more rarely, in mortification of the limb, and death.

“There is considerable resemblance betwixt this disease and dropsical swelling of the legs; also farcy, and water-farcy: they may, however, be easily distinguished. Weed begins with swelling and tenderness in the groin, which fall downwards, and are generally confined to one leg. It comes on suddenly, generally in a few hours, the animal being otherwise in good health previous to the attack. Dropsy, again, appears first in the extremities of the legs, and the swelling proceeds upwards. The swelling attendant on farcy is most common in the fore legs, and is accompanied with farcy-buds in the course of the lymphatics. The swellings attendant on water-farcy are often very great, two or all of the legs being affected; and often the swelling extends to the breast and belly; watery blotches break out in various parts, and when the joint becomes affected there is excessive lameness.

“The causes said to produce this disease are sudden changes of diet, as from hard to green food, cold and moisture, overloaded stomach, and want of accustomed exercise. There is something remarkable in these, as it is found in general that those hard-working horses that have been attacked with weed are most frequently so on the first days of the week, or any other days when the animal is not receiving his accustomed daily exercise, while food has been given in immoderate quantities, and soft in quality. Horses once affected are more subject to it than others.

“The cure for this disease is much the same as for other inflammatory affections. As soon as observed, a large quantity of blood should be drawn from the system, and a brisk purge immediately given. If the physic does not operate in the usual time, more ought to be given. When the swelling is very large, much relief will be given by puncturing the large absorbent vessel, which will be felt by the side of the vein; and more punctures may be made in different places, where the effusion has taken place, which will greatly reduce the swelling. It is a common practice with farriers to bleed in the toe with a view to take off the bad blood. In this they are mistaken, as it may be said they begin at the wrong end for doing much benefit. If blood can be drawn from the thigh, or any other part, in sufficient quantity, it will be more certain, and have a better effect. Rowels are also much used in the thigh, but are not of much benefit; as before they can operate the disease is generally checked by the efforts of nature. Frequent bathing with hot water is an excellent remedy,

and wrapping up the legs in bandages of flannel, hay, or straw, supports the distended absorbents, and enables them to relieve themselves. Diuretic medicine may be given every day, or every other day, when the inflammatory action has ceased; and stimulants of turpentine may be used externally with advantage in the latter stages, to arouse the action of the absorbents anew, and to cause absorption of the effused lymph.

“When active remedies are not employed in the very commencement of this complaint, the swelling often remains, and resists every remedy; therefore rowels and bleeding in the toe are rather injurious than otherwise when they alone are depended upon as cures, as they persuade the proprietor that nothing else is necessary to be done, and by this delay the time for removing the swelling is lost. Exercise at the beginning of the disease is also dangerous; for most cases that end in death are owing to this cause. The disease is seldom fatal when properly managed.”

A COUNTRY BLACKSMITH AND FARRIER.

We thank the Blacksmith and Farrier for this satisfactory extract from Mr. Thomson's Work. We must endeavour to see the original.—ED.

A CASE OF RUPTURE OF THE STOMACH IN A FILLY, IN CONSEQUENCE OF EATING HAWS.

By Mr. S. GOODWORTH, Driffield.

ON Friday the 2d of October, 1835, at four o'clock in the afternoon, I was requested to attend a chestnut filly, the property of Thomas Boys, Esq., of Great Driffield. When I arrived, I found her in a very deplorable state: she was rolling and tumbling about, her mouth was very hot, the membrane of the eyelids and nostrils were slightly vascular, the extremities of a clay coldness, the pulse not to be felt either at the submaxillary artery or even at the heart. When she stood up, her legs tottered beneath her; and there was continual twitchings about her breast and sides. I abstracted blood to the amount of four quarts, and gave ʒiij of Barbadoes aloes in solution. A little time after, the pulse began to be perceptible at the heart; the legs and ears were becoming warm, and the body inclined to perspire: I then left her.

In about an hour I saw her again. There was no amendment;

I therefore opened the other jugular vein, and abstracted as much blood as I could get, which was about four quarts; and gave ʒij aloes in solution. I also ordered clysters to be administered every quarter of an hour. I then left her until ten o'clock, when I found her apparently a little better. I therefore thought we might leave her for the night.

3d, five o'clock, A.M.—She is a great deal worse: the legs and ears very cold, the pulse not to be felt at the heart nor the jaw; no purging or rumbling sound in the abdomen. I opened the jugular vein once more, but could obtain very little blood. It had the appearance of tar. I despaired of saving her, and left her for a little while, in order to attend another patient. She died very soon after I was gone.

Post-mortem examination forty-eight hours after death.—On opening the abdomen, a great quantity of the food was observed to be floating about loose, but the large intestines were still distended. The food consisted chiefly of the fruit of the hawthorn. The cæcum was slightly inflamed, the stomach was also distended, and several hard large wedge-like substances, consisting of the stones and stems of the haws, were matted together. On taking the stomach out, I found a rupture in it seven or eight inches in length, through which part of the food had escaped. The lungs were a little inflamed, but the inflammation had apparently taken place only a short time prior to death.

THE VETERINARIAN, JULY 1, 1836.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

THE LONDON VETERINARY MEDICAL SOCIETY.

ONCE more, and I trust for the last time, this strange and disgusting subject is obtruded on the readers of THE VETERINARIAN. The old members of the society will accept our thanks for the promptness with which they have answered to our call in the last number of this periodical. They will forgive us, however, if we confine ourselves to two points, confirmatory, if confirmation had been wanted, of the accuracy of our statement.

We have a letter from Mr. Cowie, the chairman on the night

on which Mr. Morton was elected librarian. He says, "I consider myself imperatively called upon to vindicate you and myself, and those with whom I acted, from the interested, malignant, and false aspersions of an anonymous writer, signed "A Veterinary Student." For six months preceding December 1835, I took an active part in the proceedings of the society, and sat as Vice-President up to the period of my leaving the College. I recollect well how much my colleagues and I had reason to regret the disorderly state of the library. Many of the books were in a torn and dilapidated state, and others had made their exit altogether. In fact, it seemed that neither the librarian nor a portion of the readers of the library had paid any regard to the rules requiring care and punctuality. It was at length determined by the committee and many of the students to propose Mr. Morton as librarian: the only impediment to this arrangement was raised by Mr. Morton himself, and it was in opposition to his wishes that he was proposed. I was in the chair on the very evening of the election, and it fell to my duty to examine the state of the ballot-box, and in which I was assisted by several members around me, when, on careful inspection, we found a majority of one in favour of Mr. Morton. No scrutiny was demanded until the business of the meeting was over, and the chair was vacated. No one expressed surprise or sympathy; not a single "egotistical effusion from a disappointed partizan" was heard; and all passed over with a few vociferous incongruous anathemas from Mr. Vines against the new librarian, his supporters, and the society. The accounts given by Mr. Youatt and Mr. Morton are strictly correct; and I can only regret the circumstances which rendered it imperative on Messrs. Sewell, Spooner, and Morton, to withdraw from their official situations."

Mr. Mayer, junior, whose prompt and manly vindication of the honour of some of his fellow pupils, and certain arrangements connected with the dissecting room in the Veterinary College cannot be forgotten by our readers (See Vet. vol. viii, p. 172), takes up an after-period of this business, and confirms that which would put an end to all doubt with regard to the course pursued by the ex-officers of the society, if it did not raise the question, whether they had not erred on the lenient side, almost to the compromise of the honour of the society.

Mr. Mayer thus writes: "A letter having appeared in the last number of *THE VETERINARIAN*, addressed to the editor of the *Lancet*, and signed 'A Veterinary Student,' purporting to contain an answer to your account of the L. V. M. S. in the previous number, I esteem it my duty to contradict some of 'A Veterinary Student's' statements, knowing them to be contrary to truth, and to testify, as far as my personal knowledge goes, to the accuracy of your statements.

"Having been an attendant, in my capacity as a member, of the society's meetings during the session 1834 and a part of 1835, I beg leave to state, 1st, That the society was not then 'a close corporation;' therefore 'A Veterinary Student's' assertion that it was such up to 'a few weeks past' is incorrect; nor were the committee 'the tools of Mr. Morton.'

2dly, "Your statement that 'four years passed on, during which Mr. Vines lost no opportunity of ridiculing the proceedings of the society, disavowing all connexion with it, and endeavouring to persuade the students from belonging to it, and occasionally succeeding in that attempt,' is (I am arriving at a conclusion in consequence of what I have heard from Mr. Vines's own lips) *perfectly correct*. It therefore happens unfortunately for 'A Veterinary Student' that the 'paragraph' quoted is not 'utterly untrue;' neither have you been deceived by your 'informant,' nor 'volunteered' a 'fib' of your own; but a 'Veterinary Student' is precisely in one of these predicaments himself.

"Hoping that 'A Veterinary Student,' when he next appears before the profession in his anonymous garb, will have more regard to gentlemanly feeling, and a stricter adherence to truth, I remain, &c."

The society has now adjourned until November next, but not before Mr. Bracy Clark had resigned his office as president. In what terms that letter was couched we pretend not to know; but it drew from the committee a reply accepting his resignation, and deploring that he should have thought proper to have used the language which he applied to their teachers and examiners.

It was then determined that Mr. Blaine should be solicited to become their president. We have not yet heard what was the result of this application.

We do understand, however, that many of the students, and

many of the profession are anxious for the formation of a new society. We would entreat these gentlemen not to act hastily in this matter. Give to the old society, that did work well and do good, a *tempus penitentiae*. The delusion will not last for ever; and there are good and honest hearts enough in the present class to do that, by and by, which in their cooler moments their consciences now sternly tell them they ought to do. As for that mysterious tie to which so many of our correspondents allude—the open boast of one party, and by which the other is held in thralldom, and which for many a year has made the interior of the Veterinary College a scene of insubordination, jealousy, malignity, and *savage warfare*, destructive of all improvement, and disgraceful to the institution and to the profession—we share in their regret and their wonder; but we have no explanation to give.

The first part of the paper of Mr. Rush is inserted in the present number, with no view to prolong the dispute, but certainly with the intention of putting our readers in possession of the real circumstances of the case, and of rendering an act of justice to a talented and honourable young man. There are few of our readers who will not admire the diligent research and the clear and accurate physiological views which this essay displays; and they will not be insensible to that proper feeling, that pledge of good and right purpose, and of future worth, which it contains.

It is well known to the members of the Society, that this gentleman labours under a considerable impediment in his speech; on which account his brother defended his essay on the evening of discussion, and was his champion on the following morning, and for which an unfeeling *anonymous* writer consigns him to a horsepond. Although we are urged by both brothers to state the circumstances of this morning adventure, we beg leave peremptorily to refuse. They shall not so far compromise themselves until some *known antagonist* is in the field; and then such a tale shall be told, as, in the opinion of every one with human feelings, would consign *him* to a dozen horseponds, or rather to eternal contempt, who in such circumstances did not

think and speak strongly, or who could then measure his expressions by common rules.

And now we quit this painful, disgraceful subject. There is still room for the error to be repaired. The mode of reparation is, however, in some measure altered. We impugn not the motives of many of those who have been foremost in this contest; but, the error being apparent, there arises in every good and generous mind an anxious wish fully to redeem it. Therefore we say again to those who have power and influence, Give to "the old students' society" a fair and ample opportunity to shew that, although it might be deluded into error, it could not be permanently dishonourable.

The sketch of the essay on "Tubercular Phthisis," by M. Richard, will be found to possess very great interest. If it throws but little light on the successful treatment of this opprobrium of the veterinary as well as the medical art, still by the clear views which it gives of its nature and seat, and connexions, and probable causes, it is preparing the way for something more interesting and valuable at a future period.

We have great pleasure in presenting this essay to our readers, although it will be readily supposed that we enter our protest against more than one of the favourite opinions of the author.

Y.

AN ESSAY ON TUBERCULAR PHTHISIS IN THE TWO FIRST CLASSES OF VERTEBRATED ANIMALS.

By M. RICHARD, M.V., 7th Artillery.

[This thesis was maintained by M. Richard before the Faculty of Medicine in Strasbourg, in 1833. It has since fallen under the notice of M. Dupuy, who has long made tubercular pulmonary disease, and tubercular disease generally, the objects of his peculiar study. His review of it is found in the 3d No. of the new series of the "Journal Théorique et Pratique," and to which they have given the name of the "Journal des Progrès des Sciences Zooaïtriques et de Médecine Comparée;"—a very

pleasing title, and one that augurs well with regard to the improvement of veterinary science in its legitimate and most extended acceptance*. We are proud to acknowledge our obligation to M. Dupuy for the substance of the following sketch of M. Richard's essay.—Y.]

TUBERCULAR phthisis, according to our author, consists in the formation of small bodies of different character, encysted or without a cyst, and whose seat is the pulmonary tissue.

The causes are divided into direct and indirect. Among the direct causes are hereditary predisposition, a peculiar conformation, a thin and delicate form, a feeble constitution, and a straight and flat breast. The indirect causes are, bad food, rapid growth, excessive labour, exposure to vicissitudes of wet and drought, and cold and heat, scrofula, the suppression of cutaneous disease, mechanical irritation of the lungs, and various others.

The symptoms of phthisis in the human being, as related by our author, are foreign to our present purpose. The post-mortem examination presents the ordinary situation of the tubercles on the superior parts of the lobes of the lungs, and being at first hard, then softened, and, finally ulcerated. These ulcers are isolated, or running together, and forming caverns or vomicae. These tubercles are occasionally found in the lymphatic ganglions, and in other organs. After the writings of Morton, Bayle, and Laennec, the cure of this disease must be considered as chimerical: yet, if medicine has no power over confirmed tubercles, it may, at least, prolong the life of the patient, or prevent the development of tubercles in subjects fortunately situated, and especially having good food, moderate exercise, and not being exposed to cold and humid air, particularly in buildings low, damp, and dark. As to the general method of treatment, it must depend on a thousand circumstances connected with age, locality, and temperament.

Our author now proceeds to phthisis in the quadruped. He has observed tubercles in the lungs of the foetus of six months

* There is another gratifying feature in the present state of veterinary science in France, viz. the announcement of a new journal exclusively devoted to the study of the diseases of the ox, the sheep, and other inferior animals. This again is contributing to place our art on its proper footing, and cannot fail of being productive of most valuable results. "Go on, gentlemen, and prosper," we would say; "and prosper you must, if you will renounce that disgraceful jealousy of each other, which your best friends on the continent, as well as on this side of the channel, behold with regret, occasionally mingling with disgust."—Y.

old, both of the horse and the ox. M. Dupuy has found them in the foetal lamb of two or three months.

In the first rank of indirect causes he places domesticity, or the abuse of the animal by man. Next is the influence of climate. He refers to animals brought from warm countries into those that are cold and humid; and he says that they all become phthisical. "It is thus," adds he, "that in our cold climate we see the apes, and the lions, and the tigers, and the dromedaries, and the birds, perish from this disease in our menageries."

Agriculture and the cavalry have often to deplore the enormous losses which they sustain from ill-ventilated and unhealthy habitations. Very few of the cavalry barracks are constructed with any view to the health of the horses, or scarcely with the possibility of preserving it. He illustrates this by certain comparisons between the surface of the lungs of the horse and the little air which is allowed him in some of these wretched buildings. Among the herbivora bad food is a fruitful source of phthisis: their rations, also, are composed of decayed vegetables, badly collected, and badly preserved. The hay or the corn is mouldy, rusty, and covered with parasitical growths.

The manner in which the horse is taken care of is a subject of much importance, and but too little regarded in the cavalry service. A horse will often be in the highest condition when entrusted to one soldier, and will waste away and die under the care of another.

The progress of tuberculous disease is, as in man, very uncertain. M. Dupuy speaks of a horse that had been employed at Alfort during thirteen years, and that when it died contained tubercles in the lungs, and numerous cicatrices of ulceration in the mucous membrane of the nose. He was on the point of being slaughtered, when Chabert, admiring his beautiful proportions, directed him to be kept, as a kind of model of the proper structure of the horse. M. Richard relates an analogous fact that occurred in his regiment. Several patients have been known to live seven or eight years after they were evidently affected with tubercular disease.

It is difficult or impossible to recognize this disease in an incipient state; and there have been many horses that have died of acute disease, as inflammation of the lungs, in which numerous tubercles, the existence of which had not been dreamed of, were found in the pulmonary tissue.

The author next details many experiments that were made in 1824, in order to ascertain the possibility of detecting the existence of tubercles in the lungs of the horse by means of percus-

sion or auscultation. He injected certain irritating substances into the chest, which produced inflammation and disorder, and well illustrated the different sounds recognized in the chest under different circumstances.

Death is the natural termination of tubercular disease in the quadruped, as well as in man; and the same lesions are discovered after death. The lungs are thickly set with tubercles, and also the membrane lining the nasal cavities, and the lymphatic ganglions. These tubercles, also, are hard, softened, or ulcerated; they are isolated, or they form caverns of various sizes, as in man. There are also portions of the lungs more or less extensive which are hepatized.

The disease is incurable, and therefore the author does not recommend any particular treatment, being convinced of the inefficacy of all treatment; he speaks only of the preservative means resulting from the crossing of different breeds, the manner of rearing, and of keeping and using the animals.

The influence of crossing is not confined to the altered fleece, or form, or size of the sheep, but goes to the prevention of many diseases. The experiments of Bakewell and of Daubenton have sufficiently established this.

If tubercular phthisis is examined in the different orders of animals, it will be found that almost all the quadrumana perish by this disease. M. Richard had the opportunity of examining a female baboon that had belonged to a travelling menagerie. There were tuberculous concretions, some hard and others soft, in the liver, the spleen, and the kidneys; the lungs were thickly set with them, and the anterior portion of the left lung was hepatized. Behind this induration was a vomica, containing purulent matter. The lymphatic ganglions, the bronchi, and the mesentery, were enlarged, and contained small softened tubercles.

In September 1827, M. Richard examined a long-tailed green monkey, that had numerous tubercles. M. Duvernoy, Dean and Professor of Natural History at Strasbourg, who had dissected many apes, found numerous tubercles in their lungs and glands. He also observed, that although the carnivora were less subject than other animals to tubercular phthisis, dogs kept long in kennels exhaling infectious miasmata, fell into a state of marasmus and perished from tuberculous affection of the lungs.

M. Dupuy reports many facts which prove that the hog is very subject to tubercular disease. He found hydatids in various organs; and he affirmed that measles in this animal answered to tubercular affection in others, or was consequent upon it, or connected with it.

After many reflections on tubercular phthisis in the horse, he says, that M. Dupuy was the first to combat the error into which

veterinary surgeons had generally fallen respecting glanders in the horse. It is primarily and essentially a tubercular disease. Cavalry veterinarians attribute it to excessive labour, or bad food, or badly ventilated stables: from these causes it is enzootic in certain barracks. It is characterized by enlargement of the sublingual lymphatic ganglions, by discharge from the nostrils, and by ulceration of the membrane of the nose. Such horses are said to be chanced, glandered, &c.

Having extracted some of these sublingual ganglions, the author has discovered calcareous deposits in these tissues; and it is well known that the lungs are often filled with them.

He regards this disease as incurable; he says that he knows not the medicine on which dependence can be placed. He believes that great loss to the service might be prevented by more skilful selection in the remounts. He has observed this disease in the ruminants, and particularly in the ox and the sheep. He has often dried portions of the lungs of the cow, and he has found the tubercles, resembling small pieces of chalk, surrounded by a fine and almost imperceptible tissue. In the sheep this disease is often confounded with the rot. They are, however, essentially different diseases; but they may be complicated with or may follow each other.

The rabbit, according to M. Richard, is subject to tubercular phthisis, and also the hare. Birds are not exempt from it: it is principally produced in them by the agency of cold, and that especially on young birds; and, generally speaking, phthisis is much more frequent in cold and damp climates than in those that are temperate and dry.

It would almost seem that phthisis may be considered to be, or at least is accompanied by, a superabundance of phosphate of lime in the constitution. These tubercles, when analyzed, have yielded very little animal matter, but have been composed of different salts, among which the phosphate of lime has chiefly prevailed. M. Thenard found 96 parts of different salts and only 3 of animal matter in some tubercles which he analyzed. If the tubercles are formed by the deposit of osseous molecules in the lungs and elsewhere, it is very easy to explain the origin of these concretions, even in the fœtus.

The transparent vesicles which are sometimes found in the neighbourhood of the tubercles are merely accidental. They are the origins of the tubercles, the cyst which is to enclose them, and tuberculous matter is afterwards secreted from the internal surface of the cyst of which the hydatid or the acephalocist is composed.

The author is not favourable to the opinion that phthisis is contagious; and he says that Flourens has proved that it is not

so in birds; and if it were contagious in the horse, there would not be one left in Europe, so absurd and insufficient are the pains taken to prevent it. It is in vain, he adds, that in order to destroy a pretended virus, the stable is unpaved, or the furniture burned, or even the horse destroyed, for all these precautions have again and again been found to be perfectly useless.

DEATH OF A HORSE FROM SWALLOWING A TOOTH.

By PROFESSOR RENAULT, *of Alfort.*

A POST-HORSE, seven years old, had not fed well, and had been losing flesh during about three weeks. On the 26th of November 1835, I saw him for the first time. The postillion told me that within the last two days he had eaten with more difficulty and pain than before, and dropped almost the whole of the hay and corn from his mouth before it was perfectly masticated. He had also observed that, during the mastication of his food, the horse always inclined his head to the left side. On examining the mouth, I easily recognized the cause of this difficulty in mastication. The gum, at the second molar tooth of the lower jaw on the right side, was swelled and ulcerated, both within and without. The least pressure on the gum at this spot seemed to give intolerable pain, and the animal suffered considerably when the crown of the tooth was touched. On the portion of the right branch of the jaw-bone, corresponding with the molar cavity belonging to the tooth, was a considerable swelling, hot and painful, and which he told me he had observed about twelve days. It was increasing in size every day. The breath was only to a very slight degree fœtid, and there was nothing to indicate caries of the tooth. I expressed my opinion that the caries, if it existed, was confined chiefly to the root of the tooth, and that, at all events, the ulceration of the tooth and the caries of the alveolar septa beneath, of which there was no doubt, rendered the extraction of the tooth necessary; and that this tooth being situated so little way back in the mouth, there would be but trifling difficulty in extracting it.

On the following day the horse was cast, and, his mouth being kept open by the proper iron, the key was applied to it. It resisted my first efforts to draw it, and then suddenly gave way with a peculiar sound, which made me suspect that it was broken. The iron was then taken out of the mouth, in order

that the tooth might be thrown out; but, to my great surprise, no tooth could be seen. I carefully searched the mouth of the animal, and it became evident that he had swallowed it. I then assured myself that it had been entirely extracted, and as, during the operation, the frænulum of the tongue had been wounded, and bled considerably, I deferred the cauterization of the alveoli until the following day.

As to the swallowing of the tooth, I gave myself very little concern about that. I did not think that so small a body was likely to form any serious obstruction in the intestinal canal, or that its temporary sojourn in the large intestine could become at all dangerous; and I confined myself to directing the mouth to be frequently washed out with warm water, and forbidding all food except that which was soft and easily masticated.

29th.—I again saw the horse, and no serious consequence had attended the operation. He ate with appetite the mash of barley meal which was given to him, and had taken a small quantity of hay.

Two hours afterwards, at 11 A.M., he was brought to the school. He was very uneasy, and his belly was enormously distended. The swelling was principally on the right side, and the resonance here was considerable on percussion. The horse was continually endeavouring to expel something from the anus, and the straining was so great, that I feared, every moment, that the rectum would have protruded. These efforts were followed by small mucous dejections, mixed with portions of food. The mucous membrane of the rectum was of a depressed red colour. These symptoms had been preceded by the swelling at the flanks—colicky pains had immediately followed, but they had ceased, and nothing now remained but the enlargement of the belly, and the incessant effort to void the fæces.

The artery was full, but the pulse was almost imperceptible—the extremities were cold, and the mucous membranes of a red violet colour. The nostrils were convulsively dilated—the walk was staggering—and the respiration difficult and accelerated—the skin was covered with sweat; and, in a word, the animal presented every symptom of immediate suffocation. On this account I immediately opened the jugular, and abstracted a dozen pounds of blood. The patient was very considerably relieved. I then ordered all four legs to be well rubbed with essential oil of turpentine.

There now appeared to me a connexion between these symptoms and the swallowing of the tooth, which I could not fail of observing. But where was this tooth? Entangled in the pyloric orifice of the stomach? I could not recognize any symptom of

gastric disease. Was it in the convolutions or the cæcal portion of the small intestines? How then could I explain the evident distention of the large intestines, and the expulsive efforts, so violent, and so continual, to which the animal abandoned itself? It was more likely that the tooth was lodged either in the colon or the cæcum; or rather it was probably situated in the irregularities of the floating colon, and partially or entirely prevented the passage of the fæcal matter. It was difficult to imagine that in the space of two days the tooth could have reached the further part of the intestines.

Having determined on the nature of the case, I was somewhat embarrassed to ascertain its precise seat. I attempted to introduce my hand into the rectum, but all the circumvolutions of the bowels were so much distended with gas, and so completely filled the pelvis, and the mere introduction of my finger produced such violent efforts to expel the contents of the rectum, that I was forced to abandon this mode of exploration.

In the mean time the swelling rapidly increased, and threatened suffocation. I then determined to have recourse to the only means in my power to prevent this; namely, to puncture the cæcum. This was immediately effected with the trochar used for hoof in sheep; and in an instant the swelling subsided, and the symptoms of suffocation disappeared. I was then enabled to introduce my hand into the rectum; but I could not by this means discover, in the least degree, the situation of the tooth. While I was exploring the rectum, the canula escaped from the cæcum. The swelling now recommenced, and increased with extraordinary rapidity. I was about to plunge the trochar once more into the intestines, when I perceived all treatment was useless. The animal was evidently in the agonies of death, and, in a few moments he expired.

The post-mortem examination took place immediately after death; and I found in the heart and in the lungs all the lesions which usually accompany death by suffocation.

The digestive canal was distended with gas. The stomach was half filled with barley meal; but not a portion of it was to be found through the whole extent of the small intestines, nor was there the slightest trace of inflammation of the mucous coat.

The cæcum contained a great quantity of fluid of a bloody tint; but there was no lesion or redness on any part of the internal face of the viscus which could indicate the source whence the blood had been derived: probably it came from the wound made in the puncturing of this intestine.

In the cavity of the cæcum, and towards its point, we found

the tooth ; but, I repeat it—there was no inflammation, however slight, of the mucous membrane of this intestine.

There was a slight discoloration of the membrane towards the end of the colon : it was of a slate colour, probably from having brought into contact with the sulphuretted hydrogen gas.

Must we, then, conclude that the death of the animal was to be attributed to the presence of the tooth in the cæcum ? However extraordinary such an opinion may at first appear to be, I am very much inclined to believe that it affords the best explanation of the affair. The horse had scarcely eaten for nearly fifteen days. This long fast had produced a comparatively empty state of the digestive canal, and an augmentation of its irritability up to the moment of the operation. The quietness of the horse, his appetite and apparent health during the two days which followed, proved evidently that it passed without obstacle through the first part of the intestinal canal ; but having arrived at the cæcum, which was almost empty, and lying for a greater or less period on its mucous coat at the inferior portion of it, it produced considerable irritation by its hard and irregular angular surface ; and as the contractions of this intestine were not effectual to seize it, and cause it to return to the commencement of the colon, the prolongation of this irritation might suspend the digestive function of this viscus, augment its secretions, and produce the frequent continual effort to expel the fluid contents of the intestine. Hence also arose the gaseous distention, by means of the continuance of the body whose presence was the cause of so much mischief. As to the death of the animal, the tooth was only the indirect cause of this ; it was produced by the suffocation which the excessive distention of the bowels necessarily produced.

Rec. de Med. Vet. 1836.

Miscellanea.

A WHIMSICAL HORSE.

THERE is a very fine horse in the possession of Sir Henry Meux, which is used as a dray-horse ; but he is so tractable, that he is left sometimes without any restraint to walk about the yard and return to the stable at his fancy. In the yard there are also a few pigs of a peculiar breed, which are fed on grains and corn ; and to these pigs the horse has evidently an insuperable objection, which is illustrated by the following fact :—

There is a long deep trough in the yard, holding water for the horses, to which this horse goes alone with his mouth full of corn, which he saves from its supply. When he reaches the trough, he lets the corn fall near it on the ground; and when the young swine approach to eat it (for the old ones keep aloof), he suddenly seizes one of them by the tail, and pops him into the trough; then capers about the yard, seemingly delighted with his frolic. The noise of the pig soon brings the men to its assistance, who know from experience what is the matter; while the horse indulges in all sorts of antics, by way of *horse-laugh*s, and then returns quietly to the stable.—*Morning Herald*.—*Credat qui vult*.

HORRIBLE BARBARITY.

IN 1174, Henry II of France called together the seigneurs of Languedoc, in order to mediate a peace between the Count of Toulouse and the King of Arragon. As Henry, however, did not attend, the nobles had nothing to do but to emulate each other in wild magnificence, approaching to insanity. Among other instances, the Count Urgel sent to the meeting a diadem, worth 4000 modern pounds, to be put on the head of a worthless buffoon. The Count of Toulouse sent a donation of £4000 to a favourite knight, who distributed it among all the poorer knights who attended the meeting. The Seigneur Guillaume Gios de Mertel gave an immense dinner, the viands being all cooked by the flame of wax-candles. Count Bertrand Rembault, however, attracted the loudest applause; for he set the peasants about Beaucaise to plough up the soil, and then he sowed it with small pieces of money to the amount of 1500 English guineas. Piqued at this princely prodigality, and determined to outdo his companions, the Lord Raymond Vernons ordered thirty of his most beautiful and valuable horses to be tied to stakes and surrounded with dry wood. He then heroically lighted the pile himself, and consumed his favourites alive.

PRICES OF POULTRY, &c. FOR THE HOUSEHOLD OF HENRY VIII.

“Capons of growth ye best, ye pece 20d; capons good, ye pece 14d; capons ye pece 8d; hens of growth, ye pece 7d; grene gesse from Ester tell Mydsomer, ye pece 7d; gesse grett, from Mydsomer tell Shroftyde, ye pece 8d; pegyons, the dozen, 8d; rabbets socars the dozen, 18d; Connys tell Hallontyd,

the dozen, 2s ; winter connys, from Hallontyd tell Shroftyde, 2s 6d ; mallards the dozen, 4s ; teeles ditto, 2s ; wegeons, 3s ; eggs from Ester to Myghlemas, the dozen, 16d ; from Myghelmas tell Ester, 20d ; butter swete, from Ester to Hallontyd, the pownde, 2d—from Hallontyd tell Ester, 3d.

PRICES OF ARTICLES OF FOOD PER POUND.

	Beef	Mutton	Pork	Butter	Cheese	Aggregate	Rise in Price
16th Century	1 $\frac{3}{4}$ d.	1 $\frac{1}{4}$ d.	3 $\frac{3}{4}$ d.	3 $\frac{1}{4}$ d.	2 $\frac{1}{4}$ d.	9 $\frac{1}{4}$ d.	
17th ditto	2 $\frac{3}{4}$	3 $\frac{1}{2}$	3 $\frac{1}{4}$	3	2 $\frac{3}{4}$	15 $\frac{1}{4}$	60 per cent.
1701 to 1766	2 $\frac{1}{2}$	2 $\frac{1}{2}$	2 $\frac{3}{4}$	4 $\frac{3}{4}$	2 $\frac{3}{4}$	15 $\frac{1}{4}$	
1767 to 1789	4	4	4 $\frac{1}{4}$	7 $\frac{3}{4}$	4	24	63 per cent.
1790 to 1803	5 $\frac{1}{2}$	5 $\frac{3}{4}$	5 $\frac{3}{4}$	12	6	35	45 per cent.
1804 to 1810	7	7 $\frac{1}{4}$	7	15	6	42	20 per cent.

188 per cent.

A LIST OF THE PUPILS WHO HAVE OBTAINED THEIR DIPLOMAS AT THE ROYAL VETERINARY COLLEGE, ST. PANCRAS, SINCE THE LAST REPORT.

Mr. John Marriott, Riseley, Bedfordshire.

Mr. Edwin Wheeler, Isle of Wight.

Mr. Walter Coe, Cambridge.

Mr. James Gillingham, Melbourne Port, near Sherborne.

TO CORRESPONDENTS.

Our Number was made up previous to our receiving M. F——'s note.—He shall hear from us in our next.

We had not forgotten Mr. T——, but we feared that there was too much difference between the veterinary jurisprudence of the two countries to enable us to give a satisfactory answer. We will inquire.

THE
VETERINARIAN.

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ANIMAL PATHOLOGY.

By Mr. YOUATT.

LECTURE VIII.

Neurotomy.

THE surgical anatomy of that portion of the fore leg of the horse which is concerned in neurotomy, and the proper mode of performing the operation, will be the subject of the present lecture.

The Humeral Plexus.—A small branch of the fifth cervical nerve, much larger ones from the inferior fasciculus of the sixth cervical, the whole of the inferior fasciculus of the seventh, and the principal part of the first intercostal, or rather of the inferior branch of the first dorsal, and also various filaments from the sympathetic or great organic nerve, unite in order to form the humeral plexus. There is very considerable interlacement and intermingling of these various branches: but the plexus is again gradually divided into several nerves of considerable bulk, with two of which alone we have to do, the radial and the ulnar, and which are continued from the plexus to the extremity of the limb.

The Radial Nerve arises from the plexus by two branches, which, united, adhere to and accompany the humeral artery along the back part of the radius to the knee. It there passes under the posterior annular ligament, and, still in company with the artery, pursues its course down the leg on the inner side, and along the edges of the flexor tendons. It here takes the name of the inner *metacarpal* nerve, which it retains until it arrives at the fetlock. At about one-third of the distance down the leg, a branch is sent obliquely and downward across the flexor tendons to anastomose with another nerve on the outside of the leg; but the point from which this branch takes its origin, as well as the point of insertion into the opposite nerve, differ materially in different subjects; and in some cases the insertion is so low as to

render the operation of neurotomy altogether useless. The usual place of insertion is about as high above the fetlock as the origin of the communicating branch is below the knee.

Destination of the Metacarpal Nerve.—As the metacarpal nerve proceeds down the leg, it sends minute ramifications to the inner side of the flexor tendons, and, just above, or almost on the fetlock, it gives off a branch which takes a direction forward and downward, and is distributed over the front of the pastern and on the coronet. It spreads into numerous minute ramifications, in order to secure the distribution of nervous influence to parts so exposed and so important; and, what must never be forgotten when we are deliberating on the choice of spot at which we will operate, these ramifications have evident and somewhat numerous anastomoses with branches from the main body of the nerve continued below the fetlock.

The Plantar Nerve.—The principal trunk of the nerve continues its course over and on the side of, or a little behind the fetlock, and there takes the name of the plantar nerve. One of its branches goes to the lateral cartilage, over which filaments are numerously dispersed. Another branch, a little lower, reaches the sensible frog; another, still lower, and behind the lateral cartilage, proceeds forward through a foramen in the ala of the coffin bone to the sensible laminae; while the remaining body of the nerve enters a foramen in the posterior hollow of the os pedis, and its ultimate branches escape through small foramina around the edge of that bone, and are spread over the sole. You see this plainly in the specimens before you; and when you have not a preparation at hand, and want to refresh your memories, you will find a most accurate account of the course of the metacarpal and plantar nerves in the veterinary anatomy of my esteemed friend, Mr. Percivall.

The Ulnar Nerve is detached from the plexus between the radial and the spiral nerves. It also accompanies the humeral artery for a certain distance, and takes its course towards the elbow in a line with the os humeri; here, as Mr. Percivall truly describes it, the ulnar nerve runs over the inward and back part of the elbow, and passes down the arm, concealed by the posterior border of the flexor of the metacarpus, in order to reach the back of the knee, where it is found under the posterior annular ligament, on the inner edge of the trapezium; and at length it gains the border of the tendo-perforans, where it becomes the *external* metacarpal nerve. A little above the knee it gives off a branch which pierces through the fascia by which the body of the nerve is defended, and becomes subcutaneous. Short filaments penetrate into the knee-joint, but the main branch

passes down the back of the leg, while another, given off immediately below the knee, ramifies over the front of the leg, and thus the sensibility of the integument of the leg depends entirely on the ulnar nerve. On the fetlock, it also sends off two branches to the fore part of the fetlock, to the lateral cartilage, the frog and the laminæ, and finally expends itself on the sole. It is that to the outer side of the fetlock, cartilage, &c. which the radial nerve was to the inner side; and, together, they bestow the whole sensibility below the knee.

The Situation of the Nerve easily detected.—There will be no difficulty, even to the merest tyro, in discovering the precise situation and course of the metacarpal nerve, whether the inner or the outer. It descends the leg on either side close to the edge of the flexor tendons, and in company with the metacarpal artery and vein—the artery lying nearest to the nerve, and the vein being outside, or, in other words, the artery lying between the vein and the nerve. There can scarcely be a possibility of mistake. The vein may not be so easily felt, until after the application of the tourniquet; but the artery is recognized by its pulsation, and the nerve, lying inside it, is detected by its unyielding firmness. After the application of the tourniquet, the yielding roundness of the vein, outside, and the unyielding structure of the nerve, will be sufficiently evident; and you will only have to remember, that between them lies the artery, the course of the blood through which you have interrupted by your ligature. I do not know an operation, so far as the mere performance of it goes, on which the young veterinary surgeon might venture with greater confidence.

Blunderers.—There have, however, been blunderers even here. A young man, not a great many miles from the metropolis, affirmed that a lame horse which he examined had the navicular disease, and he recommended the operation of unnerving. The horse was cast—the operation lasted *only* two hours, and the animal got up as lame as before; and so he remained, the operator continually maintaining that “the muscles of the arm had not yet come to their proper tone (!) and that after a few days’ more exercise all would be well”. The poor beast, however, got worse and worse, and was at length destroyed. It occurred to the groom, who was an intelligent kind of fellow, and who had uttered some few execrations while the mangling was going on, that all was not right, and he cut off the legs and carried them to the family surgeon. He obtained the assistance of another veterinary surgeon; and, lo and behold! not a single nervous fibril had been touched.

Another case came under my own cognizance in 1832. A

gentleman of the Four-in-hand Club had a horse exceedingly lame. It was subjected to the operation of neurotomy. It was kept down a full hour, and a portion of the nerve was supposed to be excised from both legs, and on both sides. The lameness was not in the slightest degree removed: the gentleman was in great wrath, and I was sent for. A small piece—two or three lines—of the nerve had been taken away from one leg. I excised a larger piece on that side, and completed the operation on the other side, and on the other leg. The horse got up sound, and is sound at the present day. Cases like these would be very serious matters to you at the commencement of your professional career, and would do you irreparable injury; therefore in the dissecting-room make yourselves well acquainted with the surgical anatomy of this operation, and perform the operation again and again on the dead subject.

The Operation on the Plantar Nerve.—There is very little more difficulty in discovering the precise situation of the nerve if you operate below the fetlock, for it preserves the same relative situation with respect to the artery and the vein, but it is of smaller bulk, and somewhat more deeply seated. And here, if you are good anatomists, you might vary the situation of the incision, if the seat of disease were plain, and it were as plain that no other part of the foot was affected. You might excise a portion of the branch from the metacarpal if the grievance was plainly on the fore part of the pastern or the coronet—or, taking the plantar nerve, you might divide the branch which goes to the lateral cartilage in manifest ossification of that part. M. Dupuy had two draught horses with ringbone, or what he terms “a uniform hard and bony tumour over the anterior portion of the small pastern.” He excised half an inch from each of the anterior digitated branches on the pastern. The operation was attended by complete success. The animals on whom the cautery and the blister had been tried in vain ceased to go lame, and have ever since been capable of full work. That the operation is susceptible of much improvement, there can be no doubt; but he ought to be a good anatomist, and to have a thorough knowledge of the diseases of the foot, and their relations and consequences, who presumes to refine much on the present recognized plan, namely, to excise a portion either of the metacarpal or the plantar trunk, and the former much oftener than the latter. But I am travelling somewhat too fast: we are yet hardly prepared for these considerations.

Effect of the Excision of the Nerve.—We have described the spinal nerves as being of a compound nature, conveying the power of sensation and of voluntary motion; and when one of

the nerves which are distributed on the muscular portions of the frame is divided, both feeling and motion cease below the excision. But there are not any muscles below the knee. Except in the structure of the bloodvessels there is not a trace of muscular fibre; and the coats of the bloodvessels derive their stimulus from a source essentially distinct from that which governs the voluntary motions of the frame. It is sensation, the power of feeling, which is destroyed, and nothing else. Do not be misled by the old notions about nervous vital energy: the nerves with which you have to do in this operation are not concerned with the vitality of the part. The blood circulates, and the horn grows, and every secretion is carried on just as before. All that you do is to cut off sensation. I wish you thoroughly to understand this, for without it you cannot form an accurate conception of the principle or the consequences, or the various modes of performing the operation.

The actual Result of the Operation.—You partially or totally destroy sensation in that portion below the excision which was supplied by the nerve on which you operate: and a glorious thing it often is to be able to accomplish this. I have a horse with contracted feet; and having tender feet myself, and occasionally compelled to take a long round in tight or ill-fitting boots, I can form some, although probably a very imperfect, idea of the torture which he endures: I can well understand the low action and the short step, and the fumbling way of going which characterizes the horse with contracted feet; and I can understand likewise how this unnatural action perpetuates and increases the contraction by taking away that concussion, that play of the various parts of the foot, which in the unimpeded, fearless action of the sound horse, expands the quarters and preserves the natural and useful form of the foot. I excise a portion of the nerve, and the lameness ceases at once—nay, more than this, (and especially if I adopt the unfettered shoe, at least so far as I can have it unfettered, Mr. Turner's shoe, attached to the foot chiefly on one side alone, and the inner quarter left free), the foot gradually regains its original healthy form; and when in process of time a new portion of nerve is produced, and the sensibility of the foot re-established, the horse continues to be sound.

You destroy sensation, you probably relieve the horse from a great deal of pain. To some extent, you produce immediate good effect as it regards the actual disease. You remove that general constitutional irritability which long-continued pain occasions, and which heightens and perpetuates local disease. Obtain for a patient a short interval of repose, and how soon does every local ailment subside or disappear, and the whole constitution become

invigorated! My friend Mr. Percivall relates two valuable cases of this. A mare with contracted feet was never subject to periodical œstrum, and her owner lamented in vain that he could not breed from her. She underwent the operation of neurotomy, and she became an excellent brood mare. A stallion with many a good point about him was useless in the stud: he was suffering from some disease in the feet. A portion of the nerve was excised;—his constitution underwent a complete change, and he became sire to a numerous and valuable progeny. You destroy pain, and you calculate on the simple effect of that, whether local or constitutional. Limiting your expectations to this, you will rarely be disappointed: but I asked you in my last lecture what you were to expect if you had not taken into consideration other effects of the removal of pain, the possibility, the probability, and in some cases the certainty, of increased inflammation from the use of the part diseased, from the concussion and pressure to which the foot is exposed in its natural action once restored. I asked you what would become of the horse with canker or quittor, or inflammation of the laminae or pumiced foot? The destruction of the part, and the utter ruin of the horse would be the inevitable consequence. This, I repeat, is the principle which I would wish to impress on your minds,—that the result of the operation of neurotomy is the removal of pain; and that it is for you to calculate the bearing of this on the actual disease and future usefulness of the animal.

(This lecture breaks off abruptly here, from the necessary absence of one of the Editors.)

RUPTURED DIAPHRAGM AND DISEASED STOMACH FROM BOTS.

By Mr. W. A. CARTWRIGHT, Whitchurch.

ON Tuesday, 22d March 1836, a coach-horse, twelve years old, the property of Mr. Jobson, of Shrewsbury, went out from this town in the Hibernian coach, about eleven o'clock, a distance of five miles: he was returning again on the same day about three o'clock, when he dropped down dead, just before he arrived at his destination. The coach goes at the rate of ten miles an hour.

Examination.—I opened him on the following morning, and found his diaphragm ruptured. The rupture was so large that a man's head could easily pass through it, and was near the ensiform cartilage, extending as much on one side as on the other. It was the muscular part, and some part of the muscle

seemed to be torn from the tendinous portion. It was evidently a recent affair, as there was not the least disease about it.

THE STOMACH.—*The villous coat* was very much thickened, soft, and of a dirty colour, and could easily be separated from the muscular.

The cuticular coat had been much eaten through with bots, but the stomach was free from them at present. All along near the side of the villous coat (cuticular) it was eaten away entirely through. In one place there was a continuous patch six inches long, and varying in width from an inch to a quarter of an inch. Others were two inches long, and everywhere there were isolated spots of different sizes.

These were entirely through the coat, for in stripping it off holes were left in it. All around these eaten spots the coat was, as usual, much thickened and whiter. On some parts of the cuticular coat there were portions of from two inches square to various less sizes, that had evidently been eaten through, but which was secreted again; they had a smooth appearance with a bluish cast, and on separating it from the other coats it was found to be very thin and easily torn. In some places the cuticular coat was eaten through and away close up to the villous coat, but they seemed not to have eaten the latter. There were also holes in it close up to the œsophagus, but not any in it.

It is the belief of most veterinary writers that bots do no harm; but I certainly am not of that opinion: for can it be supposed that, when there are such extensive parts eaten away quite through to the muscular coat, and to which I have no doubt great numbers of bots must have been a short time ago attached, they do not cause continual irritation and pain? I think it impossible. Whilst they are *merely attached* to the *cuticular coat*, I believe they can do no harm; but in the case I have just related there must have been nearly a quarter of the cuticular coat destroyed quite through to the muscular; consequently there must have been a continual gnawing pain while they were attached to it, and also after they had been expelled, for an abraded surface was left exposed to the rough indigested meat, and which would continue until fresh cuticle was formed.

The Editors of THE VETERINARIAN seem to be of a different opinion, viz. that they do not penetrate the cuticular coat, but are merely attached to it. Now in almost every case that I have seen (and I have noticed them particularly) they are not only attached, but in most places they have eaten through the coat, and left holes in it from the size of a pin's head to those great patches related in the foregoing case. I certainly see them, in

some instances, only attached in some parts, but it is likely that they have been there only a short time.

I have expressed a similar opinion in the first vol. of *THE VETERINARIAN*; and although Mr. Percivall dubs all those that are of a different opinion "presumptuous dabblers," yet I cannot bring myself, at present, from the different cases that I have seen, to be of his opinion, or, like him, "boldly assert *that they are in nowise injurious.*" I have no doubt that in a short time there will be cases in your Journal to the same effect.

A SUSPICIOUS CASE OF SUDDEN DEATH.

By Mr. T. HOLFORD, Northwich.

ON March the 9th, I passed two setons for foot lameness through the frogs of the fore feet of a well-bred gelding, the property of our highly-esteemed sportsman Sir H. Mainwaring, master of the Cheshire hunt. They were dressed with digestive ointment daily, up to the evening of the 21st, and renewed as often as was necessary.

In a day or two after the operation suppuration began, and a healthy secretion existed until the time of his death, which happened on the morning of the 22d. The animal appeared to be going on well; the lameness for which he was operated upon had left him, and all doubts of a permanent cure were dissipated.

On the morning of the 21st, the hounds met at Sandiway Head, an inn about three miles and a half from hence. The hunting was principally in the neighbourhood of the kennels; and after an hour and a half's chase in the surrounding forests, the fox was killed in a field adjoining the paddock connected with that establishment.

The death happening so near the stables, Sir Harry and I left the hounds to inspect the sick horses, several of which were labouring under catarrhal fever (a disease that has been for the last three months very prevalent in this neighbourhood); and on our examination, Upton, for that was the horse's name, came under notice. We remained longer in the box with him than with any other, conversing about the utility of setons and the diminution of this animal's lameness, &c. He was fed at night with his usual allowance of hay, and a mash was given him out of the bucket which had contained the same kind of food as had been given to the horses that were in the field on that day.

He was left in perfect health, and seen by accident at ten o'clock devouring his food as usual; but at four o'clock on the next morning he was found lifeless in the box. The appearance of the wall and the toes of his hoofs proved that he had struggled much; and the girth was rent asunder from the great swelling that had taken place. A part of the mash was left in the manger, which was afterwards given to an old worn-out hunter that was running in the field. In this state of confusion my attendance was requested, in order to superintend the opening of the body.

On my arrival at the kennels, about nine o'clock, we commenced the post-mortem examination; and, after turning back the ribs and abdominal muscles, I took out the stomach and intestines whole. On opening the stomach, a slight inflammation presented itself on the villous coat, in some parts worse than in others, but there was no intense disease: the small intestines were examined from end to end, all of which were perfectly healthy, with the exception of one circular spot (about the size of a shilling) of active inflammation in the jejunum.

The cæcum was more inflamed than the stomach. The inflammation was diffused in patches throughout its whole extent. The colon was more seriously patched, especially at its greater curvature. The rectum also was inflamed in patches, more particularly towards its termination. The peritoneal covering was in a state of inflammation and ecchymosis between the reflections. The kidneys were healthy; the bladder shewed a transverse line of inflammation on the inferior surface of the mucous membrane; and one lobe of the liver was slightly diseased. The chest being laid open, the lungs presented a mass of congestion. The whole length of the trachea, particularly at its inferior surface and the commencement of the bronchial tubes, was highly inflamed. The membrane lining the larynx was also tinted with the same hue. The right ventricle and the left auricle of the heart were studded with spots of ecchymosis, differing in size, and being much larger in the former than in the latter cavity. The other auricle and ventricle were perfectly healthy.

The encephalon came next under consideration, which exhibited no marks internally of extensive disease. I thought the corpora striata more vascular than usually met with in healthy brains; but the numerous vessels revolving around the external convolutions of the cerebrum were filled to a state of congestion with dark purple blood, &c.

Remarks.—Weighing this matter over as I proceeded with the knife, I could not avoid thinking that the animal must have been poisoned. The patches of inflammation in the intestines, particularly in the colon and cæcum, and the congested vessels of the

brain, all tended to confirm my supposition, especially when we consider that the animal had been in a state of rest, and lived on low diet for nearly a month previously. With this impression I brought with me a portion of the stomach and intestines, and with the assistance of an intimate friend (who is a medical man) I tested the contents of both.

After numerous experiments, we obtained the apparent precipitates of arsenic; but, from our imperfect chemical apparatus, not being able to extract all the vegetable matter from the solution, it appeared probable that this was the cause of the precipitates which we obtained, and not the presence of arsenic. For our better satisfaction, a portion of the solution was sent to Professor Cooper, who carefully analysed it, and assured us that it contained no mineral poison. An acid was found in the solution, but it proved to be a compound of the muriatic and acetic acids, the former always existing in the stomach and intestines, and the latter arising from the vegetable matter.

The subject of poisons being so little known, and the difficulty of analysing the contents correctly, owing to the presence of the vegetable matter in our patients, causes me to lay before you the above remarks, trusting that your opinion will more clearly prove the fact, as to the true cause of death.

[That this animal died of poison, in our opinion scarcely admits of doubt, but the nature of the poison does not appear. There is a great deal of diabolical work going forward in the stables of the farmer, and the gentleman too: perhaps not wilful destruction of life, but the determined exhibition of vegetable substances and mineral acids, for some absurd purpose connected with condition or the expulsion of worms. Several of our readers, in country places, connect the general sale of drugs with their veterinary practice; and we happen to know of four or five, who are retail chemists, without much pretension to veterinary science, and they take *THE VETERINARIAN* to glean from it a little useful knowledge. If they would favour us with a sketch of the proceedings of grooms, and of carters more than grooms, in the wanton yet unintentional poisoning of 'their masters' cattle, they would confer on us, and on the public, much obligation. We have been much misinformed, if a case would not be made out that would imperatively call for legislative interference. Their names, if they wished it, should never be disclosed, although to us their

statements must be authenticated by the name and address. Will they think of this? they would, indeed, deserve well of our profession, and of the public generally.—Y.]

A CASE OF PHLEBITIS IN A HORSE.

By Mr. JOHN TOMBS, *Pershore*.

NONE of the contributors to THE VETERINARIAN having taken up the subject of Phlebitis since the excellent communication of Mr. Hales, I am induced to record one of the only two cases of it that terminated fatally in my practice.

1835.—A bay horse, aged, the property of a gentleman of this town, was supposed to have coma, and was bled by a *jockey* at the request of the owner. The day after the operation was performed the pin was removed, and the horse taken a journey in harness; when, drawing up a hill, the blood gushed out of the vein in a frightful manner, and which was staunched by pinning.

Dec. 10th.—I was requested to attend him, three weeks having elapsed since he was bled. He was holding his head under the manger, evidently in great pain, and refusing his food. On examination, I found the vein very much enlarged, and the circulation entirely suppressed. He had been struck twice by the person who bled him, and the lower orifice, from which the blood flowed, is become a sinus. The substance surrounding the upper incision was swollen and indurated previous to my attending him: tinct. myrrh had been applied to the wound. I ordered his head to be tied up to the rack (fearing congestion of the bloodvessels of the membranes of the brain); the neck to be constantly fomented, and a linseed poultice applied at night.

11th.—He holds his head on one side. The pulse is increased in frequency. I administered a dose of physic and laid open the sinus, to which I applied a solution of zinc daily, keeping the head tied up, and continuing the fomentation and poultice.

15th.—Eats a little bran. An abscess has formed in the upper incision, which I opened, and continued the opening to the sinus below. I then introduced a probe up the vein nearly to the angle of the jaw, and laid it open, continuing the zinc and poultices. I likewise gave a diuretic, as the posterior extremities were œdematous.

20th.—I permitted him to lie down to-day. Continue treatment.

21st.—His head is swollen in consequence of being under no restraint yesterday. Give a dose of physic; continue the sol. of zinc and poultices.

28th.—A copious discharge of lymph—when eating he moves his jaws slowly on account of the pain produced by the distention of the masseter veins. I slit up the vein as far as the parotid gland; profuse hemorrhage followed, which was suppressed by pressure. Continue treatment.

1836, Jan. 1st.—An inconceivably abundant discharge of thin matter, mingled with blood, proceeded from small sinuses emptying themselves into the wound which I made on the 28th. Dress them with mild ægyptiacum.

4th.—Sore looking rather healthy, and disposed to granulate.

5th.—The right side of the head alarmingly swelled—the parts adjacent to the wound are swollen. He eats nothing. He is covered with perspiration, and his skin smokes like a furnace. Pulse 70 and hard; rests his head on the manger; walks stiffly, and pokes his nose out similar to an animal with ankylosis of the cervical vertebræ. At 8 A.M. five quarts of blood were abstracted from the remaining jugular vein, and a solution of the chloride of lime was applied to the sore, which stinks abominably. I gave a mild dose of physic, and fomented the head and neck incessantly. At 6 P.M. the swellings were increased. I applied a blister to the nape of the neck on the left side, and bled him from the temporal artery and the angular vein. Wound poulticed at night.

6th.—Apparently better; drinks a little gruel; swelling less. Continue fomentations.

8th.—Discharge from the wound very great, and not so offensive; swelling decreased; eats bran: pulse 40. Apply a liniment composed of oil of turpentine, common oil, and balsam of copaiba, twice a-day.

14th.—A sinus has formed in the lower division of the vein; his neck is so extremely stiff that he turns like an alligator: lay the new sinus open, and dress it as the others.

15th.—Perspires occasionally: pulse 44. Eats but little; rests his head on the manger, and sleeps in that position; losing flesh fast; swellings diminished. When he attempts to reach the rack a very large quantity of thin matter escapes from the opening, and which I suspect comes from sinuses inside the jaw, and from under the parotid gland. When he is walked out his head almost touches the ground, and his nose is inclined to the left side; on that account, as well as his sleeping so much, I suspect that the membranes of the brain are in a state of congestion. The inflammation has now extended to the

fauces and mucous membrane of the larynx and trachea, as he is continually coughing, and swallows his gruel with great difficulty. Continue the fomentations.

16th.—Going on exceedingly unfavourably—there is a great degree of coma; pulse 50, and in a sinking state: when moved, he staggers like a man intoxicated, and has frequent tremors and cold sweats. When his head was released he lay down, but immediately rose again. Give gruel.

17th.—A profuse discharge of green matter from the nostrils; the throat extremely sore; he coughs frequently, and staggers about as yesterday.

19th.—The pulse has risen from 60 to 80 since yesterday, and he refuses every thing that is offered him. At 9 P.M. he fell down, and died without a struggle.

Sectio Cadaveris.

Not a vestige of the vein was left above the orifice; the coats of the vein below were thickened, and that for several inches down the neck; the right side of the neck, larynx, and pharynx, were putrid, and the mucous membrane of the trachea was rotten. Several small abscesses appeared on the inside of the posterior maxillary bone and in the parotid gland; the spur bone of the tongue was embedded in thick pus; the eustachian cavities were filled with pus, and a large quantity of it (enough to fill a quart measure) was under and in contact with the wing of the atlas. The ligaments connecting the atlas to the dentata partially absorbed, pus supplying the place and communicating with and pressing on the theca vertebralis—the latter membrane was injected with black blood. The petrous portion of the temporal bone was covered with pus mingled with blood. The blood-vessels of the dura and pia mater were in a state of congestion: the pineal gland and plexus choroides were in a dreadful state of disease; the lateral ventricle contained a pinky fluid; the pituitary membrane of the frontal sinuses was black and gangrenous.

RUPTURE OF THE JUGULAR.

By Mr. H. Daws, London.

June 24, 1835.—A BAY MARE, six years old, had received an injury from the shaft of a cab, six weeks ago, in the front of the chest, a little above the sternum on the left side. The wound had to all appearance healed, and she was considered fit for work about a fortnight after the accident happened, when sud-

denly the blood gushed in a stream from the seat of injury, and continued to do so every time the mare took any food, unless pressure was made on the jugular vein.

On the 8th inst. a ligature was applied to the jugular, about eight inches below the bifurcation, which had the desired effect of arresting the occasional hemorrhage from the original wound, and which began to granulate and lessen in size daily after the operation. The mare's habit of body became improved, and her appetite was exceedingly good.

The ligature, with a portion of the vein, came away on the 23d, and no untoward symptom exhibited itself, with the exception of a slight tumefaction around the wound in the chest.

On the morning of the 24th, the head, neck, breast and shoulders commenced swelling, and which pitted on pressure; while coagulated blood oozed from the wound in a small quantity; her appetite failed, and she evidently experienced great uneasiness when she attempted to swallow. The swelling continued to increase until the evening, when suddenly blood began to flow in a stream from the mouth and nostrils, and which speedily terminated in death.

Post-mortem Examination.—The cellular membrane was filled with serous fluid. The vein above the ligature was firmly plugged up with lymph. Below the ligature the vein contained blood in a fluid state. The wound below, which communicated with the jugular, looked very dark and unhealthy. The course of the vessel towards the heart was highly inflamed, and also the jugular on the opposite side.

The heart was much inflamed. The lungs were also tuberculated, and vomicæ were beginning to form. A considerable quantity of extravasated blood was found in the left lung, and which was the immediate cause of death. An effusion of serous fluid had also taken place in the cavity of the abdomen. The other viscera were healthy.

CASE OF UNUSUAL APPEARANCE OF THE URINE.

By Mr. J. CLAYWORTH, Spilsby.

IN the first week of October last, a bay blood mare (then running in the mail), the property of Mr. North, coach proprietor in this town, began to fall off in condition, and was consequently turned into a box to rest, where she rapidly regained flesh and spirits. On the 20th of the month she was taken to exercise, previous to being put to her former work. When she

was led out of the stable she appeared in perfect health, and very playful, so much so that the horse-keeper could scarcely keep his seat. She had proceeded about half a mile when she suddenly stopped, began sweating and trembling without any apparent cause, and was with difficulty led home: I was immediately requested to see her.

I found her sweating and trembling, and scarcely able to turn in the stall; her pulse was 75, and hard; the muscles on the back and loins in a state of spasm, and her tail quite stiff. She kept looking at her flanks, and appeared to be in violent pain. When she was forced to go in a straight line she dragged her hind legs after her, but her loins did not appear tender when pressed upon. I passed the catheter into the bladder, and about a pint of fluid of the colour and consistence of linseed oil escaped; after that, about the same quantity, and a little thicker, of the colour of porter; and a third portion of the colour of milk whey.

I took five quarts of blood from the jugular vein; gave ℥viiij of aloes in solution, with ℥viiij ol. lini. in a drench, and applied a mustard poultice to the loins: she was rubbed dry, and her legs flannelled. The catheter was passed about four hours afterwards, and nothing escaped but gas: a bran mash was given with linseed, which she ate, and she was allowed linseed tea to drink.

21st.—She moves better; pulse 60, and soft; bowels open; the poultice acted well. The muscles of the back, &c. are nearly in their natural state. No medicine.

22d.—Going on well; keep her chiefly on linseed mashes and tea.

23d.—Still going on well. I gave her a ball composed of pulv. zingib. ʒij, pulv. gent. ʒij.

24th.—Quite well: went to work a few days afterwards. I imagine that she must have ruptured some of the small vessels in the kidneys, in the act of playing: but what was the reason of the different colours of the urine, and why it did not mix in the bladder, I do not understand. You will please to observe, that it was all taken at one time; that is, the catheter was not withdrawn until the three different colours were taken away.

Your opinion of this case, or that of some of your correspondents, would be thankfully received.

INFERENCES FROM DR. BEAUMONT'S EXPERIMENTS AND OBSERVATIONS ON DIGESTION, GIVEN IN THE LAST NUMBER, PAGE 390*.

“ 1. That *hunger* is the effect of *distention* of the vessels that secrete the gastric juice.

2. That the processes of *mastication*, *insalivation*, and *deglutition*, in an abstract point of view, do not in any way affect the digestion of the food; or, in other words, when food is introduced directly into the stomach in a finely divided state, without these previous steps, it is as readily and as perfectly digested as when they have been taken.

3. That *saliva* does not possess the properties of an alimentary solvent.

4. That the *agent* of chymification is the *gastric juice*.

5. That the pure gastric juice is fluid, *clear and transparent*, without *odour*, a little salt, and perceptibly *acid*.

6. That it contains free *muratic acid*, and some other active *chemical* principles.

7. That it is never found *free* in the gastric cavity, but is always excited to discharge itself by the introduction of *food*, or other irritants.

8. That it is secreted from vessels distinct from the mucous follicles.

9. That it is seldom obtained pure, but is generally mixed with mucus, and sometimes with saliva. When pure, it is capable of being kept for months, and perhaps for years.

10. That it *coagulates* albumen, and afterwards *dissolves* the *coagula*.

11. That it *checks the progress* of putrefaction.

12. That it acts as a *solvent* of food, and alters its properties.

13. That, like other chemical agents, it *commences* its action on food as soon as it comes in contact with it.

14. That it is capable of combining with a certain and fixed *quantity* of food, and when more aliment is presented for its action than it will dissolve, disturbance of the stomach, or “*indigestion*,” will ensue.

15. That its action is facilitated by the *warmth* and *motions* of the stomach.

16. That it becomes intimately *mixed* and *blended* with the *ingestæ* in the stomach by the motions of that organ.

* The inferences are given in Dr. Beaumont's own words, and the italics also are his.

17. That it is *invariably* the *same substance*, modified only by *admixture* with other fluids.

18. That the motions of the stomach produce a constant *churning* of its contents, and *admixture* of food and gastric juice.

19. That these motions are in two directions, *transversely* and *longitudinally*.

20. That *no other* fluid produces the same effect on food that gastric juice does ; and that it is the *only solvent of aliment*.

21. That the action of the stomach and its fluids is the same on *all kinds* of diet.

22. That *solid* food, of a certain texture, is easier of digestion than *fluid*.

23. That *animal* and *farinaceous* aliments are more easy of digestion than *vegetable*.

24. That the susceptibility of digestion does not, however, depend altogether upon *natural* or *chemical* distinctions.

25. That digestion is facilitated by *minuteness of division* and *tenderness of fibre*, and retarded by opposite qualities.

26. That the *ultimate principles* of aliment are always the same, from whatever food they may be obtained.

27. That *chyme* is *homogeneous*, but variable in its *colour* and *consistence*.

28. That, towards the *latter* stages of chymification, it becomes more *acid* and *stimulating*, and passes more rapidly from the stomach.

29. That the *inner coat* of the stomach is of a pale *pink* colour, varying in its hues, according to its full or empty state.

30. That, in health, it is sheathed with mucus.

31. That the appearance of the interior of the stomach, *in disease*, is essentially different from that of its *healthy* state.

32. That stimulating *condiments* are injurious to the healthy stomach.

33. That the use of *ardent spirits* *always* produces disease of the stomach if persevered in.

34. That *water*, *ardent spirits*, and most other *fluids*, are not affected by the gastric juice, but pass from the stomach soon after they have been received.

35. That the *quantity* of food generally taken is more than the wants of the system require ; and that such excess, if persevered in, generally produces not only functional aberration, but disease of the coats of the stomach.

36. That *bulk* as well as *nutriment* is necessary in the articles of diet.

37. That *bile* is not ordinarily found *in the stomach*, and is *not* commonly *necessary* for digestion of the food ; but,

38. That when *oily* food has been used it assists its digestion.

39. That *oily* food is difficult of digestion, though it contains a large proportion of the nutrient principles.

40. That the *digestibility* of aliment does not depend upon the *quantity* of nutrient principles it contains.

41. That the natural temperature of the stomach is about 100° Fahrenheit.

42. That the temperature is *not elevated* by the ingestion of food.

43. That *exercise elevates* the temperature ; and that *sleep or rest*, in a recumbent position, *depresses* it.

44. That *gentle exercise* facilitates the digestion of food.

45. That the time required for that purpose is various, depending upon the quantity and quality of the food, state of the stomach, &c.; but that the time ordinarily required for the disposal of a moderate meal of the fibrous parts of meat, with bread, &c.; is from three to three and a half hours."

Lancet, 35-6, ii, 243.

CONTRIBUTIONS TO COMPARATIVE PATHOLOGY.

No. VIII.

By Mr. YOUATT.

ATROPHY—ANÆMIA.

Dec. 11th, 1833.—INDIAN GOAT. Has purged slightly for two days past. This has much increased to-day. Dreadfully poor. Give cretæ preparat. ʒi, catechu ʒj, ginger 10 grains, and opii 1 grain morning and night.

17th.—It was only to-day that the purging began to stop. The goat feeds better. Continue powder, with four grains of opium.

19th.—Purges again as much as ever. Give the powder three times every day.

21st.—Continues to purge, and again refuses to eat. Drench with gruel.

24th.—Purges more than ever. Double the quantity of opium.

25th.—Died. The stomachs were distended with flatus, particularly the rumen ; but there was no inflammation of either of them, nor of the peritoneal or mucous membrane of any of the intestines, but there was a general appearance of collapse.

Not a viscus except the liver was half of its natural size. The lungs were in a strangely collapsed state on the left side, and somewhat so on the right. They had almost the bloodless appearance of the lungs of a calf that had frequently been bled, and had been afterwards slaughtered in the usual way. The animal was almost a perfect skeleton. It died of atrophy, and the purging was the effect of debility. If more carminative and tonic medicine had been employed, might the animal have been saved?

Jan. 15th, 1834.—BLACK GOAT. Observed for the first time to purge, and that violently. It is of a mucous character, for it mats the wool about the anus, and almost forms a mechanical obstruction. Give an ounce of Epsom salts and a drachm of ginger.

16th.—The stools are more feculent. Give the astringent powder, a drachm morning and night.

17th.—Still purges, but more feculent. Continue powder.

22d.—Has apparently got quite well, and has produced a little one.

Feb. 12th.—She has lost her young one, and purges more violently than ever. Give one ounce of Epsom salts and a drachm of ginger.

14th.—Rapidly wasting away. Give half an ounce of astringent powder.

17th.—Dead. The lungs exhibited old disease, but not of a dangerous character: they were nearly bloodless. The liver was small and firm; the gall-bladder unusually distended with fluid, almost as pale as water, and with comparatively little taste. The bowels were perfectly empty, small, flaccid, and bloodless. She evidently wasted away.

July 8th, 1833.—A little Zebu bull became violently excited by being placed with a large Indian cow that was at heat, and whom he could not cover. He now coughs. He feeds tolerably well. Let him alone, the excitement will probably subside.

13th.—He has quieted down; the cough has left him, and he is quite well. He, however, did not long continue well; he evidently got thin. By means of small doses of Epsom salts and carminatives, he was again and again renovated.

Jan. 30th, 1834.—He has lately been losing ground more decidedly and rapidly. Give daily half an ounce of Epsom salts with two drachms of gentian and one of ginger.

Feb. 5th.—The emaciation rapidly proceeded, and the animal died this morning. The intestines and stomachs perfectly healthy. The lungs collapsed, bloodless, even more so than those of a calf whose flesh had been whitened by repeated bleedings. The liver enlarged and inflamed, and in the principal lobe there were

two hydatids; the smaller one as large as a goose's egg, the other weighing at least twelve ounces. The animal, evidently an old one, had gradually wasted away.

PHTHISIS.

1833, *May 30th*.—ELK is sadly thin and tucked up, heaves slowly but laboriously at the flanks, husks occasionally; moderate appetite. Give of emetic tartar and digitalis each a scruple, and nitre two drachms, in a mash morning and night.

June 3d.—Feeds better, and seems altogether better. Continue powder.

5th.—Countenance more cheerful; heaving considerably less; the husk seldom heard. Continue the powder once in the day.

7th.—Heaves less; the number of respirations not more than thirteen in a minute; they had been twenty. Continue powder.

17th.—Very much improved. Strike him from the sick list.

1834, *Jan. 20th*.—Has been apparently well from the last date until lately, when he has been observed to cough as he first rises, and the breathing is certainly a little quickened and laborious.

22d.—Breathes more quietly and coughs less. Two drachms of the fever powder every night.

23d.—I am not at all satisfied about this animal. There is a phthysical cough when he is in the least degree hurried, and the respiration is becoming quicker. Double the dose of the powder.

25th.—He will not eat the mash thus medicated. Starve him into it, for his breathing speaks too plainly of mischief.

Feb. 5th.—Certainly better; still continue the powder.

11th.—The animal has been dull all day, refusing his food; lying down, and purging violently; no cough. Give arrow-root two ounces, and powdered opium a scruple, in a mash.

12th.—He did eat his mash in the course of the night, and the purging is abated. He cannot without great danger be handled much more, bled, or drenched. Give four ounces of common salt, and an ounce of arrow-root in his mash.

13th.—Better; feeds a little in the day. Repeat medicine.

14th.—Still improving. Continue medicine.

17th.—The feces are returned to their natural state, but the animal is almost always lying down, and does not feed well. The respiration is not much accelerated, but there is a double effort at expiration, and yet not of the common character, for the second effort much exceeds the first in the time occupied by it. Continue the medicine.

19th.—Feeds better, not so often down; more his natural countenance; yet I am not satisfied about him. Let him alone for a while.

21st.—Improved much within the last two days. Discharged for the present.

25th.—Going on much better than I expected. Dismiss him, but watch.

March 4th.—Not at all in a satisfactory way; does not feed well; heaves considerably; no cough. Give six grains each of calomel and antimonial powder.

6th.—Does not heave so much; but I do not like him. Give six grains of the hydriodate of potash every night in a mash.

8th.—Breathing easier; spirits better. Continue medicine.

10th.—Apparently improving. Continue medicine.

12th.—Ditto ditto

16th.—No cough, breathing natural—feeds well; nevertheless continue medicine.

18th.—Continues to improve. Give eight grains of the hydriodate of potash daily.

April 1st.—The medicine has been continued up to this day. The animal seems quite well. Dismiss him.

21st.—Has been heard to cough several times lately; the cough increases, but there is no other symptom of illness. It is impossible to force him, nor will he eat a mash that has much taste of medicine; he is, however, fond of salt. Give him two ounces of Epsom salts in his mash every night until purging is produced.

24th.—He has not yet been fairly purged, but the cough has abated; continue the salts.

28th.—The bowels are open, but he has not been fairly purged; the cough, however, is considerably diminished; continue the salts.

May 1st.—The cough is nearly gone. Suspend the medicine.

27th.—He begins again to cough and to heave at the flanks. Give four ounces of Epsom salts daily.

28th.—There is much difficulty in getting him to take his salts. Try it on. He is better.

June 1st.—Will not eat more than half his salts. He is a little disgusted and capricious about his food generally; therefore as his cough has almost left him and his flanks are quiet, omit all medicine.

29th.—Has had to-day a violent fit of coughing, and I cannot forget what he was a month ago, and am afraid; but the breathing is quiet, and he feeds well, and looks well. Watch him.

July 9th.—He does occasionally cough, but the breathing is quiet, and he feeds well. Give four grains of the hydriodate of potash every night in a mash.

14th.—The cough has nearly or quite ceased. Continue medicine.

18th.—The cough does continue. After careful watching it may be *seen* once in every eight or ten minutes, although it is not often heard. Give six grains of the hydriodate of potash every night in a mash.

22d.—The obscure cough, I do trust, is diminishing. Continue medicine.

27th.—Cough diminishing; continue medicine.

Aug. 3d.—Discontinue medicine, but watch.

Sept. 20th.—This animal begins to cough again, and there is considerable labour in respiration. Give him two ounces of salts in a mash every night.

25th.—The heaving has increased, but the cause is plain—he is rutting. He is in a strangely excited state. There is no danger, except that this may so bring him down and weaken him, that his old disease, if it still lurks about him, may again appear, and bid us defiance. He will eat nothing but hay, and little of that.

He got perfectly well, and continued so several months, when he was seized with acute inflammation of the joints: it shifted from joint to joint, and he sunk under the irritation it caused. The lungs were perfectly sound.

TUMOURS—HYDRIODATE OF POTASH.

1834, Jan. 10th.—ZEBU COW. A considerable tumour has suddenly appeared in the channel between the branches of the lower jaw. It is very hard, a little hot, and very tender. Foment.

12th.—Not so large, but evidently harder. Still foment.

15th.—The tumour becomes harder and harder. Let it be daily well rubbed with the ointment of hydriodate of potash (potassæ hydriod. ζ i, lard ζ vii).

16th.—The tumour is larger, but considerably softer, and with more irregularity of surface. Continue ointment, and give five grains of the hydriodate daily in a mash.

17th.—The tumour is now diminishing. It is softer, and seemingly disposed to point at the most dependent part. Continue the hydriodate, and the ointment of ditto.

18th.—I lanced the tumour, and at least half a pint of thin flaky, grey-coloured fluid escaped. Continue the hydriodate in a mash, and also the ointment.

20th.—The discharge has ceased, and the tumour, although smaller, is harder than ever. Continue the hydriodate internally and externally.

22d.—The tumour is lessened, but is harder than ever. Continue treatment.

23d.—The tumour continues to diminish. Pursue the same treatment.

26th.—The tumour still diminishes. Continue treatment.

28th.—It rapidly diminishes. Continue treatment.

Feb. 4th.—The swelling has nearly disappeared. Let her alone.

12th.—The slightest portion of enlargement left. Give four ounces of Epsom salts and two drachms of ginger.

17th.—The swelling quite gone. Repeat the salts.

19th.—Dismissed.

April 24th.—A large tumour has suddenly appeared in nearly the same place. It is hard, and yet with a little soft spot about the middle of it. Foment well, and after the fomentation use the former means internally and externally.

28th.—Lanced the tumour. Four ounces of purulent curdled matter escaped. Continue the hydiodate internally and externally.

May 1st.—The tumour is regularly diminishing. Discontinue treatment as an experiment.

It entirely disappeared.

TUMOURS—HYDATIDS.

April 17th.—ST. DOMINGO GOAT. An encysted lobulated broad tumour has appeared beneath the brisket, and grows rapidly. Well rub in the ointment of the hydiodate of potash, and give three grains of the hydiodate morning and night.

19th.—One of the lobuli has ulcerated, and there is considerable sanious discharge from it. The remaining part is smaller. Continue ointment and powder.

20th.—The tumour is already a little diminished. Continue treatment.

24th.—The tumour is really diminishing. Continue treatment.

May 1st.—The tumour is regularly diminishing. Discontinue treatment as an experiment.

15th.—He has not appeared to be quite well for a day or two. He is losing flesh—he carries his head on one side—he is turning round continually in that direction—there is an uncertain catching motion as he browses. It is so evident a case of hydatid on the brain, that it is useless to do anything except to make him comfortable, and prevent his wandering into mischief, waiting for the bare possibility of ascertaining the situation of the hydatid.

18th.—He is now exceedingly weak, and can no longer browse. He is supported by gruel.

20th.—Dead. Hydatids occupied not, as usual, a situation between the brain and its membranes, but each of the lateral ventricles was filled with an enormous one. The roof of each ventricle was diminished in thickness; there were not more than two lines remaining of that on the right side, and the inner plate of the skull corresponding with this situation was thinned materially. There was little injection either of the cerebral substance or its membranes, and there was no considerable visceral disease, either pectoral or abdominal.

ON THE WEED IN HORSES.

By Mr. JAMES ANDERSON, Leicester.

“This mud produces nought but unwholesome weeds.”—GESNER.

IN the last number of THE VETERINARIAN, an anonymous writer, signed “A Country Blacksmith and Farrier,” is pleased to call me a pirate, in reference to my paper on “Weed in the Horse,” inserted in the May number of your Journal. I plead not guilty to the charge. Let the cause be tried at the bar of public opinion:—

Farrier.—Did not you see Mr. Thomson’s work, and copy from it?

Anderson.—I never knew that Mr. Thomson wrote any such a work.

F.—Strange! and you, being fellow-students, to be ignorant of the work.

A.—We have had no correspondence with each other since the time we passed our examinations, and our residences have been many a mile distant: the volume, it would appear, has had but a very local circulation, and the less the better, according to your report.

F.—How can you account for such a “coincidence” in your respective papers on Weed?

A.—When we were students we lodged in the same house; attended Professor Dick’s lectures; had frequent discussions upon what we heard delivered by that gentleman and others.

F.—Did Professor Dick enter largely on Weed?

A.—He gave a laconic but true statement.

F.—How do you prove that he was right in his opinions?

A.—By my subsequent practice.

F.—Have you ever heard any other lecturer on Weed?

A.—Yes; I attended Dr. Thatcher on midwifery; he gave a detailed account so far as regards females.

F.—You say that the name is not generally known; how comes that?

A.—The Greek *επι, ημερα*, Ephemera, in Scotland is called a Weed.

F.—Is this said weed very common?

A.—Very common indeed, and sometimes proves fatal: a case terminated in death last month with a neighbouring practitioner. I was requested to see a case on the 1st instant.

F.—Do you mean to say that you never heard of or consulted any work on the Weed in the Horse before you published your account?

A.—None whatever except what I have already stated. Mr. Farrier, as you have done, please to allow me to ask a few questions.—F.—Go on.

A.—Pray, sir, why are you afraid to appear in your *propria persona*; for I strongly suspect that you are a very different character from what your signature indicates?

F.—I have particular reasons in this affair to keep behind the bellows.

A.—How does it come that you have such an extensive library, both of old and modern authors, on farriery?

F.—I am a lover of books, and have been collecting upwards of twenty years.

A.—Is it not rather presumptuous to set yourself up as a critic on the works of certified surgeons? What would old Dr. Bracken, if alive, now say? You know what he called you—“A pack of illiterate farriers—plagues on earth—who give such stuff as would poison even the Devil himself.”

F.—True; but we have improved much of late.

A.—Yes, yes; you may thank the works of veterinary surgeons for what little improvement you have made. You say that you are a contributor to THE VETERINARIAN. I believe you are; but not under your present signature.

I leave the whole with the public, with certification that, after this, I shall not deign to reply to any anonymous writer.

The hitherto good-humoured controversy on this subject must here cease. Both our friends are too valuable to our cause to permit their energies to be wasted in personal warfare; beside

“Should auld acquaintance be forgot,
Or days o’ lang syne?”

EDIT:

OBSERVATIONS ON LIEUT. JAMES'S BOOK ON
THE DISEASES OF HORSES, CATTLE, &c.

By Mr. W. C. SPOONER, Southampton.

I WAS some short time since at the residence of a gentleman's steward in this county, who put into my hands a little book, with the request that I would give him my opinion on its merits. It was entitled, "Practical Directions for the Treatment of certain Diseases of Horses, Cows, Oxen, and Sheep, by Lieut. Robert James, Member of the R. V. College, and inventor of the celebrated Horse Blister, used in the Cavalry Regiments. Price 1s. 6d."

I perused several of its pages, in which was asserted the immense loss that the nation annually suffered from the diseases of cattle, and the prodigious saving that could be effected by following the directions contained in this book. Well, thought I, surely the author must be a great philanthropist, a mighty benefactor to his countrymen, to shew them how such a large sum of money, amounting to upwards of a million sterling, may be so easily saved; and shewing them this, too, for the low sum of one shilling and sixpence.

I read further, and soon came to the first disease, "The Drop," the remedy for which I found was *Cows No. 1*. Well, I thought, I will read on and see what *Cows No. 1* means presently. I soon came, however, to *No. 1* again; and I afterwards found that this number played the first fiddle throughout, for though *No. 3* or *No. 4* were sometimes prescribed, yet it was plainly evinced that the whole and sole object of the work was, the welfare and advancement of *No. 1*.

After reading several pages more, I thought it would be as well just to see what these numbers stood for; and for this purpose I turned to the end of the work, fully expecting to see the valuable prescriptions there detailed, such being the invariable custom in every good veterinary or medical work I had hitherto perused; but, much to my surprise and disappointment, no prescriptions could I find, but in their stead the reader was kindly informed, that all the recipes, from *No. 1* to *No. 8*, were kept ready prepared, and might be procured (on paying for them) from the author or his agent.

I confess that, after my high-raised expectations were thus dashed to the ground—after searching for a *treasure* and finding a *mare's nest*—the work sunk not a little in my estimation; but yet I should not have troubled THE VETERINARIAN with any remarks on the matter, were it not to notice a libel contained in

the 53d page; a gross libel on *veterinary science*, as well as on *sportsmen* in particular. It says, "the study of veterinary science has of late years occupied, to a very great extent, the time of sporting men and gentlemen of fortune, so much so as to *supersede the veterinary surgeon in many parts of the country.*"

Now, against the doctrine here insinuated I beg leave to enter my protest, and to bear my humble testimony that, so far from this being the case, I have always found that gentlemen who have studied the veterinary science as amateurs are great friends and supporters of its legitimate practitioners. The effect of their study is not calculated to render them opinionative and conceited, but rather to enable them to distinguish between the ignorant empiric and the man of science, and to estimate correctly the merits of either. For my own part, I would always prefer such a man for my employer to one who scarcely knows the difference between a hunter and a rocking horse.

Let me ask, too, is Nimrod, than whom, perhaps, there scarcely exists an amateur who is more conversant with veterinary matters—is Nimrod the friend or foe of veterinary surgeons? Does he not always express his opinions on veterinary matters with the modesty of true merit, and invariably recommend the employment of skilful practitioners?

Certainly, we veterinary surgeons ought to feel a mighty debt of gratitude to Lieut. James, for in no less than two places he actually condescends to advise our being employed, though only, as at page 34, in cases of such rare occurrence as scarcely to occur once in a hundred times; but then he mentions a circumstance of a veterinary surgeon being averse to blistering, because "it cured too soon," and employing "25 bottles of lotions at 3s. 6d. per bottle without effect;" and another who ran up a bill of £20 without curing the disease. Now, whether these cases be true or fictitious, the object for which they are adduced is pretty plain, viz., to insinuate into the minds of the public that such is the usual practice of us unfortunate wights.

"'Tis an ill bird," they say, "that dirt's its own nest." But "is it his own nest?" perhaps you will exclaim, Mr. Editor. Why, not exactly so, I confess; that is, if the list of veterinary surgeons published by the College be authentic; but then you must remember that cuckoos will usurp the nests of other birds; and without any great stretch of the imagination it would be easy to conceive Professor Coleman as the parent bird to whose care this cuckoo has consigned its offspring to be fostered by the warmth of his influence, and recommended by the bounty of his patronage, to the manifold injury of the Professor's legitimate offspring, the regular practitioners.

It may, perhaps, be thought by some who have read this book, that the author atones for the wounds *he endeavours to inflict on the body of the profession* by the honours he wishes to be showered on its head. He recommends, forsooth, a mark of royal approbation to be paid to Professor Coleman. How very natural! I would recommend him to petition his Majesty on the subject; his patron, the General, would surely present it. The petition, if sincere, should run thus: "Whereas Professor Coleman has kindly recommended my blister ointment to be used in the army, thereby not only increasing its sale, but enabling me to make use of his name greatly to my advantage and emolument, I thereby, bound alike by honour and gratitude, most humbly solicit, &c. &c. &c."

But to drop this irony; let us see what it is that Mr. Coleman says of the ointment in question, and whether it justifies the very free use the author makes of his name. Lieut. James recommends horses to be turned loose in a box, and not tied up after the application of the blister; and, after advising horses to be worked during the action of the blister in the majority of cases, he says, page 52, "I am supported in my *theory* and *practice* by Professor Coleman (and it will be admitted I cannot have higher authority)."

Now, in Professor Coleman's report to the Horse Guards, he says, "that he has tried the blister, and found it milder and more effectual than that usually sold by druggists, which frequently creates excessive irritation, &c." He says not one word about *Lieut. James's theory or practice*; he neither recommends that horses should be worked during the operation of the blister, nor turned loose in a box; and yet it is on the narrow foundation of this meagre statement that Lieut. James has the conscience to build his unblushing assertion. The veterinary profession would hail with pleasure any honour that might be bestowed on the Professor as their head, because they are assured that his merits rest on a firmer foundation than that of having bestowed a few words of qualified approbation on an empirical medicine; and it may be added, that the well-earned reputation of a man of science needs not the equivocal praise of the author of such a book as this.

But, perhaps, after saying so much, it might be expected that I should have something to add on the ointment in question; but such is not the case. I have nothing to say in favour of the blister—I have nothing to say against it; and simply for this reason, that I have never tried it. And I have not tried it, because I possess in my own dispensary blisters applicable for every purpose, both in a liquid and solid form; and as I can

produce every variety of effect with *either*, from the slightest stimulus to the most active vesication, by merely lessening the quantity used, I have had no inducement to try any new application. If I apply only a slight blister I never think of tying up the horse's head, or restraining him in any degree; but if a greater quantity of the ung. cantharid. is applied so as to produce a severe effect, or ever to raise the cuticle, no argument or assertion of Lieut. James will induce me to give the animal his liberty, and expose him to the irritation the litter would produce, or (to say nothing of the danger of knawing) to the injuries that would probably be sustained by the friction produced by the horse's lying down. But, however, as I have not tried the ointment, I have little to say on the matter. It may, for aught I know to the contrary, possess all the remarkable virtues attributed to it, converting a pain into a pleasure, and, perhaps, by its aid, instead of considering the operation of blistering as a punishment, it will in future be regarded as a source of gratification and delight*.

If, however, its effects are so remarkable on the quadruped, would it not be proper, humane, and profitable too, to introduce the wonderful discovery into human practice. Who is there that has ever been tortured by a blister but would hail with delight this new vesicatory, by means of which he can ease himself of a pleurisy with such little inconvenience and such great delight. If one fortune has been obtained by the application of

* Since writing the above I have witnessed a case of the operation of Lieut. James's Blister. A mare belonging to a gentleman was sent to the stables of another gentleman (for the sake of convenience) to be blistered by the groom on both fore legs, and a pot of James's blister was sent with her. I saw the ointment applied agreeably to the directions. About an hour, or a little more, afterwards, being still at the house, I was asked by the groom to see the mare, as, to use his own words, she was pretty near mad. On going into the stable, the mare appeared suffering the most acute pain, such as I have seldom witnessed from the effects of a blister: she was scraping the pavement most furiously, and tried repeatedly to bite her fore legs, which she was prevented from doing by a double halter; and I have no doubt, if the dangerous experiment had been permitted of letting down her head, she would have blemished herself materially. A pony, belonging to the gentleman of the house had been blistered with my own ointment the same day, and, although of an irritable disposition, he evinced little or no signs of irritation; but the blister afterwards produced considerably more vesication than that of Lieut. James.

I have stated the above circumstance simply as it occurred, "nothing extenuating, nor setting down aught in malice." I do not wish the point to be strained too far. I do not mean to infer that such is the uniform and necessary effect of Lieut. James's blister; but I do mean to state, that in this case, which came under my own eye, the assertion contained in his numerous advertisements was entirely contradicted.

the blister to the quadruped, another might surely be obtained by its exhibition on the biped.

I have occupied more space than I intended with the merits of Lieut. James, his book, and his medicines; but I trust that my observations will not be considered as misplaced, my animadversions unfair, or my censure unmerited.

DISTENTION OF THE UTERUS, AND UNUSUAL COSTIVENESS IN A MARE.

By Mr. J. CLEAVER, Darlington.

Feb. 20th, 1836.—I WAS requested to go to Portrack Lodge, near Stockton, the residence of G. Skipsey, Esq. to see a valuable brood mare, the dam of Saddler, and heavy in foal to Physician. She was supposed to be labouring under inflammation of the bowels, as she was found that morning in the field very uneasy, and digging the earth up with her fore feet. When I arrived she had lost seven quarts of blood; it was not buffy. Pulse 45; bowels sluggish—had had no motion that day; belly evidently enlarged; made frequent attempts to stale, but the urine was small in quantity, yet not faulty as to colour; legs and ears warm, frequently turning up the upper lip, and stretching out the legs.

I administered 12 ounces of castor oil, and a quantity of purging mass, containing ʒviij Barb. aloes. I back-raked her, and ordered injections of warm water every two hours.

21st.—Twenty hours after the medicine, nothing had passed the bowels, and the injections were scarcely tinged. I gave 12 ounces of castor oil, ʒiv of Barb. aloes, and continued the injections. Pulse 50, wiry; legs and ears warm; turning up of the lip, and stretching out of the neck and legs; frequent attempts to stale: the urine did not pass at every attempt, but when it did it was in small quantities, and pale in colour. Eight hours after the medicine was given the bowels began to rumble, and, griping pains appearing and increasing, I gave an antispasmodic mixture in gruel. The pain was removed, and the injections afterwards were coloured.

22d.—Pulse 50; legs and ears warm; turning up of the lip; stretching out of the legs, and more frequent attempts to stale; bowels rumbling, but nothing had passed, although the injections were occasionally tinged. She was in a loose box. I had her walked gently out; she had a scanty motion while out, lumpy, but inclined to be softened. I walked her out again in the

afternoon; she moved very badly, the body seemed too heavy for the legs; bowels rumbling, but nothing more passed that day. She was tolerably easy: give no more medicine, but continue enemata.

23d.—Nothing has passed the bowels; give Barb. aloes, cream of tartar, ginger and soap, āā ʒij, made into a ball with treacle, every eight hours, until the bowels are freely acted upon. They are still rumbling; and the injections are occasionally tinged. The pulse 60, and thready; the legs and ears warm; turning up of the lip, stretching out of the neck and legs, and a constant desire to stale; urine small in quantity, colour pale. There was a slight anasarca swelling under the abdomen yesterday, which has increased a little. The body is much distended; the abdominal muscles are giving way, and the muscles of the thighs are following them, and the belly is lowering. I applied a web sixteen yards long, moderately tightly round the body, after which she appeared much relieved. I then had her walked out; she had two motions while out, fluid, but scanty; this was about noon: nothing more passed the bowels until the evening, when several lumps came away with an injection.

24th.—No motion; pulse 70, and thready; legs and ears not so warm; more frequent turning up of the lip; stretching out of the neck and head; constant desire to stale. I removed the bandage; the belly was much lowered. I replaced the bandage, and had her walked out; the exercise seemed painful, and she was ordered in, and her legs were rubbed and bandaged with flannel. I continued the medicines and injections, but had no hope of saving her. Towards the evening she became very uneasy, shewing great anxiety of countenance; griping pains in the bowels; drawing herself together; pawing dreadfully with her fore feet; making frequent attempts to lie down, but daring not to accomplish it; profuse perspiration. I removed the bandage from her body, and she was easier for an hour, after which the pains became as violent as before. I took two quarts of blood from the jugular, gave one ounce and a half of tinct. opii in a little gruel, and administered an injection, which came away clear. She was again easier for two hours, when her pain returned. I again gave one ounce of tinct. opii in gruel: she was relieved, and free from pain all the night. Nothing passed the bowels.

25th.—The bowels rumbling, but nothing had passed; pulse 80; legs and ears cold; great anxiety of countenance; turning up of the lip, and stretching out of the neck and legs, and constant straining to stale: back sunk, and belly below the knees; the paps drawn almost incredibly toward the centre of the belly. She was a most pitiable object. Stating to my employer that

her recovery was impossible, although she might last a little longer, and that I thought her suffering would be great, she was destroyed. From the commencement she would not take a mouthful of any thing, except a little thin oatmeal gruel, and sometimes a little warm water, and not more than two or three swallows of either at one time. Nothing was forced into her except medicine.

Post-mortem examination.—On opening the abdomen, no part of the intestines appeared to be diseased; but the uterus presented itself most enormously distended. It contained twin foals—fillies, within a month of birth; one floating in the fluid, a fine healthy foal, the other presenting falsely, comparatively dry, and appearing as though the uterus had contracted upon it, and endeavoured to cut off all communication. I thought from the size that this foal had been dead three weeks or a month. The cuticle came off with the slightest touch; the umbilical cord was twisted round its loins; there was a deep impression where it had lain when the cord was removed. The family surgeon was present at the examination. We regretted much that we were deprived of ascertaining the quantity of fluid the uterus contained, owing to it being ruptured in an attempt to move it; but I think there must have been three or four full-sized stable-pails full. No further examination took place, as all was to be replaced and buried with the mare.

The mare had been frequently seen to roll, as if in extreme pain: might not the foal have been turned and destroyed in one of these spasms, and thence have arisen the effort to cut off all communication between the living and the dead, and, from this unnatural state of things, the increased secretion in the other portion of the uterus, and from the pressure of the distended uterus the obstinate constipation of the bowels?

ENORMOUS ABDOMINAL ABSCESS FOLLOWING STRANGLES.

By Mr. J. W. NOBBS, Cerne Abbas.

A CHESNUT mare, four years old, belonging to Mr. Stone, of Hillfield, near Cerne, had been labouring under strangles some time previous, and was to all appearance perfectly recovered.

On the 3d of April last the mare was observed to be in the habit of lying down more than usual: this continued for four or five days, and she sometimes rolled on her back. I was requested to see her. I found her on my arrival in one of her rolling fits. After a few minutes I examined her pulse; found it 82, and having

had three horses die from abscesses formed between the rectum and the vertebræ, I examined her, and gave her a clyster of warm water, &c. but could not find any thing so far as I could pass my hand: but when my hand was in the rectum the mare strove more than usual in order to expel it. I gave her a mild dose of physic. The ball operated two days and nights without griping, and the mare appeared quite recovered for the space of five or six days.

On the sixth day, however, she became as before, and began to roll, and look back on her flanks. On the seventh day the symptoms were the same, with a continual striving as if to remove some foreign substance, which continued at intervals until the tenth day, when she died.

On my examining her, I found about four gallons of pus in the abdomen, and all the small intestines adhered to the parietes of a large abscess that had formed between them and the mesentery: it was one complete mass of disease from the stomach to the cæcum.

UNUSUALLY LENGTHENED PERIODS OF UTERO-GESTATION.

By Mr. ———

IN the number of THE VETERINARIAN for March I find a case of unusual long period of utero-gestation in a mare. I was sent for May 2, 1832, by the owner, to see a heifer, three years old, that was unwell. It was supposed to be long after her time for calving. On examining the womb, I found the os uteri so closed, that it was almost impossible to introduce my hand, but I could distinctly feel the calf. It seemed to be of so enormous a size, that I had no hope of extracting it. On examining her by the rectum, my opinion was confirmed, that it would be impossible, as the calf was decidedly larger than the passage would admit. I then gave the owner my opinion respecting the case, and advised him to have her immediately dispatched, which he was unwilling to do, until giving her a farther trial by waiting until the next day. She was then driven five miles to the slaughterhouse, and the owner on seeing her opened was convinced of the impossibility of her surviving long.

I recollect seeing a cow that was expected to calve in the spring; but as she did not, she was put to fatten during the first summer months, on grass, when she was taken poorly and killed; and a calf, dead and decomposed, was found in her. This cow must have gone fourteen or fifteen months.

I went, May the 18th, 1832, to a cow four years old, that was supposed to have slipped her calf, as a small portion of the placenta was to be seen; but on examining her, I found a very small calf, in a perfect state of decomposition, in the passage. I extracted it with some difficulty, and the cow needed no farther assistance from me. This heifer took the bull at two years old, and was consequently expected to calve the next spring; but as she did not, and being of a highly prized Sussex breed, she was again turned with the bull, but never was seen to shew any desire for sexual intercourse. It is very clear that she became impregnated at two years old, and that she must have remained so two years. How soon the calf died, or from what cause, I will not presume to say. I do not recollect ever seeing a case like this on record; but if you make it known to your country friends, I doubt not that you will be furnished with similar facts, however strange or improbable they may appear to be.

[Why will not the contributor of these interesting cases permit us to authenticate them, by affixing to them his name, of which we have been long in possession?—ED.]

ON HORSE SHOEING BY ONE SIDE-NAILING.

By Mr. J. CARLISLE, Wigton.

Messrs. Editors,—I HAVE now been a subscriber to your valuable Journal for a length of time, and confess that I never perused it without finding something very important; and I hope it will ever abound in scientific information worthy the attention of every veterinarian. In order to contribute my share, I beg to make a few remarks on the highly important system of one-side nailing, brought into general notice by that ingenious and praiseworthy gentleman, Mr. Turner, to whom the public is much indebted.

I should have been glad had this subject been taken in hand by a more talented and scientific veterinarian, who could have done justice to that little practised yet unrivalled system of one-side nailing. When I say unrivalled system, some may probably think I am getting out of bounds; but I speak from diligent and practical observation, combined with a knowledge of the anatomy of that vascular and delicate organ, the horse's foot.

Horse shoeing is certainly a very important operation, and has been much studied, and many improvements made in the art by several of our veterinarians: our learned Professor, Mr. Coleman, has made the horse's foot his principal study, and has

explained the anatomy of that organ with the greatest minuteness; yet there remains a large field for cultivation.

In the first place, I shall ask my professional brethren one question. Supposing we are called to give our advice in twenty cases, out of this number shall we not find ten of lameness in the feet? I venture to say that you will answer in the affirmative; and the major part of these horses are suffering from contraction, which I consider the most deadly foe which that elastic organ has to contend against, and which the veterinary surgeon finds the greatest difficulty in subduing.

Now, an injudicious method of shoeing is generally the cause of contraction: hence disorganization, ossification of cartilage, navicular lameness, thrushes, &c.: in short, it is a complicated lameness; and the shoeing smith (in general) must bear the blame. The horse is turned over to the veterinary surgeon; his shoes are pulled off, his soles are pared out, and all the exuberant parts of the horn cut away with a drawing knife; in short, the whole horny box is made as yielding as possible. A blister is then applied to the coronet, and with the addition of leather and tar stuffing, the shoes are again nailed to the feet, with four nails placed in each quarter of the shoe. O thou universal fetter! what an absurd conclusion of his well-meant endeavours to check the progress of contraction and set at liberty the elasticity and vascularity of that organ which is so wonderfully adapted by nature to perform its office.

Our alternative now remains between the old system of shoeing, and the one suggested by Mr. Turner,—that of one-side nailing; there is no other system of shoeing that deserves consideration. For my part, I would earnestly recommend all who are engaged in our laudable profession to give Mr. Turner's plan a fair trial. I have done so myself with the most perfect success; although at first I did it with fear. In consequence of the shoe being attached to the foot by little more than one side, it appeared to me to be insecure, yet, I saw (in another point of view) its superior advantage over the shoe in common use, as it would admit of more freedom to the foot. I was therefore resolved to put the system of one-side nailing fairly to the test; and I will pledge my truth and honour, that even in hunting, posting, and on roadsters of every description, I have used it with success.

Having proved the security of the shoe, it only remains to shew the advantages resulting from Mr. Turner's mode of shoeing over that in general use. By a frequent application of this unyielding hoop (which is attached to the foot by four nails in each quarter) the horse's foot undergoes a wonderful alteration

in its formation and structure, even before the animal has arrived at the age of five years; and I attribute it solely to this fettered system of shoeing; and if that system is continued, we may ever expect to meet with a good supply of contracted feet. One moment's reflection will clearly prove, that the shoe in general use will certainly impede the functions of the foot, destroy the elasticity to a great degree, constipate the vascularity, and cause a general disorganization of the whole horny cavity. Now, if a shoe with nails only at one side be attached to a foot that had never before suffered from the mutilation of the drawing-knife or the restraint of a shoe, we shall find that this foot will retain its natural formation even during the hardest work which this valuable animal is subject to undergo; whereas, on the other hand, if we apply the shoe in general use (i. e.) a shoe firmly attached to the foot by four nails placed in each quarter, and rivetted, we shall then witness the reverse effects; for after its first application, it gives that complicated organ a tendency to contraction: and from this evil spring almost all the maladies the foot is subject to. All this, however, is too well known to require any further explanation.

Now, one-side nailing has done wonders on account of the restored freedom to the foot which this shoe so perfectly admits of; and by this regained elasticity the foot is able to perform its functions and remove the apparent constipation: it then begins to assume its natural formation, the lameness is totally or in a great measure removed, and the horse pursues his labours with more ease and pleasure to himself, and greater security to his rider.

Permit me to recommend the above system as a good preventive against corns, and the principal auxiliary as a curative. In consequence of the play of the quarter, the compression and concussion are, in a great measure, removed, which I consider the principal cause; and by the application of the drawing-knife in skilful hands, those great ends may be obtained, to our own credit and the satisfaction of our employers.

I do not flatter myself with the idea of converting the opinions of a whole fraternity; yet the above hints may serve to operate on the minds of a few, so as to put the system to the test, and prove its superiority before the enlightened world; then we shall have the pleasure of seeing it practised in every shoeing forge, both at home and abroad, and then, and then only, we shall boast of a perfect reformation in the art of horse shoeing. This will require time, and the perseverance of the few, to prove its utility in despite of the prejudices of the many. *Nil desperandum.* A recent author has told us, that "for great truths there will always come a time and place."

THE VETERINARIAN, AUGUST 1, 1836.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

A CAUSE very important to the farmer and the veterinary surgeon was tried at the Nottingham Assizes on the 24th ult. We present our readers with the substance of it.

The plaintiff, Mr. Jackson, of Stapleford, near Nottingham, was owner of several parcels of meadow land, through which ran a small stream of water of excellent quality. It was called the Syk brook. Near its source is a *cromlech* in unusual preservation. It is one of the most perfect Druidical remains which the midland counties possess; and a legend is attached to the brook, that in days of yore, the sick used to resort to this spot, and, after certain Druidical incantations and ceremonies, and drinking of the water which ran beneath the *cromlech*, they were cured of all their diseases. However this might have been, these meadows had been in the possession of Mr. Jackson's family for some centuries, and the cattle had always done well.

Thirteen years ago the defendant, Mr. Hall, erected some buildings for the manufacture of starch near the brook, and above Mr. Jackson's meadows. No change was observed in the water or the condition of the cattle for the first two or three years; but at length the water used in the manufacture of the starch found its way into this brook in considerable quantities, and then the milk of all the cows rapidly diminished, many of the cattle became seriously ill, and in the course of some years no fewer than twenty-six of them died, and all of a disease accompanied by nearly the same symptoms, and the fish and the frogs which had peopled the brook all died.

In the manufacture of the starch the wheat from which it was obtained was first ground. It was then macerated in water until the gluten was dissolved and the starch precipitated, and the bran was left floating in the tank. It had now undergone very considerable fermentation, and the whole mass was in the highest state of putrefaction, and exceedingly offensive both to the taste and smell. The liquid containing the dissolved putrefied gluten was now drawn off, and was preserved for sale. It was supposed to be an excellent manure, and for a while there was considerable demand for it; but at length it lay upon hand, and was thrown away, and took its course down a ditch into the

Syk Dyke, and that, occasionally, in a quantity greater than the original stream.

The bran underwent various washings, and, being sufficiently cleansed, was given to the pigs.

The starch, however, required another process in order to fit it for use. The smell which hung about it was to be taken away, and the starch was to be bleached. For these purposes a solution of the chloride of lime was employed, and when that had done its duty, it too was turned into the stream.

Sulphuric acid was also used in considerable quantities, in order to perfect the manufacture. That also ultimately found its way into the water-course.

At length the defendant yielded so far to the remonstrances of the plaintiff as to construct a *sough*, or circular tiled drain, through the plaintiff's grounds, by means of which the empoisoned water was conveyed to a river at some distance, the volume of the stream of which was supposed to be so considerable as not to be materially affected by admixture with these deleterious ingredients.

This being effected, the fish and the frogs began to return to the brook, and the weeds grew on its banks, and the mortality seemed to cease among the cattle; but the defendant refused to make compensation for the cattle that were previously destroyed. In order to recover this compensation an action was brought. The following is the substance of the evidence:—

Eliz. Jackson, sister of the plaintiff.—Has known the water-course which runs through their premises more than forty years. In 1823 a starch manufactory was erected in their neighbourhood. The plaintiff had eight closes, through which this water-course ran. These closes usually contained the dairy cows, from fifteen to twenty in number. There was no other water for these cows but from the water-course, except when they were driven into the farm-yard in order to be milked. Before the erection of the starch manufactory the cows did well; afterwards they were evidently affected by the water.

The first cow died in 1828. She had detected a difference in the water long before. It looked very dirty. It was white sometimes—a film or scum then came upon it, and there was a great sediment at the bottom, of a black colour. It was very good water before—perfectly pure—used for domestic purposes, and the cows did well. In 1828 three cows died, and a calf; in 1829, two cows; in 1830, six cows and two calves; in 1831, one cow and two calves; in 1832, four cows and two calves; in 1833, six cows; in 1835, one calf; and in 1836, two cows and one calf, making in all twenty-four cows and nine calves, the value of which was £384.3s.

The fish in the pond through which the brook ran died about the same time, viz. 1828. They were perch, gudgeon, pike, roach, and dace. The frogs, and even the weeds, died in the water-course. Now that the water from the starch mill is turned away, the fish, and frogs and weeds have returned to the brook.

The symptoms of illness were these:—The cow began to look thin, and that for three or four months; her coat was rough; her milk went almost from the first. She then began to purge; blood mingled with the fæces, and at length she died emaciated and exhausted. All the cows had similar symptoms, and the illness usually lasted from six to eight months. In the last two that died the illness was of longer duration. The last two were opened; one by Mr. Grieves, a surgeon, and the other by Mr. Grieves and Mr. Pyatt, a veterinary surgeon.

The cows occupied these pastures, except in eddish time, which was about five or six weeks. The cows gave more milk and looked better in eddish time than when on these pastures.

The diminution of milk since the erection of the starch mills was at least two or three quarts daily from all of them, whether sick or well. The value at 2d. per quart amounted to £650.

There is a trough in the milking yard. When the cows were brought up to be milked they shewed a marked impatience to get at the water, much more so than before. Others of the cows looked very ill, but did not die. Since the water from the mill no longer comes to them, they give more milk and look better.

The water smelled badly before 1828, and so on until the sough was made.

She then produced some bottles of water taken that morning: one bottle from the brook, good; one from the sough now made to carry away the water coming from the starch mills, and one from the pond above. They were so highly offensive that they were ordered out of court as quickly as possible.

Cross-examined.—Mr. Hall keeps a great many pigs about 100 yards from the commencement of the new drain, and that drain carries all the filth from the pigs. Always has kept an almanac, containing the list of casualties and deaths. They had comparatively little illness or death before the erection of the manufactory, and the illness which they had was not at all like this. She recollects particularly one heifer that died. None of them died of calving. The one that died in the last spring aborted, and died soon afterwards; but she had been ill long before.

Kept many ducks and geese; and the horses drank of the same water as the cows.

Re-examined.—One of the bulls died last year, but not with the same symptoms. He died from eating too many potatoes. Another died about a fortnight ago, and with the same symptoms as the cows, and was examined by Messrs. Grieves and Pyatt: he had been ill since last summer. He was always in the field.

Thomas Gresley is 80 years old; has lived all his lifetime at the village through which this brook passes, and knows it well. Occupied land through which this brook passed; but he has a well or spring separate from the brook, from which his cattle drank. The brook once contained as good water as ever was drunk, and supplied a great many people in the village with water. It is now spoiled, and not fit for man nor beast. There was a scum at the top, and it is black at bottom, and it smelled like any nuisance. Cattle did well before the starch manufactory was built. There used to be fish in the brook, but the starch water killed them all.

Cross-examined.—A great many houses have been built on the brook. Does not believe that the filth from any of them runs into the brook.

Re-examined.—The brook is very shallow. The houses are at some distance from the brook, and the nuisance in the water is above the houses as well as below.

Edward Aspinshaw.—Was a butcher at Stapleford, and is 88 years old. He and his father had ground by the water-course: the cattle drank there, and had nowhere else to drink. His cattle always did well. Now it is thick and bad; he can smell it very easily—his nose is not hurt. He lived servant to one farmer 11 years, and his cattle run on that ground, and had that water only to drink, and they did well. He has bought beasts that fed on that ground—they were healthy and well.

John Barton.—Lived 44 years there—knows the stream—had a close through which it ran. The water was very good, and the cattle did well. Since then there came a scum upon it, and settlements as black as mud; and a very bad smell. Should not think it healthy for cattle, or for any thing else. He made a pool to catch water for his cattle to drink, that they might not go down to the water-course. Has had two colts there injured very much by the water. He removed them, and they got well; but it was six or eight months first.

Cross-examined.—Grazed sheep and calves principally there, because he thought they did not want so much water. He had occasionally horses, but they were in and out as occasion served; but the two colts were out night and day. When they were ill

he gave them plenty of good stuff to eat and drink. They fell off in their flesh. Had not been over-stocking,—he had eight or ten sheep and five heifers, with the colts.

Re-examined.—Mr. Jackson did not over-stock his land, so far as he knows of.

John Smedley.—Has a close on the water-course. Gives the same account of the water. He used to turn his cows there in eddish time. The cows many a time refused to drink the water, and he took them home to water. His cattle did not do so well there as in the homestead. In 1831, a cow became ill, and he killed her to save her life. She purged very bad. Coat stared. That was the first thing he saw: did not eat well. He then took her home, and she was killed in his presence. She was as poor as a crow, for she had given over eating. She had a dead calf five days before she died. He laid the disease to the water. He has turned his cows on the eddish by the side of the brook this year, because the sough is made, and the water is become good. There is nothing to injure the water except the starch manufacture.

David Gresley.—Lived there all his life, and is 49 years old. He gives the same account of the water. His cattle did well before the manufactory was made; but afterwards they were much disordered in their bowels, and he thought they were going off. They were partly supplied with water from the stream and partly with some fetched from home. The water was always worse on a Monday morning.

C. Geldeny.—Worked for Mr. Jackson 21 years ago. All his cattle turned into the closes near the water did well. Worked at the starch manufactory the first two years after its erection.

He gave an account of the starch manufactory, and said that the water from it stunk like carrion, or worse than carrion. There was more of this filthy water in the water-course than of the original pure water.

Mr. Hall kept cattle of his own. Water was always put into troughs for them, but they could get at the bad water if they pleased.

Cross-examined.—The bran that had lain fourteen days in the water was sold for horses, cattle, pigs, &c. Mr. Hall kept a vast number of pigs, and a vast number of them died. They were fed with the bran or slimes, and he gave up keeping the pigs because he had bad luck with them. Mr. Hall sold them to Mr. Drew, but he did not take them all home, because a great many of them died. The bran and slimes were afterwards washed more with fresh water, and the pigs did better.

Samuel Harding.—Lived with Mr. Jackson from November

1824 to November 1833. He knew the course from a boy, and described the change in the water. While he was in Mr. Jackson's service six cows died, and two calves. They pastured by the water-course. He *dressed* (opened) all the six cows himself. Their coats were considerably rough, and they had become considerably thin and low. The bowels had been loose, and they were discoloured from the long running-out. While living they gave less milk than they ought to do. His next master had beasts pasture on the same stream; but he railed it away, so that they should not be able to drink. Jackson kept his cattle well, amazingly well, and gave them plenty of good hay.

Thomas Sutton, servant to Mr. Jackson twelve years.—A vast many of his cows died, thirteen or fourteen. Was sent by his master to Mr. Hall with a discharge for letting his water down the dyke. Two years afterwards went again with a second discharge. Went again in March last, and asked if he would be so kind as to come down and look at a cow that lay dead. He said that he would not come. He asked him to send another person; he said he would not, and he did not care if they all died.

At a corner of one of the fields, and close to the brook, and on the other side of it, was a tank, which the cows could get at with some difficulty—they used to go there and poke their head through some rails in order to drink of it rather than of the brook; and he does not think that any water from the water-course could get into this tank—he has often drunk from this tank.

John Whalley.—Occupied a close by the side of this water-course eighteen or nineteen years. As good water as ever cattle drunk, and they used to enjoy themselves in it. After the manufactory was established it became bad. Lost a yearling calf there, and he removed the rest. This was three or four years after the establishment of the manufactory. They dwindled away, and had bad looseness. Same symptoms as Mr. Jackson's. Made a drain to avoid the tainted water, and got pure water from a spring, and then his cattle did well. Often complained to Mr. Hall; he turned the water one way, and then another, until every place became full, and then it pursued its old course; and Jackson's cattle were compelled to drink from this water. Many yearling calves are certainly lost from purging, without water of this kind.

John Turner.—His father sold the premises on which the manufactory stands to Mr. Hall thirteen or fourteen years since; there was then no communication by which water could get into the Syk Dyke. It has been made since.

William Dudmore.—Lived with plaintiff five years from 1826.

Cows did well before the water came down from the manufactory, but soon began to be deficient in milk from two to three quarts a-day. Occasionally turned the cows into the eddish, and they then did better; ten cows and two calves died while he was there. Same symptoms. Had plenty of food.

Cross examined.—Cows always freshen upon the eddish to a certain degree; and when they return to the old pasture, still the quantity of milk continues, if the pasture is good.

Elizabeth Warren.—Knows the water twenty-five years, and formerly used it for tea; could not for awhile; now looks as good as before, but has not tried it again.

Joseph Beadnall.—Lived with plaintiff in 1828-29. Two cows died; saw them opened; the whole of the stomachs quite rotten. Symptoms the same.

A statement of the duties paid on the starch manufactured at the mill was put in, in order to shew that the mortality was proportionate to the quantity of starch made at different times.

Aug. Grieves, a surgeon at Nottingham.—Analysed the water. Has often been thus employed.

He produced some water from a pond on Hall's premises, taken June 29. It contains a great quantity of putrid vegetable matter, and muriate of lime formed by the exposure of chloride of lime to the influence of air and water. He analysed more afterwards: it varied at different times—both in the quantity and nature of ingredients. Always the muriate of lime, sometimes chloride, sometimes sulphuric acid, and sometimes acetic acid—these vary to the amount of one-half.

Another water, taken from the dyke crossing the lane immediately below the pond. Contains always a larger quantity of putrid vegetable matter—with a trace of animal matter* in a state of decomposition, and also muriate of lime—never detected the chloride of lime.

A third portion was taken from the brook as it now is. It is excellent water.

Examined the water course before the sough was opened, and at other times; found the same ingredients, but less in quantity than in the ponds.

The effect of such ingredients on the human frame is that of an irritant poison. It would be the same as described by witnesses with regard to cattle. He examined a cow and a bull. The internal coat was darker than usual—numerous patches of inflammation were found in the whole length of the alimentary canal.

On the 28th of March last he examined another beast with Mr. Pyatt. The appearances were the same, so far as regards

the disease in question. He has no doubt that the loss of the cattle was produced by drinking the water.

Mr. J. Pyatt, veterinary surgeon.—I saw a cow of the plaintiff's on the 27th of March last. She was in a dying state. She died. The intestines were highly inflamed through their whole extent, and ulcerated in many places. Has no doubt that the disease was produced by the water. Inflammation might arise from various other causes, but not connected with this peculiar train of symptoms.

Mr. Pereira, Lecturer on Chemistry at St. Bartholomew's Hospital, had likewise analysed these waters, as taken from the Syk Dyke in its present state, and from the sough, and from Mr. Hall's pond. The first was pure—the others contained a considerable quantity of muriate of lime, and were loaded with putrid vegetable matter. Whether the frequent presence and action of these deleterious substances on the mucous membrane of the intestines, or their necessary influence on the constitution generally, were considered, there could be no doubt that the mortality among these cattle was to be traced to the empoisoned water.

Mr. Youatt has heard the whole of the evidence. With some slight variation in the different cases, he plainly recognizes, in the disease described, the dysentery of cattle. The usual symptoms of dysentery are, a rough and staring coat—diminished secretion of milk—loss of appetite—loss of condition—purging which bids defiance to all medicine—mucous, and, at length bloody purging—and then death. In the accounts of the appearances after death, given by Mr. Grieves and Mr. Pyatt, he recognizes those of dysentery, but in an aggravated form. There is no doubt that the disease was produced by the deleterious influence of the water.

Verdict for the plaintiff, £270 damages.

I regard this as a very important trial, and deserving a place among the records of veterinary medicine. There can be no doubt as to the character of the disease. It was, at least in its last stage, the dysentery of cattle, but in a more than usually aggravated form. It was not merely inflammation and ulceration of the large intestines—the usual distinguishing characteristics of dysentery,—but these lesions extended through the whole of the intestinal canal. A more powerful agent than can be generally traced was here employed—the water of the brook was surcharged with deleterious matter.

The chloride of lime, although in small doses it may occa-

sionally be employed with advantage in the treatment of the diseases of cattle, and particularly of this disease, must, when frequently and habitually drunk, produce much and perhaps fatal inflammation of the mucous coat of the intestines: but the prime agent was the decomposed vegetable matter which the water contained—the gluten of the wheat in the highest state of putridity. Putrid vegetable matter is one of the most destructive sedative poisons that is known, and under whose fatal influence every vital action is diminished—every function impaired or suspended.

How accurately do these unscientific witnesses describe its progress. The animals scarcely drink of the empoisoned stream ere the coat becomes rough and staring—the insensible perspiration is diminished or ceases. The quantity of milk is lessened—each cow gives from two to three quarts less every day. So far as this secretion is concerned, every animal—those that are ultimately lost and those that have strength to bear up against the depressing influence to which they are subjected—every animal exhibits the character and power of the poison. They who are accustomed to cows begin to look somewhat fearfully around them when the milk diminishes; and if it becomes suspended, they are perfectly assured that danger or death is at hand. The appetite is impaired: in frequent or continual contact with a fluid so nauseous and debilitating, can the villous coat of the stomach retain its healthy character, or will there be a desire for or relish of food? The loss of condition—the rapid wasting is the natural and necessary consequence of diminished ingestion of food, to say nothing of the lethean influence of the poison on every organ concerned in the digestion of the aliment. Then,—not at first—say the witnesses, comes the purging, the consequence of the long-continued presence of the poison in the intestines—the consequence of the general impairment of the system—the indication of the breaking up of the constitution.

There is a peculiarity about cattle subjecting them to the fatal influence of agents like those whose mischievous course has been here traced. Cattle are destined to supply us with food while living, as well as after death. The greatest quantity of food, and the greatest profit to the owner, are yielded while they are living. To fit them for this, nature has given a digestive apparatus by means of which every particle of nutriment is extracted from their food; and the digestive organs are always and actively at work. In the improved system of husbandry the thing goes much farther—the digestive functions are strained to the utmost point—the system of early maturity which is so generally and profitably

pursued, keeps every organ in a state of dangerous excitement, ready to assume the character of unmanageable inflammation, or gradually to sink, or sometimes all at once break down, under the task imposed upon it. Therefore it is that dysentery has attained fearful pre-eminence as one of the deadliest scourges of our cattle. We have generated a predisposition in them to take on all the fatal characters of this disease. It is generated by many an error in their diet, which, but for the previous diathesis to which we had given existence, would be comparatively harmless. It is the companion or the consequence of almost every malady, and it is the harbinger of their fatal termination.

If the case were to be carefully inquired into—if the farmer would compare the appearance and profitableness of his cattle on certain portions of his farm, and at certain times of the year—and if the veterinary surgeon were better prepared to inquire into and to detect the obscure causes, and the disregarded premonitory symptoms of the diseases of cattle, they would, perhaps, be found to arise from or to be connected with circumstances of a kindred nature with those that were developed in the present trial. It is well known that there are certain pastures on many farms which, without yielding more abundant, or, apparently, more nutritive herbage than the rest, are pre-eminently favourable to the health of the cows, and an increased production of milk: there are others that appear almost as fairly to the eye, but on which the quantity of milk is rapidly and annoyingly diminished, and the cow begins to exhibit, in various ways, the characters of obscure disease. If the case were to be fairly inquired into, the deleterious but unsuspected influence of decomposing or putrid vegetable substances might be discovered to lie at the root of the evil; and at a trifling expense the good qualities of the one pasture might be perpetuated, and the baneful effects of the other removed.

What are the usually recognized causes of dysentery? Any—every cause of local or general debility—abandonment to cold and wet at the time of calving—general abandonment to cold and neglect—a system of starvation—over-work—a long continuance of sultry weather, or rather the sudden setting-in of cold after the constitution has been debilitated by previous heat: these are occasional causes. But what are the general ones? What carries off so many of our yearling calves, and, long ere her natural time, hurries the dairy cow away? Why, plainly and palpably, the pasturing on low and marshy situations—the neighbourhood of woods—the drinking from stagnant ponds, or half-stagnant rivers—the feeding on sanded hay—the being turned on meadows from which the flood is beginning to dry—the *open and evident*

influence of decomposing vegetable substances; and I am much mistaken if this influence, in a more secret but scarcely less fatal degree, is not connected with the mortality, whether occasional or habitual, which prevails among the dairy stock of the farmer. This is a view of the subject well deserving of consideration, and to which I shall return at some future period; but in the mean time our brethren in the country, who have more frequent and better opportunities to trace out these causes and indications of disease, would benefit their profession, and occupy their proper station with reference to the interests of the agriculturist, by taking up the matter.

The time, surely, cannot be far distant when the veterinary practitioner will be better prepared for such an inquiry. Reason, common sense, and the interests of the country at large, imperiously demand it.

Y.

OSSEOUS TUMOURS ON A HORSE, COMPLICATED WITH ACUTE GLANDERS.

By M. RISS.

A STRONG-built horse reached his fourth year without any disease but strangles. This malady had attacked him in his third year, and, not running its full course, had produced such a state of emaciation and weakness that he was not able to rise without assistance. At length he began to recover, but continued very much out of condition; and his owner, attributing this to his hankering after some mares, had him castrated. He was then three and a half years old. The operation took place on the 15th of June, 1821: it was skilfully performed, but the incision was not perfectly healed until the 28th of August.

A little while afterwards he was sold to a horse-dealer, who kept him about eight months, and during this time I attended him for nasal catarrh, and afterwards for acute pulmonary catarrh. He was sold and resold many times in the years 1822-3, every new proprietor getting rid of him, because he was almost unserviceable. At length he became broken-winded, and so continued until June 1828, when other symptoms began to develop themselves. He was exceedingly thin, the coat dry and adherent, and the hair rough; the head was depressed; all four limbs were enlarged; the pulse was small and quick; the sublingual glands enlarged, tender, and adherent; a discharge from the nose of a green yellow humour, adhering to the edges of the nostrils,

and the membrane of the nose thickly set on both sides with chancres covered by black scabs. There was considerable prostration of strength, and discharge of black fæces of a most offensive smell.

I remarked on different bones a great number of tumours, hard, deep, fixed, large at the base, and with a rounded summit, and not in the slightest degree painful when pressed upon. These tumours appeared all at once, or, at most, in the space of two or three days; the horse labouring, at the time, under the highest degree of fever, and being covered with a profuse perspiration. They gradually increased in size for three weeks; they then seemed to be stationary, and the other symptoms, of which an account has been given, appeared, and made rapid progress.

After due consideration of all the circumstances, I advised that the horse should be destroyed, to which the owner readily consented.

The sublingual glands were discoloured, and were four times their natural size. The pituitary membrane on both sides was almost destroyed by large chancres, covered by black scabs, as already described. Other portions of the membrane were blanched and thickened. The turbinated bones contained a purulent matter, similar to that which had been discharged from the nostril. The septum of the nose was also thickened. The sphenoidal, frontal, and maxillary sinuses contained a little white pus. There was nothing peculiar in the spinal cavity.

The lungs, of a violet colour, contained a great many tubercles, some of which were miliary, and others larger than a nut. The posterior portion of the right lung contained a vomica, into which two fingers might be introduced: there was adhesion between the pulmonary and intercostal and diaphragmatic pleuræ at the situation of this vomica.

The other thoracic viscera, and all those of the abdomen, presented a healthy appearance.

I conclude with an account of the osseous tumours to which I have alluded. The largest was situated on the transverse apophysis of the third cervical vertebra on the right side; and the next in size on the superior extremity of the apophysis of the right olecranon. There were others on ten of the ribs, six on the right side, and four on the left. Six of these ribs presented only one tumour, but the other four had two or three tumours on each of them.

These tumours, all of which seemed to be part of the bones on which they were found, were true cysts with bony walls, and whose centre contained a cavity filled with a thick grumous yellow fluid.

The external periosteum which covered them was much thickened, and of a red colour, and could be easily detached from the bony tumour beneath. The soft parts which covered them exhibited no change of structure. The appearance of these tumours can be produced, in my opinion, by some constitutional predisposition alone, as by a lymphatic temperament, or a tendency to scrophulous affections, as tubercular phthisis, farcy, glanders, &c.

Rec., Mars 1836.

NEW EXPERIMENTS ON THE TREATMENT OF GLANDERS.

THE cure of glanders is, according to some, the despair, and, according to others, the disgrace of the veterinary art. It is not because experimentalists have been wanting; it is not because their panaceas have failed to accomplish all that they wished, for we could give a long list of persons of good credit, and of no credit at all, who pretend or believe that they have discovered the secret of curing glanders: it is because the confirmation—the realization of their announced success has been wanting. It is unfortunately found that these remedies lose all their power the moment they go from the hands of those who proclaim their efficacy; and the experimentalists themselves lose all their good fortune, when they are called upon to treat those patients, the real character of whose disease has been ascertained by competent persons. It is not because veterinarians, in despite of their little hope of success, no longer multiply their experiments on every occasion, and in every direction: what have they not done? what have they not employed against this fearful disease?

We will not go so far as to say that a horse affected with glanders has never been cured; for we know some facts that have passed under our own eyes, which prove that the horse whose fate was despaired of has become apparently well; but we believe that the practitioner has often been deceived with regard to the circumstances that have led to a cure. Some horses have been cured, that is, they have been said to have been cured—the symptoms of glanders have disappeared for awhile: but with the disappearance of the symptoms has the disease actually been cured? or has the cure been the result of the means employed? *Post hoc, ergo propter hoc.* Some have been so fortunate as to obtain almost uniform success in precisely the same circumstances in which others have experienced uniform failure; and some have seen the illusion under which they laboured com-

pletely vanish when other experiments have been tried. However it may be accounted for, glanders is at present ranked among the incurable diseases by the skilful and the candid practitioner.

We say "*at present*," for we hope—we believe—that the secret of the cure of glanders will at some future time be revealed. We have a preventive against small-pox, and we have a cure for syphilis. We say "*at present*;" for beside M. Leblanc, there are at this moment three men, who, with a zeal and perseverance worthy of all praise, are pursuing a course of experiments, the object of which is to prove that glanders may be treated with success, when it is treated with reason and method.

Of these three experimentalists, one is M. Maculet, a provincial priest, who has travelled from the south of France in order to exhibit at the school at Alfort a mode of treatment which has been uniformly successful. Three glandered horses have been placed at his disposal by the Minister of War, and which he has already been treating two months in one of the stables of that school. Setons have been placed in the chest; large blisters have been applied to the head and neck; a course of purgatives has been administered; the enlarged glands have been covered in turn by vesicatory and emollient applications; bleedings have been repeatedly practised at certain intervals, and divers fumigations have been made. Certain medicaments also, the nature of which is at present unknown, have been given by the mouth, or injected up the nostril. They form a very important portion of the process, for M. Maculet preserves a profound silence with regard to them, and will not permit any person to be present when they are administered. M. Maculet is very sanguine of success. We sincerely hope that his expectations may not be disappointed.

The second experimentalist is M. Gally, an apothecary, and formerly associated with M. Delandine for a similar purpose. The little success, however, of these experiments did not discourage him. While his associate went to meet with new disappointment at Betz, M. Gally composed and published a book, in which, after stating his opinions respecting the nature and causes of glanders, he laid down the basis of a new mode of treating that disease, more rational, according to him, than any that had been tried. He afterwards solicited and obtained from the Minister of War a certain number of horses, which he treats at Pomponne on the principles developed in that work.

Finally, as we have been informed, M. Dupuy is about to become the third experimentalist, and also at Pomponne. Thirty-five years of disappointment in the treatment of glanders have

not abated his zeal. He acknowledged in his first work that he regarded this disease as incurable, even in its earliest stage, and yet he shrinks not from renewed experiments. All praise to his indefatigable perseverance! May he at length be as successful as he deserves to be!

Rec. de Méd. Vét., Janvier 1836.

One of the horses under the care of M. Maculet died on the 1st of March, 1836, two months after the commencement of the treatment.

The following were the post-mortem appearances:—The pituitary membrane of the right nasal cavity was of a dull red colour, inclining to yellow, and covered on the septum by a great number of ulcers, some of them as large as a franc piece. They were of a bright colour, but contained at their base matter resembling softened fibrine, and they followed the course of the lymphatics and the veins. The mucous membrane covering the turbinated bones was also thickened, white, and equally traversed by ulcers. The membrane which lined the frontal sinuses was lightly injected, and the cavities themselves were filled with pus, white and coagulated. This was mostly evident on the left side. The sublingual lymphatic ganglions on the same side were also enlarged and adherent, and contained a certain portion of purulent matter. The lungs were sound, except that here and there were some ecchymoses on both lobes, and small fibrinous depositions, varying from the size of a pin's head to that of a pea.

On the 28th of March, M. Maculet discontinued his experiments at Alfort, but he obtained from the Minister of War four other glandered horses to be treated by him at the Quai d'Orsay in Paris. As for the two horses that survived his treatment, and were left by him at Alfort, they are much worse than when he received them. They were slightly glandered when they entered the school, and now they both have deep chancres, and are affected with farcy.

Rec. de Méd. Vét., Mai 1836.

PALSY IN FOUR YOUNG BULLS AND A HEIFER.

By M. MAILLET.

Aug. 28th, 1832.—I WAS requested to visit four young bulls that lay paralyzed in one of the fields. Three of them had lost all power of motion in their limbs, and particularly in their hind

limbs: their breathing was accelerated and laborious; the skin hot and dry; the pulse frequent, but not hard; the sensibility as usual, and no impairment of the digestive functions. The fourth, not quite so bad, was got with some difficulty to the stable.

On inquiring into the case, I learned that they had been accustomed to sleep in the field, and that, being driven on the preceding night into fresh pasture in which were other beasts, a great quarrel had arisen among them, and that these young ones had been very much heated and fatigued, and were found in the morning in the state in which I saw them.

Never having met with palsy in animals so young, or produced so suddenly, I thought that this loss of power would be only temporary, and was occasioned by their exerting themselves so violently in weather more than usually hot; and, having often seen beasts when travelling and exhausted by heat and fatigue apparently in the same condition, and recovering after a few hours rest, I expressed my opinion that this would be the case here. I bled them moderately, had them well rubbed down, and gave them frequently vinegar mixed with an equal quantity of water. I saw them again in the evening, but neither of them was up: they had attempted to get up several times, and two of them had effected their purpose and staggered a few paces. I ordered that the treatment should be continued, and that they should be left in the field all night, in the hope that the cold air would refresh them and restore their strength.

29th.—I was surprised not only to find the three bulls just where we left them, but the fourth had fallen, and was as helpless as the rest; and a heifer that was in the same field was staggering about similarly affected. I carefully examined them: the loss of power was greater than on the preceding day, and the sensibility was evidently diminished; still I could not help believing that the disease was of an inflammatory character. Nevertheless I was compelled, in order to satisfy the proprietor, and that the whole responsibility of that which might happen should not rest on me, to give them wine in order to support their strength; but, at the same time, I bled them all, and ordered frictions of camphorated spirit and hot vinegar to be rubbed over the loins. No amendment took place during the day, but the loss of motion and the insensibility of the hind limbs became more complete, and sensibility seemed to be diminishing in the fore limbs, while the discharge of the urine and dung were not effected without considerable difficulty. Perhaps on this account evident tympanitis began to appear.

Wishing to excite some cutaneous perspiration, I ordered the patients to be well clothed during the night; but I was afraid to

remove them to the stable, for the heat was very great, and I was fearful of the consequences of the struggle which would probably take place.

30th.—No better. One of the bulls began to refuse his food; the others ate with appetite. I then proposed to stimulate the loins actively, and to continue the frictions of hot vinegar. This produced no good effect, and towards night the proprietor began to despair; nevertheless the heifer, of which we had taken little account (for she had not fallen at all) had regained all her strength, and was discharged from the sick list. The proprietor, wearied with seeing three days pass without any amendment of the patients, told me that he was decided to send them on the morrow to the butcher, but that he would first consult an empiric who lived about two leagues off. The animals were thus taken from me, and I expressed my regret that I was not permitted to witness the conclusion of the case, and especially the effect of the stimulus on the loins, and from which I yet hoped something.

The empiric came in the morning, and found the four bulls pretty nearly in the state in which I had left them, except that two of them were making efforts to get up, and which they had not attempted during the last two days. He caused their loins and backs to be rubbed with an ointment, the composition of which was known to himself alone, and ordered them to be completely covered with sheep's dung. In the course of the day the two that had begun to struggle got up; and of the other two, one raised himself during the next night, and the last of them on the following day. Eight days afterwards I saw them in the field, with no other trace of their illness than a slight weakness of the hind quarters, and the suppuration produced by my stimulants, the discharge from which had not ceased.

Rec. de Méd. Vét., Fev. 1836.

CASTRATION.

By PROFESSOR VATEL, *Alfort.*

[Continued from page 113.]

VI.—CASTRATION BY THE CLAMS.

THIS is chiefly practised on the horse, the ass, and the mule. It is seldom adopted for the bull, unless there is reason to fear that the operation by *bistournage* cannot be executed.

The necessary instruments are, a keen convex bistoury, or a razor; two pieces of packthread, moderately strong; a pair of pincers or forceps, and the clams.

The clams are two inflexible pieces of wood, usually consisting of a portion of elder-branch split along the middle, and being about three quarters of an inch wide, and five or six inches long.

Before it is cleft, a notch is to be cut round it about an inch from each extremity, and large and deep enough to hold two or three rounds of the packthread. When it is split, each of the corresponding extremities is sloped away from the notch to the end, and which, when the pieces are adjusted and tied together at that extremity, permits them to be separated in the form of a V.

Some practitioners, when they do not use elder, make a groove along the plain surface of each of the pieces, in order to contain a caustic substance, as corrosive sublimate or blue vitriol, made into a paste with meal or turpentine, in order to hasten the mortification of the parts on which the clams are placed.

The animal is cast on its left side, if the operator is a right-handed man, but otherwise on its right side. A piece of web is then passed round the fetlock of the hind leg which is uppermost, and, being brought to the fore arm on the same side, exposes the genital parts. The operator now seizes with both hands the left testicle (the animal being supposed to have been cast on that side), holds it tightly, and slides his left hand so as to embrace the spermatic cord above the testicle: the scrotum is thus tightly stretched over the testicle. The surgeon then takes the bistoury in his right hand, and, proceeding from before, backwards, he cuts through all the envelopes of the testicle, if he intends to perform the *uncovered* operation: or he only cuts through the scrotum and dartos muscle, if he means to attempt the *covered* operation.

In the first case, the testicle immediately protrudes from the cavity which contained it; in the second case, the operator tears with his fore-finger the cellular tissue which unites the scrotum with the tunica vaginalis. The operation having proceeded thus far, the surgeon lays down the bistoury, and seizing the testicle with the right hand, pulls the cord gently, but steadily, in order to draw it down. If the animal strongly contracts the cremaster muscle, nothing will sooner distract his attention, and cause him to cease this frequently powerful action, than pricking his lips. Then taking the clam in his right hand, and the testicle in his left, he will place the clam on the spermatic cord, above the epididymis, sliding it from behind, forwards: an assistant immediately seizes the clam with his pincers, and compresses it, and permits the operator to tie it firmly with the packthread. The same is then effected with regard to the other testicle.

The clams ought to compress only the spermatic cord, and

not the envelopes of the testicle, and they should be tied sufficiently tight to stop the circulation of blood in the testicle. Some practitioners cut away a portion of the testicle before they release the horse, in order to diminish the extension of the cord by the weight of the testicle. Others leave the testicles entire.

After the operation, the horse is much depressed: he appears to be confounded by his new feelings—he carries his tail between his legs, his head hangs low, and he walks with his thighs apart from each other. Being returned to the stable, he crouches behind from the pain which the continuance of the clams produces: he should be tied securely to the manger, lest he should tear off the clams, and he should be carefully watched. A cradle should also be placed round his neck, and he should be bled if he appears to be irritable and feverish.

Some veterinarians, after the operation, lead the horse to the watering place, and suffer him to remain there a considerable time. Others lead him about for some hours, if the weather is fine, and repeat the exercise on the three or four succeeding days, until the suppuration is established. This last method of proceeding is the one most generally followed, and the most beneficial.

The testicles become mortified in about forty-eight or sixty hours after the application of the clams. They are either left to drop by their own weight, or, the packthread which confines the clams being cut through, the decayed portion of the spermatic cord is cut through with a pair of scissors.

During the first ten or twelve days after castration the animal is kept on gruel, with hay or grass, according to the season of the year; he is not exposed to any current of air, or to any thing which can arrest the process of suppuration, or induce a metastasis of inflammation, always a very serious thing in such cases.

The consequences of castration by the clams are pain, inflammation, swelling and suppuration. The pain and inflammation are inevitable. When they exist only in a moderate degree, no particular treatment is required. Swelling always precedes suppuration, and usually does not commence until the second day after the operation. It may be slight or extensive. In the first case it usually commences at the anterior part of the prepuce, and does not subside until the healing of the wounds is considerably advanced. Nothing is required but to guard against whatever would impede the favourable progress of the case. When the tumefaction is great, so as to spread around the wounds and under the belly, and to ascend along the cords, and render the superior part of them hard and painful if touched, the case is becoming serious. The strictest antiphlogistic treatment,

general and local, should be adopted. We are sometimes compelled to have recourse to scarifications, which often give vent to a red and glutinous serosity, that indicates a tendency to gangreen. The suppuration which is established after castration is always preceded by engorgement of the parts in the neighbourhood of the wound, and by a febrile action, which begins to develop itself on the second or third day, arrives at its height on the fourth, and continues until the suppurative process has been fully established. In this process a serous fluid is secreted, at first yellow, becoming afterwards a little white, and finishing by assuming the character of pus. This laudable secretion, the progress of which may be interrupted by a variety of circumstances, increases until the tenth or twelfth day; then diminishes more or less slowly, and does not cease until the 24th or 30th day.

VII.—CASTRATION BY CRUSHING OR BRUISING.

1. *The Horse*.—This cruel operation, which, on account of the torture it produces, ought never to be practised, has been advised on the spermatic cord, by placing it on some hard substance and crushing it with repeated blows; and on the testicles, either by the same mode of proceeding, or by compressing them forcibly between the claws of a large pair of forceps.

2. *The Bull*.—On this animal the operation is performed in somewhat the same way, and some veterinarians give decided preference to this mode of castration. The instruments necessary for practising it are, 1st, Cords to confine the head of the bull to the manger, or a tree, or a post, by means of several turns round the horns and the fixed body. 2d, Two hobbles, which being fastened round the hind feet, and then brought between rings or nooses that are attached to the fore legs, and continued over the withers, prevent the animal from kicking. 3d, Two bars of wood, each of them seven feet in length, placed under the belly of the animal, and supported by two men, in order to prevent him from lying down. 4th, Two round pieces of wood thirty or thirty-four inches long, and six inches in circumference. 5th, A large hammer with a flat surface similar to that used by shoemakers; and, 6th, A cord of moderate thickness eighteen or twenty inches long: four assistants will also be required.

The bull being fastened by the head and his legs secured, and the bars held under his belly by two of the assistants, one of whom also lifts the tail, the operator places himself on his knees behind the animal, and examines whether the spermatic cord and the testicles are sound. He then places the two cylindrical pieces of wood, one before and the other behind the scrotum,

and about an inch above the testicles; the two other assistants, the one on the right and the other on the left, lay hold of them, and press them together so as tightly to squeeze the spermatic cords, drawing them backwards: they then perform a quarter of a circle with them, that which is in front being a little before the other, and the hinder one a little inferior, and so they hold them firmly, resting the extremities of them on their knees.

The operator having remained in the same position, grasps the testicles with his left hand, and draws them firmly down, so that the cord may lie still more tightly over the inferior piece of wood; and then, having the hammer in his right hand, he repeatedly strikes one of the cords lying upon the inferior and posterior cylindrical piece of wood, always letting his blows fall on the cord, and not too hardly, that he may not produce a degree of disorganization that may lead to sloughing. He continues this according to the age and size of the subject, until he thinks that he has sufficiently crushed the cord, and then he attacks the other cord in the same manner. Having proceeded thus far, he ties a ligature rather tightly above the testicles, in order to prevent them ascending (many veterinary surgeons, however, neglect this precaution), and rubs the whole of the scrotum with lard or butter, in order to prevent the intense inflammation which might otherwise follow all these contusions: and, having once more examined the parts, in order to be perfectly assured that he has thoroughly crushed each of the cords, in order so that the absorption of the testicles may be prompt and complete, he releases the patient.

The effect of this operation is the obliteration of the spermatic vessels, and the consequent atrophy of the testicles, which diminish to the size of a small nut. The animal seems to suffer much less pain after the operation than would be deemed possible. During the first four-and-twenty hours he probably experiences a slight degree of fever, but he rarely loses his spirits or appetite; or, should he do so, a moderate bleeding averts all danger. The whole of the genitals become more or less swollen, and exhibit a red hue; at the expiration of eight or ten days this disappears, and the testicles are speedily absorbed.

VIII.—CASTRATION BY TORSION OR BISTOURNAGE.

This mode of operation is oftenest adopted for bulls, but sometimes however for rams and for goats. It is seldom used for horses in any of the departments of France, but there are certain countries in which the horses are commonly subjected to it.

1. *The Bull*.—Castration by bistournage is effected in the following manner: The animal is suffered to remain in his usual

place, but is fastened to the manger so that his head shall be as low as possible. One assistant only is wanted, and four or five pieces of worsted and small cord twisted together, and five or six inches in length.

The assistant seizes the muzzle of the bull with his left hand, and the left horn with his right hand; and the operator then laying hold of the testicles, the animal does not often make any resistance, unless it is necessary to use considerable force in order to reverse them, and then probably he lies down, but he soon gets up again.

The operator, bending, with his legs apart, or being on his knees, or behind the bull, seizes the inferior part of the scrotum with one hand, and with the other gently pushes the testicles as high up into the bag as he can, and again letting them descend, and so on alternately sliding them upwards and downwards three or four times. This is particularly necessary when the scrotum is small, the skin hard, and the testicles large and round, in order that the scrotal integument may be distended, and it and the spermatic cord rendered more pliable; but it is useless when the testicles are oblong or small, and their envelopes and the spermatic cord relaxed.

The operator, next, with the thumb and fore and middle fingers of the left hand, takes hold of the left spermatic cord at its origin near the epididymis; then taking the scrotum, at its inferior part on the same side, between the thumb and fingers of his right hand, and pressing on the lower part of the testicle, first from before hindwards, and then from below upwards, and keeping the left hand fixed and steady, he reverses the testicle, at the same time returning the inferior part of the scrotum to its proper place, the inferior part of the testicle having become the superior, and this organ being pressed against the posterior part of the cord.

The operator then loosening his hold of the cord with his left hand and the scrotum with his right, seizes the inverted testicle and its cord with both hands, presses it lightly downward, and, applying his right thumb on the origin of the spermatic cord, he with his left hand causes the testicle to make a circular movement around the cord, maintaining the testicle in this position with his left hand, to which he gives a circular movement in order to receive the testicle as it passes round the back of the cord. He continues this until he has caused the testicle to revolve twice around the cord, and thus to compress the vessels and nerves, and the spermatic canal. From this double revolution of the testicle the operation takes its name, *Bistournage*. Finally, the operator quits hold of both the testicle and the cord in order to seize the inferior part of the scrotum with both hands, and,

placing them one above the other, he forces the testicle as near as he can to the inguinal ring.

He proceeds in the same manner with the other testicle, and he terminates his operation by passing the cord of worsted and hemp several times round the scrotum and below the testicles, and securing it with a double knot. The cord should be drawn tightly enough to keep on the scrotum, but not to cut through it, or even to wound it. If it were to slip off the scrotum, the testicles would descend, and the spermatic cord would be untwisted; and if the scrotum were to be cut through, the support of the testicle would be lost. The principal art of the operation consists in the application and the security of this ligature. The animal may now be released.

This mode of castration requires no previous preparation or after treatment, especially if the patient is at grass. The inflammatory engorgement that follows is very slight; it is no more than is necessary for the prompt and complete obliteration of the spermatic cords. The ligature round the bottom of the scrotum may be removed forty-eight hours after the operation. It is rare that any accident follows this mode of castration.

If the ligature should have come off soon after the operation, or the torsion should have been incomplete, the testicles will resume their natural situation; and a new operation must be proceeded on, unless a considerable enlargement of the cords should have supervened, when it will be impossible to twist them again until the inflammation shall have subsided. If, however, the cords should remain for a considerable time large and hard, it will be necessary to have recourse to castration with the clams, and in the *uncovered* way.

2. *The Ram and the Goat.*—The bistournage is performed on both these animals, if they have not been deprived of their organs of generation, a little while after their birth, and when the testicles have attained a certain stage of development. The operation is very easily performed. An assistant, sitting, takes the animal between his knees. After having thrown him on his back, he manages to hold the two legs on either side in each hand. The operator, standing before him, proceeds in precisely the same manner which has been already described.

[To be continued.]

THE LONDON VETERINARY MEDICAL SOCIETY.

WE understand that no compromise or approach to reconciliation has taken place; but that it is the intention of the present Committee of Management, that the Meetings of the Society shall, in future, be held at the residence of Mr. Vines.

A LIST OF THE PUPILS WHO HAVE OBTAINED THEIR DIPLOMAS AT THE ROYAL VETERINARY COLLEGE, ST. PANCRAS, SINCE THE LAST REPORT.

- Mr. William Miles, New York.
 Mr. John Byrne, Dublin.
 Mr. Thomas P. Page, Tunbridge Wells.
 Mr. Samuel Jefferey, Blandford.

EXCERPTA CURIOSA.

1597.—In Carrick, are kyne, and oxen, delicious to eate; but their fatnes is of a wonderfull temperature; that although the fatnes of all other comestable beasts, for the ordinarie vse of man, doe congeale with the cold aire: by the contrarie, the fatnesse of these beasts is perpetually liquid like oile.

1765.—There was in the parish of Braunston, in the county of Rutland, an ewe which had seven lambs, all alive, within less than a year; and when fat, did not weigh above fourteen pounds and a quarter.

1765, July 14.—A curious mare, 28 inches high, from the East Indies, was brought in a coach from Gravesend to Leicester Meuse, and after being curried and drest, carried in a coach to Carleton-house, when it was shewn to the Prince of Wales, who seemed highly pleased with it; afterwards it was carried in a coach to the Queen's Meuse. This was a fine little animal, of a dun colour, the hair resembling that of a young fawn's. It was said to be four years old, well proportioned, had fine ears, a quick eye, and a set of fine teeth, with a handsome long tail, and very good natured.—Q. Did she breed in England?

It cannot be too extensively known, for the benefit of breeders and fanciers of horse-flesh in general, that by pursuing the plan adopted by Jacob, of old amongst the flock of Laban, horses may be bred of any colour or possible combination of colours. Dr. Thomson, of Hamilton, in the case which lately took the round of the newspapers, actually followed the suggestion of the Patriarch, and got a celebrated animal painter to take Batty's beautiful horse, which painting was placed constantly in the stall before the mare during the period of utero-gestation. We know of seven gentlemen in this neighbourhood (Hamilton) who are following the same course with their mares this season; and we only fear that the mania may extend among the farmers, and tend to annihilate the celebrated Clydesdale breed. An animal painter has taken a residence in town for the purpose of enabling himself to supply the demand of the country gentlemen for *fancy* horses.—*Dumfries and Galloway Courier*.

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ANIMAL PATHOLOGY.

By Mr. YOUATT.

LECTURE VIII (*continued*).

Neurotomy.

THE Object and Effect of Neurotomy.—The immediate result of the operation of Neurotomy is the removal of pain—that pain which interferes with the immediate usefulness of the horse, or which, by its continuance and constitutional influence, would heighten and perpetuate inflammation and disease. But the removal of that pain,—is good, unmixed good, the invariable consequence of this? I have already partly answered that question. You interfere not with the vital functions of the part, for they depend on a different system of nerves. You diminish not muscular action, for there is not a muscular fibre of the voluntary motor system below the knee. The solipede and the ruminant are the only quadrupeds of which this can be said. They are the only ones with regard to whom the operator can be certain, except where the proper and distinct sensitive and motor nerves of the face are concerned, that while he is dividing a sensitive trunk or fibre he is inflicting no injury on any motor one—or, rather, they are the only animals in which a sensitive nerve can be divided, without including some motor one in the section. Tell me in the human being! tell me in the carnivorous quadruped, where you would divide the metacarpal or the plantar nerves, in a case of extreme pain and lameness of the foot, without temporarily or permanently paralysing some important part of the foot. In the greater portion of the habitable world the most numerous and the most cruelly taxed of the servants of men are solipedes and some genera of ruminants with divided hoofs, but with whom the metacarpal and the metatarsal bones are not multiplied. On the solipede alone has this noble operation yet been performed; but increased anatomical research will convince the

veterinarian that, if not with equal ease, yet with considerable prospect of success, he may, over a very extensive class of animals, relieve some of the worst pains the slaves of man are heirs to.

Peculiarly adapted for the Horse.—There is a power—a common agreement between every portion of the muscular system—by means of which the animal, whether still or in progression, preserves his equilibrium. The mind seems to have little or nothing to do with it. It is observed in the infant, ere the mind begins to exert its agency. It is a common agreement between every portion of the muscular system; but the muscles of the extremities are most concerned. When, from any cause, a slight balancing of the frame commences, we are conscious of the muscles of the metatarsals and of the phalanges exerting themselves, better to dispose the foot to the surface on which it stands, and better to dispose the superior structure to maintain its upright position. An operation like that which we perform on the horse, by depriving the metatarsal and palmar muscles of their power, would often endanger our safety; but the foot of the horse seems, as it were, to be formed with a view to the admission of this valuable palliative. It is covered by an insensible crust, which admits of little change of form; or if it did, the unyielding iron which we have applied to it would altogether prevent that minute but effective play and adaptation of parts which so mysteriously yet perfectly avert all common danger. There is not a muscle about the foot of the horse, nor a part that can be injured except the sensible sole and frog, and that organized vascular substance interposed between the crust and the coffin-bone. These last are important parts, but will rarely be seriously affected by any of the consequences of Neurotomy, except they had been previously diseased, or disposed to take on inflammation.

The altered Action produced by Neurotomy.—Much has been said of the altered and dangerous action produced by Neurotomy. There can be no doubt that when the horse is thus suddenly relieved from agonizing pain he adopts a higher and bolder action than he had previously been accustomed to, and perhaps long or habitually retains it. There can be no doubt that, the sensibility of the foot being nearly or quite destroyed, a concussion accompanies its contact with the ground, unpleasant to the rider, and somewhat dangerous too. This, however, has been magnified far beyond the truth. It is seldom that even by the high operation the whole of the sensibility of the foot is destroyed. In the low operation it never is altogether removed. In either case, some nervous branches may descend from the

main trunk above the division, and in both cases branches from the ulnar nerve preserve the sensibility of the integument below the fetlock, and almost or quite to the coronet, thus giving timely notice of the slightest contact of the toe with the ground, and producing that instantaneous adjustment of muscular action which will neutralize the dreaded concussion.

The altered Action continued.—How stands the actual fact? There is altered action—in some cases to such a degree as to render the horse unpleasant and unsafe as a hackney or a hunter—at other times so modified by the circumstances which have been mentioned as scarcely to lessen the value of the horse in either character. Mr. Rickwood mentions a horse that for six years after the operation had been used as a hackney; and another, that for many years had been regularly hunted, and, eleven years after the excision of the nerve, was still sound in his action. Do not, however, misunderstand me. I am no strenuous advocate for the operation on hackneys or hunters, *intended afterwards to be used as such*. I should not like habitually to ride a horse on which neurotomy had been performed; and most certainly I should hesitate not a little ere I took a difficult or daring leap on a hunter that had in this way been under the veterinary surgeon's hands. So far as I had power, I would confine my own practice of neurotomy to horses of more or less speedy draught. There would be no danger with them; and in the majority of instances the performance of the operation could not be detected in their manner of going. I acknowledge impairment of action, but that impairment has been much exaggerated.

Curious Application of Neurotomy.—I well remember, some eighteen or twenty years ago, a practitioner in town who obtained considerable celebrity, and, I dare say, remuneration too, for curing horses with ring-bone and ossified cartilages. He did not profess much to reduce the size of the osseous tumour; but he almost invariably sent his patients home free from lameness, and the majority of them remained sound as long as they lived. He professed simply to blister and fire them; but he maintained that there was as much virtue in his ointment as in that so wonderfully extolled by Lieutenant James at the present day. There was, most assuredly, nothing in the action of the horse which would lead to the suspicion that the practitioner had done more than to blister and to fire. At length, however, some rival vet. who was gruelled that a horse should be restored to usefulness which he had condemned to the knacker's yard, discovered a neat incision in one of the lines produced by the iron; and, on closer examination, detected that the horse had been nerved. I remember that I got a good bullying, and I did not know

whether I should not have met with something else, for exposing the affair in an early volume of *The Veterinarian*.

Neurotomy has produced Over-reach.—Mr. Simpson relates another description of altered action following neurotomy. A horse sadly lame in the off-fore foot was neurotomized. Three months afterwards, being quite free from lameness, he was put in harness, and driven about twelve miles. He appeared to go very well; but, on arriving at his journey's end, it was found that the off-hind foot was covered with blood, and the heels of the foot that had been operated upon were dreadfully bruised and cut by repeated blows from the corresponding foot behind. The toe of the hind-foot was ordered to be shortened as much as possible: but the horse being driven again a few days afterwards, the contusions were as bad as before, although he did not appear to feel the slightest pain, either at the time that the blows were inflicted or when the part was pressed upon and examined afterwards. Previous to the operation his action was remarkably good, but, afterwards, there was not the same activity in the affected foot, and it could not get out of the way of the hind-foot. The horse being an aged one, was destroyed.

The Operation.—Well then, gentlemen, I will suppose that you have a fair case. There is nothing in the state of the foot to forbid the operation; and you are not terrified by these minor grievances which I have related. You cast your patient, and have your instruments ready, namely, a scalpel, a sharp-pointed bistoury, a common crooked needle armed with coarse thread, a bit of tow, a calico roller, a tourniquet, a sponge, and a little water.

Comparison between the high and low Operation.—You will have previously determined whether you will operate above or below the fetlock. For ringbone, ossified cartilages, ankylosis, contraction, and long-continued and obscure lameness unattended by much inflammation, you would certainly operate above the fetlock; for navicular disease, if you dared to operate at all in such a case, for diseases of the frog, and for chronic founder, you are recommended by many to excise a portion of the nerve below the fetlock. I have already explained to you the anatomical relations on which your decision must be founded. The tide of veterinary opinion is, however, fast setting in in favour of the high operation. There are so many anastomosing branches given off immediately below the bifurcation of the metacarpal nerve, on or immediately above the fetlock, that on examining a leg, carefully prepared for exhibiting the course of the nerves, it would at all times be difficult, and occasionally impossible, to select a spot where all nervous influence would be cut off, or

where it would not soon return by means of the intricate anastomoses which are there observed. Above the bifurcation these anastomoses have no existence; and if sensation returns, it must be by re-union between the divided edges of the nerves—an effect which it will take a considerable period of time to accomplish.

Illustrations.—Two horses, incurably lame in the fore feet, were neurotomized—the operation being performed below the fetlock. Many months had not passed before they began to go tenderly, after a little extra work; and, in the course of a twelve-month they were as lame as ever. They were once more taken in hand—the metacarpal nerves were divided—the lameness again disappeared, and the horses stood sound. My pupil, Mr. C. W. Spooner, from whom the veterinary world expects much, had an aged mare that had been lame for several years in the off fore-leg. He excised about an inch of the outer metacarpal nerve, and three-fourths of an inch of the inner pastern one, the heat and enlargement being very slight on the inside of the coronet. In five or six weeks afterwards she was as lame as ever; and on examination, the inside of the fetlock joint was hot and tender, while on the outer side scarcely any inflammation was perceptible. As soon as the inflammation was somewhat reduced by cooling treatment, he operated on the inner side, above the fetlock. The lameness disappeared, and the mare continued sound. Here was likewise an illustration of a principle already stated—that pain may be a cause as well as an effect of inflammation: therefore the operation of neurotomy will often lessen inflammation by removing the irritating cause of it.

Illustrations continued.—I am bound, however, in candour, to state to you other cases in which the operation below the fetlock was perfectly and permanently successful. My lamented friend, Mr. Castley, had a horse in his regiment that suddenly fell lame in the near fore-foot. There was no apparent cause for it—it was a fine strong circular hoof—the foot was cool—it scarcely ever pointed, and yet the horse went dead lame. The grievance was evidently in the foot—it was probably a case of navicular lameness. He excised a portion of the pastern nerve on each side—it was a tolerable portion, for it was more than an inch. The horse got up sound, and remained so upwards of eight years; and at last, at the termination of the Portuguese campaign, was cast and sold, not because he was becoming lame, but, on the true military, unfeeling principle, because he was getting old.

Neurotomy in Navicular Disease.—Another horse, with fair feet, and no contraction, was lame. He was operated upon in the same way, and, three years afterwards Mr. Castley says of him, that he was as effective as any horse in the regiment, and the foot on

which the operation was performed, had the stronger and firmer crust of the two. These cases speak much for the permanent effect of the division of the plantar nerve when well performed, and in navicular disease. If you determine to operate on the plantar nerve, take care, like poor Castley, that your work "is done, when it is done." Excise, like him, a sufficient portion of the nerve, to prevent all communication by means of the anastomosing branches, so numerous here; and, like him, if you operate for neurotomy, operate early, before the inflammation has rendered the navicular bone carious, or the friction between its roughened surface and the tendon has so worn down the latter, that it gives way as soon as the horse gets up. While the poor animal is in pain, he takes care to render his extensor muscles in a manner subservient to the flexors, and the weakened, attenuated cord is not broken through; but when, put off his guard by the sudden disappearance of pain, he gives to the antagonist sets their natural play, and throws on the tendon its natural weight, it is ruptured in a moment, and the pastern is let down, and the horse is ruined for ever. This will guard you as to the time when alone you will apply neurotomy as a cure for the navicular disease, namely, in comparatively recent cases. You also perceive here another illustration of that beautiful mysterious adaptation of muscular power and consent of muscular action, which have been too much unobserved and disregarded.

THE OPERATION RESUMED.—Well, gentlemen, you have determined where you will operate, and you have shaved away the hair close from that part. You will loosen the leg to be operated upon from the hobbles, still securing it in the usual way, and placing under it a truss of hay in order conveniently to elevate it. I will suppose that you are operating above the fetlock. Immediately above it, and at the edge of the great metacarpal bone, and between it and the flexor tendons, you will plainly feel two cords, and, somewhat indistinctly, a third. That nearest to the bone you will recognise by its pulsation to be the metacarpal artery; that nearest to the tendons, a rounded and more yielding cord, is the metacarpal vein; and, between them, and distinguished by its hardness, is the metacarpal nerve. Following the line which it pursues, you will make your incision with your scalpel, fairly through the integument, and almost down on the nerve—the incision being a little less than two inches in length, and having as its termination the beginning of the swelling of the fetlock joint. You will then readily dissect away the intervening cellular substance, and the three cords will be exposed to view, lying in the relative situations which I have described. I would urge the young practitioner always to use the tourniquet, for there will then be

scarcely a drop of blood to obscure his view, and he will never mistake the nerve lying in the middle, and distinguished by its whiteness and its hardness. You will now, by means of the crooked needle and thread passed under it, elevate the nerve at the upper part of the incision from the bloodvessels, and, taking care not to wound the neurilema or sheath of the nerve, you will dissect away a portion of the intervening cellular substance. Then, changing your scalpel for the bistoury, and warning your assistants to be ready, you will introduce the bistoury under the nerve at the upper part of the incision, and by a sawing kind of motion divide it. This cautious division of the nerve is a circumstance most carefully to be attended to; for there will always be a considerable struggle when the nerve is divided, and if it is done at once the shock may be dangerous or destructive. I will illustrate this in Mr. Moorcroft's own words: "A horse with coffin-joint lameness was thrown and secured; the nerve on the outside of the fetlock was bared by two strokes of a round-edged knife, and cut across with the crooked knife. The instant the nerve was divided the horse made a violent and sudden exertion to disengage himself. A crash, as if from within his body was heard by the bystanders, and my intelligent assistant felt the shock of the internal fracture as he lay on the animal, and whispered in my ear that the horse had broke his back: this, in fact, had happened."

Operation continued.—The painful and the dangerous part of the affair is now over. You will take the portion of the nerve below the division between your finger and thumb or the forceps (the former, in our operations on the living animal, while they form the oldest also constitute the best instrument) and detach it from its cellular adhesions with the bloodvessels as far down as you think proper—more than an inch it should always be—and then cut it off with the knife or scissors. The horse must now be turned, in order to get at the other side of the leg, and the same operation performed. The edges of the wounds being brought together, a small piece of clean tow should be placed over each, and secured by means of the roller applied pretty tightly. The wounds will generally heal by the first intention. Stitches will delay the cure and increase the blemish. The horse should be placed in a loose box for a few days, and his neck guarded with a cradle: a dose of physic should be given, and his regimen should be mashes or green meat. And so ends the operation of neurotomy, as simple an one as a surgeon will ever be called on to perform, and yet one of the most important in its consequences.

Caution.—The practitioner would smile at the caution which I am now about to give you; but I have seen a great deal of the proceedings of you young men, and know that it is necessary. Beware of the sheath of the flexor tendons! When the tourniquet has not been used, and the incision has become filled with blood, and the operator has not been able to see where he cuts and what he is about, in his eagerness to clear away the cellular texture he has wounded the sheath; and what is the consequence?—he has not, indeed, a case of opened joint, but of exposed synovial membrane; and very considerable inflammation and swelling of the leg supervene; and the wound becomes filled with coagulated synovia; and as fast as he removes one portion another comes; and he is teased day after day: and, after all, the engorgement of the leg will not subside without a blister, and the gaping scar ever speaks of his awkwardness, so that he who runs may observe and laugh.

After-proceedings.—“And so,” I have just said, “ends the operation of neurotomy.” So it generally does end; but so it ought not. In cases of old and obscure lameness, in which all other means had been ineffectually tried, I scarcely know what farther is to be done. The pain is removed, and the chronic and slight degree of inflammation which was perpetuated chiefly by the irritation connected with the existence of pain subsides, and a perfect cure is accomplished. It may be the same with chronic founder; but if I resort to neurotomy on account of ossified cartilages, or ringbone, or partial ankylosis of the pastern and coffin joints, shall I be satisfied with the benefit which I obtain from this operation, great as it is? No; I have got rid of pain—the occasional cause—the constant supporter of inflammation—and I will see whether my former means and appliances may not now have more power. I will try by means of my blister or firing-iron whether I cannot rouse the absorbents to more efficient action, and not only arrest the progress of the bony tumour, but remove it; I will not merely suffer the usefulness of my patient to depend on the continued suspension of feeling, but assure it, by the partial or total removal of the morbid growth.

Contraction.—In contraction of the foot shall I be satisfied with removing the agony occasioned by the constant pressure of the horn on the sensitive interposed substance between it and the coffin bone; or shall I not take advantage of the insensibility and the higher action which I have produced, and pare the sole thoroughly out, and rasp the quarters to the very quick, and use every suppleing application which I can devise, and apply my unfettered shoe, and when I have produced a disposition to ex-

pansion and some degree of it, actively blister the coronets in order to hasten the growth of horn of the pristine dimensions and quality?

Navicular Disease.—In navicular disease should I not with more hope of success apply my seton through the frog in order to subdue the remaining inflammation, after I had removed that irritation which had so much to do with the perpetuation if not the origin of it.

Recapitulation.—This is a view of the operation which ought to be more regarded by practitioners and horse owners than it has hitherto been. A blister, or the firing-iron, will have as much power in abating inflammation, and producing a healthy state of the foot, after that foot has been rendered insensible to pain as it had before; nay, I should say much, much more, one grand source of irritation having been removed. We have not yet been sufficiently aware of the distinction between the two grand nervous systems, the animal and organic,—those that connect us with living beings around us, and those that are essential to life itself: but the dawning of a better day has commenced.

French Notions of Neurotomy.—You probably know with what difficulty this noble operation fought its way to proper estimation among our continental brethren; and although now, with the exception of a few, and those certainly of deserved reputation, it is acknowledged by the French veterinarians to be one of the noblest improvements in our art, yet there is a caution with regard to the practice of it, at which we, perhaps, shall be somewhat disposed to smile. Until the last two or three years, it was diligently inculcated on his pupil by the French Professor, that an operation interfering so much with the vital functions of the foot should be very cautiously resorted to; and that no man should dare to perform it on both sides of the leg on the same day. Every failure or mishap was traced to the ignorant presumptuousness of the surgeon who, by infringing on this rule, saved much after-pain to his patient by settling the matter at once, instead of suffering ten or twelve days to intervene between the two operations. Now it is permitted to the surgeon, if both legs require to be neurotomized, to operate on both sides of one leg to-day, and of the other a fortnight hence. I do not know that the English veterinarian has ever repented of making quicker work of it; for, as I have said, it is a very simple operation; it is not a thousandth part so painful as some operations to which the horse must occasionally be submitted, and, if it be decently performed, there is no danger at all about it.

Enlargement of the Extremities of the divided Nerve.—There is one inconvenience which occasionally follows neurotomy, but

which has no connexion with the manner in which the operation is performed; and the cause of which is buried in obscurity. Near, or at the point of section above and below, a medullary or harder-constituted tumour begins to be formed. In some cases it attains the size even of a filberd. It is exquisitely tender; and, situated where it is, and projecting considerably under the integument, the horse is continually striking the part with the opposite foot, and sometimes falls from the acuteness of the pain. These tumours or ganglions—they are sensitive nerves which are divided—are of a pearly-white colour, hard, creaking under the scalpel, and, at the base, confounded with the cellular substance on which they are placed. They sometimes are continuous, or connected with the superior portion of the nerve by numerous fibrils, evidently nervous; sometimes they are thus connected with the inferior portion—occasionally with both, and at other times there is but one ganglion placed midway between the ends. They appear to be abortive attempts at re-union. There is but one course to be pursued. The horse must be cast; the connexion of the ganglion with the divided nerve cut through, and the tumour dissected out.

The Re-union of the Nerve.—On the question of the reproduction of the nerves there is now no manner of doubt; and, in fact, if veterinary surgeons had possessed any records of their own, or if they or their proceedings had been deemed worthy of notice by physiologists, the question would long since have been settled. A horse is lame—he undergoes the operation of neurotomy—at the expiration of an uncertain time the lameness returns, and he is destroyed. What, in the majority of cases, do we find? Why, that the nerves had united—that new veritable nervous substance was interposed. It could not be distinguished from the common substance of the nerves by the eye; and Reil, an indefatigable and accurate physiologist, put it to a chemical test. It is well known that the neurilema and cellular substance generally will dissolve in nitric acid, but that the nervous matter resists its corrosive power. He immersed a portion of apparent nervous substance, which had been produced between the divided extremities of a nerve, in the acid, and it could not be dissolved.

Caution.—Our object frequently is, to render that re-union as distant as possible, and we have but one means of effecting this purpose, namely, by excising a considerable portion of the nerve, whether metacarpal or radial. Meyer found, that if he removed a line, the reproduction was not effected in less than three weeks, and when two lines were taken away, two months elapsed before the union was complete.

Soundness.—Can the horse that has undergone the operation

of neurotomy be afterwards passed as sound? Most certainly not. There is altered, impaired structure; there is impaired action; and there is the possibility of the return of lameness at some indefinite period. Let him be ever so free from lameness, he has been diseased—he possibly is diseased now; but, the pain which usually accompanies the disease being removed, there are no means by which it can be indicated. I operated on a horse five years ago; he continued sound until within the last six months, and he has since that time lost one hoof. Generally speaking, the good effect of the operation, if well performed, may last during life; but who will guarantee that it was well performed, or that the horse shall not suffer from those accidents to which by the very act of neurotomy he is peculiarly exposed, viz. the bruising and battering his feet until inflammation is produced, or he cuts his feet to pieces with flint and glass? The horse that has undergone the operation of neurotomy is, ever afterwards, unsound.

A CASE OF ANEURISM OF THE ANTERIOR MESENTERIC ARTERY.

By Mr. H. Daws, London.

AN aged brown gelding, the property of His Grace the Duke of Beaufort, was received into the hospital on the 19th of April, 1836, at 7 A.M., for compound fracture of the bones of the face. The nasal, superior and anterior maxillary bones were the principal ones affected; and the air rushed through more than one of the openings. The injury was occasioned by his running away and coming in contact with an iron railing.

A considerable hemorrhage took place from the nostrils, and the shock to the system was very great. The depressed portions of the bone were elevated; the detached pieces removed; and the external wounds closed by sutures. Aperient medicine was administered, and quietude strictly enforced. Febrile symptoms exhibiting themselves with the returning re-action, he was bled to syncope in the evening. Fomentations, evaporating lotions, &c., were applied constantly to the injured parts, which, in a few days, took on a healthy action. Exfoliation shortly followed, and the wounds cicatrized, leaving a very slight scar, and a little disfiguration of the countenance.

On the 15th of May he was suddenly seized with the following symptoms, about 6 P.M.:—increase of respiration—restlessness—profuse perspiration—distention of the abdomen—frequent

desire to void his fæces and urine—his pulse was not much accelerated, but exceedingly full, strong, and large, accompanied by a peculiar grating, better felt than described, and which did not yield until upwards of eleven quarts of blood had been abstracted from his neck. His membranes were not in the least altered in their appearance. Sedative and aperient medicines were given, and laxative enemæ; and the horse was placed in a cold atmosphere, which afforded considerable relief.

The next morning, 16th May, he appeared quite cheerful, and his appetite returned; but in the afternoon the symptoms of yesterday again presented themselves. He underwent a similar plan of treatment, but ineffectually; and died in the evening.

Inspectio Cadaveris.—The abdominal viscera healthy; lungs and heart large, but healthy in their external appearance. The abdominal aorta, near the origin of the anterior mesenteric artery, was the seat of an aneurism, extending in length upwards of four inches, and considerably larger in calibre than the vessel itself. Ossific deposits were observed in various places in the coats of the vessels; its inner surface was in a high state of inflammation; the inner surface of the left ventricle was in a similar state, and patches of ecchymosis in various places.

OBSTRUCTION OF THE MANIPLUS, OR FARDEL BOUND.

By Mr. JOHN TOMBS, Pershore.

1835, Aug. 19th.—AT a village three miles from this town, I attended a cow with the undermentioned symptoms:—She lies down; frequently looks back over her sides; when up she is continually shifting her hind legs; has voided no excrement during last night; refuses food and water; pulse quick and hard; common integuments, ears, and horns, extremely cold. I bled her to the extent of one gallon, and gave of Glauber's salts ℥viiij, Cape aloes ℥ss, croton seed ℥ii; to be repeated three times in the day.

20th.—Nose dewy; no purging; voids her urine often; eats nothing; continually stretching herself out. I bled her again to the same extent, and injected enemas every hour, which were returned as clear as they were thrown in. I gave a pint of castor oil, and horned down thin gruel in large quantities. At 6 P.M. I gave ℥viiij of Epsom salts, with half a drachm of ginger. At 8 P.M. she was much worse; pulse weak; shivering fits and cold

tremors: no faecal evacuation. Give castor oil one pint, aloes Barb. one ounce, croton seeds one scruple.

21st.—At 9 A.M. she had a liquid evacuation. She lies down often. The skin, ears, and horns, are hot. Give ℥viij of Epsom salts, with plenty of gruel. Give her cabbages and turnips, as she will eat them, but refuses bran and hay.

22d.—She purges freely; is tucked up at the flanks; no milk is secreted, yet she is slightly improved. Give half a pound of Epsom salts.

23d.—Still improving. Pulse not so quick. Eats and ruminates a little; drinks nothing. Give six ounces of sulphur and four ounces of Epsom salts, and let thin gruel be horned down.

24th.—Eats, drinks, and ruminates. Give salts every day.

28th.—Quite well and hearty.

ON CATARACT.

By Mr. W. A. CARTWRIGHT, Whitchurch.

IN the month of May last, I was attending, at Lord Combermere's, a filly that had been gored by an Indian bull, when I was shewn a cow that had lost *both* her eyes under rather peculiar circumstances: the particulars were, so far as I could ascertain, as follow:—About two or three months before the cows were fetched up to be milked, and on proceeding to tie this cow up, she was merely driven nearer to the stall, when she hit the near eye against the end of a half inch pin that projected through for about an inch and fastened the boosy stake to the stall: she suddenly fell backwards as if shot, but got up again immediately. She was in a few hours after turned out, but found to be blind of *both* eyes, and has remained so to the present day. In a short time after the accident she had a cataract in each eye, and when I saw her nearly the whole of both of the lenses was opaque and disorganized.

There was scarcely any apparent inflammation in the eye that was injured, after the accident; nothing more than a little weeping, and none whatever in the other eye; nor had there ever been, as far as they knew of, any thing the matter with either up to the time of the injury.

CATARACT APPEARING WITHOUT APPARENT INFLAMMATION.

By the same.

ON the 22d of April, 1836, Mr Etches, of Broughall, sent for me to look at the hock of a horse that he thought was larger than what it ought to be. He had purchased the horse from a Mr. John Jones, of Llandyssill, a farmer near Welchpool, who had bred him: he was five years old. I told Mr. Etches the enlargement of the hock was of no consequence. I then examined him all over, and found that he had a cataract in the off eye, at its outer angle, the size of a large coriander seed. The eye was perfectly transparent, with the above exception shewed no vestige of previous inflammation, and there had not been any thing the matter with it whilst in the possession of Mr. Etches, which had been about a month. Mr. Jones was applied to respecting it, who said he bred the horse, and never knew either of the eyes to be the least inflamed or injured. It was agreed to leave it solely to two friends who knew each party well, and who decided that Mr. Jones should refund five pounds. Now, I am perfectly aware that there is great difficulty in deciding when or how this cataract was formed, and whether it was preceded by inflammation. That there was no apparent inflammation set up in the eye whilst Mr. E. had him I firmly believe; for he is a very particular gentleman, and is continually among his horses. On the other hand, it is asserted that there was none while in the breeder's hands; but then we all must admit the *possibility* of the horse having had some injury to or inflammation in the eye during the long period that he was in the breeder's possession, although not observed. That there could not have been, nor indeed is it necessary, repeated violent inflammation in the parts, we may easily believe, for there would have been disorganization or discolouration of the internal parts. Suppose the vender, in this case, would not have taken the horse back nor have allowed any thing, would it have been possible to have recovered any thing from him by law? I think not. The vender would have proved that there was nothing the matter (at least witnesses would have been brought forward to swear it) with his eyes up to the time of sale; and who would there be to prove, on the opposite side, that it could not have occurred whilst in the purchaser's hands? I would not, I am sure; and, I fancy, few veterinary surgeons would be found to swear that the cataract was formed previous to the sale, after what has recently been brought forward on the subject. The case *Roberts v. Croft* was decided otherwise; but would a similar one be so now? It is, at any rate, a case which shews the absolute

necessity for every purchaser to have his horses examined immediately after purchase, and which ought always to be done independent of this point.

I should be glad if Mr. Davies or Mr. Gwynn, veterinary surgeons of Welchpool, would slightly try to ascertain a little more respecting this case, as it is in their neighbourhood, and communicate it either to you or to me, as I am as desirous as any one to come at the truth of similar cases.

EXAMINATION OF AN EYE

AFTER HAVING HAD SEVERAL ATTACKS OF INFLAMMATION,
AND PREVIOUS TO THE FORMATION OF CATARACT.

By the same.

ON the 13th May, 1836, Mr. Gretton, surgeon, of this town, had a blood mare of his taken suddenly ill of acute peritoneal inflammation of the bowels, in consequence of having drank a bucket-full of cold water, and of which she died on the 15th. She had had three or four severe attacks of ophthalmia, with great effusion, in one of her eyes within the last eight or nine months, and which had regained, as much as is usual, its transparency, but, of course, leaving it after each attack more dull and discoloured. Examination of the eyes took place soon after she died.

The Unsound Eye.—The vitreous humour had not that beautifully white glassy appearance that it has in its sound state, but was of a very pale amber colour, having a slight tinge of green in it. The *lens and capsule* were, I may say, as near as possible of a natural colour and transparency; but they certainly had the same lighter amber tinge as the vitreous humour.

The Pigmentum Nigrum.—The under surface was highly inflamed; for on scraping the anterior surface off, it presented a scarlet appearance, evidently referrible to an immense number of small vessels: on cutting them across they evidently emptied themselves, as the redness in a great measure vanished. It was so evident, that after forcing the vitreous humour out, the parts were of a dark red colour when seen through the anterior coat of the pigmentum nigrum. This redness was not situated on or under any part that is called tapetum lucidum.

Optic Nerve.—This was decidedly harder to cut through than that of the other eye, and was more dense in its texture.

The sound Eye.—I examined this eye very particularly, and contrasted it with the other, which was very different from it. It was quite sound. There was not the least inflammation under the pigmentum nigrum.

Now I am on this subject, I may as well refer to and quote part of an admirable thesis presented to and sustained before the Academy of Medicine of Paris, by Theodore Mannoir, translated and inserted in Dr. Ryan's valuable Medical and Surgical Journal, No. 206, &c. of January 1836, and which thesis is well worth the perusal of all veterinary surgeons.

After having mentioned many interesting facts, he goes on to remark on *blows, insolation, &c. &c.* and says, "It is known that some external accidents have, in certain cases with predisposed individuals, occasioned an exciting cause of cataract. When the effect follows very closely, the circumstance is regarded as the cause; and when the disease has, moreover, a much more rapid course than usually, there is every reason for believing that that is not a simple coincidence.

"Several examples of this kind are preserved in the thesis of Dr. Tartra. He relates from Terron, who had been eye-witness of the fact, that a lady who was struck on the eye by a bottle-cork, had that eye next day affected with cataract. A potter entered into his oven while it was still hot; he came out of it with two ripe cataracts. Fabrice de Hilden has seen a lady, upwards of fifty years of age, become blind in one night by the formation of two cataracts, without pain or inflammation, and that after having wept for several days for the loss of one of her relations. A surgeon of Mayence relates the history of a man in whom a cataract was suddenly developed after a repast at which he had got intoxicated. It is known, finally, that one of the accusers of the celebrated Desault got into a violent passion on learning that he had been restored to liberty; on the very instant, one of his eyes lost the faculty of seeing, and on the next day it was remarked that he was affected with a cataract. Dr. Carron Duvillards has seen in three sexagenarian individuals, a cataract developed very rapidly after a blow from a bottle-cork: at the end of a few days the opacity was already perceptible; it became complete in the course of the year; the sight remaining uninjured in the eye which had not been struck. He has seen the same accident occur in two women of from twenty-five to thirty years of age, who had received, one a blow from a racket club, the other a blow from a billiard queue.

"I have not met with a single case in which such striking circumstances as those of which I have just spoken have preceded the commencement of the cataract. Of fifty-seven patients questioned in this point of view, the following are the only ones that have presented any thing analogous." [Here follows the relation of six cases.]

HYDROTHORAX, PUERPERAL FEVER, AND THE ROT.

To the Editors of "The Veterinarian."

Gentlemen,—I AM glad to find that you have, in some degree, relaxed your regulation as to anonymous communications, and am willing to continue mine as often as circumstances, together with ifs and buts, will allow; still thinking you are too particular; as, if the matter is good, what difference can it make from whom it comes? This, my opinion, formed long since, has been much strengthened of late by reading that vanity is the principal cause of people publishing their ideas; and as there is evidently a very "plentiful lack" of this in our profession, you should afford every indulgence in your power; but besides the needful quantity of vanity, some degree of boldness, or, perhaps, I may say presumption, is necessary; as by writing on diseases, &c. known to the profession generally, yet not mentioned by our best authors (and there are many such), one is liable to be accused of plagiarism; or by mentioning a circumstance observed for the first time, and asking, Is it always so? (as I am now disposed to do) be set down as an ignoramus.

Having occasion, a few days since, to tap a patient for dropsy of the chest, and having drawn more than five gallons from one side only, I was surprised to find that it coagulated like blood; and by next day had separated about a sixth part of serous fluid. I have operated on her four times since, and may give the case at length when I know the result.

Returning to the subject of vanity and presumption, I dare be bound that those who know me think that I have my full share of both; to which I will add a disposition to make some return for what I get from others: yet, being but a poor country vet., and quite unknown to fame, think I can state, and, if necessary, defend my opinions best behind a bulwark; at the same time I entertain an opinion that he who resorts anonymously to personalities in such a cause, or abuse of any kind, "is a wretch whom 'twere base flattery to call a coward!" Nevertheless, I can well allow, and may even be tempted to practise now and then, a little harmless banter. "Something too much of this:" yet will I say in conclusion, that, while you give us as much liberty as possible, every communication that has not the advancement of the profession, and support of THE VETERINARIAN (one of its most important if not vital organs) for its object, should be rejected!

I will now change the subject, but on what other to fix I do not know, having tried several, and that without finishing one; principally, I believe, because I have hardly ever made a remark worthy of notice confirmatory or contradictory; the occupation has therefore appeared to me "weary, stale, flat, and unprofitable." But while it has been thus with me, I have been mindful of others, and have often thought of making comments, and drawing from them what they have partly exposed to view; but here, again, the fear of being accused of presumption and exposing my ignorance has kept me back. I will now, however, try my pen at this, and hope it will be taken in good part.

A correspondent in your last has alluded to a promised communication from our Walsall friend; and I beg to inform him, as a college acquaintance, that I am very anxious to see it; as every fatal case of the kind that I have witnessed has been connected with inflammation of the uterus, &c. Another correspondent (Mr. King) in, as I think, the same number, favoured us with an article on the Fluke-worm in Sheep; from which we may infer that they are, in his opinion, the sole and immediate cause of rot. Now, as I happen to differ in opinion, I shall be obliged (and in this I have no doubt many will join me) by his furnishing an essay on the disease itself, informing us how fluke-worms, however great their number, occasion complete disorganization of the liver. Mr. King's letter interested me also on another subject, as anticipating the time when, as they tell us, the mighty power of steam shall discard our patients not only from coaches, but even from waggons and ploughs: but this, like most other troubles, leaves us not hopeless; and I comfort myself with the idea, that, though I may no longer be able to mount my cantering hack, I may yet live and ride.

Your obedient servant,

A CERTIFIED PRACTITIONER.

ON THE DISTEMPER IN DOGS.

By Mr. S. BROWN, Melton Mowbray.

IT is with considerable diffidence that I take up the subject of distemper in dogs; and a sense of obligation induces me frankly to acknowledge the information that I have gained from Mr. Youatt's valuable communications which have appeared in your journal on this subject.

In a pecuniary point of view, canine practice is of somewhat minor consequence to the country practitioner; but cases will

continually occur in which a knowledge of the diseases of dogs will be not only useful, but absolutely indispensable; and they who have formed right views of the extent of their duty, and of their personal reputation and interest, and the claims of humanity, will avail themselves of every opportunity of rendering themselves acquainted with the structure, functions, and economy of *all domesticated animals*, that the treatment of their diseases may be both efficient and successful. The course of instruction which was given at the Royal Veterinary College when I was a pupil, and which I understand is still pursued, is a subject of deep regret, because it is confined almost exclusively to the horse. I had hoped that our worthy professors would long ere this have filled up the chasm. It is fortunate, however, that veterinary students have the opportunity of attending lectures on the diseases of cattle, sheep, &c., at the London University, and thus laying a scientific basis on which to erect a superstructure extensive as the scope and bound of our art.

As Mr. Youatt has shewn the degrees of severity which distemper assumes in the different breeds of dogs, the hereditary predisposition, atmospherical influence, its epidemic and endemic characters, and, also, its contagious character—and has proved that dogs of all ages are subject to its attack—I will not occupy your pages by repetition; but merely add my testimony as to the value of that gentleman's elaborate statement, by saying that I have observed every symptom which he has so accurately described, and will pass on to enumerate some modifications of treatment which I have found successful.

The distemper is an "inflammation of the mucous membranes;" and when we recollect their extensive surfaces, and the various terminations of inflammatory action, we may in some measure account for its varying symptoms, and feel assured that no specific remedy can be prescribed. At the commencement of an attack, a cure is often effected by bleeding, and giving the emetic of tartarized antimony and calomel, followed by the croton oil, which sits well on the dog's stomach, and is both an efficacious purgative and a vermifuge: but if the febrile symptoms should run high, and the animal be in good condition, the digitalis, nitre, and nauseating doses of emetic tartar, may be given once a-day with advantage. Unfortunately, however, the veterinarian does not usually treat the disease in its primary stage. This probably is not so much owing to the comparatively small value of the animal as the influence of credulity, which induces the owner to repose implicit confidence either in some boasted specific remedy or absurd nostrum, until the animal becomes worn down by

a disease, bad enough in itself, but which, in all probability, has been wofully aggravated by injudicious treatment.

When the inflammatory action has terminated in nasal gleet, or, perhaps, more properly, the suppurative process on the mucous surfaces, cleanliness becomes indispensably necessary. In this stage I have generally found the disorder curable; and in those cases in which the patients have not been too much reduced by the previous morbid action, a dose of croton oil has been beneficial, as it does not enfeeble the animal so much as an emetic, but freely opens the bowels and evacuates worms, which, in most young dogs, are a constant accompaniment of distemper, and a source of irritation to the intestinal canal.

In every case of debility kind and gentle usage are really necessary; the appetite must be coaxed with light and nutritious food, and the dog usually prefers new milk. In such cases I omit the croton oil, and give tonic fever medicine. The combination with which I have oftenest succeeded is emetic tartar, (varying it from the twentieth to the twelfth of a grain), nitre, cinchona, and garlic*, which are made into a mass with treacle, divided into pills, and given every morning fasting, until every symptom of distemper disappears. If the patient should feed well and not gain flesh, we may suspect worms, which some doses of powdered glass will expel.

So far as my humble experience is concerned, cinchona is preferable to gentian, as it agrees with the stomach, creates an appetite, and does not constipate the bowels; but the latter apparently excites nausea when given without the small portion of tartar emetic, and, in some instances, actually causes vomiting.

Whether diarrhœa supervenes, or is the early and predominant symptom, the rapid loss of flesh which it occasions is almost incredible; and if early remedial measures are not adopted, the animal soon sinks under its debilitating influence.

Previous to an attack of distemper, the dog is slightly indisposed, loathes his food, and eats grass (which is nature's remedy for the canine race), whilst the only symptom by which we can recognize the disease is its characteristic smell. Under this form of attack we might conceive that purgatives were indicated; and although we have a variety of substances which will excite catharsis in the dog, it requires caution in the selection. Castor oil appears to be the blandest; but I have given it with doubtful effect even when guarded by a few drops of the tinct. opii.

* I do not know the specific effect of garlic; but repeated experiments have convinced me, that in combination it possesses sanative virtues in distemper.

Superpurgation is easily induced by it; and when diarrhœa is once established, absorbents and astringents are but of little avail in arresting its progress. I have, however, frequently succeeded in arresting the purging by giving calomel and opium, conjointly, once or twice a-day, varying the proportions of each from the sixth of a grain to a grain. Probably this formula may be considered as an example of the advantage resulting from medicinal combination, as the specific action of the calomel becomes lost, and an opposite effect is produced; and by the addition of compound cinnamon powder it is rendered stomachic.

In protracted cases, and when all kinds of food have been refused, I have forced the dog with a little calves-foot jelly, to which has been added a small quantity of port wine; but although this mode of treatment has occasionally succeeded, I conceive that it is not free from objection; because we may reasonably suppose that, without the natural sensation of hunger, we are calling a passive organ into dangerous action, and the rapid distention of the abdomen which frequently ensues is sufficiently indicative of the derangement of function.

Fits in distemper are generally unmanageable. The only successful case which I have met with is that of my own setter, and in him a strict antiphlogistic treatment succeeded.

With respect to the "yellow disease" I can say but little, as I have met with very few cases, and treated only one successfully; and that was by giving, over-night, a full dose of calomel, with a sufficient quantity of opium to prevent its being carried off by the bowels, and a croton-oil pill in the morning. But dissection leads me to regard this as an hepatic attack, and probably not connected with distemper; as, in those subjects which I examined after death, the observable unhealthy appearances were inflammatory action in the liver, and the mucous coat of the bowels slightly injected, probably by the morbid biliary secretion.

The usual post-mortem appearances in distemper are such as may be naturally expected in accordance with its varying symptoms.

In submitting to your readers the above practical remarks, or rather facts which have come under my observation, I wish it to be distinctly understood, that it is with a view to advance the progress of veterinary science, by promoting discussion through the medium of your Journal, and not from any supposition that I am suggesting a superior mode of treatment. Distemper has been hitherto and still is a sadly untractable disease in our faithful friend and companion, the dog.

CHRONIC DISEASE OF THE SPINE.

By Mr. W. CHARNLEY, *Wrexham.*

July 7th, 1836.—I WAS called out this morning to see a valuable hunter, the property of Thomas Fitzhugh, Esq. of Plas Power. The groom informed me that he was down and could not get up, but was perfectly well to all appearance on the night before. On my arrival, I found that both muscular power and sensation in the hind quarters were completely destroyed. The horse had not been out of the loose box for a week. The last time he was out the groom perceived him to be a little weak behind, but took no particular notice of it. He himself gave the horse some alterative medicine, and considered all was going on right. Pulse 40, and no fever. I bled him to the amount of four quarts, and gave aloes Barb. ζ iv, and ordered a fresh sheep-skin to be immediately applied to the loins. I also back-raked him and threw up a clyster, which was to be repeated every hour. He was likewise to be back-raked occasionally.

P.M.—Symptoms the same; administered aloes Barb. ζ iv; and ordered warm water to be given him occasionally.

8th, A.M.—Pulse 47, and very weak; respiration a little quickened—the medicine had not operated. I ordered back-raking and clysters as before, and had the sheep-skin removed from the loins, which were then rubbed perfectly dry.

I then prepared an ointment composed of ant. tart. ζ iv et adeps præparat. ζ iv, and had half of it well rubbed in on each side of the lumbar region; I also ordered warm water occasionally.

P.M.—Symptoms the same: medicine not operated. I ordered ol. lini. ζ vi to be given, and introduced the catheter, and took away about four quarts of urine: back-raking and clysters as before. The remainder of the ointment to be well rubbed in.

9th, A.M.—Pulse 74, scarcely perceptible at the submaxillary artery; respiration increased; medicine not operated: back-raking and clysters as before.

P.M.—Pulse 84, but very weak; medicine not operated: gave ol. lini. ζ vi et ol. croton ten drops; introduced the catheter and took away four quarts of urine; warm water to be given: back-raking and clysters as before.

10th, A.M.—Pulse 64; great pain and violent perspiration. I introduced the catheter, but could not abstract any water. The medicine operated slightly. Give warm water every hour. The horse died in the afternoon of the same day.

Post-mortem Examination.

Monday morning, July 11th, 1836.—On opening the abdomen and chest there was not the slightest inflammation in any of the viscera; but on sawing through the bones of the lumbar vertebræ I perceived a quantity of fluid and a deposition of coagulated lymph, and also adhesion of the membranes belonging to the medulla spinalis. The roots of the nerves which were given off from a portion of the spinal cord were nearly absorbed. The muscles of the hind extremities and loins were of a clay-like appearance, and so soft as to be torn with the slightest effort. The muscles of the fore parts of the body were of a natural colour and firmness.

 ON WOOD-EVIL, OR PANTAS, AND MOOR-ILL.

By Mr. W. Cox, Leek, Staffordshire.

I HAVE been on the look-out for some time, for a distinction in THE VETERINARIAN between those diseases in cattle called the wood-evil and moor-ill: I am not aware that a proper one has hitherto been drawn by any writer. For this reason I am induced to take up my pen, not only because I flatter myself that I am able to give a few hints as to the causes, symptoms, and method of cure of the above diseases, but with an intention to rouse a spirit of inquiry amongst my intelligent veterinary brethren, and particularly among those of the northern districts.

THE WOOD-EVIL, OR PANTAS.—This disorder is most prevalent in woody districts, or low meadow or pasture land, where there are many crabs and black willow trees, which the cattle will sometimes eat with greediness, and become obstinately sapped. I have one case in particular in my memory, in which it took nearly four pounds of Epsom salts in order to open the bowels: many also of the cattle that had eaten of the willows required almost as much to purge them.

THE MOOR-ILL.—This disease is wholly confined to moors, and commons, and poor lands. It is very prevalent in the north of Staffordshire, and is called by some farmers the over-country disorder.

As to the cause of this complaint there is a great variety of opinion among the farmers; some say it comes on in the winter, and trace it to the hay being mixed with a herb in it, which is called mountain flax: others say that the fault is in the water: other very intelligent farmers tell me that they have watched it very closely for some years, and that it always begins in the

summer, and more so in dry summers, when the beast does not obtain sufficient nourishment to supply the wants of nature. This disease is nearly or wholly confined to milch cows.

Symptoms.—The first appearance of it is a kind of grunting, to which succeeds a stiffness of the limbs and body, and mostly of the fore extremities and thorax. Sometimes the cow will be one whole mass of stiffness, and her joints will rattle when she walks like the breaking of rotten sticks. The pulse is seldom much affected, the appetite not at all, and the milk is little, if at all, diminished in quantity or quality. There is no swelling of any part; and thus the beast will remain month after month, and sometimes year after year, if a cure is not effected.

As to the cure, bleeding and purging have always been found injurious. A seton of hellebore in the dewlap, and one purge mingled with some diuretic medicine, should lay the foundation for that tonic or cordial plan which will always have the desired effect, providing the beast is removed to a better situation. A cow that has once had this complaint will be liable to a relapse if returned to her old situation and exposed to the same exciting causes.

Will not some of our country correspondents accept the challenge, and prove whether Mr. Cox is right or wrong in the distinction which he draws? It is an important subject, and, if we mistake not, one that is much misunderstood.—EDIT.

CONTRIBUTIONS TO COMPARATIVE PATHOLOGY.

By Mr. YOUATT.

No. IX.

TETANUS, WORMS IN THE TRACHEA, AND DILATATION OF THE HEART IN A ZEBRA.

July 6th, 1836.—A ZEBRA, sixteen years old, and that had been broken-winded five or six years, had a considerable tumour on the belly, immediately before the prepuce, and another smaller one on it. He was cast with considerable difficulty and danger. The principal tumour was of a hard scirrhus character, weighing more than a pound, with a pedicle about as large as two thumbs. A double ligature was passed through the centre of it, and firmly tied on either side. A ligature was also passed round the base of the smaller tumour.

12th.—There not being any great difference in the appearance of the tumours, the animal was caught again and cast. He was completely exhausted in the struggle, and I almost thought that he would have died. The ligature had eaten half way through the pedicle of the larger tumour on either side, and it was necessary either to tighten it or to excise the tumour. I had had enough of casting this poor fellow, and therefore had recourse to the knife. There was some little bleeding; the exposed surfaces were therefore slightly touched with the hot iron, as well to stop the bleeding as to prevent the growth of future tumours. The smaller tumour was likewise excised. A little tar was then placed on the wounds, in order to keep off the flies, and the animal was liberated.

18th.—The patient has gone on well until to-day, when he was observed to snatch eagerly at his mash, and then pause, with his mouth half closed upon it, and letting the greater part of it fall on the ground. His tail is stiff, in an almost horizontal position; he stands rather wide behind, and walks stiffly, the stiffness being principally referrible to the hind legs. The countenance expresses much anxiety and suffering. Tetanus is evidently coming on. His ears are unaffected, he readily moves them, and he holds them alternately, the one forward and the other backward. He does his best to eat every thing within his reach, but he cannot sufficiently masticate his hay; it eventually drops from his mouth, and he can only manage a little mash. He was bled to nearly five quarts, and fifteen grains of the farina of the croton nut were given.

19th, 6 A.M.—If there had been any doubt before as to the nature of the case, it has now vanished. When I opened the stable door he started, and his tail sprung out, and remained in an horizontal position; the muscles of the cheek and neck quivering violently. The eye is retracted into the orbit—the ear is now fixed, firmly so, but it is backwards instead of forwards—the pulse 80. There is a little natural dung, but no purging. Give him half an ounce of aloes in half a pint of linseed oil; and, avoiding the wound, rub half a pint of spirit of turpentine well in all over him. Give him a mash, and a little coarse dry hay, in order to exercise the muscles of the jaws.

1, P.M.—The bowels have not been moved,—the jaws are as nearly as possible closed. We attempted in vain to give him a drink composed of four drachms of aloes and one of ginger; and, being completely foiled, we got him into the trevis, and threw up an injection containing an ounce of aloes, and four ounces of spirit of turpentine.

7 P.M.—A small portion of dung has passed from him of a

pultaceous consistence; but that will not do, we must have active purging. Twelve grains more of the farina of the croton nut were forced upon him by means of a pointed cane, and then, in order to put the principle of counter-irritation fairly to the test, a blanket was put round him, and his sides and belly were well scalded with hot water. This being done, he was wiped dry, and nearly a pint of spirit of turpentine, with two ounces of the tincture of cantharides, were well rubbed in on the sides and belly. He evidently felt the full influence of such applications. He was then warmly clothed, a bucket of gruel was placed within his reach, and he was left for the night. The tetanic symptoms had undergone some alteration. The spasms were excited by the slightest motion or noise—the ears were bent backwards, and it required considerable force to alter their position—the tail became stiff as any projecting pole. Spasms would play over the exterior muscles of the neck and shoulders, and then a start would follow, and the animal, scarcely able to move a foot from the ground and his lower limbs all stiff, would stagger sideways across the stable, seeming as if he would fall at the next step. The eye was retracted even more than that of the horse. This would last a couple of minutes; then a groan would escape from him, and he would stop, and the spasms would relax, and he would have an interval of rest; and perhaps he would look around him, and smell at something which he would fain seize and eat. These are the true symptoms of tetanus in the horse, but modified either by the peculiarity of the case, or by the difference of species and constitution.

20th, 5 A.M.—I am afraid that he is worse. The bowels have not yet been opened. They must at all hazards; and external stimulants must again be resorted to, although these should destroy the beauty of the skin. I was now compelled to start on a distant journey, leaving my patient under the care of my partner, Mr. Ainslie. About 8 o'clock he saw him. The zebra was becoming rapidly worse. The exacerbations were more frequent and dreadful, especially when it was attempted to force medicine upon him; and in the midst of one of the struggles he fell, and seemed in instant danger of suffocation. There was something more than tetanus about him, or the spasms were invading other organs. The attempt to administer medicine was abandoned.

11 A.M. The bowels had not been moved, and the tetanic exacerbations were more dreadful. It was determined to put him into the trevis and force more of the croton upon him; but while the keepers were getting the hobbles ready, and before the struggle, he fell; violent convulsions came upon him—they con-

tinued with greater or less violence more than an hour, and he died.

The post-mortem examination presented very singular appearances. The emphysematous edges of the lungs, and indeed of the substance of the lungs for a considerable way from the edge, told of the broken wind under which he had so long laboured. In keeping with this was an unusual dilatation and softening of the heart: Mr. Ainslie had never seen it to so great a degree in the horse. The parietes of the ventricles were thinned, and, as it were, macerated, so that their substance yielded to very considerable pressure. It seemed almost incredible that they should not have given way in the previous struggles of the animal. Their want of power to contract on their contents well explains the apparent danger of suffocation. Another contest between him and his medical attendants would have been fatal.

At least fifty or sixty worms of the *strongylus* species were found in the trachea and the larger and smaller divisions of the bronchi. They had excited a slight blush of inflammation on the mucous membrane; but they had produced no cough, no difficulty of breathing beyond that which is characteristic of broken wind, although they might have contributed to the danger of suffocation in the struggle. The lungs were considerably congested, and the pericardium was thickened. There was no appearance of disease in the whole of the abdominal cavity, and the wounds appeared healthy, and were granulating well.

The presence of the *strongyli* in so great numbers, and producing so little structural or functional disturbance in the lungs, is a remarkable circumstance, although partially explained, perhaps, by their being found in so old an animal, in whom the sensibility of the lining membrane of the respiratory passages would be considerably impaired—and more so by the disease under which he had so long laboured. Still their appearance in so old an animal is an unusual circumstance, and deserves notice. We had hitherto been accustomed to consider these parasites as the tormentors of younger animals; and when our cattle had passed their first year we reckoned them to be exempt from the murderous attacks of that species of bronchitis connected with or caused by their presence. The tetanus, did it proceed from their presence, or from some nervous lesion connected with the wound; or was it hurried on in so unusually short a period after the operation—six days—and did it run its course with so fearful rapidity—little more than eight and forty hours—by their united influence? In the horse, tetanus seldom destroys the patient in less than seven, or eight, or ten days—it has

lingered on to the twentieth. I saw one case in a mule. The animal lived, but he did not begin to amend until the seventh day. I have not had an opportunity to witness its usual duration in the ass; but it does strike me that the disease here proceeded with an extraordinary rapidity, and only to be accounted for by the combined power of the two causes to which I have alluded.

The counter-irritation, applied, as some may imagine, with a reckless hand, did not appear to have had the slightest effect in lulling the nervous excitation. In another case, however, I should be disposed to put it once more fairly to the test; for it had two enemies to contend with here, and had not a fair chance.

ON THE MALIS DRACUNCULUS, OR GUINEA-WORM.

By C. CHISHOLM, M.D.

Messrs. Editeurs,

Conceiving that the following paper on the *Malis Dracunculus*, or *Guinea-Worm*, by C. Chisholm, M.D. F.R.S., &c., extracted from the *Edinburgh and Surgical Journal* for April 1, 1815, which I accidentally met with, would be interesting to the profession, particularly that part connected with the Indian service, it will need no apology on my part for forwarding it for insertion in your interesting periodical.

I remain, Gentlemen,

Yours, &c.,

THO. MAYER, Sen., V.S.

DR. CHISHOLM says, "in the introductory part of my *Essay on the Malignant Pestilential Fever*, I have given the outlines of the history of *Dracunculus*, as far as it seemed necessary to establish the fact of its being an endemic, and, during a certain portion of the year, an epidemic disease in the island of Grenada; and not, as was formerly and pretty generally believed, in the West India islands at least, always foreign, and confined to the natives of Africa, imported into these islands. This short introductory notice was, I believe, deemed satisfactory so far as it went; but it gave rise to a wish among some medical and philosophical friends, to have that notice of this singular animal in a more detailed form. This wish was expressed immediately after the publication of the first edition of the *Essay*, in 1794. Since then

a variety of pursuits has disengaged my attention from this object. The contrariety of opinions, however, that has at different times since then prevailed respecting the natural history of the dracunculus, and the pathology of the disease it produces, has, of late, induced me to refer to my notes on this subject; and the results which I now beg to submit to the public through the medium of the Edinburgh and Surgical Journal, may not, perhaps, be found unworthy of their attention.

A considerable portion of my practice in Grenada lay in the district called Point Salinè; and within the limits of this district did the dracunculus appear as an endemic and epidemic disease. "This district, forming an isosceles triangle, the base of which may be four miles in length, is almost entirely composed of the soft rocky substance called tuf; and full a third of it is destitute of soil, except here and there in little hollows or fissures, or where the surface of tuf, softened by the action of air, has become a kind of vegetative earth. The whole of this immense mass is made up of laminæ, inclining or horizontal, as the surface is acclivious or flat. Three conical hills, of about five or six hundred perpendicular feet in height, situated in the midst of this, constituting what is called Morne Rouge, are entirely composed of vitrified rocks and stones, of a black or brown colour, and scoriæ intermixed with an earth exactly resembling iron rust reduced to powder. No trace, however, of the crater of a volcano can be discovered on any of them; but they are so placed with respect to each other as to form a very deep circumscribed hollow, which seems to have been the crater of an immense volcano." The tuf has been the produce of this volcano, and, similar to the same substance abounding in other volcanic countries, is a compound of ferruginated ashes and decayed lava—a circumstance of importance in an inquiry into the natural history of dracunculus. The whole of this district is destitute of natural springs, or running streams of water of any description. In this district, thus singularly constituted, the negroes were necessarily restricted to the use of the water of wells dug in the tuffy rock, near the inlets of the sea, and subject to the action of the tides. On some plantations, indeed, the owners had built tanks or cisterns, or had placed wooden reservoirs for the collection and preservation of rain water; and where these were sufficiently capacious, the field-negroes were permitted to use the water they contained in common with the white inhabitants and domestic negroes. But where such salutary accommodations had not been provided, except to the limited supply of the latter, the former invariably drunk the water of the wells. On the plantations thus circumstanced, the guinea-worm was an endemic, and, during a

certain portion of the year, an epidemic disease. For the purpose of obtaining every possible information on this curious and interesting subject, I proposed to the gentlemen conducting the largest plantations on which the disease prevailed, a set of questions; and the following is the substance of the answers given. These answers were the more valuable, as they proceeded from men actually living on the spot for many years prior to the period in question, and uninfluenced by professional theories or prejudices, and urged by motives of pressing interest to state correctly the existing facts, in order to obtain relief from a most embarrassing and extensive calamity:—Mr. Templeman, of the plantations of Edmund Thornton, Esq., thus stated the circumstances relative to the guinea-worm, under his own immediate observation; viz. that the guinea-worm had been epidemic on the plantation under his charge, during a certain period of the year, for seven years, or from 1787 to 1794, when I left Grenada;—that the well of the water of which the field-negroes exclusively drink had been dug nearly about the same time, or about eight years; and was dug in consequence of others more distant from the sea giving an inadequate supply of water;—that the water has been always perfectly limpid and transparent to the naked eye, and has no disagreeable smell;—that it rises during flood tide about four or five feet, and sinks as much during ebb;—that its taste is brackish, and although the water itself appears to the eye pure and clear, yet there is always a considerable accumulation of filth at the bottom, notwithstanding its being frequently cleaned out, and this filth smells very disagreeably;—that the well is situated about a hundred yards from the sea, near the centre of a small valley running obliquely from the sea into the country;—that it is cut out of a soft tuf;—that the sides and bottom of the little valley are formed of the same substance, having a thin coat of soil, in which cotton and other plants are cultivated or grow spontaneously;—that those only who drink of the water of this well have been afflicted with the guinea-worm;—the white inhabitants, and domestic negroes, who always drink rain-water, have never, except in four instances, had the disease;—that the field-negroes, who drink no other water but that of this well, are universally subject to the worm, so that almost every one of about three hundred has had it to a greater or less extent, or from one to ten worms at a time in various parts of the body, during the months of November, December, January, and February, every year;—that the annual recurrence of the disease is most regular;—that it first appears generally about the 20th of November, and before the month of March, when it usually ceases, almost every field-negro on the plantation has suffered by it;—that in January

it often happens that fifty negroes are laid up at once;—that from the end of March or beginning of April to the middle of November, not one new instance of the disease has occurred, although it sometimes happens that the ulcers occasioned by the imperfect extraction of the worm have not entirely healed before the month of June;—that this however is very rare. Mr. T. gave some remarkable instances of the disease proceeding from the drinking of the well water. A negro boy, a domestic of his own, had one year, 1793, several guinea-worms; and as he was supposed never to have drunk or made any use of this water, his case was considered as a disapproving argument of the efficiency of the water in producing the disease. On a careful investigation, however, it was discovered that, during the summer of 1793, the boy had drank of the well water, but at no time before. Three infants, from five to seven months old, had each a worm in one of their legs. On inquiry of their mothers, it was found that they had, during the same summer, given them water of the well to drink.

Mr. Scott, the agent of a large plantation, called Grand Ance, similarly circumstanced in almost every respect to the property Mr. Templeman had the charge of, favoured me with answers of precisely the same import. But here a very remarkable proof of the cause of the disease being confined to the internal use of water of wells dug in tuf, and subject to the ebb and flow of the tide, was furnished. Mr. Scott having minutely inquired into the nature and cause of the worm, which often deprived him of the labour of a large portion of a very numerous gang of negroes, suspected the tuf well water to be in fault, and, under this suspicion, had cisterns built sufficient for a large supply of rain water, and filled up the wells. The following year not a single instance of guinea-worm occurred; and I understand it has never since appeared.

In a letter I have lately received from Mr. Templeman, dated Morn Rouge, Grenada, 20th June, 1814, he thus writes to me (I should have observed, that, on my representation, Mr. Thornton had cisterns built; the happy effect of which is thus shortly stated in this letter):—“As to the guinea-worm, none have made their appearance in any of the negroes since about twelve months after your quitting this island; and that twelve months they were more favourable, and did not come to bad ulcers and sores, as you before saw them; nor have I heard or known since that time, now eighteen years, of any guinea-worms being on any of the negroes in this quarter.”

WORMS IN THE EYES.

DR. NORDMANN* has given an account of a guinea-worm (*filaria medinensis*) which was extracted from the eye of a person affected with cataract; and another of an hydatid from the eye of a young woman.

But besides those that infest our own visual organs, quadrupeds, birds, reptiles, and fishes, have each their *eye-worm*. Dr. Nordmann has discovered a remarkable one in several different species of *perch*, sometimes in such numbers as must have interfered with that distinct sight of passing objects which appears necessary to enable predaceous animals to discover their prey in time to dart upon it and secure it. In a single eye he has detected in different parts 360 of these animals. When much increased in number they produce cataracts in the eyes of the fishes which they infest.

This little animal appears related to the *planaria* or pseudo leech, and to be able, like it, to change its form. Underneath the body, at the anterior extremity, is the mouth, and in the middle are, what he denominates, two sucking cups. These are prominent, and, viewed laterally, form a truncated cone. The anterior one is the smallest and least prominent, and more properly a sucker: the other probably has other functions, since he could never ascertain that it was used for prehension.

A kind of metamorphosis seemed to take place in these animals, for our author observed that they appeared under three different forms.

On looking over the author's list, it appears that five out of seven of the *eye-worms* which he describes are attached to different species of the *perch*, and one cannot help feeling some commiseration for these poor animals; but when we recollect that they form the most numerous body of predaceous fishes in our rivers, we may conjecture that these worms are placed where we find them in order that the organs of vision in the *perch* may be rendered less acute, and thousands of roach, and dace, and carp, and tench, may escape destruction.

These little pests, small as they are, have a parasite of their own to avenge the cause of the *perch*. Dr. Nordmann observed some very minute brown dots or capsules attached to the intestinal canal: when these were extracted by a minute scalpel, and laid upon a piece of talc, the membrane that inclosed them burst, and forth issued living animalcules belonging to the genus *monas*,

* Micrographische Beiträge.

and smaller than the monas atomus, which immediately turned round upon their own axis with great velocity, and then jumped a certain distance in a straight line, when they again revolved and took a second leap. This monad alternately spins round like a top, and then darts forward like an arrow.

Bridgewater Treatises, Kirby, vol. i, p. 352.

SPASM OF THE DIAPHRAGM.

By Mr. JOSEPH GUTTERIDGE, Carmarthen.

ON the evening of the 10th July, 1835, my attention was called to a brown mare, six years old, in the stud of Mr. George Davies, mail proprietor, of this town. The mare, on her arrival in the Gloucester mail, shewed great uneasiness, and made frequent attempts to void urine; the pulse was 90, and there was a violent beating on the near side, which could be heard at a considerable distance. Her side was much convulsed; and, on placing my hand over the heart, its action could not be clearly felt. I was then perfectly satisfied of the nature of the disease. I immediately abstracted 12 pounds of blood, and administered 5 drachms of aloes, 1 drachm of emetic tartar, 1 drachm of ginger, and 2 drachms of Castile soap, dissolved in hot water. Injections of warm water were ordered every three hours.

11th.—She is evidently worse. The pulse has risen to 100, and the beating is more violent. I bled again to the amount of 16 pounds, and administered the same draught as before, with the addition of 1 drachm of tincture of opium. The injections were continued. She occasionally elevated her head and depressed her back, a symptom which I have generally observed in gastric affections. She took at 11 P.M. a small bran mash, and ate a little grass, and had an infusion of oatmeal to drink. I requested my assistant to leave the infusion within her reach. At 7 P.M. I found the symptoms more favourable; but still there was convulsion in the side. I then resolved to lay an active blister on the side and the greater part of the abdomen, which soon began to have the desired effect.

12th.—Better; pulse 75; bowels well open. Injection every four hours.

13th.—I gave the following laxative mixture: 2 drachms of Castile soap, dissolved in boiling water, to which were gradually added linseed oil 12 drachms, oil of croton tiglium 30 drops.

6 P.M.—I was informed the acute pain had left her about three hours after the medicine had been given. Ordered mash and gruel as before.

14th.—Still better. Medicine as before, with an injection every four hours.

15th.—All symptoms of convulsion have totally ceased ; the appetite much better. Bran mash as before, with linseed tea constantly within her reach. From the 16th to the 20th she was going on well : she was then turned out for three weeks, after which she was taken into her regular work, at which she has continued doing well to the present time.

THE PHYSIOLOGY OF THE BLOOD.

By Mr. R. B. RUSH, *South Lopham, Norfolk.*

[Concluded from page 397.]

The Changes which the Blood undergoes during Circulation and Respiration.

IN its progress through the system, by means of the arteries, the blood undergoes very important changes. After having supported the growth of parts, and supplied the secretions and necessities of the frame, it loses its arterial character, and in the minute capillaries becomes perfectly venalized. From them it is returned by the veins, as well as from many other parts (its colour now being a dark modena red), to the heart, to be decarbonized and revived. In its passage it becomes mixed with the chyle formed in the process of digestion and conveyed by the lacteal absorbents to the thoracic duct, and thence to the anterior cava, and with the lymph coming from all parts of the body by the lymphatic absorbents emptying themselves at different parts. It is the opinion of some that the veins perform the function of absorption.

These fluids being received into the right auricle are well mixed, and forced by its contraction into the right ventricle, and thence propelled into the pulmonary artery through the lungs.

The character of the pulmonary circulation, like its object, is remarkably different from that of any other part of the systematic circulation. As this object is the change induced upon the blood by its exposure to the influence of the atmosphere, so the manifest design in the pulmonary structure, vessels, and circulation, is the diffusion of the blood over the greatest possible extent of surface.

In a monthly publication which I was reading the other day, it was stated "that anatomical investigation, and injecting the parts, &c. lead us to conclude that the extreme branches of the pul-

monary artery have two terminations, one on the surface of the air-cells into the minute origins of the pulmonary veins, and the other by exhalent orifices on the inner surface of the air-cells; while, on the other hand, the pulmonary veins not only arise from the extreme branches of the pulmonary arteries on the surface of the cells, but by extreme radicals from their inner surface."

I do not agree with this opinion; for were this the case, I think we should have more frequent hemorrhage from violent exertion of the lungs; especially as these vessels contain coloured blood, and consequently the orifices must be comparatively large to admit the globules; besides, there appears no necessity for it, as the membrane lining the air-cells, like other membranes, will transmit gases freely.

The atmosphere, in its passage through the lungs, is robbed of part of its oxygen, and receives an increased quantity of carbonic acid gas and watery vapour; it also undergoes other changes dependent on circumstances. Whence comes the carbonic acid gas? On this point there are different opinions. Dr. Prout says, "we are aware no gelatine exists in the blood, but a great deal of albumen, which contains three or four atoms per cent. more carbon than gelatine, therefore, as gelatine enters very largely into the composition of animal substance, more especially into skin and bone," he gives this as one source of carbon, which, uniting with the oxygen in the blood, forms the carbonic acid that is proved to exist in venous blood. One great objection to this is—in the removal of parts, whence is the carbon that forms the gelatine changed into albumen, as no gelatine exists in the lymphatic absorbents?

I am inclined to believe the excretion of carbonic acid gas is a vital property of the lungs, effected as all other excretions, and because it is prejudicial to animal life. The researches of Majendie and others proved the existence of carbonic acid gas in almost the whole extent of the alimentary canal, formed in the process of digestion. Dr. Edwards justly observes, "its being in contact with the whole mucous surface of this canal, a part must be absorbed." As a proof of its capability of absorption, the fact of water impregnated with carbonic acid, and drunk in sufficient quantity, producing symptoms of asphyxia, is important. The carbonic acid excreted by the skin appears to be immediately formed there; the skin being principally composed of gelatine, and the minute capillary tubes of the arteries terminating on its surface by exhalent orifices, the carbon given off in the deposition of gelatine uniting with the oxygen of the atmosphere, forms the carbonic which is evolved.

The atmosphere is composed of oxygen $\frac{1}{5}$, nitrogen $\frac{4}{5}$, with a

little carbonic acid gas and watery vapour. Oxygen is an essential supporter of animal life, but inhaled alone is too stimulating, producing exhaustion, and even death.

Nitrogen appears to be a diluent for the oxygen, as but little change takes place in it during respiration, and if inhaled alone is quite inert; but that an alteration takes place in its quantity in different seasons, and under different circumstances, has been proved by experiment. Dr. Edwards, in one of his experiments, where the animal was confined in a mixture of oxygen and hydrogen gases, found that nitrogen was given off even more than equal to the bulk of the animal, and the hydrogen was absorbed: this was proved also by the experiments of Prevost and Dumas. Dr. E. also found it was influenced by the seasons. "In summer, and till October, an increase of nitrogen was detected in the expired air, varying in quantity; and from the close of October to the spring, there was a sensible diminution of it."

The presence of oxygen is not necessary for the disengagement of carbonic acid gas in respiration. Animals have been confined in hydrogen gas, and carbonic acid has been given off. In one instance particularly, when Dr. Edwards was experimenting on a frog, and the flanks were squeezed so as to force all the air out of the lungs before introducing the animal into the gas, carbonic acid was given off, proving direct exhalation.

The generally received opinion is, that oxygen is taken up into the blood by direct absorption, and carbonic acid given off by direct exhalation. The quantity of oxygen absorbed differs with the species of animal as well as the age. In some it is not more than half the carbonic acid given off; in others, about two-thirds; and in others equal; but, as the mean, there is quite as much oxygen absorbed as carbonic acid gas given off.

From the experiments of Dr. Prout it appears that the quantity of carbonic acid emitted is variable at particular periods of the day, and in particular states of the system: it is more abundant during the day than the night; from daybreak it increases gradually until noon, from which time it gradually decreases until night; and during the night it seems to remain uniform. It is reduced in quantity by any debilitating cause, such as low diet, depressing passions, &c. The expired air, according to the experiments of Allen and Pepys, contains from six to eight per cent. of carbonic acid gas. Dr. Apjohn, of Dublin, observed that it contained only from three to six per cent.

In addition to these changes, there is an increased quantity of watery vapour. Whence is this? Dr. Prout thinks it is derived from the weak albumen of the chyle in its change into the strong albumen of arterial blood. Others, that the venous blood con-

tains hydro-carbon, which, coming in contact with the oxygen of the atmosphere, forms the watery vapour and carbonic acid. I think the former the most probable.

That the saline matter in the serum is a great cause of the arterial or bright colour of the blood, I believe, is the general opinion. This one fact will tend to confirm it—venous blood, when carefully separated from its serum, is not brightened by oxygen gas; and arterial blood, when its serum is displaced by pure water, becomes as dark as venous. The fact, that acids darken the colour of blood, appears a partial proof that venous blood owes its dark colour to the presence of carbonic acid. With respect to most acids this colour remains; but the carbonic acid forms an exception, for on the removal of it the blood resumes its bright arterial colour.

That life is not indispensable to the arterialization of the blood is proved by artificial respiration being kept up after death, when the same change takes place. Again, the same changes take place in the blood, both in the body and out of it, when exposed to the same chemical causes; so that it seems legitimate to infer, as this process may be solely determined by the laws of chemical action, that the vital principle is not essential to the change.

Dr. Stevens believes the carbonic acid is removed by an affinity which it has for the atmosphere.

Lavoisier is of opinion, that the formation of carbonic acid is one source of animal heat.

The circulation of the blood in the fœtus and in the adult, with the changes which it undergoes, as well as the mode of nutrition in the two, greatly differ in many essential points. The fœtus, for nutrition and growth, depends on the mother, through the medium of the placental membranes, and partly on them for the purification of the blood. Whereas the adult depends for support on food taken into the stomach; and on the lungs and skin principally for the purification of the blood.

There are various opinions on the means by which the fœtus is supported. Our much-respected Professor is of opinion, I believe, that the vessels of the fœtus, and the maternal vessels, circulate alongside in the placental membranes; and in so doing, the fœtal blood derives oxygen from the blood of the mother: but if this were the case, I would ask, how is the fœtus to be formed, as well as supported, and whence are the secretions that are found in different parts of it, for the formation of which blood, or something similar, is required? The blood, though not so pure, I believe is composed of the same constituents.

Another more likely theory is, that the blood of the mother is deposited by the arteries into the cellular structure of the

placentæ, whence some of the foetal veins arise and take up the blood. An objection which I would urge to this, and I think a very potent one, is, if this were the case, why have we not more fatal hemorrhages after parturition? If hemorrhage does occur, the blood is of a dark venous character.

Some have said on this point that nature, ever wise, prepares the vessels for the changes. In answer to this, I would ask, how is it that in cases of abortion we have scarcely any hemorrhage, even in very sudden cases, and where nature can scarcely have had time to accomplish this preparation?

A third, and most likely theory, in my opinion, and which has many supporters, is,—the arteries of the mother deposit in the cellular structure of the placenta a fluid (this, like all others, may be viewed as a secretion), differing in its properties from blood, and which is taken up by some of the veins of the foetus. This becomes mixed with that portion of the foetal blood which is returning by other veins which take their origin from some of the minute terminating capillaries of the arteries, and then anastomosing form larger ones, and ramify over the membranes, but principally through the amnion, where their course is very tortuous. I am inclined to believe, that here the watery or more liquid parts are separated, constituting, in a great measure, the liquor amnii, by which the fluid is rendered more fit for the support of the foetus. If some important function is not performed here, why are the vessels so tortuous? I am well aware that the secretion of urine which is evidently going on in the foetus would rid the blood of its watery parts to a certain extent; still the tortuosity of the vessels remains to be accounted for.

Passing through the umbilical cord, just before it reaches the umbilicus, are two veins; these unite, forming one trunk, which proceeds into the abdominal cavity of the foetus, in order to reach the liver, where the blood is again subjected to a purifying process. This is another circumstance, in my opinion, in favour of this theory; since, if arterial blood were received from the mother, what necessity was there for its passage through the liver? Why not go directly into the posterior cava? That the liver secretes bile, and a large quantity too, is proved by the inspissated masses of this principle, which are found in the intestines of the foetus.

The Foetal Circulation.

The umbilical arteries of the foetus arise from the internal iliacs, and take their course by the lateral parts of the bladder, through the umbilicus, forming a great part of the umbilical

cord. They ramify through the foetal portion of the placenta for its growth and support, terminating in capillary tubes, and some minute origins of the veins. The umbilical vein takes its origin from the terminating capillaries of the arteries, and the cells of the placenta; ramifying through the membranes, and constantly uniting until they terminate in two principal veins, which coalesce in the cord, and form one vessel. This takes its course through the umbilicus, traversing the inferior part of the abdomen, between the peritoneum and abdominal muscles, to the sternum, where it makes a curve upward and forward on the posterior surface of the diaphragm, between the layers of the broad ligament of the liver, until it reaches the middle lobe, by the side of which it passes to gain the vena portæ, where, in the horse, it terminates.

In the ruminantia, and those animals with a gall-bladder, when it reaches the liver it bifurcates; one part goes to the posterior cava, and the other to the vena portæ. That part of the vessel going to the vena cava is called the ductus venosus, the physiology of which I am unable to define. It appears evident that all the blood does not need purification, and consequently passes directly into the circulation. Having ramified through the liver, it is returned by the hepatic veins into the posterior cava, which, in the foetus, bifurcates on entering the right auricle, and great part of the blood passes through an opening into the left auricle, called the foramen ovale, which is said to be immediately in the septum auricularum. Anatomical investigation proves it to be a direct bifurcation of the cava, as it enters the auricle, at which opening there is a valve to direct the current of blood into the left auricle, and prevent its returning.

This blood is the purest in the foetus, and mixes with that coming from the lungs, which is very impure. One part goes, by means of the anterior aorta and its branches, to supply the head and anterior extremities for their support and growth; the other passes by the posterior aorta, and, just at its curves, mixes with the blood coming from the pulmonary artery through the ductus arteriosus, and goes to the posterior parts of the body for their support, a part of which is conveyed, by means of the umbilical arteries, for the formation and support of the foetal portion of the placenta. As a strong proof of this, the blood is as pure that passes by them as that going for the formation of some of the posterior parts of the foetus. The other portion of the blood coming from the posterior cava is received into the right auricle, and thence propelled into the right ventricle with that coming from the anterior cava and other secretions; all which are mixed and propelled into the pulmonary artery, where some goes

through the ductus arteriosus, of which I have spoken, and the rest ramifies through the substance of the lungs for their support, as well as to keep them pervious. Having done this, what remains is returned by the pulmonary veins to the left auricle, where it mixes with the blood coming from the posterior cava, and is replenished and revived for the performance of its proper functions.

The physiology of this peculiarity of structure in the heart and vessels immediately connected with it, appears evident. Had there been no foramen ovale, the blood going to the anterior extremities would have been of the most impure kind, not having undergone in the lungs the same changes as in the adult, but the reverse. Had it been in the septum auricularum, it must have mixed with the blood coming directly from the anterior cava, which would have rendered it less pure, and therefore could not have supplied the brain with blood sufficiently pure to perform its functions. This is obviated by its being just at the entrance of the auricle, so that but little of the blood goes into the right auricle. The use of the ductus arteriosus appears more simple. The whole of the blood in the right ventricle not being wanted for the support of the lungs, part passes immediately into the posterior aorta, to be mixed with its blood, and thus assist in supporting the posterior parts of the body. These openings become obliterated by degrees after the fœtus is born, the circulation being then very different.

THE VETERINARIAN, SEPTEMBER 1, 1836.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

ON THE REPRODUCTION OF THE NERVES.

[From LUND'S Physiologische Resultate der Vivisectionen neuerer Zeit.]

THE question, whether the nervous substance is really reproduced, has for a considerable time occupied the attention of physiologists. Numerous experiments have been tried on the subject by the physiologists of the last century, but the question at the commencement of the present century remained unanswered; and notwithstanding the united exertions of anatomists, physiolo-

gists, and chemists, it cannot yet be considered as definitively settled. Galen endeavoured to determine the point physiologically, by observing in what degree the function was restored: the greater number of his experiments were attended with an unfavourable result. In the year 1776, Cruikshank entered on the same field of investigation. After having been convinced that the division of the par vagum on each side invariably produced the death of the animal, even when one of these nerves was divided a week later than the other, he prolonged the interim to that of a month, and the animal still lived: on examination after death, he found that the nerve which had first been divided was united by means of a filament, much thinner and less fibrous than the rest of the nerve. This regenerated substance in Cruikshank's preparation was not, however, looked on as really nervous; the two Hunters, and afterwards even Cruikshank himself, entertained doubts on it. In the year 1778, Fontana* saw this preparation in London, from which he was induced in that and the following year to try some experiments on rabbits respecting this point. He removed from the ischiatic nerve, the par vagum, crural, and intercostal nerves, portions from six to eight lines in length; and observed, in two cases where he had cut away six lines from the par vagum and intercostal nerves, a real union by nervous substance, the nature of which he was assured of by microscopic observation. After him Monro† set on foot some experiments with the division of the ischiatic nerve and spinal marrow on frogs. The regenerated substance did not appear to him quite to accord with nervous substance, and the function was never perfectly restored. Soon after this Michaelis‡ was induced by the same preparation of Cruikshank's to try some experiments on the same subject. In the years 1782 and 1783, he tried eight experiments chiefly on dogs, six with the phrenic and two with the ischiatic nerves. He remarked, after the space of a few months, and sometimes a few weeks, in six cases a real

* Richter de vulnerum sanatione. Tubing. 1812.

† Monro's Observations on the Structure and Functions of the Nervous System, p. 81.

‡ Michaelis' Brief an Camper uber die Regeneration der Nerven. Cassel, 1785.

and perfect nervous substance which united the mass: two experiments did not succeed, but the cause of failure he attributed to himself. At last Arnemann* appeared as the opposer of nearly all those who had preceded him. From his numerous experiments, he concluded that the regenerated substance was never medullary matter, but only thickened cellular membrane; that, when the function was restored, this was only effected by the cellular membrane during its gradual contraction bringing the divided ends of the nerves in contact. Arnemann's view gave to the subject a quite different turn, till Haighton†, in 1795, by his experiments confirmed Cruikshank's opinion. He observed that a dog whose par vagum on both sides was divided at one time, died eight hours after; but that, if there was a space of three days between the division of the two nerves, the animal expired within the fourth; and if of nine, within the thirteenth day. The operation, however, in all these cases was fatal, and death followed sooner or later, in proportion to the space between the division of the two nerves. But on extending the distance of time to six weeks, the animal survived both operations, and within six weeks was perfectly restored. In so far he had certainly confirmed Cruikshank's results; but as the objection might be made to both, that the substance of the divided nerves had possibly not been reproduced, but that their functions had been carried on by other nerves, he divided, after the animal had recovered a second time, the eighth pair, which in such a case must have been useless, but the animal died on the second day after the operation.

Up to this period those weapons only had been used in the determination of this question which anatomy and physiology afforded; now, however, the assistance of chemistry was consulted. Reil‡ had discovered a new method for distinguishing the true nervous substance from the neurilema and cellular membrane, viz. by corrosion with nitric acid, by which the one remained unacted on, whilst the others were dissolved. Meyer§ employed this method in order to determine the question on the reproduc-

* Arnemann *Versuche über die Regeneration der Nerven*. Göttingen. 1782.

† Haighton, in the *Philosophical Transactions*. 1795, vol. i, p. 190.

‡ Reil's *Exercit. Anatom. de Structurâ Nervorum*. Fas. I.

§ Meyer, Reil's *Archiv*. 2 ter Band. S. 449.

tion of nerves. He found that the ends of a divided nerve really united in the course of a few weeks by thin threads which could not be dissolved in nitric acid. If he removed part of the substance of the nerve, its ends even then united, but the union took place slower; for instance, when he removed a line, he found that reproduction was effected in three weeks, and when two lines, after two months.

Although from these experiments it might appear that the question was fully settled, we still find some distinguished physiologists opposing the idea of the reproduction of nervous substance. Thus, for instance, Richerand* states, that he was sufficiently decided to adopt the opinion that the nerve was reproduced, but that he repeated Haighton's experiments without success. The paralysis, according to this author, which followed the division of the nerves, is incurable. Delpech† states the same thing, and also denies the reproduction of nerves. Magendie‡ also affirms, that he frequently repeated Haighton's experiments; the animals, however, invariably died five days afterwards; and from this he supposes that Haighton must have committed some mistake about the division of the nerve. Owing to these contradictory statements, Joseph Swan§ was induced to repeat all the experiments anew. On rabbits he tried twenty, and on dogs two, of which the following are the results. After the division of a nerve, the extremities, particularly the superior one, became thicker and more vascular: coagulable lymph, having the appearance of albumen, was poured out, and in a very short space of time permeated by bloodvessels. In the course of a few days, this coagulable lymph united from both ends, and anastomosing vessels were soon formed in it. It gradually acquired a firmer texture, the number of bloodvessels diminished, it shrunk together as in cicatrization, and the separated extremities approached each other more; but it was difficult to determine when the nerves were capable of again resuming their functions. One rabbit recovered itself a little within eight

* Richerand *Nosographie Chirurgicale*, tom. ii, 207, 210.

† Delpech *Ricis Elementaire des Maladies Chirurgicales*. Tom. i, p. 173.

‡ Magendie's *Journ.* Tom. i, No. 2, p. 122.

§ Swan on the *Local Diseases of the Nerves*.

weeks, but in the eighteenth it was not quite restored. This is the usual course in one case. He remarked that the ends of the nerves united by granulations. Incised and partially divided wounds healed like those where the division was complete, and the functions suffered little from them. If a portion of nerve was removed, the nerve healed in the usual way : the long time which the healing required has been the cause of many persons doubting its real occurrence. Mr. Swan even doubted himself the restoration of the functions, until the following experiment convinced him of the accuracy of the fact. A portion of nerve leading to the leg was removed from a horse which had been lame for two years. For six months from the time of the operation, the animal was quite healthy, but soon after it again became lame. On killing the horse afterwards, it was found that the nerves had united. In another experiment, quite new nerves were found, one which led to the ham, and another to the part where the fibular nerve is situated in the human subject. Ligatures produce the same effect as the division of the nerves. On the application of a ligature on the nerve, coagulable lymph is thrown out ; and when the ligature comes away, the nerve re-unites and the functions become restored. Richerand confirmed this fact by experiment. Soemmering and other anatomists have also advanced the opinion, that the substance of the brain may be also regenerated.

Flourens, in his experiments on the nervous system, has denied the accuracy of this opinion. The error, he thinks, has arisen from the great expansion of the cerebral substance after the infliction of wounds on it. This swelling after a few days disappears, and then it may be very clearly seen that no reproduction has taken place. The functions, it is true, become restored, but this does not depend on the reproduction of the parts. Experiments have also been tried on the reproduction of the spinal marrow. Arnemann divided the medulla spinalis of a dog in the lumbar region, and, after the lapse of eight weeks, the dog was able to walk. On killing the animal, it was found that the divided parts had re-united, but by what he conceived to be the nervous substance.

[This sketch of what was known on the reproduction of nerves, a few years ago, will be interesting in connexion with the lecture on neurotomy in the present number. The veterinary surgeon has it more in his power than he often suspects, or than his elder brethren believe, to contribute to the advancement of physiological science.—Y.]

A sufficient period for reflection and reconciliation having been granted to the agitators in the old London Veterinary Medical Society, and without avail, some of its former members have, within the last few days, bethought them whether it is not time to think of the welfare of the student and of the profession; and to endeavour to bring good out of evil, by the formation of another and a better association; one that shall consist—what was often wished for, but could not have been accomplished in the other—of practitioners as well as students, and offering to the latter advantages that cannot be too highly prized. The meeting to be held once in every week in the Theatre of the College. The first evening after the reading of the paper to be considered as the students' evening, and to be spent in the same profitable manner which has long been usual. The author of the paper to have to defend the anatomical and physiological portion of it against all opponents, and the fair and good-tempered but thorough badgering and sifting of the respondent and of each other still take place.

On the same evening in the next week, the meeting to consist of practitioners and of students: the paper again to be read, and a discussion to take place, resembling that in the other medical societies in the metropolis—or in that which was once so pleasantly and profitably held in Nassau Street.

The entrance fee to be the same as in the former society—the fines, on students at least, the same—and the certificates of merit the same.

It is only three or four days that our friend Morton—to whom, however he may disclaim it, the credit and praise of the thing are due—and another individual or two have been at work;

and in that time, Mr. Coleman has consented to become the Patron of the Society, and Mr. Sewell the President; and besides a great many students, the following practitioners have declared their wish to form a part of so laudable an institution:—Messrs. Ainslie, Braby, John Field, William Field, Langworthy, Marshall, Mavor, Mayer, Jun., Morgan, Sibbald, Charles Spooner, Symonds, James Turner, and Youatt. It will be necessary merely to read this list of names, in order to be assured of the character, usefulness, and stability of such an institution.

The promises of books to the amount of at least thirty volumes, as the nucleus of a future Library, have also been received. As soon as the intention of the establishment of such a society has become known to the profession at large, a meeting will be called to arrange the rules and regulations of it, and then it will be the fault of its members if it does not live for ever.

We use no solicitation—let the thing speak for itself; and we will only say—let our brethren in the metropolis or in the country, who are disposed to enlist in so good a cause, without delay communicate (post paid) with Mr. Morton; or if they will occupy one of their pages with a case, or a hint, or any thing that concerns the welfare of the profession, the resident editor of this Journal will be most happy to take charge of the letter.

That obscure, protean disease, influenza, has, during the last month, been very frequent, and obstinate and fatal too, in the metropolis, and in various parts of the country. It certainly has been epidemic; there are few or none of us under whose observation it has not fallen; yet it has assumed a more than usual endemic character. There have been some establishments whom it has spared altogether, and we have heard of others in which scarcely a horse escaped without an attack from it, in a more or less mild or serious form. We understand that, in one of our breweries, there were no fewer than one hundred and ten patients.

Would our correspondents everywhere favour us with a sketch

of it as it occurred in their practice—the circumstances which seemed to aggravate or give an immunity from it—its different stages and varying character—and the most successful mode of treatment ; that would be an interesting pamphlet which was filled by a history, or by histories of this malady. And if such a report were repeated during a few successive years, the series would become invaluable :—it would be one of the greatest benefits conferred, in modern ages, on the horse and cattle, and their owners. Will our readers think of this, and oblige us, and serve the cause of their profession ?

Y.

CASTRATION.

By PROFESSOR VATEL, *Alfort.*

[Continued from page 479.]

THE ACCIDENTS WHICH MAY FOLLOW CASTRATION.

THESE are swelling of the sheath or the scrotum, or the spermatic cord, gangrene, hemorrhage, tetanus, hernia, and peritonitis.

1. *Swelling of the Sheath and Scrotum.*—These most frequently occur, and are most serious in young horses that have not yet had strangles, or that are about to have it. When it happens, yet in a slight degree, and affects only the sheath, it needs not to be regarded ; for it will usually disappear about the fifth, sixth, or eighth day, and frequently sooner. Exercise is very useful in dispersing it. When, however, it is more considerable, and by a species of phymosis prevents the animal from protruding his penis ; when he walks with some stiffness ; and the perineum and the scrotum are distended ; recourse must be had to fomentations, emollient lotions, and scarification. If the pulse is hard and accelerated, the animal should be bled, and cooling drinks and emollient injections administered.

The treatment is the same when the enlargement spreads under the belly, and there is œdema accompanied by some degree of heat. It is often useful to clean the inside of the sheath, in order to prevent the accumulation of sebaceous matter.

When this enlargement is complicated with a similar one of the spermatic cords, it is frequently dangerous. When it passes into a gangrenous state, or is accompanied by peritonitis, it is generally fatal. In the latter case the animal frequently dies at

the very moment that we are beginning to think him out of danger.

2. *Swelling of the Spermatic Cord.*—This is usually more dangerous than the preceding affection. It generally appears between the fourth and eighth days after castration. The horse betrays a stiffness of the leg on the same side as the swelling. This is easily perceived when he is going out of the stable, and it does not disappear after some minutes' exercise. The animal to a greater or less degree drags the limb after him, and the back and loins are bowed on that side. When both the cords are enlarged, and inflamed, the horse walks wide behind, and the lumbar region is stiff and depressed. The animal finches if the cords are in the slightest degree pressed upon, and there is more or less heat at that part.

When there is inflammation of the cord, but without any fungous growth, it will sometimes terminate in resolution, especially if emollient cataplasms are applied to the lumbar region, and fomentations of the same kind to the affected parts, and emollient injections, and restricted diet, and bleeding, and little exercise: but, generally, abscess and scirrhus of the cord result.

The abscess resulting from inflammatory engorgement of the cord ordinarily appears at the groin. It is brought to maturity by applications of the ung. populeum*: as soon as there is any fluctuation the abscess is opened, and the wound dressed with dry tow.

Swelling of the cord is often accompanied by a fungous growth at its inferior extremity, assuming somewhat the form of a mushroom, and thence deriving its name *champignon*. This enlargement sometimes appears when the wound in the scrotum is partly cicatrized, and it often adheres to the borders of the wound. There runs from the little opening which then remains, a glairy, ropy discharge, which sticks to the internal surface of the corresponding thigh. The size of this fungus varies considerably in different cases. Those enlargements which have a narrow base, and are almost hidden in the wound made in the act of castration, are the least dangerous; others with a wide base, voluminous, and complicated with scirrhus engorgement of the cord, whether at the ring alone, or penetrating into the abdomen, are attended by more serious consequences.

The small fungous growths often disperse without any other care than that which is bestowed on the subduing of the inflammatory swelling of the cord by which they are accompanied.

* Made of the leaves of white poppy, belladonna, black henbane, and black nightshade, with the buds of the black poplar boiled in lard—a favourite ointment with the French, and said to be emollient and narcotic.

When they are the size of a hen or duck's egg, and have a somewhat smaller pedicle, and protrude through the edges of the wound, and the cord is only a little engorged, it is easy to amputate them. For this purpose the animal must be secured as for castration: the wound must be slightly enlarged, in order that the fungus may be brought down; a hollow clam, into which a little corrosive sublimate has been put, must be fastened round the root: and on the second or third day the clam may be removed, and the fungus cut away without any danger of hemorrhage.

The ligature is sometimes used in these cases with considerable success, and especially when the fungus is large, and when it is accompanied by swelling of a portion of the cord itself, which will not permit the application of the clam sufficiently low, or which prevents the remaining portion of the cord from being handled. When the ligature is resorted to, the horse must be thrown as for the application of the clam—the tumour brought out and exposed—and then a waxed twine must be passed round the cord, above the substance of the fungus, and sufficiently tight to interrupt the circulation. A second piece of twine should be placed above this, and secured with the knot used in bleeding. The ends of the cord must be so contrived as to be near each other, in order to be twisted when the suppuration is established, or the operator wishes to procure the fall of the tumour. Some veterinarians attach a ring of lead to their ligature, by means of which they can twist it tighter every day.

The inflammatory swelling of the cord often terminates in scirrhus. This seldom exists alone, but is almost always accompanied by the fungous growths just spoken of. It is on this account that both of these states of the cord are confounded under the name of *champignon*. In this case the tumefaction extends along the cord as high as the sublumbar region, which may be ascertained by raking the horse. The cord becomes hard—it increases in size—it contracts adhesions with the neighbouring parts—and sometimes forms a cancerous mass from the original wound unto the sub-lumbar region. The vessels likewise become inflamed, and increase in volume. At length the cord begins to soften at different points of its extent. The animal evidently suffers a great deal of pain—he is continually standing—the lameness increases day by day—the flank is drawn up and corded—the discharge from the part increases the irritation—the horse falls rapidly away, and a continued fever conducts him to marasmus and death.

In robust and healthy horses, enlargements of a *scirrhus appearance* sometimes are found, which disappear in process of time (from six to twelve months) by means of an abundant sup-

uration. This favourable termination is announced by the discharge of healthy pus, and by the slow and progressive diminution of the symptoms, and especially of the pain. The application of the populeum ointment, emollient lotions, and gentle exercise will be favourable to this termination of the case. But it is not always that the practitioner must dare to hope for such a result; and it will be his duty, especially when the tumefaction is increasing, to remove the engorged part of the cord, by ligature, before it reaches the abdomen; for if he cannot divide the cord at the abdominal ring on a part as yet sound,—if he can only place his ligature on a substance which already is scirrhus, the disease will most rapidly spread upwards, and destroy the patient.

The animal must here also be cast. The attachments of the cord to the surrounding parts must be cut, or rather torn, as perfectly as may be without injuring the principal vessels; and then a ligature must be tied above, on a part of the cord which is evidently sound. When the scirrhus reaches to the abdomen, the ligature will be altogether insufficient, and, as a last resource, the cord must be cauterized as deeply as possible. In order to effect this, the cord must be detached, as perfectly as may be, from the surrounding parts—it must be cut into inferiorly—the lips of the wound must be separated as much as possible, and then an iron, heated red hot, in the form of a sound, and sufficiently long, and as large as a finger, must be thrust up into the scirrhus substance, following carefully the direction of that substance. The suppuration which necessarily results from such an operation will sometimes *melt down* the enlargement.

[To be continued.]

THE POISONING OF SEVERAL LAMBS BY THE NITRATE OF POTASH.

By M. SAUSSOL.

AT the beginning of 1832, several young lambs died almost daily on a farm called Bigue, belonging to M. Landes. Neither the shepherd nor the owner could guess at the cause of the mortality, and I was requested to visit the farm. Three had died on the morning of my arrival.

I first examined the sheep-house. It was large enough for the number of lambs which it contained, but the ventilation and the locality were bad. It had no opening but the door, and it was built against a rock, on a wet, tenacious soil. The walls

were covered with moisture in the form of little drops, which, becoming mixed with earthy particles, crystallized. The lambs were continually licking this saline production, and I immediately began to suspect the cause of their disease. I examined these efflorescences, and soon ascertained, from their peculiar taste and manner of crystallizing, and their fusing and sparkling when thrown on heated charcoal, that they consisted of nitrate of potash.

I next proceeded to examine the three lambs, in order to satisfy myself whether the nitrate of potash could be found in the alimentary canal, or the lesions which it produced when given in too large a dose. The post-mortem appearances were the same in all of them. The stomachs, and particularly the fourth, contained only a small portion of aliment, and which was in a liquid form in the last stomach. The mucous membrane of all the stomachs, and particularly of the fourth, exhibited a great number of inflammatory spots, or irregularly formed ecchymoses. The intestines presented the same spots, but not in so great a number. The bladder was filled with bloody urine, and its mucous membrane was also ecchymosed. All the abdominal veins were gorged with black blood. Neither the liver nor the spleen presented any thing peculiar in their appearance. The lungs were slightly congested, and the vessels of the brain were injected like those of the intestines.

These appearances left little reason for doubt as to the real cause of death; but I was determined to complete my examination by ascertaining whether any nitre could be found in the digestive tube. I collected all the matters contained in the stomachs, intestines, and bladders of these lambs, and I scraped the mucous membrane with a knife. I added sufficient water to this mass, and boiled it, and filtering and evaporating the fluid, I obtained some saline crystals. I threw some of them on the fire, and there was instant fusion and scintillation, and of the same kind as had been produced from the crystals on the walls. Their taste was also the same: I therefore concluded that the lambs had been poisoned by nitrate of potash.

Out of sixty lambs, fifteen were already dead, and six were now ill: the rest of the flock was much out of condition. Some of the sick lambs took the teat as eagerly as usual, but the others refused all kinds of food. Of these last the eyes were red—the mouth hot—they were scarcely able to stand—and where they fell there they lay: they heaved at the flanks, and they purged violently. They usually died on the fourth or fifth day after the apparent commencement of illness; but some died on the first or second day.

I immediately ordered the surviving lambs to be removed; abstracted blood from the angular vein in those that were worst; and ordered drinks and injections composed of a decoction of linseed.

Three of the lambs died after this, but the others were preserved and are doing well*.

Rec. de Med. Vet. Juin 1836.

We, too, deem this an interesting case; not as exhibiting the production, but the effect of nitre. The system of sheep-houses, and of *cotting* the sheep, is nearly abandoned, even in Herefordshire itself; and comparatively little nitre is produced in our country by any chemical decomposition or admixture. Our supply is from our Eastern colonies, and it is with the medicinal properties of nitre that we are alone concerned.

We use it, and with much advantage, to abate febrile action. It is evidently diuretic, and thus lessens the quantity of the circulating medium; and it evidently diminishes morbidly increased temperature, and thus abates the number and the power of the pulsations. Combined with digitalis and antimonial powder, it is a well-known and very good fever medicine; but it has probably occurred to many practitioners, that the doses in which it is administered are often too large, and the exhibition of it too long continued. It is excellent in the early stage of almost every febrile disease: its power is great at the commencement of influenza in all its thousand modifications and forms; but the question has occasionally presented itself to the mind of the surgeon, is all that long-continued nausea—that abhorrence of food—that uneasiness and irritable state of the bowels which he witnesses—are these the natural character of the disease, or the effect of the medicine? I recollect a case in which I was third in attendance on a horse; nitre entered into the composition of the medicine which I employed, and I found afterwards that both my predecessors had used it. The horse was weak, loathing his food, frequently straining both to stale and to dung; and I was about to give small doses of opium, when I was called upon by the somewhat fidgetty owner to surrender the case to a fourth practitioner. He gave his favourite

* This case of M. Saussol appears to us very interesting, and ought to engage the attention of veterinary surgeons. Many such cases, we doubt not, although not recognized, are continually occurring. The nitrate of potash, in Europe at least, is produced by the contact of air charged with animal matters with moist walls and rubbish, and this too often occurs in our sheep-houses where the air is impregnated more than any where else with the perspirable matter of the animals that inhabit it. When, as in the present case, the walls are built against the ground or rock, the production of nitre is especially favoured.—*Note of the Editor of the Recueil.*

linseed meal balls, and the horse did well. I have occasionally lost horses in influenza; and, on examination after death, I have found those patches of inflammation—those ecchymoses—in various parts of the intestinal canal, which I did not expect even in a disease whose frequent character is that of being inflammation of the mucous membranes generally, but which I could easily understand as the effect of some irritant poison; and I have pondered the matter, and have suspected that I had used the nitre too freely and too long. I could not blame the digitalis, for the intermittent pulse would always warn me when I had given enough of that; I could not accuse the antimonial powder, for, although I have now and then doubted whether it had a tenth part of the good effect which some of us attribute to it, I never knew it do harm beyond some degree of purging, except I had foolishly given it when the increased vascular action had all passed over, and a disease of a decided typhoid character had supervened. No! I suspected, and I think not wrongly, the nitre.

How stands the history of this drug? When given in doses of two or three drachms, it destroys the dog by producing violent intestinal inflammation, with mucous and bloody purging. Eight ounces were given to a horse at Lyons in 1819. He died in twenty-four hours, with all the symptoms of violent intestinal irritation; and, on opening him, the mucous membrane of the whole intestinal canal exhibited symptoms of intense inflammation. Mr. Hayes, of Rochdale, says, “that one of the wise descendants of Vulcan told a gentleman who had a broken-winded horse, that if he would give him an ounce of saltpetre at night, and the same quantity in the morning, it would cure him of the broken-wind; and that he had cured a great many horses in that way. Accordingly the nitre was given as directed, night and morning. On the following night Mr. Hayes was sent for in great haste: the horse was suffering dreadfully, and he died on the third day. Both the large and small intestines were in a high state of inflammation; the stomach also, particularly the cuticular portion, was nearly black. The neck of the bladder, and the whole length of the urethra, bladder and all, was in a state of gangrene.

In this case, we have some lambs who lick the effloresced nitre from the wall of their sheep-house. Some of them die in one or two days; others linger on four or five days: they labour under violent diarrhoea; and, after death, the fourth stomach presents a great number of patches of inflammation or ecchymoses; the mucous membranes of the whole of the intestines exhibit the

same lesions: the bladder is similarly affected, and that vessel is filled with bloody urine.

These things must surely make us pause: they will not induce us to abandon the use of nitre as a refrigerant and a diuretic; but they will cause us to recollect many a suspicious appearance in our former practice, and teach us to be more moderate in our doses. What shall we think of White, who advises an ounce of it to be given every fourth hour? or of Mr. Knowlson, who recommends the same dose for a horse, and double that quantity for a cow? and we should somewhat fear Dr. Dickson's dose of five drachms for a sheep.

These observations are chiefly made in order to elicit the opinion and practice of others; for it is only by an intercommunication of experience that the important objects of the editors and the readers of this periodical can be accomplished.

Y.

DOMESTICATED ANIMALS AND MINERAL WATERS.

THE advantage of the hot and cold *douche* (the direction of a quantity or column of water or vapour on any person or animal) in the treatment of the diseases of the lower animals is now considered abroad as firmly established; and it is probable that baths and douches for application to the various domesticated animals will, ere long, be connected with all establishments which are so abundantly supplied with mineral springs as Aix-la-Chapelle. At Aix-les-Bains, in Savoy, and at many other places, there is a bath dedicated solely to their use; and I had an opportunity, at Aix-les-Bains, of seeing the advantage of the cold *douche* in the treatment of a violent strain received by a poor ass from a fall.

There is a spring at Ems, which is dedicated solely to the use of domestic animals, to whom, in cases of paralysis, chronic rheumatism, rigidity of the joints, sprains, &c. the employment of this spring, either in the form of a *douche* or a bath, is attended with the greatest benefit. The poor animals, after a hard day's work, seem to enjoy it exceedingly. Its use is confined to the summer months. The temperature is from 70 to 116 degrees of Fahrenheit. The waters are found, on analysis, to contain carbonic acid in abundance, as well as carbonate of lime, carbonate of soda, sulphate of soda, and silica.

It is added, that the use of these waters is most beneficial in affections of the chest, in nervous disorders, and in sterility. Such is their character, that noble dames are continually resort-

ing to them. The illustrious mistress of these realms paid the mineral waters of Ems a visit last year; but they did not produce their reported usual good effects in her case. Fortune, however, was said to be more kind to many other ladies who accompanied the Queen on that occasion; for, to the astonishment of all their friends, numerous hitherto hopeless cases among them had assumed a very different aspect before the court departed.

At Weisbaden, the capital of the Duchy of Nassau, are other baths. Many are the stories of people *crawling* to Weisbaden, and *running* home again; and numerous are the crutches triumphantly displayed as having belonged to persons who had there thrown them away. There is also a horse-bath here, which is much used. The whole of the animal is immersed, saving his head, the halter being tied to a post; and the beast luxuriates and soaks himself in it for half or three quarters of an hour.

At Baden-Baden are baths for the poor, and one also for the poor persecuted horse and the rest of the tribe of domesticated animals.

*Ikin on the Mineral Springs of Germany, from
the Lancet, Aug. 13 & 20, 1836.*

Mr. Ikin also alludes to the baths at Schlangenbad, the history of which was given in the 7th vol. of THE VETERINARIAN, and which a poor heifer more than returned all this kind consideration of the Germans and the Swiss with regard to the too-much abused domesticated quadruped. A heifer, hide-bound and melancholy, her bones protruding through her skin, and so destitute of all honest nutritive matter that not a fly in the forest would bite her, disappeared. She returned in a few weeks, with her ribs covered with flesh, and her skin as sleek as a mole's. Every evening, however, she was missing—curiosity was roused—and she was watched. She went to a pool deep in the forest, and and there she drank. A young girl of the village was pining away like the heifer—every one had given her up, when the herdsman hearing of it, persuaded her to try the heifer's secret remedy. She, too, unscared by the serpents that inhabited the pool, and whence it had derived its name, drank of it every morning, and in a short time became one of the stoutest young women in the duchy. The reputation of the water was at once established, and the serpents were driven from their refuge-place, and the pool was surrounded with noble buildings; and, to the present day, horses are frequently brought to be bathed, and are sure to be cured of a slight affection of the lungs; and not a few of the swinish multitude are rescued, or said to be rescued, from the jaws of death.

But, badinage apart, how is it that none of our veterinary writers have taken up the subject of warm and cold baths as remedial measures occasionally proper to be adopted in certain diseases of the quadruped. We should, perhaps, hesitate not a little before we had recourse to the *cold* bath. We should ask, is there that degree of power in the system to withstand the suddenness and violence with which the blood is thrown on the internal organs? Is there sufficient freedom from internal inflammatory disease to withstand this revulsion? And is there sufficient vital power to repel it speedily, and to resist any bad consequence from the re-action of the system which usually follows.

As to the warm bath, we do not yet know half its virtues. The manner in which it equalizes the circulation, and soothes local or general irritability, and restores the action of the skin, and thus, by removing oppression, affords a moderate but salutary stimulus to the frame—the veterinarian has yet scarcely thought of this. He values the local application of steam in more cases than one; but he has not sufficiently considered the general, and salutary, and permanent impression which might be effected. He wants to see, some half dozen times, the sudden, the almost magical change produced in the circulation and respiration of the bitch over-dragged by a large litter of puppies—the change from hurried breathing, and death momentarily threatening, to quietness and comfort, and that effected in the space of one quarter of an hour; he wants to see this some half dozen times, in order to compel him to inquire seriously whether greater advantages may not be derived from these applications. In our patients, it is the difference of temperature in the water which alone can do good or harm: the mineral ingredients which the water may contain can be of little consequence, considering their thick skin, and that skin covered with hair. But we do not mean to enter, in good earnest, into the subject; we are merely throwing out some loose hints. There was a vapour and a cold bath erected some time ago at the Royal Veterinary College. To what extent have they been tried? What has been the effect? A private practitioner had something of the same kind. Did he succeed?
Y.

ON THE EXPANSION OF THE FOOT OF THE HORSE.

By Mr. C. CLARK, London.

CONSIDERING the very high importance of the subject of shoeing, and the great number of books and divers opinions which were published about it at various times since the establishment of the Veterinary College, I think you must have ob-

served a remarkable dearth of novelties, and a decided stagnation in this branch of speculative writing for several years past. No new patent has been taken out by the Professor of that institution, and even with that great advantage (never before possessed) of a veterinary periodical exclusively devoted to its service, and ready to afford publicity to every thing advantageous, the profession has maintained a comparative silence on the foot and shoeing.

Why has agitation so sensibly decreased, that now in your pages but one tone seems to pervade most of the communications of your correspondents? Does it not mark the gradual and quiet adoption of a general principle, the knowledge of which is tending strongly to remove the grounds of former differences in opinion, and bring the profession to a more unanimous understanding on this most important subject? I believe, Mr. Editor, that this is the case, and that the doctrine of a lateral yielding action of the horse's hoof, and of the necessity of a defence which shall permit of this natural movement; in a word, the expansion of the foot, as advocated by Mr. Bracy Clark during the last thirty years, is the valuable principle that is now becoming tacitly admitted in the veterinary world. Not that this principle is yet in any degree so generally recognized as it ought to be, or as it will shortly be; and, perhaps, many who are advocating the practice know little of the source from whence it was derived; but to this extent I say it has become almost impossible to write on the foot or shoeing without an allusion to this now prevalent doctrine, an investigation of which by an unprejudiced mind must always end in a belief of its correctness.

In support of this opinion, allow me to refer to the contributions which have appeared in your pages from various gentlemen, who speak in such language on the subject as would have been incomprehensible, and, indeed, never was used before the anatomy of this organ was truly explained by Mr. B. Clark; and they talk of the "expansion of the foot" with a freedom which I have fully expected would call down the remarks of some of its old opponents who were accustomed flatly to deny the whole matter, both the facts and deductions arising therefrom.

I have not now by me the letters of Mr. James Turner, Mr. Spooner of Southampton, and other gentlemen who have advocated the unfettered system of shoeing, meaning thereby, in effect, Mr. B. Clark's unilateral shoe; but these observations are called up by a paper in your last number from Mr. Carlisle, of Wigton, who has tried the same plan with success. He seems fully to be aware of the lateral "expansion of the foot," calling "the shoe with four nails on each side an unyielding hoop," and "those universal fetters;" and concludes by recommending the unilateral shoe most strongly to all practitioners.

Now, this would have been bold language some years ago; but as he concludes "*nil desperandum*, for great truths there will always come a time and place;" and so it seems to be with the expansion of the foot and shoeing: no one now contravenes what these gentlemen advance upon it, although Mr. Clark experienced so much opposition in former times. This unilateral shoe fastened on one side and round the toe of the hoof with six or seven nails, with the inside quarter free, has been used ever since about the year 1821, by various persons desirous of carrying into practice Mr. Clark's principle of expansion; and the first printed notice of it was an account, in February 1829, of numerous experiments made under the eye of Mr. C. himself, in Paris, in conjunction with M. Crepin, the editor of the *Journal Pratique de Médecine Vétérinaire*.

A translation of part of this account was sent by me to the *Lancet*, to shew that our principles were making way in France; and some months afterwards, Mr. Turner's account of his experiment appeared.

He has the honour of being the first college veterinarian who openly acknowledged the substance of this doctrine, and detailed the successful result of some months' trial of the one-sided nailing; and it was in consequence of his remarks, published some years ago in your Journal, that these country practitioners were induced to adopt the principle; and, call it by what name they will, I cordially congratulate them all on their accession to the good cause.

But what are the teachers about at our veterinary school? Do they mean to stem the progress of the principle? No; that is wholly beyond their power. They must follow quietly in the wake of the profession, as they will not manfully lead the way.

It is, perhaps, owing to the disfavour with which Mr. B. Clark and his principles have been viewed at that institution (or it may be from some other cause) that I think, without exception, your correspondents, Mr. Editor, have studiously avoided even mentioning his name in their communications, although identified, as it were, with the doctrine and sentiments they are expressing. But the scientific, both at home and abroad, know too much of his unremitting exertions, for a long series of years, to procure freedom for the foot of the horse, to render any trifling neglect of this kind of material consequence; and with respect to minor variations in shoes to effect that object, I say as before, several years ago, "let experience decide between them, but our principles must triumph."

Veterinary Infirmary, Giltspur Street,
Aug. 20, 1836.

THE ROT IN TWO SHEEP.

Two sheep, of four and five years old, were brought to the school of Alfort, to become the subjects of experiment. They came from a valuable flock, whose numbers had been diminished by a malady, which in these sheep had attained its fullest state of development.

They were much emaciated; their wool came off with the slightest touch; their skin was discoloured; the conjunctiva pale and without the least trace of bloodvessels; the mouth pale; no perspiration at the groin; no appetite; a constant infiltration from a tumour as large as a fist placed under the chin, and larger in the morning than at night.

They were turned into a field of lucern, and powder of kina was given to them, suspended in wine, in doses of half an ounce every morning, and gradually increased to an ounce. This course of treatment continued two months. By degrees they regained their strength, they ate with appetite, and they resumed their former good condition. The tumour under the chin and all the other symptoms progressively disappeared. The wool separated from the whole of the body of one of them, seven or eight days after we left off giving them the kina. The skin was red and warm, but there was no eruption, and very inconsiderable itching. It was washed with an infusion of the root of patience: the irritation ceased, and the wool grew again beautifully.

This sheep was killed and eaten. Its spleen was a little larger than usual, of a light brown colour, and filled with white diaphonous tubercles, resembling albumen slightly concreted.

The liver contained a great number of hydatids, whose thick, fibrous and yellow cysts offered much resistance to the knife. Many of them, in the proper cavity of the hydatid cyst, contained small white granular bodies. A great many flukes were also found in the biliary ducts, and one was found in one of the divisions of the vena portæ. In every other respect the tissue of the liver was healthy.

The lungs presented exteriorly a remarkably pale appearance, and on this white ground there were other spots still paler. These spots were small cellular emphysemata.

There were some hydatids between the folds of the epiploon.

The pulmonary substance, when cut into, exhibited a deep red appearance, and was infiltrated by its own proper serosity. It contained an immense quantity of miliary tumours, diaphonous or red; a little more consistent than tremulous gelatine, and which had the appearance of tubercles in their nascent state. There were no vomicæ, no bloody congestion. The lungs contained numerous hydatids, some under the pleura, and others deep in the substance of the lungs, and they very much resembled the hydatids in the liver. These cases are interesting

in every point of view. They prove that the rot may be arrested in its most advanced stage; and that the hydatids, and flukes, and other entozoa, are altogether independent of it, and must not be confounded with it. We every day kill sheep which have hydatids, or flukes, or other entozoa, without a single symptom of the rot.

The tubercles in the spleen must not be overlooked. This is the first recorded case of their existence in the spleen of the sheep. We have also seen them in that of the hog.

The pulmonary lesion had not hitherto been described: the interlobular infiltration, with the tubercular growth,—may these be identical affections?

That which is interesting in the highest degree, is the presence of a fluke in one of the branches of the vena portæ. Andral is the only one who has noticed this fact, and he speaks of hydatids in the pulmonary veins.

Although much has been written on the disease termed “the rot,” it is important still more to distinguish it from other maladies with which it has been confounded, and particularly with relation to its treatment. It is produced by a kind of miasmatic empoisonment, imbibed through the medium of the lungs, which offer a surface twice as extensive as that of the external integument, and are continually traversed by elastic fluids of various characters, and particularly by the gases extricated from decomposing animal and vegetable matters.

Journal des Sciences Zoöiatriques, Mai 1836.

[We insert this paper, not on account of any great intrinsic excellence which it possesses, but because it has reference to that pest of the ovine race, the rot. Kina was the name that used to be given to a species of the cinchona cordifolia, the common pale bark. The medicine that can arrest the progress of such a disease as the rot must possess great tonic power, and bark is one of the ingredients in all the legitimate and empirical medicines administered for the cure of the rot; but to give half an ounce or an ounce of bark to a sheep daily for two whole months—there would be no little trouble and no inconsiderable expence attending such a lengthened process, and approximating too nearly to the value of the sheep; unless, indeed, the bark of the white willow were substituted for that of the cinchona, and of whose tonic and astringent properties it participates in a very considerable degree.—Y.]

A LIST OF THE PUPILS WHO HAVE OBTAINED THEIR DIPLOMAS AT THE ROYAL VETERINARY COLLEGE SINCE THE LAST REPORT.

August 18.—Mr. A. Wood, Arundel, Sussex.

Mr. W. Butler, Coleshill, Warwick.

Mr. John Martin, Newbury, Berks.

THE
VETERINARIAN.

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REPORTS ON THE EPIDEMIC CATARRH, OR
INFLUENZA,

PREVAILING AMONG THE SHEEP IN THE COLONY OF NEW
SOUTH WALES, IN THE YEAR 1835.

By Messrs. BENNETT, GIBSON, and SHERWIN.

[We make no apology for the length to which these Reports extend, nor for substituting them for a Lecture in the present Number, for they have reference to a subject interesting to the British as well as the Colonial Agriculturist, and especially so to the veterinary practitioner. We are indebted to the kindness of Mr. Owen, the truly scientific curator of the Museum at the College of Surgeons, for the power of inserting these valuable documents.—Y.]

REPORT.

By GEORGE BENNETT, Esq. M.R.C.S., F.L.S., &c. Sidney.

THE first account I received of the appearance of the present epidemic in the colony was among the flocks of Robert Campbell, Esq., at Burrowa, about the middle of June 1834. The winter months previously had been very dry, with severe frosts; and, rain setting in, the sheep were attacked with the present epidemic. The deaths were numerous until about the middle of August, when they gradually diminished, fine mild weather setting in about this time. The mortality in Mr. Campbell's flock was as follows:—

Out of 700 wethers.....	400 died
— 2,600 breeding ewes....	1,600 —
— 900 weaned lambs	500 —

No. of sheep	4,200	Total loss.....	2,500
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It is impossible to ascertain the precise number that died in the colony, but it was considerably more than seven thousand.

The character of the runs upon which the sheep fed was that of lofty ranges abounding in excellent pasturage and good water. The sheep, it may also be remarked, had depastured in the same locality for five or six years, and remained perfectly healthy. When the sheep were first attacked with the disease they were removed to another run, without any diminution of the severity of the disease.

SYMPTOMS.

The first observation I had of this disease led me to divide it into three stages; but as I wish to impress on the mind of the reader the importance of selecting and treating the sheep in the first stage of the malady, it may be of consequence to remark, that a careful observer may distinguish a sheep attacked by the disease nearly 36 hours before its ceasing to feed, by sneezing, and before it has exhibited any of the more marked symptoms which are placed under the first stage of the disease.

The disease commences with sneezing, more particularly at night, followed by general lassitude; and although at first the secretion from the nostrils merely bedews the surface, yet it soon becomes of a thick glairy consistence, and is secreted in a large quantity. The interior of the nose at this stage exhibits but little increase of vascularity. The eyes are suffused, and in some instances there is a profuse discharge of tears; in others, again, a discharge of matter from the meibomian glands is also observed, encrusting the eyelids. The animals cease to ruminate, and droop the head. In some the respiration is affected as soon as the attack comes on. The tongue is parched, the secretions are diminished, except in the inflamed membranes; perspiration is obstructed, and general fever accompanies the attack. A restlessness is also perceived in the animals.

As the disease advances to the second stage, which varies in duration from four to twelve hours, all the foregoing symptoms increase in violence. The interior of the nose exhibits a florid hue, as if all the bloodvessels had been filled with minute injection; the secretion from the nostrils now becomes thick, of a yellow colour, and frequently hardens upon the orifices of the nostrils, impeding respiration.

The general fever is much increased; there is suppression of urine in many cases; costiveness is also occasionally observed, but is far from being general. The *tunica conjunctiva* of the eye displays an inflammatory character. There is a heaviness in the head, and an apparent desire on the part of the animal to

rest the head on the hurdles, evidently appearing to suffer much pain. The respiration becomes more laboured, and a cough is also occasionally perceived.

The disease now advances to the third and last stage, in which the interior of the nostrils exhibits the highest state of inflammation (some parts displaying a leaden hue), and extending to the frontal sinuses; the secretion from the nose becomes lessened, very thick, and occasionally streaked with blood. The nostrils appear obstructed by the matter collected about them, occasioning a very laboured respiration. The animal now prefers lying down, and rests the head upon the ground; there is sometimes a troublesome cough; but a cough is found to prevail even in the animals recovering from the disease, and yet in many, again, the cough is not at any time observed as a symptom. The eye becomes glassy; the animals appear stupid, and unable to direct their steps; if permitted to leave the fold, they walk against a tree, or into a water-hole.

This stage may be considered as fatal; and as death advances, irregular but voluntary movements frequently continue; the appearance of dulness and stupor is increased, and there is a general diminution of sensibility. A general trembling is now observed in the animal, more especially in the fore extremities; it kneels down, remains for about the space of a minute in that position, falls down comatose, and after repeated struggles, and sometimes with a very laboured respiration, expires.

The length of time occupied by the disease in running through its different stages, or the intervals of time which elapse between each stage, varies. In some of the sheep attacked by this epidemic death has occurred in six hours after the first appearance of the symptoms; sometimes in twelve hours, and sometimes the animal lingered on until the third day: if he lived beyond that time, he usually recovered.

It has been remarked, that in second and third stages the nostrils and face are much swollen; there is also a tumefaction of the lips, and in many I have observed an enlargement of the sub-maxillary glands. In some of the sheep the discharge was only observed to proceed from one nostril, in the first and second stages; but in the third stage the discharge has flowed from both; the animal at the time usually inclines its body to the side whence the discharge proceeds; the highly inflammatory state of the nostrils is as much observed in this, as in that form of the disease in which the discharge proceeds equally from both nostrils.

A favourable prognosis may be formed when the animal commences eating, raises its head, and appears more lively; all these

symptoms indicate returning good health; and I have observed the disease in some sheep pass through the different stages in a very mild manner. It is a curious fact, that, although bleeding the ewes in lamb was found to produce premature labour, yet the disease or high fever which accompanied it, when bleeding had not been resorted to, seemed to produce the same effect in many of the ewes, several of which recovered from the disease; and this circumstance also obtains among females of the human race, as pregnant women attacked by influenza are apt to miscarry, and the flooding is in some cases fatal.

In many of the sheep that recover from this disease the general debility induced on the system remains for a long time; and in all the animals recovering from the disease, the high state of fever which accompanies the attack occasions them to lose all their wool, which very soon falls off, leaving the poor animals perfectly naked.

This epidemic catarrh differs from the common catarrh in the abruptness of its incursion, severity of its symptoms, and the rapidity of its transition; but varies in the severity of its symptoms according to the constitution of the animal, and is liable to occur at every season of the year when atmospherical changes are prevalent, which variability, I had frequent opportunities of observing, is very commonly the case in this colony.

DISSECTIONS.

On the examination of the bodies of the sheep which died from this epidemic, the cause of death was found to proceed either from inflammation of the immediate membranes of the brain, or from pulmonary disease. On examining the brain, the dura-mater was healthy; but on laying it back, the arachnoid membrane was found with its bloodvessels highly injected, both on the convexity of the hemispheres at the decussation of the optic nerves, and sometimes even in the interior of the ventricles. In some cases I observed a quantity of serous fluid secreted under the membrane, and a small quantity of similar fluid was found effused in the lateral ventricles. Occasionally the vessels of the pia-mater were found injected. The tunics of the cerebral nerves—especially the olfactory—displayed a beautiful ramification of injected bloodvessels encircling them. The sinuses of the brain were filled with clotted blood. The substance of the brain exhibited no trace of diseased structure. The frontal sinuses displayed indications of intense inflammation having existed, a sero-purulent matter being secreted, or the cavity was found filled with black coagulated blood. The whole of the nasal cavity presented, in every case, the most intense redness,

from a florid to a dark red, mingled with patches of a leaden hue; the turbinated bones were unusually florid throughout the whole of their structure, as if they had been filled with an exceedingly minute injection: this was not confined to the membrane covering their surface, but extended throughout the whole of their substance; and, indeed, the enlarged injected bloodvessels reached through every part of the interior of the nasal cavity, and a very thick viscid matter was effused in the turbinated bones, as well as on the septum narium, which could be scraped off with the knife. On cutting the substance of the nostrils, a quantity of serous fluid or florid blood was discharged.

These were the appearances on the dissection of the brain when the cerebral organs were the seat of disease; but in many cases, although the same inflammation of the nasal cavity was found to exist in all that died from the present epidemic, yet no cerebral disease was found, the membranes being healthy; but the immediate cause of death existed in the larynx, trachea, and bronchiæ, or the substance of the lungs. In one case I found both extensive pulmonary disease, as well as cerebral; and from that circumstance we may infer, that disease might occur in both organs at the same time, although such has been of rare occurrence. Indeed, I should be inclined to adopt the opinion, that influenza centres (in the majority of instances) in the chest, although the whole body is affected by it—the head particularly—and in most cases the whole mucous lining of the throat, nares, and eyes, participates in the affection; the eyes becoming vascular, and the nose filled with a thick secretion. We also find in these animals, as in human subjects, an unusual languor and debility, disproportionate to the local affection. The heat of the animal is increased, the breath is hot, and a chilliness is immediately felt on exposure to a current of air: the urine is scanty.

In some cases the pneumonic symptoms are severe, and in other cases they are less urgent, whilst the pain and heaviness of the head, and the dulness of the sensorial powers, is much increased. In the first, we may expect the lungs on dissection to be found the seat of the disease, and, in the latter, the cerebral organs.

The heart, when cerebral disease was found, was gorged with black blood, as well as the large veins; but when pulmonary disease existed, although all the large veins were equally gorged, yet I invariably found only the right auricle of the heart gorged, the left auricle and right and left ventricles being empty.

When the lungs were found to be the seat of disease, it evidently had assumed the features of acute pulmonary catarrh, or inflammation of the pulmonary mucous membrane, varying in its

degree of intensity, and attended with great bronchial irritation. On dissection it appears that the right or left lobes of the lungs—I have observed the right to be more especially the seat of disease than the left—have the mucous membrane red to a greater or less extent, and with the appearance of a number of small red points, aggregated closely together. In other cases the lungs present an increase of weight and density; they are infiltrated with a frothy serosity in some quantity; the external surface is of a grey or violet colour; and these appearances indicate the disease to have been pneumonia. And again, we observe all the anatomical characters of pulmonary apoplexy in others, the lungs being of the degree of density of a hepated lung, and the vessels filled with clotted blood. In many of the dissections a viscid mucus obstructed the bronchiæ; and the mucous membrane lining the bronchiæ, trachea, larynx, and extending even to the pharynx, was found inflamed, and a frothy mucus was effused in these passages. The stomach was found healthy, and in the majority of cases filled with well-digested food; the whole of the alimentary canal was perfectly healthy, and in very few was there any constipation observed: but where it did exist, the fæces had accumulated in both the large and small intestines in large hard lumps, and evidently appeared, both before or after death, to have produced abrasion of the mucous membrane of the intestines.

The liver was perfectly free from disease, and the gall-bladder filled with healthy bile; in some dissections I observed the gall-bladder very much distended with bile. The remainder of the abdominal viscera were healthy. The pelvic viscera also were healthy, and the bladder unusually distended with urine.

TREATMENT.

It is only in the first stage of the disease that remedies can be applied with almost any probability of success; and as the first appearance of the disease is indicated by frequent sneezing—more particularly at night, and some time before any other of the more violent symptoms mark the invasion of the disease—it is at this period that I should recommend more particularly the treatment of the affected animals to commence; and no doubt at that time milder remedies will be more successful, before the inflammatory attack has advanced so far as to require severe treatment.

In the first symptoms of the disease blood may be abstracted, according to the age and constitution of the animal, and repeated, should the increase of the inflammatory symptoms seem to require it. After the venesection, a pint of lukewarm gruel,

in which an ounce of Epsom salts has been dissolved, may be administered, and the lukewarm gruel repeated occasionally.

The bleeding may be either topical or general; the latter would probably be most advisable, as the quantity abstracted can be regulated when taken from the jugular vein, whereas by topical bleeding a sufficient quantity cannot always be abstracted in a sufficiently short space of time. The extent of bleeding must in all cases be regulated by the severity of the disease, or the capabilities of the animal to suffer depletion. The abstraction of a small quantity of blood in an early stage of the disease, will probably mitigate the severe symptoms immediately; for on account of the great depression of strength, and dulness of the sensorial powers, it would be advisable, if possible, not to bleed largely, and perhaps occasion might not be required to draw blood a second time. Warm gruel should be repeated occasionally; and gentle exercise for the hospital flock will also be productive of benefit to them.

In preference, however, to the administration of any saline purgatives, turning the sick flock into a wheat paddock will be productive of the same aperient effect, and prove of more benefit to the sheep. I attribute the comparatively trifling loss among the sheep attacked by this epidemic at the station at Benbengalow, to the sheep being taken and treated, in the first stage of the disease, in the manner I have just recommended: the deaths which did occur were principally among those that were not seen until the disease had advanced beyond the second stage.

The water gruel may be composed of one pound and a half of flour, half a pound of sugar, and thirty pints of water boiled, and given lukewarm. As a purgative, in the absence of green food, as before recommended, one ounce of Epsom salts may be administered internally, combined with a drachm of nitre in a pint of water gruel, given lukewarm; and the water gruel may be repeated three times daily afterwards.

I should recommend the overseers, on the appearance of this epidemic among their flocks, to frequently inspect all their sheep, and, noting the first symptoms which appear in this epidemic, immediately separate the diseased from the healthy sheep. This ought to be done at least three or four times daily, and it would enable remedies to be employed in time, that would materially diminish the mortality in the flocks, and would be attended with less trouble if there should be a want of men. The treatment of the disease will be much aided by the sick sheep being folded in warm, dry, and sheltered situations, and having young green food, which is not only a valuable remedy when aperients are

required, as in this malady ; but the invalid sheep require a better and more nourishing diet, when in a weak and languid state, than when in the enjoyment of perfect health.

When the inflammatory symptoms are not very severe, topical bleeding, by opening a vein as near the seat of inflammation as possible, or by counter-irritants, may be recommended to subdue the inflammatory action ; but as in this epidemic catarrh the lungs and bronchiæ are very liable to be affected sooner or later, according to the idiosyncrasy of the animals, it would be advisable, by all means, closely to watch the progress of the disease, and either resort to active treatment by the general abstraction of blood from the jugular vein, when the inflammatory symptoms run high, or to adopt milder measures in order to subdue the disease when it assumes a more gentle form.

It has happened, that many sheep have been treated by bleeding, &c., and yet the mortality was very great ; but on careful inquiry it appeared that the animals were not treated until they reached the advanced or third stage, when all remedies were useless. As I have before observed, many localities, although good for healthy sheep, are yet too chilly for animals suffering from an epidemic attended with such languor, debility, fever, and depression of the vital powers, as this ; consequently organic disease rapidly takes place, and speedily terminates in death. The sick sheep ought to be prevented from drinking cold water : with green food they would not require so much water as when feeding upon drier herbage. When water is given to the sick or diseased sheep, it should be tepid.

At Bureong, in the Lachlan, when the sheep were attacked by this epidemic, they were bled from the vein under the eye, in the ears, &c., and had lukewarm salt and water administered internally ; but the whole treated in this manner died. Bleeding from the jugular vein was next resorted to, and Glauber's and Epsom salts, with warm gruel, were administered internally. Many of the affected sheep then recovered ; but I could not ascertain whether they had been treated in the first stage of the disease. Tobacco water was also tried as an internal remedy ; but the whole of the sheep died to whom it was administered.

In a few instances, some sheep proprietors injected spirits of turpentine up the nostrils of sheep affected by this disease ; the result of which was, as might have been expected, immediate death. Blisters applied over the nostrils proved equally useless, because a local remedy was of little avail when the disease affected the whole constitution.

Lambs of a few days or a fortnight old were also attacked by the epidemic, and, on dissection, the same appearances presented

themselves as in the old sheep. To most of the lambs attacked the disease proved speedily fatal, as the same remedies could not be so readily administered to them as to the older sheep.

It may be mentioned that Epsom salts, when administered in cold water to the sheep, proved injurious, but were beneficial when given in warm gruel. Several of Captain Rossi's flock were bled, and Epsom salts, combined with a little nitre, given cold; but that mode of treatment was found to be injurious, the sheep dying two or three hours after it had been administered. The others were then treated with warm gruel and sugar, with a little common salt, after venesection, and this repeated for two or three days; this plan of treatment was found to be beneficial. Some sheep that had been bled were afterwards turned into a field of green barley; the whole were purged, and, out of a hundred, seventy recovered from the disease. It ought to be mentioned, that this sick flock was taken from the paddock, and placed during the night in the shearing shed, with clean straw.

Another flock was effectively treated by bleeding in the jugular vein; washing the nostrils clean from the discharge; and administering warm gruel with common salt, sugar, and a little nitre internally; the number of sheep treated in this manner was 360, out of which 342 recovered. The flocks were at the same time overlooked twice daily, and any that exhibited symptoms of the disease were immediately removed, bled according to the strength of the sheep, and the internal remedy administered, as I have just mentioned.

THE CAUSES, CONTAGIOUS NATURE, &c. OF THE DISEASE.

The causes of the present epidemic may be referred to two sources, an immediate or exciting, and a predisposing cause; and in the epidemic, the subject of our present inquiry, as it appeared among the sheep, a strict analogy in every symptom, and in all its modifications, will be found as when the same disease was prevalent among the human race.

The first or immediate cause is to be attributed to the state of the atmosphere; and all causes which operate to the injury of the animal frame may be correctly divided into external and internal; although sometimes a combination of both may give rise to many maladies. The principal external agencies are the atmosphere, with all its varieties of temperature, moisture, and dryness, specific contagions, noxious exhalations, &c. The internal causes are peculiarity of constitution, hereditary predisposition, all circumstances which produce debility, or superabundance or deficiency of the various secretions, &c.; and these latter may

be classed among the predisposing causes. But some diseases are capable of being propagated, and the external cause can be demonstrated in a specific virus, capable of producing that distinct and peculiar affection. Thus smallpox, syphilis, &c., may be kept up and disseminated by their own original principle.

If the state and variability of the atmosphere was more studied during the visit and previous to the appearance of epidemical diseases, there would be much light thrown upon that cause, which is at the present day so readily assigned to contagion; indeed, we find the idiosyncrasy of different individuals such, that during the time the wind blows from a certain quarter, they feel indisposed, without any other assignable reason; and if wounded, the wound will not heal from the same cause: that others, again, suffer violent headaches when the atmosphere is charged with abundance of electric fluid, and which subside when that peculiar state of weather has passed.

Although I look upon a peculiar state of atmosphere as the immediate cause of this epidemical disease, yet the predisposing cause among sheep may have originated in—first, breeding ewes twice in a season; second, the injurious effects which result from breeding in the same flocks, or what is technically termed, “breeding in-and-in,” by which, although the quality of the wool may be improved, the constitution of the sheep is so weakened as to render them liable to disease, and susceptible of the atmospherical changes; and, third, the constitution of the sheep having been injured by mercurial remedies used in scab, as well as from the effects of that eruptive disease itself.

When engaged in the present investigation, a query arose, whether fine woolled sheep were more apt to suffer from the present epidemic than coarse woolled sheep; and I found that the finer woolled sheep had suffered severely, while the coarser woolled sheep had escaped entirely, or very slightly, except Mr. H. Hume’s flock, which consisted of second class sheep; but then they were nearly all aged ewes.

The vicissitudes of the climate in this colony are found to be very great. I have often remarked that the mornings during the summer season are intensely hot, followed frequently during the afternoons and evenings by cold chilly winds, the temperature varying from 10° to 20° : it is therefore not uncommon for men working in the fields during harvest, nearly stripped of their clothing, when the sudden change of temperature takes place, to be attacked by head-achs, pains in the limbs, and general debility, frequently followed by catarrh. In Captain Rossi’s flock, I am inclined to attribute one of the causes of the epidemic to change of locality, from a mild to a severe climate,

exposed to a cold, chilly, variable atmosphere, with rain or snow; the animals being more predisposed to the disease by dry food, and being bred "in-and-in."

CONCLUDING OBSERVATIONS.

Catarrh among sheep, that is, in the form of what is called common catarrh, is not uncommon either in this colony or in Europe. But the appearance of this severer form of catarrh, the epidemic catarrh or influenza, in which the inflammatory symptoms are more increased than in the common form of the disease, I regard as novel, and am not aware that it has ever before appeared as an epidemic among sheep.

Before concluding this Report I may be allowed to recommend to the sheep proprietor, that salt may be given to the sheep regularly, and in small quantities: it tends to strengthen the digestive organs, promotes secretion of bile, and is favourable to their general health. I recollect reading from some work, and making an extract in my note book at the time, that a gentleman resident in the county of Cumberland, in England, employed salt among his live stock daily for many years.

For Horses he gave	6 oz. per day
Milch Cows	4 ditto
Feeding Oxen	6 ditto
Yearlings	3 ditto
Calves	1 ditto
Sheep	2 to 4 per week,

if on dry pastures; but if they are feeding on turnips, &c., then they should have it more freely. Some give it to live stock on a slate or stone, and others lay lumps of it in the cribs or mangers. Many consider that if sheep are allowed free access to salt they will never be subject to a variety of diseases; and others, again, believe that it may even prove a cure for that formidable disease, which is considered to proceed from a worm of the class *Entozoa*; the *Fasciola hepatica* of Linnæus—*Distoma hepaticum* of Abildgaard, and which has received the common appellation of the Liver Fluke.

In concluding this Report, I may observe, that, in giving directions for the treatment of any disease, whether found existing among human beings or the brute creation, the judgment of the practitioner must be always called into action; the habits and constitution of the patient under treatment ought to be minutely studied, and the practice should be modified according to these observations, whether the symptoms of the disease assume a severe

or mild character. By such means alone can a successful termination of the disease be expected.

In sheep of very delicate constitutions, or high-bred sheep, a very moderate venesection—if even abstraction of blood can be resorted to at all with safety—must be adopted, and the animals carefully housed; but the coarse-woolled or stronger constitutioned sheep may receive, of course, according to the severity of the symptoms, the treatment before recommended: but at the same time the sheep proprietor must observe the necessity of treating the sick sheep according to their strength, classing them in small flocks agreeably to the nature of the disease. Housing them at night during the prevalence of the epidemic may also be advised. I am, however, fully aware that all directions will be useless unless the shepherds will pay minute attention to their flocks, which in too many instances has not been done. I attribute much of the mortality to this neglect of the men in charge of the sheep. Care being taken to treat the animals in the first stage of the disease, I have no doubt, will reduce the rate of mortality from this epidemic—should it re-occur, which is not at all improbable—to a very low amount.

Sydney, Oct. 3, 1835.

Report by ANDREW GIBSON, *Esq., J. P.*

Goulburn Plains, 25th Sept. 1835.

Sir,—In compliance with the request of His Excellency the Governor, I do myself the honour to transmit to you the following observations which I have been enabled to make upon the disease lately prevalent among the sheep in Argyle and the adjacent counties.

The first cases of the disease, I believe, appeared about the beginning of April 1835, in some flocks near Burrowa River, in the county of King. Its prevalence, however, does not seem to have been very extensive, and it has been comparatively confined to but a few out of the many flocks in these districts. For several months it did not extend beyond the counties of King and Georgiana; latterly it reached Argyle and the north-west parts of Murray; but it has not been met with in any part of St. Vincent's, nor in Camden.

At the present date it has nearly subsided, with the exception perhaps of some occasional cases appearing among flocks formerly attacked, and in their lambs now dropping.

The disease is ascertained to be a catarrh, and of that species called influenza (*catarrhus contagiosus*), spreading epidemically,

and affecting the flocks much in the same manner that it is known to do the human race, although to a more violent and fatal extent.

The general symptoms are, increased secretion of mucus from the lining membranes of the nose and fauces; swelling of the nostrils, inflammatory fever, constipation of the bowels, and, towards the latter stages of the disease, loss of vision, determination to and congestion of the brain, the lungs, and some of the larger viscera.

As precursory symptoms, it may be stated, that the animal when seized with the complaint exhibits a dulness and indisposition to feed, lingers behind the others in the flock, becomes chilled, the wool clapped, the nostrils humid and hot; sneezing is frequent at this stage, and constipation of the bowels is almost invariably present.

As the disease advances the symptoms first mentioned become more apparent; and if not subdued by early remedies, often prove fatal in thirty-six or forty-eight hours from the commencement of the attack.

The symptoms immediately preceding death are blindness, vertigo, lying down and turning round of the body, or a wringing of the head, indicating determination of the disease to the brain.

The principal diagnostic or distinguishing symptoms are, the swelling of the nasal passages, and discharge of an acrid fluid from them, at first thin and clear, but gradually becoming thicker and of a yellow colour.

The prognosis may be deemed favourable whenever a very profuse discharge of the mucous secretion takes place, when the bowels become relaxed, and there is a return of appetite, with remission of fever:—unfavourable, on suppression of the secretion from the nose, continued costiveness, and the occasion of those symptoms which indicate determination to the head; or of others (which ought to have been stated above as appearing when the determination happens to be especially to the chest), such as obstructed respiration, wheezing cough, and extreme restlessness.

For practical purposes, a more minute detail of symptoms might be given; but the foregoing enumeration includes all that are important and generally met with.

The remote cause (considering the disease to be the epidemic above stated), a specific contagion, or peculiar cause prevailing in the atmosphere, probably dependent on the extreme and sudden changes of temperature; the weather throughout these districts, during the winter months, having been not only unusually cold and dry, but exceedingly variable; severe frosty nights and hot days, constantly alternating so as to effect a

change in the thermometer of from 32 to 65, or even 70 degrees, in twenty-four hours.

There can be no doubt entertained of the disease being infectious, but apparently so only through actual contact with the morbid secretion, which seems to be of an exceedingly virulent quality.

From experiments and observations, it is found that the introduction of this morbid matter, from the nostrils of a diseased sheep, to those of a sound one produces the disease in the latter; whilst an infected flock brought alongside of, but not in actual contact with a sound one, will not communicate it to them.

The progress of the disease certainly led, in the first instance, to the belief that the infection was conveyed through the air from one flock to another; but, from the above facts, this could not have been the case. All attacked were, no doubt, affected through the same prevailing atmospheric contagion; or in some particular instances, perhaps, from coming into direct contact with the morbid secretion dropped on the herbage from the infected flocks near them.

The predisposing causes are supposed to be various, as feeding or unsound runs, costiveness from eating dry, hard hay; drinking stagnant water, or water impregnated with tannin; and sudden removal from a warm or temperate to a cold run.

Some few of these causes may, no doubt, have their predisposing influence to a certain extent; but none of them can be admitted as satisfactory reasons to account for the very partial attacks of the epidemic upon the numerous flocks exposed to it.

The very remarkable manner in which it singled out the flocks of particular settlers for its victims, and passed over many others depasturing on the same or on contiguous runs, possessing similar qualities of soil and water, induces the belief that some special predisposing cause exists in the constitutions of those so particularly attacked; and although it may be difficult to obtain impartial evidence on this point from all, enough has been elicited, from inquiry into the system of breeding pursued by many, to prove that constitutional deterioration, from too close breeding, or breeding in-and-in as it is termed, had been induced; and that this has been the main predisposing cause, if not generally, at least in all the flocks which have suffered the greatest mortality under the disease.

Whether this or any other cause be admitted ultimately as the predisposing one, it is at present important to know, that the heaviest losses occurred among sheep thus closely bred, and at least for a period of six or seven years, without the intervention of any fresh blood; and, what is still worse, without re-

gard to that limited degree of crossing which is attainable in any establishment, by using the rams bred from one flock with the young ewes produced from another—a system judiciously and invariably practised by those who breed in-and-in upon principle.

At all events, it seems justifiable, and at any rate safe, to assign as a main predisposing cause to this disease—"constitutional deterioration from too close or injudicious breeding in-and-in where the nearest intercourse is permitted between sires and dams with their immediate offspring, and this for a lengthened period." And perhaps, as allied to this cause, also from "excessive breeding," where two crops of lambs are produced and reared in one year from the same ewe.

In addition to these two causes, and sometimes combined with them, another source of diminished constitutional vigour, and lessened capability of resisting the disease, may arise from the effects of previous bad management in the treatment of cutaneous affections by mercurial remedies.

It would not be correct to say, that the two last mentioned causes are applicable to many of the flocks which have suffered under the epidemic now prevalent; but from what is known respecting the general system of breeding followed in the colony by the most inexperienced stockholders, there are the strongest grounds for believing that the first named cause, degeneracy of constitution from injudicious breeding in-and-in, has been the chief predisposing cause in the majority, and that this first, combined with the last named two causes, have been the predisposing ones in many others.

These views of the disease are strengthened by the facts, that not only the regularly crossed sheep, but all coarse-woolled sheep (which are seldom closely bred), are less subject to the disease than such as those just described; or, if attacked, they suffer less, or more readily surmount the effects of the disease. Sheep of all ages are liable to the epidemic, but more particularly the young; and lambs when only eight days old, it has been recently noticed, are attacked and die. This mortality amongst lambs, it is material to observe, is prevailing unhappily to a great extent amongst the flocks on that establishment where the in-and-in system of breeding has been so closely pursued.

The appearances after death are, generally, congestion in the vessels and coverings of the brain, and effusions of water into its cavities; inflammation of the mucous membranes of the nostrils, frontal cavities, and fauces, sometimes also of the wind-pipe: in other instances, and when the disease has been of long continuance, ulceration of those parts may be met with. Congestion of the lungs will be found where the disease has taken a

determination to the chest, and often effusion into the covering of the heart, with masses of coagulated blood in its right cavities. The immediate cause of death seems, in most cases, to be from congestion and effusion into the ventricles of the brain.

With respect to the treatment, it is, perhaps, unnecessary for me to enter into it in detail, there being but one opinion entertained as to the most beneficial mode to be adopted; and as this will, no doubt, be most fully given by Mr. Bennett (with whose opinion of the disease I am happy to find my own very nearly coincide), I need only add, that *early* bleeding from the jugular vein to the extent of a pint, or more, according to the strength and age of the animal, together with the use of Glauber's or Epsom salts in thin gruels, have effected many recoveries, and are the only means of cure to be trusted to.

In chronic cases, where ulceration is present in the nasal passages, astringent and antiseptic injections may be beneficial, such as tar-water, or tobacco-water with turpentine, or weak solutions of blue vitriol. It is of importance to pay attention to the food and drink of sick or convalescent sheep: burned feed is the most desirable—tepid drinks and abstinence from cold water.

Relapses on change of weather are frequent, the convalescents being for a long period extremely weak; bleeding all the sheep throughout the flock, upon the appearance of the disease in a few, as a preservative measure, is by no means safe practice, unless the flock is very high condition. The use of tar, recommended by some as an application to the nostrils of the sheep, cannot be of much benefit, further than that its antiseptic properties may, when applied to a sound sheep, destroy the virus or morbid secretion which the animal is liable to come in contact with when grazing amidst an infected flock; and so far as this, it may be a means of protection from contagion, but it can be of no use as a remedy to the affected. It is difficult to ascertain the number of sheep which have been *affected*, *died*, and *recovered*, since the commencement of the epidemic. But it is supposed that not more than twenty-five settlers have had their flocks attacked, and that the total of deaths from the disease have not exceeded seven thousand.

At stations where remedies were efficiently and skilfully administered, three patients out of five were generally saved; but the proportions appear to vary exceedingly at different places—perhaps in most instances they may be stated thus:—

That, in a flock of 300, the number affected would be 100: died 45, recovered 55.

I have the honour to be, &c. &c.

Report by W. SHERWIN, Esq.

The first authentic account I can obtain of the existence of the disease in this colony is that of its appearance, about twelve months since, among some flocks at Burrowa; but I have every reason to believe that it appeared upwards of two years before that time at Limestone plains, and about Mudgee.

Symptoms.—First, The diseased animal separates from the flock, appears listless, the eyes are watery, the membrane lining the nostrils presents (instead of the pale pink hue of health) an increasing redness, which afterwards becomes streaked with lines of a deeper colour; a glairy clammy discharge, similar to the white of a fresh egg, is perceptible in one nostril (generally the left), and sometimes, though rarely, in both.

Secondly, The eyes become reddened and more watery, the membrane of the nose of an intense florid hue, the discharge is thicker, and of a yellowish tinge, and the internal membrane, as well as the external surface of the nose, becomes slightly swelled: the breathing, if carefully observed, now appears hurried, and the animal seems to be in pain.

Thirdly, The membrane of the nose now assumes a dark purple or leaden colour, the discharge forms a crust at the edges of the nostrils, the breathing is more quickened, and sometimes obstructed, the lips (and particularly the upper lip), nostrils, and sometimes the whole face and head are swollen, the eyes are more and more inflamed, and there is a profuse flow of tears (in a few instances the eyes are closed), and death ensues, rapidly followed by putrescency of the body.

Appearances after Death.—The surface of the body (in many instances immediately) after death is of a dark purple or livid hue, and the wool, contrary to what is observed in animals that have died in health or from most other diseases, separates on the slightest touch.

Dissections.—The abdominal and thoracic viscera healthy; the gall-bladder in general turgid; the membrane lining the nose, and extending thence to the several sinuses of the head, highly inflamed. The membranes of the brain, and especially the two nearest the brain, also presented the appearance of previous intense inflammation. In a few instances there was a small effusion of fluid into the ventricles. In one instance, in which the respiration had been observed to be more than usually affected, the mucous membrane of the lungs was found inflamed; though even in this case, that part of it which lined the upper portion of the windpipe was the more intensely so; whence it

may be inferred, that the disease in this case, as in others, commenced in the membrane of the nose.

Treatment.—This would preliminarily consist in the removal of the diseased sheep from the healthy, and keeping them separate, and in the earliest possible detection of the disease itself. To effect which objects it is indispensable that the flocks should be examined two or three times a-day, or, what would be better, every four or six hours, as the success in preventing the spread of the disease, as well as in the case of the affected animals, is entirely dependent on the promptitude with which these primary observances are adopted.

The remedies themselves consist of bleeding and aperients, and the earlier these are had recourse to, the infinitely greater the chance of success; but they may be used up to or even during the second stage of the disease with some possibility of advantage.

In the third stage, no attempts at either relief or cure have been found of any avail. In the first instance, extract about a pint and a half of blood from the jugular vein, and as soon as possible give one ounce of Epsom salts and a drachm of nitre in a pint of warm gruel, and repeat the bleeding, if requisite, to the same extent, in four or six hours.

Observations.—The want of success from bleeding seems, in those instances in which it has been observed, to have arisen from two obvious causes: 1st, The abstraction of too small a quantity of blood to be of any avail, instead of the copious abstraction, and the repetition of the same, if required, as above-mentioned; and again, on a most destructive plan of employing bleeding as a preventive of the disease, and thereby reducing the strength of the animals, and rendering them not only more liable to be affected with the disease itself, but also less able to support its ravages, and still less so to sustain the means necessary for its cure.

During the progress of the disease the bowels are sometimes, though not generally, constipated; and in a very few cases there is a frequent desire to void urine; but this symptom did not appear in any way dependent on the disease, and was, perhaps, not more frequent than under the ordinary circumstances of the animal.

The powers of ruminating and swallowing are unimpaired, and the animals are not only able to stand, but walk throughout the disease.

The duration of the first stage extends from six to ten hours; the second stage is nearly of the same continuance; the last stage is more brief, and the average duration of the disease

may vary from twenty to twenty-four hours. The disease did not appear to be preceded by any indisposition or other circumstances that might give notice of its approach; and where no means of relief were employed, it has been almost invariably fatal, in some instances destroying whole flocks. A similar disease has here and there been observed among horses from time to time, and as far as I have seen and can learn, has yielded to the treatment here adopted, with the addition of warm mashes and tepid drinks, which, no doubt, if practicable, might be used with much advantage in the treatment of sheep.

The cause of this disease, like that of most epidemics, is obscure; but I am inclined to attribute its existence, primarily, to the state of the atmosphere, and subsequently to the same cause, aided by contagion; and on this principle I ventured to give it the name of Contagious Influenza, or Epidemic Catarrh among sheep.

That the disease did not arise from the several causes to which it has been generally attributed, viz. the animals devouring earth impregnated with nitre, the innutritious state of the pasturages, or impure water, I have every reason to believe, inasmuch as the disease was found equally prevalent in the best as in other pasturage; the young sheep, and those in the finest condition, were the greatest sufferers; and some of the affected flocks not only enjoyed their accustomed and good pasturage, but drank from running streams of the best water, to which they had also been accustomed, and without being subjected to the possibility of being affected by the nitrous impregnations.

I have mentioned as a precaution for obviating the spread of the disease, the separation of infected from sound sheep. This, however, must be done with due care, and without *fatiguing* or *distressing* the animals by *long* or *harassing journies*, or otherwise.

The epithet "contagious," applied by me to this disease, is supported by numerous well-authenticated facts, which, if they do not amount to demonstration, are, at least, I am of opinion, sufficient to justify its use on the present occasion.

If contagious, it may be a question whether the herbage, in those spots where the diseased sheep have been, becomes infected; and if so, how long it remains in such state, and whether, where practicable, the burning of such herbage would not be the most available and certain means of destroying the infection.

A CASE OF TETANUS, ACCOMPANIED BY ULCERATION OF THE ARTICULAR CARTILAGES.

By Mr. ALFRED EASTON, Chester.

I BEG to submit to the notice of the readers of THE VETERINARIAN a description of a singular appearance of disease in a half-bred hunting mare, seven years old, that died of tetanus, apparently occasioned by a puncture in her off fore-foot when out hunting.

On the 23d of last March, I was sent for by the owner of the mare, Mr. Richardson, of Cappenhurst Hall, to examine her foot, that had been injured on that morning when in cover by the stumps of some hazel wood. The direction of the puncture was by the side of the anterior portion of the posterior frog and the sole, upwards and outwards, avoiding the lateral cartilages.

The first treatment of the wound was simple, and in the course of a few days it assumed a healthy character, and appeared to be doing well. On the 14th day, for I had not seen her for two days, I was sent for by the groom in a hurry, because the mare was very ill. From what the groom told me, I concluded that she was seized with tetanus; and as soon as I entered the stable I found that my suspicion was but too well-founded: she exhibited the characteristic symptoms of that destructive malady. As the mare was in good condition, I bled her to the extent of eight quarts. Aloes 3x were given her in solution, and which had a desired effect, by discharging the fæces largely.

It will be unnecessary to enter into any long detail: every means were resorted to—nutritious clysters were injected, and the stomach was supplied by the stomach pump, but to no avail; the bowels became obstinately constipated after their first action; and they continued so to the last. She died on the 18th of April.

Mr. Richardson, the brother of the owner, a young surgeon of considerable intelligence, requested that I would assist him in examining her; and I gladly complied with this request. The mare was opened before I got to her. I found her lungs considerably inflamed, but the intestines exhibited no inflammatory appearances, except that in the jejunum there were a few scarlet patches.

On the following morning I returned to the mare, anxious to examine other parts of her. When I arrived, Mr. Richardson had separated one of the fore extremities from the trunk: he had also removed the scapula from the humerus. On taking up

the scapula, my attention was arrested by evident ulceration of the articular cartilage. I then examined the humerus, and found that the cartilage was considerably diseased. My curiosity was naturally excited by this, and I was led to examine other articulating surfaces; and to my astonishment, I found all in the frame more or less diseased. The articular cartilages of the cervical, dorsal, and lumbar vertebræ, and the whole of the extremities, were ulcerated, even to the os pedis. The medulla spinalis and brain were not altered in structure. The wound in her foot was in a healthy state previous to her being attacked with tetanus—after that, it ceased to discharge: it became dry, and closed up; nor could I again establish what I conceived to be a healthy discharge.

I should feel very much obliged if you or your correspondents would give me your opinion concerning this extraordinary appearance of disease; and whether, if she had been cured of tetanus, there was a probability of saving her life.

PARALYSIS IN A CALF.

By Mr. R. ADAM, Beaufort, Inverness.

July 25th, 1836.—I EXAMINED a male calf, the property of Mr. Fraser, of Lovat. It was in apparent good health the previous night, and had taken his usual supper of milk. I found him lying on his side, with his head extended, breathing most laboriously, and with total loss of voluntary motion: the body was of the common and of an equal temperature. Mr. Fraser's people had forced some milk upon him this morning, but he had not voided any fæces. The urine was in the usual quantity and of the usual appearance, and so it continued until the termination of the disease.

I applied a strong blistering ointment along the whole of the spine, and gave an aperient, consisting of half a pound of Epsom salts: in the forenoon, the farm-overseer had abstracted a moderate quantity of blood, which shewed no indication of inflammation.

26th.—No better: neither the blister nor the physic have had the slightest effect. The limbs motionless. I plunged a pointed instrument into both hind and fore limbs, and there was no appearance of pain. I forced down a bottle of mild aperient mixture, with ʒij of ginger, and used fomentations and clysters repeatedly.

27th.—Dead. The disease was entirely confined to the medulla spinalis, which was almost in a semifluid state, but of the

natural colour; the first stomach was pretty full of indigested food, but not distended. The operation of digestion had been completely stopped since the attack of the disease.

Mr. Youatt's excellent lecture in *THE VETERINARIAN* for June last supersedes any observations that I could make on the disease.

INTUS-SUSCEPTION IN THE HORSE.

By Mr. CUPISS, Diss, Norfolk.

A CASE of intus-susception (*vel* intro-susception), of rare occurrence in the horse, came under my notice a few days since; and knowing that practical information is always valued by the profession, I will, without further apology, lay before you a plain narration of the facts.

The animal which fell a victim to this affection of the intestines was a pony, about thirteen and a half hands high, well bred, and of great courage, the property of J. Muskett, Esq. of this place. It was attacked in the afternoon of the 17th instant, as Mr. Muskett was driving on his way to Harleston, when, only a mile from home, the pony commenced kicking. Mr. M. thought it was occasioned by some disarrangement of the harness; he therefore alighted and altered it; but after proceeding leisurely a short distance further, the pony kicked more violently,—not in the manner usually produced by internal pain, but apparently in a restive freak, which induced Mr. M. to urge him forward by a slight application of the whip: but from an increased reluctance to advance, and profuse perspiration, he was convinced that it was occasioned by indisposition; he therefore hastened to Scole Inn, the nearest convenient place, where he procured the assistance of Mr. Rodwell, who at first treated it as common gripes; and as no relief was afforded at the expiration of two hours, I was sent for.

I found the animal in excessive pain, which I considered proceeding from inflammation of the bowels; accordingly I recommended perseverance in the remedies usually resorted to in such cases, more especially copious bleeding.

This vigorous treatment materially relieved him, but not sufficiently to give any hope of recovery; the symptoms remained very violent, resembling, in some respects, inflammation of the mucous coat of the bowels, until about nine o'clock the following morning, when a distressed respiration, quick pulse, anxious glance at the flank, great prostration of strength, attended with

total blindness, gave evident intimation of a speedy termination in death, and which occurred about eleven o'clock on the same morning.

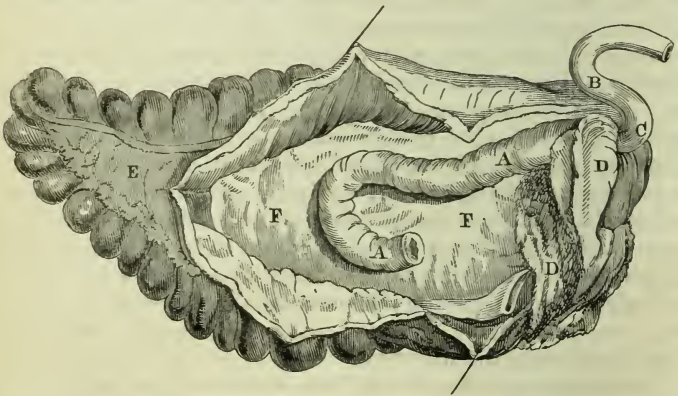
On opening the animal, I was surprised not to observe that discolouration of the intestines usually attending a case of enteritis—the disease which I considered the patient had been labouring under: the only deviation from a healthy appearance was a slight vascularity of the mucous membrane shining through the peritoneal and muscular coats of the large and small intestines, more particularly of the cæcum. Having examined the liver, kidneys, bladder, and stomach, all of which were healthy, excepting a little thickening of the villous coat of the last viscus, I was for a moment at a loss to account for death; but on farther inspection, the cause soon presented itself, for after tracing the small intestines, I found a considerable portion of the ileum protruding into the cæcum. To have a proper view of this phenomenon, I had the cæcum longitudinally opened, which presented the intus-susception lying in a curved position within its base, the end pointing towards the opening of the colon (as shewn in the accompanying sketch). It had a very singular appearance, was of a dark gangrenous colour, much thickened with excoriations of the villous membrane, and pulpy, as if the cæcum, determined not to be interrupted in its important digestive function, had commenced its action upon it.

I removed the parts, and found that a portion of the small intestine, 20 inches in length, was included within another portion, and this intus-susception was lying within the cæcum, making a complex or double enclosure; and that the valvular structure, or band of muscular fibre of the valvula coli, had formed a complete sphincter, so firmly contracted, that it was a matter of impossibility for any thing to proceed into the cæcum, or the intus-suscepted part to return; and thus, of course, rendering whatever means might have been adopted for its recovery perfectly useless; for, even if the application of mechanical means had been practicable, it would have been impossible to have properly replaced the intestine.

The symptoms differed little from enteritis: the raising of the haunches and kicking out, instead of striking the belly with its hind legs—the great prostration of strength, with total blindness a short time before death—and the peculiar attitudes and expressions of agony which attended the last struggles of the pony, were the most worthy of remark; but as this is the only instance in which I have had an opportunity of observing the progress and termination of this disease, I cannot recommend these peculiarities as a diagnosis which can be depended upon.

I must here express my regret, that Mr. Percivall, in his series of Elementary Lectures (vide Lecture XLIV), when enumerating the causes of enteritis, merely observes, that "intro-susception, of which I have seen one instance, may produce it*;" for, had he recorded that one instance, it might, with this, have thrown sufficient light upon the subject to have enabled the practitioner more readily to identify the disease.

The treatment, I consider, should differ materially from either enteritis or colic. I should most decidedly abstain from any kind of purgatives or diuretics, and depend solely on venesection, opiates, and tobacco enemas; as it is very evident those remedies which would produce, to the greatest extent, that inanimate state of the system approaching catalysis, would be the most likely to arrest the spasmodic action of the displaced intestine, and restore it to its proper situation. After having produced the greatest torpor of the system I was able, I should leave nature to struggle with the rest, feeling assured that any other remedies would retard rather than assist. Neither would I allow any food, even in its simplest form, to be introduced into the stomach; for I observed, on opening that organ, that the medicine administered was nearly unaltered, and which was the only thing given to the animal from its first attack.



The sketch represents the caecum longitudinally cut open, and the intus-susception lying within it; A A the intus-susception; B a portion of the ileum; C the valvula coli; D D small portions of the mesentery and base of the caecum; E the apex of the caecum; F F the interior of the caecum.

* But this instance of intus-susception did not produce enteritis, as the above account of the post-mortem examination shews, although the villous coat was flushed throughout, and in the caecum quite inflamed.

A CASE OF HEMIPLEGIA IN A MARE.

By Mr. B. BULL, Launceston.

MY patient was a thorough, or nearly thorough-bred mare, the property of Mr. Smith, a respectable surgeon of Launceston, and a great amateur of veterinary science. He sent for me to look at her one evening, on account of a slight stiffness observable on the near side of her neck, which prevented her from moving it freely.

On examining her, I could find no appearance of fever, or inflammatory excitement; but, on the contrary, a soft, full, and regular pulse, with other favourable symptoms. I therefore attributed it to suppressed perspiration, and thought that by warm clothing, and embrocating the part with volatile liniment, and with a dose or two of nitre in her mashes, it might soon pass away. In a day or two, however, after this, I found the brightness of her eyes had gone; her pulse was quick and corded; her tongue hot and dry; besides other symptoms of fever. On this I abstracted a gallon of blood, and ordered mashes, to prepare her for fever laxative medicine. An hour or two after venesection, her countenance became bright again; she winnowed after the groom, and appeared sensibly benefitted by the treatment she had received; but in the evening (fortunately for me, I had not yet given her any medicine, for that might have been thought the cause) I found her in an attitude of perfect stiffness. Her near eye was immovably fixed in its orbit, the pupil enormously dilated, and the whole extent of the iris of the colour of light green glass. The stiffness extended from the head to the hind-quarter of the near side, exhibiting a general state of spasm, or rather immobility of all the muscles on that half of the body, accompanied also with occasional transient convulsions. She supported herself by leaning her off side on the stall, and appeared, for a time, as if she must die in one of her paroxysms. There was no suspension of consciousness (she knowing all around her), nor any loss of sensitive influence in the muscles, for they felt very tender, and were unusually warm; but their motive energies were entirely gone, she being as stiff as in death.

I ordered her to be well rubbed by the groom and the smith for an hour, during which time we (Mr. Smith and myself) conversed the matter over, as to the probable cause of this sudden change. He thought it attributable to a shock upon the nervous system, occasioned by the loss of blood. In this opinion,

however, I could not concur with him, the mare having shewn not the least symptoms of syncope or faintness after bleeding.

However, to return to my treatment: I gave her some fever laxative medicine, and in three hours, by means of much hand rubbing, she recovered the use of her limbs, became pert and lively, and began to feed a little. At this time I attempted to clyster her, but could not, by reason of her kicking out, and that in spite of every means used to prevent her.

On the next day I gave her another dose of the same mixture, and ordered mashes and chilled drink, as before.

On the following morning her bowels were freely open. After this I gave a ball of nitre, camphor, and emetic tartar, twice a day, for two or three days. I then gave but one ball daily, adding to it a little chamomile, camphor, and gentian; and in a few days she was perfectly recovered. On the whole, I think it highly probable that the disease must have been, from the beginning, a purely local affection of the spinal nerves; not, however, occasioned by any mechanical cause, for the patient had been under the constant and vigilant care of the owner all the time, and who could not trace, by inquiry, a single circumstance to lead him to conclude that such was the cause. This is the only instance of pure hemiplegia I have ever yet met with in the horse. I have attended cases where only one limb, or some other distinct part of the body, has been affected; but never saw any thing of this kind before.

ON RED-WATER IN CATTLE.

By the same.

PERHAPS you will allow me to avail myself of the present opportunity of acknowledging the great success I have met with in cases of bloody water, by pursuing Mr. E. Friend's (of Walsall) plan of treatment, with sulphur and salts, in combination with carbonate of ammonia and cantharides. Without the last of these drugs the efficacy of the others is considerably lessened and the case protracted, the stomachs in this disease invariably and absolutely requiring some unusual stimulus to enable them to force on their contents.

I have tried White's drench of aloes, &c. which is excellent in most disorders from indigestion; but here it almost always fails. Clater's drench of salts, nitre, cream of tartar, &c. will generally cure in slight cases, but always misses when the maniplus is full. I have seen other preparations also put to the test, that are frequently used in this neighbourhood, composed of resin,

turpentine, bark, dragon's blood, &c.; but they are, on the whole, very little better than useless trash. Mr. E. Friend's recipe I may truly call a specific, having never yet known it to fail, even in the worst of cases, provided large doses are given, with plenty of thin gruel to dilute the contents of the stomach, and thereby facilitate their passage into the intestines.

Carbonate of ammonia and cantharides, with a few other tonics, are also excellent, after purgatives have been given, in almost every case of cattle disease, a fact which I have repeated opportunities for proving. The only objection I have to the sulphur remedy above mentioned is, that it is generally followed by superpurgation, or else loss of appetite, which requires a few doses of anodyne stomachic medicine to remove; and this happens to be a circumstance sadly out of time, at a period when the most rigid economy is the order of the day.

CONTRIBUTIONS TO COMPARATIVE PATHOLOGY.

By Mr. YOUATT.

No. X.

PERITONITIS.

Aug. 11th, 1833.—YOUNG ZEBRA. This animal is little more than a fortnight old. It was observed to strain in passing its fæces, and, to-day, has been several times up and down, rolling as if from colicky pains, and there is frequent discharge of watery stools mingled with mucus and bile, and having many unmasticated oats in them. Let it no longer be permitted to get at its mother's corn, and give an astringent drink, composed of prepared chalk, kino, opium, and ginger.

12th.—The medicine was given, and produced its effect. The purging abated, but the animal continued sadly uneasy, and continued to roll about. An ounce of castor oil and two drachms of syrup of white poppies were then given. It was easier, and once or twice sucked its dam; but the uneasiness and the purging quickly returned. Repeat the castor oil and poppy syrup.

13th.—The patient was dead when I arrived. The intestines were filled with a yellowish fluid mingled with unmasticated oats; but there was not the slightest inflammation on any part of the mucous membrane: the purging, therefore, whether it resulted from the milk of the mother, or from the young one

being permitted to get at too much of her corn, was not the cause of death. The medicines had effect on this, if it ever existed, and would probably have conquered it.

There was intense inflammation of the *omental* and *mesenteric* portions of the peritoneum. The injection of the vessels was singularly beautiful; yet not one inch of the peritoneal *covering*—the external coat—of the intestines was affected. There was considerable effusion of bloody serous fluid in the abdomen. It was precisely what we see so often in sheep. This animal had been removed, for the sake of its beautiful appearance, too early from the farm,—from a dry and sandy soil,—and brought to a low, and clayey and damp one. On the one, when not gambolling about its dam, it could repose with comfort and safety—here *it was chilled* by the cold and damp. The peritoneal inflammation was the result, the natural reaction of the omental portion of the mesentery most exposed to the ungenial influence of its new locality. A lesson of experience may be derived from this.

CHRONIC INTESTINAL INFLAMMATION.

Oct. 26th, 1833.—WHITE GOAT. Has been getting thin lately, and will now scarcely eat. Purges somewhat violently. Give an ounce of castor oil; and at night, two of the opiate nuts—gingerbread nuts, with a small quantity of opium.

27th.—Very little change. Continue the oil and the nuts.

28th.—No change. Give half an ounce of the astringent powder in gruel.

31. The purging abated, but the animal refuses all food. Continue the powder.

Nov. 2.—Died. The lungs were hepatized in some parts, and emphysematous in others. The emphysema extended deeply round all the edges—then succeeded the parenchyma, of its natural substance, for a little way, but it soon began to assume a denser character. There was neither inflammation nor congestion. The liver was healthy, but the gall-bladder was much distended. The first three stomachs presented no character of disease; the fourth was considerably inflamed, and the inflammation appeared in patches through the whole of the small intestines. The vessels of the mesentery were much injected, and false membranes were beginning to form about the convolutions of the small intestines. There appeared to be no cause of immediate death, but the animal seemed to have perished from the continuance of sub-acute inflammation, involving both the serous and mucous coats.

Nov. 13th, 1833.—BADGER. Ate its breakfast well, but was seen about two o'clock lying on its side and struggling violently. In a few minutes it died. The peritoneal coat of the intestines was inflamed through their whole extent, and there was considerable injection of the mesentery. The spleen was of a blacker colour than usual. The stomach was devoid of inflammation, and so was the mucous coat of the intestines: the lungs were sound.

Nov. 14th.—BADGER. Refused its food last night, but there was no other appearance of illness. This morning it was found dead. There was intense inflammation of the peritoneal coat, with a very slight one of the mucous coat, and none of the stomach. There was considerable effusion of bloody fluid in the stomach: the lungs were sound.

The examination of these two cases of sudden death, so closely after each other, and presenting nearly the same lesions, could not fail of being interesting. The intense inflammation of the peritoneal coat, with the comparative absence of inflammation of the mucous one or the stomach, prove pretty clearly that the food had nothing to do with it. It was, however, plainly the same cause that affected both. Recollecting the different character of the summer and winter quarters of the badger, I should have said that it arose from our neglect in making this difference here, and that the peritoneal inflammation was attributable to the influence of external cold, as in the zebra, but these badgers had been in the gardens two years, and had not been shifted, and their boxes were thoroughly warm and comfortable. I cannot help thinking that cold had something to do with it.

Nov. 24th, 1833.—MUNTJUK DEER. Coughs a little; somewhat off its food, muzzle dry. Give a half pound of salts.

28th.—Very considerably better.

Dec. 1st.—Apparently well, discharged.

19th.—The phthisicky cough has returned. There is a stiffness of motion, referrible chiefly to the hinder legs. There is something serious in the case now. Give a half pound of salts.

21st.—A little better. Give nightly a fever powder. Digital. gr. vj, nitre ʒij, sulphur ʒij.

28th.—Has apparently been doing well until last night. It can now scarcely be induced to move. Give an ounce of Epsom salts, and afterwards, two drachms each of the salts and of caraway powder daily.

31st.—Feeds better; the coat is smoother, and the animal is in

better spirits; but I fear that it is losing flesh. Continue the powders.

Jan. 1st, 1834.—Refuses the food which contains his medicine, but ate greedily a piece of apple which I offered to him.

5th.—Has to-day begun to purge violently; refuses his corn, but will eat green food. Allow him carrots; put his corn in a mash, with a drachm of the compound chalk powder daily.

7th.—Died. No appearance of inflammation in the thoracic cavity, but a great part of the central lobe of the left lung emphysematous. The contents of the abdominal cavity discovered peritoneal inflammation universally diffused, and, strangely, without adhesion or deposit, and with very slight general discoloration, but where it did exist being of an intense character. This intense inflammation could have existed only a little while; but there had probably been sub-acute inflammation for a long period, for the animal had not been well from the end of November. There was no lesion of the mucous coat of the intestines. This sudden peritoneal inflammation is far from being unusual among ruminants of every kind.

Dec. 17th, 1833.—WANDAROO MONKEY dull, will not eat—short painful cough—give two grains of emetic tartar.

18th.—The cough is considerably relieved. Give morning and night one grain each of digitalis and antimonial powder.

19th.—Still continues to improve: continue medicine.

21st.—More listless and dull: continue medicine.

24th.—Evident change for the worse.

25th.—Died. I expected to find the chief disease in the chest. There was emphysema and condensation of the substance of the lung. I can hardly call it hepatization:—no tubercles. In the abdomen, sub-acute inflammation extended over the whole of the peritoneum. It was particularly evident on the omentum, which was much thickened. The diagnosis of peritonitis in these feræ naturæ is as yet sadly obscure.

Dec. 31st.—MALABAR DEER. The coat stares, the animal is out of spirits, and does not feed well. Give two drachms of Epsom salts and one of ginger daily.

Jan. 1st, 1834.—Found dead. The whole of the abdominal viscera presented the mingled appearance of severe peritoneal inflammation, and maceration in a fluid highly charged with blood. Of this fluid the abdomen contained about three quarts. I could not trace the blood to any particular viscus, and therefore stripped off the skin from the belly. I then observed a

small puncture, from which, on pressing it, oozed a little bloody fluid. There was a corresponding spot on the inside of the skin, and the mark of puncture, but now closed without—there was also a corresponding black mark, and some oozing on the omentum. The inflammation was set up by this minute wound in the omentum, or, more probably, by the slow oozing of blood into the abdomen.

Jan. 5th, 1834.—BONNET MONKEY. This monkey, hitherto in good health, sits of a heap on his perch, with his head between his legs, breathing laboriously, yet, when roused, he will eat. Give two grains each of calomel and antimonial powder.

6th.—Died in the night. No inflammation of the lungs, but a few minute tubercles in the substance of it. The omentum was beautifully studded with concrete granular bodies, from the size of a pin's head to that of a pea. The spleen was completely surrounded by them, and a prolongation of peritoneum extending to the pelvis was also covered. How could such a disease exist so long without any marked symptom to detect it, or be so suddenly fatal?

ON THE PROGRESS OF THE SIDE-NAIL SYSTEM OF SHOEING,

IN REPLY TO MR. CHARLES CLARK.

By Mr. JAMES TURNER, Regent Street, London.

Gentlemen,—It appears to be the general opinion among the curious, and those learned in horse matters of olden time, that the practice of securing iron shoes to the feet of horses by *nails* driven and clenched within the hoof, has existed about one thousand years; and we all know that both quarters or sides of the hoof have been in requisition, and universally rivetted, for this purpose, down to within a few years of the present day, excepting only (and the exception allowed by very few persons) when the horse had contracted an awkward and dangerous way of going. Without staying to comment upon the enormity of the offence perpetuated by this rude shackle on the highly organized internal foot, permit me to congratulate you, more especially the original Editors of THE VETERINARIAN, on the approaching subversion of this old and ruinous system of shoeing horses.

When this shall be superseded by the *unilateral* or *unfettered*

method, we may, perhaps, be entitled to join in the triumph of our fellow-labourers in the cause with such names as Messrs. Spooner, of Southampton,—Carlisle, of Wigton,—Youatt, Percivall, Hallen, May, Thomas Turner, and many other veterinarians who, by their writings and by their practice, have most industriously, patiently, and liberally tested the new method of side-nailing upon every description of working horse; viz. roadsters, hunters, posters, mail horses, and the cavalry.

With reference to Mr. Carlisle's letter upon this subject, in the August number of *THE VETERINARIAN*, I shall not affect to conceal the gratification which the perusal of it afforded me. That gentleman is certainly a most strenuous advocate. The scientific and decisive manner in which he expresses the result of his experience must convert to the new system every waverer, if such there be, among your numerous readers.

Now, gentlemen, touching a letter which appeared in the last number of *THE VETERINARIAN*, from Mr. Charles Clark, I must appeal to you, and the body of the veterinary profession, for *justice*.

I presume to take it for granted, that a man must have said or done some *good thing* in his profession or calling when a *family compact* of high standing in that profession shall finesse, strain, and grasp at that same good thing, by way of sharing it among their brotherhood, although, in good truth, the fraternity have no pretensions to it whatever.

The said Mr. Charles Clark, after affecting to honour me with the *shadow*, modestly appropriates the *substance* to his uncle—that *gigantic monopolist of veterinary discoveries*: but alas! the present stupid race of men are stone blind to these discoveries, or, would they not have *flourished* in practice ere now? I mean the discoveries,—and amongst them, especially, *the tablet expansion jointed shoe*. Notwithstanding this gentleman's disappointment, there is no writer or practitioner living with whose opinions on the anatomy and physiology of the foot of the horse I more heartily concur, some few points excepted. His labours through a long life have been incessant; and I, for one, set a high value upon them. One or two leading principles concerning the foot of the horse Mr. Bracy Clark has lived to see triumphant to his heart's content.

Now, gentlemen, I must repeat my congratulations to you, as having identified yourselves with the new art of shoeing horses *by one-side nailing*. From the commendable spirit in which you nursed the bantling on its presentation to you, nearly eight years ago—your promptness in immediately promulgating it throughout all the provincial towns in the united kingdom, by devoting

to it a portion of your meritorious Journal—your solicitude in watching its rapid progress down to the present moment—these things not only call forth my warmest thanks, but the same feelings must be *echoed*, by this time, from the leading forges of every large town in the three kingdoms. There is scarcely a county to which I have not been requested to forward side-nail shoes as patterns, with the necessary clips.

In reply to Mr. C. Clark's futile attempts to invade my rights, wherein he says the nails have been omitted in the inner half of the shoe at some forges ever since the year 1821—I acknowledge that they have—I am proud of the fact—but that is not the argument. All the old farriers of the present day are aware that he might have fixed upon 1721 with equal truth; and moreover, I can prove the fact, by old family records of my own ancestors, much more than a century ago; *but that is not the argument*. It is the purpose for which this shoe is applied, that is the matter in question; and when he has the daring bardhood to assert, that the *first printed notice of it*, connected with this purpose, was an account in February 1829, in the "Journal Pratique de Médecine Vétérinaire," I defy him to the proof. I implore your readers to refer to their English periodical—THE VETERINARIAN, for February 1829: at page 53 they will find my paper on "Chronic Lameness of the Feet of Horses;" and at page 65 of the same subject they will find these directions on *shoeing*:—"The farrier must make a seated shoe, of an equal thickness heel and toe; and he must *secure the shoe by nailing all round the toe, and avoiding the inside heel, and even the quarter.*" The paper concludes with the following sentence:—"I am convinced that a sound horse, even with narrow heels, if managed in the way I have just described, may be preserved free from the navicular disease to the latest period of life."

My *exposé*, carrying this out more fully, appeared in the July number of THE VETERINARIAN of the same year.

Now, gentlemen, notwithstanding the curious coincidence of dates, I can shew that the great Clark, and all the *little Clarks*, were *distanced* in this great race, even abating a fact I happen to be in possession of,—that those French veterinary journals are rarely or *never* published at the time announced on their covers; but that one, two, and occasionally three months elapse between their professed publication and the delivery of them to their subscribers.

For the truth of this I appeal to yourselves, and to Mr. Youatt in particular; and I also appeal to the same gentleman, whether this said paper of mine was not publicly read on Christmas Eve of the preceding year, in his own theatre, in the presence of a

crowded class of students; and proud I am to add, of several of the most eminent practitioners of this metropolis: and further, I can, if required, give the names of several veterinary surgeons who also heard it read out of its turn to the same society, a few weeks before*.

I appeal to the candour of the veterinary profession as a body, whether this was not the channel through which they became acquainted with the *merits* of side-nailing.

Did it not, at that juncture, create a great sensation at headquarters—I mean the Royal Veterinary College of London?

You well know, Messrs. Editeurs, the manner and kind of notice it received publicly, for the *first time*, at this National Institution from the lips of the two Professors.

If your readers will but kindly excuse the intrusion of this dry controversy, I promise again to appear very soon in the pages of your indispensable Journal; and I hope more profitably to your readers, upon “*the incalculable benefit derivable from leather soles in conjunction with side-nailing.*”

My experience has of late impressed me with a belief, that their co-operation (supposing the *execution* perfect from the hands of an able artisan), to constitute the acmé of the art of horse shoeing.

THE VETERINARIAN, OCTOBER 1, 1836.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

WE have great pleasure in stating, that a meeting of those who are friendly to the establishment of the VETERINARY MEDICAL ASSOCIATION (so it is now to be called), was held at the Freemasons' Tavern, on Monday, the 12th ult.

Mr. Sewell was unanimously called to the chair, and Mr. Morton requested to act as Secretary. The chairman briefly adverted to the circumstances which had led to the resignation of the officers of another society, and the expulsion of that society from the Veterinary College. He presumed not to impugn the motives

* Mr. Turner is perfectly correct in all these particulars.—W. Y.

which actuated some of those who took an active part in the late dissensions; but he lamented, and he believed in common with every well-feeling man, the pertinacity with which they adhered to a cause which their consciences must tell them was radically bad. The hope of the error being retrieved continuing to diminish, and having almost or quite vanished, it was time for those who had at heart the welfare of the veterinary profession, to bestir themselves, and to see that the cause of the student and the art generally should suffer no detriment.

The deep feeling of this had brought together the present assembly; he was glad to see so many respectable practitioners; it was a pledge of the propriety of the course they were pursuing—a pledge of ultimate success.

Certain resolutions would be proposed to them as the groundwork of a new Association. He had no doubt that they would receive serious deliberation; and that the principles that would guide the consideration of the gentlemen now assembled, would be, the preservation to the student of all the advantages and means of improvement, and great they were, which he enjoyed in the former society—the amalgamation with these of still superior ones to be derived from the presence and expression of free opinion and delineation of practice, by the older members of the profession residing in the metropolis, or occasionally visiting the Association—and the assurance that these meetings would be honestly and zealously devoted to the advancement of their art, and could never again be disgraced by violence and ruffianism.

He was convinced that he had no occasion to say more; and would conclude by requesting the Secretary to read the resolutions, which he would put seriatim to the Meeting.

Mr. Morton, after having produced a pile of letters which he had lately received from practitioners residing in the metropolis, and various parts of the kingdom, stating their hearty approval of the plan hinted at in the last VETERINARIAN, and their anxious wish to become members of the projected society, and shewing that the number of those that were friendly to the establishment of the new society was far more than doubled, since the last mention of the subject in this periodical,

proceeded to read the following resolutions, all of which were carried without a dissentient voice:—

1. That it appears to this Meeting to be exceedingly desirable that a Society for the discussion of veterinary subjects should be formed, consisting of veterinary practitioners and students.

Proposed by Mr. Field, and seconded by Mr. Quick.

2. That it be designated “The Veterinary Medical Association;” and that its meetings be held at the Royal Veterinary College on Tuesday Evenings.

Proposed by Mr. Sibbald, seconded by Mr. Ainslie.

3. That in order to obtain permission for its being thus held, a respectful memorial be addressed to the Governors of the College, signed by those favourable to the establishment of the Association; and that Mr. Sewell be requested to present the same.

Proposed by Mr. Youatt, seconded by Mr. Braby.

A Memorial drawn up by the Secretary was now read, and approved of, and signed by the persons present.

4. That the Association shall consist of those who may now be pleased to affix their names, or otherwise signify their desire to become members; and those who hereafter may be elected by ballot: and that its officers shall consist of a Patron, a President, twelve Vice-Presidents, a Treasurer, a Secretary, and a Librarian.

Proposed by Mr. Simonds, seconded by Mr. Poett.

5. That Professor Coleman be requested to accept the title of Patron.

Moved by Mr. Braby, seconded by Mr. Daws.

Professor Coleman’s sanction of this motion, and acceptance of the patronage of the Society had been previously obtained.

6. That Mr. Sewell be requested to accept the office of President.

Proposed by Mr. Cheeseman, seconded by Mr. Quick.

Mr. Sewell kindly accepted the office.

7. That the Vice-Presidents be chosen by ballot from among the members annually, at the first meeting of the Society for the season; six from out of the practitioners in the metropolis, and six

from among the students; and that vacancies be filled up as they occur.

Proposed by Mr. Sibbald, seconded by Mr. Spooner.

8. That Mr. Spooner be requested to accept the office of Treasurer.

Proposed by Mr. Rogers, seconded by Mr. Field.

Mr. Spooner accepted the office.

9. That Mr. Morton be requested to accept the joint offices of Secretary and Librarian.

Proposed by Mr. Quick, and seconded by Mr. Rogers.

Mr. Morton accepted these offices.

10. That the President, Vice-Presidents, Treasurer, and Secretary shall form a Council, which shall be vested with the management of the Association. Their measures, however, before they are acted on, shall be laid before the body of the Association, which shall possess a power of confirming or negating the same. The Council shall meet for general business the first Tuesday in every third month, or at any intermediate period, on a requisition, signed by four of the Council, being forwarded to the Secretary. Five shall constitute a quorum.

Proposed by Mr. Ainslie, and seconded by Mr. Battie.

11. That a meeting of the Association shall at any time be summoned at the requisition of twelve of its members, addressed to the President.

Proposed by Mr. Simonds, seconded by Mr. Field.

12. That the members of the Society shall be restricted to those who are or who have been students of, or connected with, some public veterinary school; and that each, at his election, shall pay the sum of one guinea.

Proposed by Mr. Daws, seconded by Mr. Sibbald.

13. That the members shall be elected by ballot; and five balls being against a candidate's admission, he shall be considered as rejected.—A candidate rejected shall not be eligible to be again proposed until the following session; and no member shall be allowed to vote until his name has been entered on the books of the Society three months.

Proposed by Mr. Youatt, seconded by Mr. Quick.

14. That to practitioners certificates of membership shall be awarded immediately on their becoming members ; and students shall be presented with theirs after they have obtained their diplomas.

Proposed by Mr. Braby, seconded by Mr. Poett.

15. That rewards of merit and grades be instituted.

Proposed by Mr. Cheeseman, seconded by Mr. Quick.

16. That the following be an outline of the manner in which the business of the meetings shall be conducted :—

The first Tuesday evening in which the paper is read shall, unless otherwise arranged, be considered the students' evening. During it, the anatomical and physiological sections of the essay shall be passed in review, and the proposer of the essay, if a student, shall be expected to maintain it against all opponents. The following Tuesday evening shall be the practitioners' night ; in it reports of any interesting cases which may have occurred in their practice shall be received and commented on ; but the time thus occupied shall in nowise exceed one hour. The paper shall then again be read, and a discussion on its pathological division entered on, reverting, if necessary for illustration and elucidation, both to the anatomical and physiological parts of the essay.

Proposed by Mr. Field, seconded by Mr. Simonds.

17. That a sub-committee, consisting of Messrs. Sewell, Youatt, J. Field, Spooner, Braby, Sibbald, Morton, Wallis, Barrow, Rogers, Daws, and Battie, be delegated to draw up a code of laws for the Society, of which the foregoing Resolutions shall form the basis ; and to obtain a design for a certificate plate.

Proposed by Mr. Spooner, seconded by Mr. Barrow.

18. That a circular embracing an account of this meeting and these resolutions be lithographed and sent to the members of the profession.

Proposed by Mr. Simonds, seconded by Mr. Quick.

19. That the Secretary be empowered to receive donations and deposits of books or engravings for the use of the Association, duly acknowledging the same.

Proposed by Mr. Sibbald, seconded by Mr. Daws.

20. That the cordial thanks of the Meeting be presented to Mr. Sewell, for his able conduct in the chair.

Moved by Mr. Sibbald, seconded by Mr. Field.

Mr. Sewell returned thanks.

We will not lessen the effect of this meeting and these resolutions by offering a single observation.

Y.

CASTRATION.

By PROFESSOR VATEL, *Alfort*.

[Continued from page 530.]

THE ACCIDENTS WHICH MAY FOLLOW CASTRATION.

FISTULOUS ulcers always result from swelling of the spermatic cord. The horses that are thus affected do not at first appear to be ill; but the real grievance is discovered by the pus which proceeds from the fistula, and by the enlargement of the cord, and of the glands of the groin on the side at which the fistulæ are situated.

The discharge of pus is sometimes arrested—an œdematous swelling then appears under the belly; there is enlargement and tension at the groin and an abscess forms there. The pus should be evacuated by puncture of the part, and the wound kept clean; and it will generally heal with little difficulty. When no abscess is formed, the pus continues to run, and the flow of pus continues as long as the causes which produced it exist. The case is dangerous in proportion to the length of time that the fistulæ have appeared, or the cord has been enlarged.

Injections of various kinds have been tried, but with little success: the cauterly, however, should only be applied after the failure of all other means. It is often necessary to extirpate the diseased part in the manner recommended when fungus and scirrhus of the cord were mentioned.

3. *Hæmorrhage*.—This only happens when the animal breaks the clams, or they are made of thin or dry or faulty wood—or when they are removed too soon, or the clams themselves are broken, instead of cutting the knot, and letting them fall. Hæmorrhage is generally attended with serious consequences, in proportion to the time that has elapsed since the castration. When there are no cellulo-vascular vegetations of the wound,

and the vessels yet adhere to the part of the spermatic cord that was compressed by the clams, the cord should, if possible, be drawn out, in order to discover the vessel, and seize it with a curved needle armed with strong thread. When the extremity of the cord has been torn off and the vessels are retracted, or when cellulo-vascular buds appear and form a mass under which the vessels are concealed, and, finally, when there are no means of applying a ligature, we have recourse to the plugging up of the wound, by introducing into it some amadou or sponge, and retaining it there by one or two sutures. The cauterization which is sometimes attempted, whether by the hot iron only, or by burning over the orifice whence the blood proceeds some rasped horn, or any thing that can produce an immediate eschar—these are means generally insufficient, and often dangerous. The hemorrhage soon returns, and with increased violence, after the fall of the eschar, or considerable engorgement is the consequence of such an operation.

4. *Tetanus*.—This is a very serious disease following castration. It may appear before or after suppuration is established. It may be produced by many causes; but the exposure to cold air, or suspension of the suppuration, or work resorted to in order to bring on the suppuration, are the most frequent causes.

5. *Hernia*.—The escape of the intestine through the opening in the tunica vaginalis is, fortunately, a rare consequence of castration, for it is always a most serious case. Sometimes the intestine presents itself while the horse is in the hobbles; at other times it does not appear until he has got up. This hernia may be produced by the struggles to which a horse of an ardent and irritable temperament frequently abandons himself. It may also result from violent and progressive pressure on the vaginal tunic, before the operation. In order to avoid this accident in irritable horses, recourse should be had to the covered operation. If hernia should occur, an attempt should immediately be made to return the intestines. The animal should be cast, and fixed as for the operation of strangulated hernia. Without untying or taking off the clams, and only holding them on one side, an attempt should be made, gently and carefully, to replace the intestine in the abdomen. If the operator is fortunate enough to be enabled to return it, it should be retained by sutures passed through the integument and all the divided membranes. This will often produce a sudden swelling of the parts, and sufficient to prevent a new descent of the intestine.

When the intestine cannot be thus returned, but the protruded portion is long, red, and tumid, the clam must be removed. In order to effect this, a piece of string, or waxed

double silk or thread, is tied round the end of the cord which projects from the clam, which is immediately detached and removed. The cord being then firmly held by means of the silk, the surgeon endeavours to return the hernia; but he often finds this a very difficult matter, from the continual spasmodic bearing down, which not only opposes the re-entry of the intestine, but causes the protrusion of fresh portions. In these serious and embarrassing circumstances, the operator cannot, without some danger, introduce his hand into the rectum, in order to aid in the reduction of the hernia, and he must only attempt it in some moment of calm. If every attempt, in however varied a manner, and attended by whatever precautions, is without avail, recourse must be had to bleeding, practised while the horse is still lying down, and to emollient fomentations of the part; and these means united will so far remove the pain, and produce so much relaxation of the parts, that a reduction may be effected. When they produce no change in the state of the patient, the diagnostic is in the highest degree unfavourable, and he may be considered as lost.

When the hernia is strangulated, it is necessary to enlarge the opening; but this does not always succeed. When the abdominal contractions are strong and frequent, the dilatation of the sac only facilitates the protrusion of more intestine, and which soon forms a voluminous mass, the return of which is impracticable. This will shew the necessity of avoiding incisions as much as possible, and using every means calculated to remove inflammation and relieve spasm.

When the intestine has been returned to the abdominal cavity, the peritoneal membrane must be separated, and likewise the dartos; and this being effected, the vaginal tunic and the spermatic cord must be drawn down together, the one upon the other, sufficiently low to permit the replacing of the clams, as in the covered way, and a little above the place where the first compression of the cord was made. If, however, the clams cannot be applied the second time above their first situation, they must at least be placed as high; and if that cannot be accomplished, a ligature with waxed silk must be used instead of them, and which can be fixed nearer to the inguinal ring. The horse must receive the same care and treatment as if he had been operated upon for recent strangulated hernia, and the bleeding must be repeated, if it is in the slightest degree indicated. The reduction of the hernia of castration can only be attempted with any hope of success when the patient is calm, and free from abdominal spasms, or when the hernia is recent and

of little volume, and the protruded intestine is neither much discoloured nor in a gangrenous state.

6. In the practice of castration, and particularly on troop horses, a portion of the omentum will occasionally descend into the testicular tunic. It can be excised without danger.

7. *Peritonitis* is a serious consequence of castration, because it is rapid in its progress, and difficult to be arrested. It almost invariably terminates in gangrene. It may occur in every period of convalescence, and even as late or later than the twelfth day. Exposure to cold is the principal cause of it. The symptoms which announce its development, and the means by which it may be arrested, are pointed out under the article *Peritonitis*.

8. *Enteritis* is a less frequent consequence of the operation, and generally happens when the horse had been suffered to eat immediately before the operation, or when he eats or drinks much soon after it, or is exposed to the effect of cold or humid air, or a current of air is suffered to blow upon him. It is characterized by all the symptoms of acute enteritis, which are treated of in the proper place.

Elémens de Pathologie Vétérinaire, vol. ii, p. 470.

REFLECTIONS AND EXPERIMENTS ON THE CONTAGIOUS CHARACTER OF STRANGLES.

By PROFESSOR GOHIER, of Lyons.

THE veterinarians who have written on glanders have differed much in opinion as to its contagiousness. It is of great importance to the practitioner and the breeder that this point should be settled*.

Solleysell says, "You must never forget to separate the horse from all other horses; for not only this is a contagious distemper, but a sound horse may catch the glanders from one that is troubled only with the strangles†."

De Garsault advises the separation of the horse with strangles from all others.

Bourgelat says, "Every horse with strangles should be separated from the rest; for not only may it be communicated from colt to colt, but to old horses."

* The belief of the contagious nature of strangles was common among all the old veterinarians, and measures of isolation were uniformly resorted to. *Apsyrtus* says expressly that it is very dangerous among colts on this account. (*Hippiatrica*, lib. i, c. ii, p. 16.)—Y.

† The Complete Horseman, Part I, p. 20.

Paulet affirms that strangles may be communicated, like the scab, either by inoculation or by deglutition*.

Brugnone declares strangles to be contagious; and says that if it appears in a troop of young horses, the others will speedily have it, unless the diseased horse is separated in time†.

Bosc, in “*Le Cours Complèt d’Agriculture*,” says, “Every stable in which there has been a horse with strangles should be thoroughly cleaned; its racks and mangers well washed, and its walls lime-whitened.”

Sacco says that strangles is eminently contagious‡. This ingenious physician inoculated twenty-three colts with the vaccine matter, and only one of them had strangles afterwards.

De la Gueriniere, *Lafosse*, *Dutz*, *Vilet*, and *Lompagreu Lapole* say nothing of its contagious character||.

* *Recherches Hist. et Phys.*, tom. ii, p. 356.

† *Traité sur les Heras*. Paris, 1807.

‡ *Traité de la Vaccination*.

|| Among the modern French writers, *Vatel* gives no opinion about the matter; *Rodet* gives no decisive one, but acknowledges that he always separates the horse with strangles from his companions, as a measure of precaution. *Gasparin* maintains the contagiousness of strangles; but *Hurtrel d’Arboval*, and he is great authority, after a lengthened discussion of the subject, and of the very experiments which are related in this paper, says, that “he may be permitted to doubt the contagious character of the affection called strangles.” There is, however, another foreign writer from whose experiments, so far as inoculation with the matter of strangles is concerned, there lies no appeal; I refer to M. *Toggia*, of Turin. He inoculated no fewer than eighty colts; some with the matter discharged from the nose before the abscess had broken, and others with the purulent matter obtained from the abscess; and in all of them he observed cough, a small discharge of mucous matter from the nostril, inflammation of the glands of the neck, and the formation of an abscess which either broke of itself or which he opened. The disease assumed the mildest form, and in none of the colts did it appear a second time*.

This is coming to the point; and if the disease can be propagated by the matter from the nose, or from the tumour being brought into contact with an abraded or wounded surface, it is as much contagious as syphilis or rabies; and due precaution should be taken in removing young horses at least out of the reach of danger.

The opinions of English writers are as contradictory as the assertions of our continental brethren. *Peall* and *White*, indeed, hazard no opinion on the subject. *Mr. Coleman*, as appears from my MS., but I believe verbatim records of the Professor’s lectures in the years 1813 and 1814, used the following language: “Strangles is certainly a contagious disease; it has been produced by inoculation, yet but few become affected in this way; and when many young horses become affected at the same time, it is because they have been all exposed to other causes far more prevalent than strangles.”

* *Sul Cimurro*, &c.; *Torino*, 1826; and *Vet.* i, 223.

Although I have had opportunity to convince myself that strangles is much less contagious than it has been said to be, yet, in order to come to a decisive opinion on the subject, I have thought it necessary to make certain experiments. It is in this way alone that we can arrive at the truth.

EXP. I.—In May, 1812, I introduced, by means of the feathered part of a quill, into the left nostril of an ass, a little matter obtained from the nostril of a colt five months old, that had no swelling under the throat, but had had discharge from the nose fifteen days, and which I conceived to proceed from immature strangles. On the same day I pushed up the right nostril of the same ass a pledget of tow wetted with the matter from the nose of an ass that had died of acute glanders, accompanied by farcy. This double experiment was made in order to discover whether glanders or strangles would appear first, and

Mr. Percivall, in the first volume of his “Hippopathology,” a work distinguished as much by the pleasing perspicuity of its style as by the general accuracy of its doctrines and its statements, strenuously denies its contagiousness: “I would omit this paragraph (CONTAGIOUSNESS) were it not that I feel desirous to express as my opinion all disbelief in the *contagiousness* of strangles. All the observation and experience I dare boast of have confirmed me in this opinion. Of inoculation for the disease I know nothing. There are those who assert that it is in that way communicable: it may be. It is not ‘catching’ in my firm belief*.”

Mr. Blaine, in his invaluable last edition of his “Veterinary Outlines,” leans likewise to the principle of non-contagion: “Neither is there reason to suppose the strangles inherently infectious, though it has been said to have been given by inoculation. A number of horses having it together is not a proof of its contagious properties, any more than some escaping and others having it is a proof that it is not so†.”

The author of “The Horse” was, in 1831, a non-contagionist: “We do not believe,” says he, “that there is anything contagious in it. There are strange stories told with regard to this; but the explanation of the matter is, that when many horses on the same farm or in the same neighbourhood have had strangles at the same time, they have been exposed to the same powerful but unknown exciting cause‡.” In the autumn of that year, however, he had occasion to travel through the greater part of the United Kingdom, and was in contact with practitioners everywhere; and, in the following year, addressing his class on the subject of strangles, “I am perfectly assured that it is epidemic; but there are cases which I cannot explain, except on the supposition of its being contagious§.”

There is no doubt as to one fact—that the greater part of the country practitioners, and of those particularly who are settled in the breeding districts, are firm believers in the contagiousness of strangles.

Y.

* Percivall’s Hippopathology, vol. i, p. 160.

† Blaine’s Veterinary Outlines, fourth edition, p. 446.

‡ The Horse, p. 150.

§ The Veterinarian, vol. v, p. 342.

also whether the virus belonging to these two affections would produce different lesions in the two nasal cavities.

Nothing remarkable occurred until the fourth day after the inoculation, when a slight flux from the right nostril was observed.

On the 5th day it had considerably increased.

6th day.—A discharge appeared from the left nostril also. The ala of the right nostril was tumefied, and also the lymphatic glands beneath the jaw on the same side.

7th day.—The discharge was very abundant from both nostrils. They were much swelled, and the swelling extended up to the forehead. The animal was very much out of spirits.

8th day.—The same discharge and swelling, but the animal was becoming rapidly weak; the breathing was difficult, and the pulse small and quick. The animal died before night.

The pituitary membrane was, generally speaking, highly inflamed, but especially on the right side, and there was pus within the turbinated bones and in the sinuses. The left lobe exhibited tubercles of long standing; the right one was congested, and easily lacerated.

EXP. II.—At the commencement of April we deposited, on six successive mornings, with the feathered part of a quill, on the nasal membrane of a horse six years old, some of the matter from the nostril of a colt that had strangles. The horse was also left twenty days in the place which had been occupied by the colt. Not the slightest effect was produced.

EXP. III.—The same kind of matter was introduced into the nostril of a young ass, and he was turned into the stable in which the horse with strangles had been. No effect was produced.

EXP. IV.—The same kind of matter was, during ten days, introduced into the nose of a young ass, only four months old.

On the *7th day* after the commencement of the experiment, the lymphatic glands between the jaws began to swell, and the enlargement increased daily.

12th day.—A discharge from the nostrils now appeared, and the swelling continued to increase, but the animal did not exhibit any other symptom of illness.

16th.—The abscess now seemed to be ripe. It was punctured, and a great quantity of pus of good character proceeded from it.

20th day.—The flux from the nose had ceased, and the wound between the jaws was healed.

EXP. V.—The same experiment was made on a mule, aged sixteen or eighteen years, but without effect.

EXP. VI.—Pus from the tumour of strangles was introduced, during several successive mornings, in the nostrils of a horse fifteen or sixteen years old. Want of room then compelled me to put him into a stable in which were several glandered horses. After six days had passed, we began to perceive chancres on the mucous membrane of the left nostril. The chancres became larger and more numerous, but there was not the slightest enlargement of the glands under the jaw. The animal rapidly lost flesh, and was destroyed.

RECAPITULATION.

In the first experiment, the matter from the nose of a colt with strangles introduced into one of the nostrils of an ass seemed to produce no effect; but the matter of glanders being introduced into the other nostril, glanders appeared on the fourth day, and the animal died on the eighth day.

In the second and third experiments, no effect was produced, although in the third the ass remained fifteen days in the stable in which a horse with strangles had been kept.

In the fourth experiment, strangles was undeniably produced by the pus from the tumour. A nasal flux appeared: a tumour appeared in the channel between the jaws; it suppurated, and ran its usual course.

The fifth and sixth experiments were without result, except that the horse, being put into the same stable with others that were glandered, became glandered in a few days.

To this I may add, that, during the spring and summer of the last year, many of the troop horses having strangles were received into our stables. I was often obliged to put them with other horses, but without any disease being produced. In several instances, neither the racks nor the mangers had been washed, yet no unpleasant results followed. Where, however, the strangles had an irregular character, or seemed as if they might degenerate into glanders, the sound horses were always removed.

If I might venture to draw any conclusions from so small a number of experiments, they would be—1st, That the contagious character of strangles has been much exaggerated, and that it does not appear that the places in which horses with glanders have been kept, nor the vessels which they have used, can communicate the disease. 2dly, That, so far as these experiments go, inoculation in the nasal cavities has been the only means by which strangles has been communicated. 3dly, That a few only of those into whose nostrils the matter from the nose or the tumour was introduced became infected. 4thly, That the contagious quality of the matter of strangles is infinitely less

than that of the matter of glanders, and that, consequently, the danger of communication is in that proportion lessened. Does not, however, the fourth experiment prove that it is possible to produce the disease by inoculation? and that, if more effectual means are adopted to introduce the virus into the system, we might, by inoculating with the matter of strangles, when the weather and the state of the animal were propitious, avoid many serious accidents that now occur, and especially when the disease appears in winter?

Then, is it absolutely necessary to separate horses with strangles from sound ones? I should say, only when the disease assumes a malignant form, and threatens to degenerate into glanders. Perhaps it would be useful to place the colts in whom the symptoms of strangles had great difficulty in developing themselves with others in whom it was more easily running its course; possibly it might more readily take on its proper character, unless it was preferred to inoculate those who were doing badly with matter obtained from the others.

It would, however, be certainly imprudent to leave together, either in the stable or at pasture, colts of all ages, lest strangles should be communicated to some before the time nature had fixed for the ordinary development of it, and before they were strong enough to struggle with it.

As to the infection of the stables in which horses with strangles have been kept, it is right to be cleanly and to be safe; but it appears that the danger is infinitely smaller than with glanders. The racks and the mangers and the buckets should, however, be well cleaned, and then there could not possibly be any danger. If strangles had in any of the cases degenerated into glanders, every precaution should be taken. The virus of strangles is one of a specific nature, and of which the air is not a vehicle any more than it is of glanders. It oftenest develops itself spontaneously; but it may assume different characters, more or less mild or virulent, according to the state of the animal, its temperament or food, or according to the climate and the vicissitude of the seasons.

Strangles, like other acute diseases, may take on the character of the usual maladies of the season. When the wind is in the north, and the situation is elevated, it may, like the small-pox in the human being, assume an inflammatory character; but in other states of the atmosphere, and in other seasons and localities, it may be marked by a typhoid tendency. Strangles has been described by various authors as sometimes mild, and at other times malignant or gangrenous. In these circumstances, the disinfection of the stables and their furniture would be as

necessary as in glanders ; and in such cases, too, we should think of the possibility of producing, by inoculation, in a more favourable state of the season and the patient, a milder and less dangerous disease.

Memoirs et Observations, vol. i, p. 266.

ON THE TREATMENT OF STRANGLES BY ANTI-PHLOGISTIC MEANS.

Addressed to the Royal and Central Society of Agriculture at Paris, by Professor RODET, of Alfort.

This talented Professor, taking a review of the symptoms and character and progress and post-mortem appearances of strangles, is convinced that it is an inflammatory disease, of a type more or less acute ; and therefore his treatment of it is of a strictly antiphlogistic nature. This seems to be opposed to the opinion and practice of many of his brethren, as it is to the general opinion and practice of English veterinarians. Professor Rodet relates two-and-twenty cases of strangles that were thus treated, and, generally speaking, with complete success. Would our limits permit, we should be glad to insert many of them ; but we are reluctantly compelled to content ourselves with the “*Resumé*”—the recapitulation—always the best part, and sometimes the only valuable one, of a French essay.

It may be unnecessary to add, that we must not be considered as espousing the cause and maintaining the opinions of Professor Rodet. In our mind, they are founded on premises which have no solid foundation—even the facts are not as he conceives them to be. What is strangles ? A disease attended by considerable inflammation in its early stages ; but for what purpose, or with what connected ? with the formation of a considerable tumour, previous to that of a considerable abscess. The formation of the abscess is the essence of the disease. It is that to the accomplishment of which our medical treatment should be directed ; it is that which must be accomplished, or future and serious mischief will endanger or destroy the patient.

It is attended by sympathetic fever. We watch the intensity and the progress of this fever. If it exceeds its proper bounds, we adopt the antiphlogistic treatment which Professor Rodet recommends; but in no other case should we be justified in so doing. Having thus guarded ourselves from misapprehension, we lay before our readers the principles of the learned Professor.

Y.

“ON reviewing the various facts which I stated,” says the Professor, “it appears,

“1. That the causes of strangles, considered as a malady almost peculiar to the colt, do not differ from those which can, at other epochs of their life, produce in them other acute inflammatory diseases.

“2. The symptoms of strangles have a character, progress, and termination in every respect similar to the other inflammatory diseases of which the same parts are the seat.

“3. The engorgement of the glands beneath the jaw in strangles is, as in all the other inflammations of the nasal membrane, an effect purely sympathetic.

“4. The only difference which exists between strangles and other inflammations of the mucous membranes of the head, is entirely dependent on the time of life at which it manifests itself, and, consequently on the effects which protracted and painful dentition, or slow and interrupted growth, may produce on its intensity and its march.

“5. It is sufficient for the horses to remain exposed to the influence of the causes which have produced or aggravated strangles in them, in order to see that, if abandoned to itself, it proceeds to a point as constant as inevitable.

“6. The sympathy of action which, in a state of health, places the mucous membranes in a state of intimate dependence on one another,—the union so intimate of these membranes with the organs which they cover, and which participate in the changes they undergo—and, finally, the organic consent which equally connects them together in their state of disease—these are fully sufficient to explain, without having recourse to any specific virus, how all the morbid states and conditions are produced which we continually see complicated with the existence of strangles.

“7. The lesions which are found on opening horses that have died of strangles, either abandoned to take its natural course, or too late or inefficiently treated, announce the most acute

inflammation of the pulmonary and other organs, independent of the effects of an inflammation of this kind, which is observable on the mucous membrane of the naso-bronchial cavity, and even on that of the digestive passages, and also in the lymphatic ganglions.

“8. Not only a stimulating regimen—pretended to be stimulating and tonic—but also many of the curative measures adopted, whether simply stimulant, or, in point of fact, incendiary, may, if not always, yet in a great majority of cases, aggravate the symptoms of strangles, instead of contributing to its cure.

“9. This is never the case when the antiphlogistic mode of treatment is adopted, comprehending bleedings from the jugular, and other sanguineous effusions; but which, on the contrary, uniformly shew themselves to be salutary even in the most serious cases of strangles and its complications.

“10. Far from being prejudicial in this disease, the most active antiphlogistic treatment is that alone which can save the horse when seriously attacked with strangles, and in which tonic medicines, seconded by stimulating regimen, have not only completely failed, but have visibly contributed to aggravate the disease.

“11. Horses treated with and cured of strangles by antiphlogistic measures, commencing at first by copious and perhaps repeated bleedings, have afterwards exhibited as good health as those who, having had it only in a mild form, have been cured by the tonics that have been administered to them, or, in many instances, in spite of these tonics.

“12. The bleedings, instead of, as is pretended, arresting the formation of the tumour and the establishment of the suppurative process, have never done this in the cases in which I have employed them, but, on the contrary, have sometimes hastened both.

“13. The cure of horses attacked by strangles is not only more sure, but often more rapid than when, in a milder case, the disease is abandoned to its own natural progress.

“Reflecting on all these facts, it is natural to demand, whence proceeds this singular fear, that bleeding is always injurious when employed in the treatment of strangles? Is it founded on reason or on fact? Does it not rather repose on facts illusory and badly understood? And, in fine, can it be possible that, when we have suspended the march of inflammation by bleeding, its consequences can be fatal or injurious to the animal.

“Ought we then to conclude, that bleeding should be prescribed in the treatment of strangles? Certainly not. I would say, on the contrary, that here, as in every other case of practice,

we should take care not to be too prodigal of the blood of our patients. We should not uselessly shed it, nor, in fact, except the abstraction of blood is clearly indicated ; but I cannot help thinking I have demonstrated, that, in strangles, as well as in other inflammatory affections, it is required ; and we should not be restrained from bleeding by any foolish fear or ridiculous prejudice, when the state of the patient and the character of the disease indicate its necessity."

Doctrine Physiologique, p. 380.

INVERSION OF THE UTERUS, AND RUPTURE OF THAT ORGAN AND OF THE VAGINA IN A COW.

By M. DANDRIEUX, of Nerac.

ON the 19th of April 1835, I was sent for to see a cow that had been in labour twelve hours. I found her lying on her left side, her head stretched out, and every limb extended at its full length. From time to time she made violent efforts to expel the fœtus, and these efforts were followed by spasms of the limbs. Her time of utero-gestation was passed by several days.

After having in vain attempted to get her up, I examined her very carefully. The pulse was full—the eye staring—the pupil dilated, and the respiration somewhat accelerated. I introduced my hand into the vagina, and found, near the neck of the uterus, two of the legs of the fœtus, which, pressing against the right side of the vagina, had ruptured it, and which were entangled in the rupture.

With some difficulty I disengaged them, and returned them into the uterus, that I might the more readily find the head of the fœtus. It was easily found, but it was depressed below the brim of the pelvis, and the throat alone presented itself at the neck of the womb. This false position rendered it very difficult to extract the fœtus ; at length, however, I contrived to bring the head into the passage, along with the fore legs. I then waited for the return of the pains, in order that the calf might be expelled ; but I waited in vain for this, for the cow was exhausted by the throes of twelve hours duration, and I was compelled to endeavour to procure their return by pulling gently at the fœtus, but previously to this I administered a bottle of warm wine, which she readily swallowed. Her pains soon returned, and, taking advantage of them, the fœtus was extracted. I soon afterwards extracted the placenta, after which we endeavoured again to raise the cow, who had recovered a little strength, and was licking her calf. We, however, could not get her up ; and fearing, from

the irritation necessarily produced by the rupture, that the uterus might be protruded, we raised her hinder parts higher than the fore ones; and, desiring that nothing should be given to her but a little gruel, I left her.

Two hours had scarcely passed when a messenger was sent to inform me that the womb had protruded. I returned, and found that the whole of that viscus had protruded through the vulva. The animal, although still lying down, had changed her situation by dragging herself along, and her hinder parts were now the lowest, which had facilitated the passage of the womb.

After having placed a linen cloth under the uterus, in order to preserve it from being irritated by the dung and urine of the stable, I washed it with warm wine, for the double purpose of stimulating and cleansing it. Then two assistants raising the uterus by means of the cloth, I endeavoured to return it. This was easily effected, for the animal did not make a single effort to prevent its return. I then determined to introduce a pessary into the vagina, and, having pushed one end of it up to the neck of the womb, I entrusted the other end to an assistant, while I contrived some means to retain it in its situation.

In the meantime the cow made some efforts to get up, and raised herself on her fore legs; the uterus consequently returned again into the vagina, and pressed upon and buried the pessary in its substance; and as the assistant endeavoured to prevent the expulsion of the pessary, it perforated the fundus of the uterus, and entangled itself in the peritoneum, and the womb once more protruded. A portion of the small intestine followed it, passing through the rent in the vagina.

Having never witnessed a complication of difficulties like this, I was somewhat embarrassed; however, I soon set to work once more to reduce these formidable herniæ.

I experienced much more difficulty in returning the womb than after the first expulsion of it; and before I attempted it, I brought as nearly together as I could the edges of the two ruptures, and retained them in contact by a few stitches, leaving a long thread which would afterwards protrude from the vagina. The rent in the womb was full five inches long—that in the vagina was not quite so much.

This second reduction being accomplished, I contrived a kind of bandage with the leathern traces by which the oxen are attached to the yoke, and brought two of them to press upon the vulva, bringing them afterwards twice round the flanks. I then caused the hind parts of the cow to be somewhat elevated, covered her, and ordered her to be watched. Warm white water only was allowed as diet.

On the following day I found her up and ruminating ; but the pulse was hard ; there were occasional expulsive efforts, and the milk was secreted in great quantity. She was bled, and the same diet continued.

21st.—Her state is more satisfactory. The efforts at expulsion have ceased ; the appetite is good, and the secretion of milk abundant. I removed the bandage, and allowed her a little more nourishing food. She continued to improve, and the calf, wholly fed by the milk of its mother, grew rapidly.

After the expiration of fifteen days, I thought of removing the ends of the sutures, and they were detached very easily.

During the whole of the time that she was under treatment, a small quantity of purulent and fetid matter occasionally escaped from the vulva, and there were slight efforts to contract the uterus, but not of a nature to cause a new expulsion. Emollient injections acidulated with vinegar were thrown into the vulva. At the expiration of twenty-five days she was quite well.

She again became pregnant two years afterwards—calved easily, and has since been sold with her calf.

Réc. de Méd. Vét., Avril 1836.

Miscellanea.

RESIDENCES OF STUDENTS IN THE METROPOLIS.

To the Editor of "The Lancet."

Sir,—As you have usually devoted a portion of your Journal, at the commencement of the medical session, to those matters which may conduce to the welfare of medical students whilst in the metropolis, will you permit me, an old member of the profession, to make a remark or two on a subject which has often arrested my attention ? I allude to the domestic position of the student upon his *entrée* into this modern Babylon. With regard to his professional arrangements, what with the recommendation of friends, and your kind advice, but little difficulty will be experienced ; what appears to me to require consideration on the part of parents and friends, and I might add teachers also, is, such domestic arrangements as will obviate the necessity of his going into a common lodging-house, and a consequent association with the idle and dissipated of the class. I would therefore suggest, with your approval, that in each medical school a list should be kept of particular families who receive boarders on moderate terms ; and perhaps it would be desirable that the residence of each pupil should be inserted in a book kept for that

purpose. There could be no objection to respectable lodging-houses, provided the persons keeping them would guarantee the observance of regular hours, instead of furnishing the student with a key of the street-door to enter at any hour of the night. There are many respectable practitioners who receive pupils into their houses, and teachers as well. Do not imagine that I wish to deprive the medical student of his liberty altogether. I am only desirous of drawing the attention of parents and lecturers to the fact, that for want of a little wholesome controul, the student, upon his arrival in town, is too often driven into that society which gives him, at least, a disrelish for study, and sometimes renders him totally unfit for his new occupation. I am, Sir, your obedient servant,

MEDICUS.

This letter is as intimately connected with the comfort and welfare of the veterinarian as the medical student, and we thankfully extract it from the valuable periodical to which it was sent.

Y.

A DISEASE AMONG DOGS IN INDIA, AND PROFESSIONAL ANALOGICAL ADVICE FOR DITTO.

THE hot weather commences most gloriously in April, and from that time to the end of the rains (October), that cursed pest to the canine species, *i.e.* the *dil-i-baz*, or palpitation of the heart, attacks indiscriminately old and young, and generally levels four-fifths of the pack. The disease is peculiar, I believe, to this country; it comes on, for the most part, suddenly: a dog will appear in good health and spirits one day, and the next he is found sleepy, dispirited, and feverish, and, in short, in a fair way to Davy's locker. The hard and rapid beating of the heart is a peculiar feature of the complaint, although that organ is not always affected locally, for in one instance the liver was found to be dreadfully inflamed; in another, the lungs; and in a third, the intestines. Copious bleeding in the early stages has been found the most effectual remedy; but a dog once attacked, seldom lifts his head again. Every kind of medicine has been tried, and every exertion used, but hitherto without avail; and it is truly disheartening to a sportsman to witness his best hounds sinking before him, without having it in his power to save them. The subject is a melancholy one, and it only remains for me to beg, that any of your readers who may be skilled in the veterinary art will endeavour to help us out of our predicament.

Your's sincerely,

Cawnpoor, Mar. 10, 1833.

VAGUS.

New Sporting Magazine, Nov. 1833, p. 33.

Sir,—In your number for November is a very interesting letter from a correspondent in India, calling upon your readers for information respecting a very fatal malady among hounds in that country. Now, sir, from my love of animals in general, and those of the chase in particular, I am induced to make some reply to “Vagus,” which I flatter myself, if attended to, may be the means not only of rendering the complaint manageable in its treatment, but of preventing, in a great measure, its occurrence. We have a maxim in our profession, which maintains, that a knowledge of the disease is half its cure. I shall, therefore, first tell your correspondent what, in my opinion, is the nature and cause of the disease in question, and then proceed to its cure and prevention. First, then, from the excellent description “Vagus” has given of the complaint, its symptoms, and other particulars, I have no hesitation in affirming that it is clearly and unequivocally an ardent fever, solely produced by a long-continued and high temperature, and corresponding exactly with the description of the “*climate* or seasoning fever,” incidental to the European on settling in the West Indies. This fever is peculiar to hot countries, and attacks principally men and animals recently arrived from northern latitudes: its attack is very sudden, its victims chiefly the young, the most robust, and the healthiest; the weak, unhealthy, and the seasoned, commonly escaping its influence altogether. The complaint never rages as an epidemic but during the hot months, when the thermometer is upwards of 88° in the day, and at least 80° in the night, and is not contagious.

Its immediate cause is excessive heat, which rarifies and augments the volume of the blood, adding thereby greatly to its power of stimulating the heart (hence its increased action and name of *dil-i-baz*, mentioned by “Vagus”): most violent excitement is also produced in the whole of the vascular system; the blood becomes vitiated, the vital powers fail, and the animal dies exhausted. This, sir, I take to be the true nature of the complaint, and the only plan of *cure* will be that of *depletion*, with the view of reducing and moderating excessive vascular motion: for this purpose, therefore, blood should be taken *largely* at the commencement of the attack; a full dose of calomel should be given, followed up by drastic purgatives, and the body should be sponged with *cold* water. If these means fail to arrest the progress of the malady, you may despair of all others. I now come to the preventive service—the most important of all. It would appear from “Vagus’s” statement, that the complaint rages chiefly among those hounds that have been recently imported into the country; in other words, among those whose bodies and

constitutions have not become inured and habituated to the vast change from a cold to a hot climate; that these hounds hunt, and consequently are strongly exercised during the cold winter months; they are then thrown up on the approach of the hot season, taking little exercise, and *probably as much food, and of the same stimulating quality, as during the winter season*, thereby making *more blood, and of a richer quality* than in the cold weather; *hence their liability to fever* under the excitement of a high temperature.

Now I propose that, on the cessation of the hunting season, every hound should at once be bled, and have a dose of physic; that they should have no *animal food whatever* during the hot months, but be kept on the lowest possible diet, their drink to be water, in which cream of tartar and sulphur are dissolved, with *butter and milk* occasionally: they must likewise be kept as cool as may be, and have regular exercise. If these rules are strictly followed, I have little doubt they will prove very efficacious in preventing that direful malady which your correspondent so justly and feelingly laments.

I am, sir, your obedient servant,

Eton.

————— Surgeon.

New Sporting Magazine, July 1834, p. 202.

MR. BAKEWELL AND HIS BLACK HORSE.

THE breeding of horses is, in general, conducted by men of great abilities, who are well acquainted both with the perfections and imperfections of the animal, in consequence of which they seldom fail; and as Mr. Bakewell was perfectly acquainted with the subject, there can be no reason to doubt but he would procure the best horses that could be met with, whether from his own stock or any other quarter. He went to Flanders for mares, which must, in the first instance, be crossed by English horses; but, after all, his improvements must depend on his knowledge of the animal, whether he made use of crosses from other quarters, or, in consequence of giving the preference to his own stock, bred *in-and-in*.

But whatever were Mr. Bakewell's methods of proceeding, his ultimate success in the improvement of the draught horse has long been known. If Mr. Bakewell had not succeeded, he would not have had the honour of exhibiting the black horse before his Majesty; nor would his Majesty have thought either Mr. Bakewell or the black horse worthy of his attention, if the high reputation of both had not been previously known. I do not really know what compliment Mr. Bakewell received on this occasion;

but as the horse's portrait has been taken, and his fame repeatedly recorded, I think it is not impossible that the history of the Dishley horse may, at some future period, be read with no less admiration than the history of Bucephalus is at the present day.

I shall not presume to suppose that Mr. Bakewell would appear as great as Alexander when mounted on Bucephalus, nor do I think it likely that he should be mounted; but for the purpose of recording Mr. Bakewell's knowledge of horsemanship I shall here beg leave to mention, that his accurate judgment of animal nature made him perfectly well acquainted with the subject.

If Alexander, in the full activity of youth, was so fortunate to manage a horse that was accidentally frightened at his own shadow, much more may be said of Mr. Bakewell, who, at an advanced period of his life, not only conquered a vicious restive horse, but, without the assistance of either grooms or jockies, taught this horse to obey his verbal orders with as great attention as the most accomplished animal that was ever educated at Astley's school. Mr. Bakewell was accustomed to say, that his horse could do any thing but speak; and I have no doubt that if Captain Gulliver, who was well acquainted with the language of the Houyhnhnms, had been living, the abilities of this animal would have been better known.

The method which Mr. Bakewell made use of to conquer this vicious animal was never told, even to his own domestics. He ordered his own saddle and bridle to be put on this horse, which at that time was thought to be ungovernable, when he was prepared for a journey of two or three hundred miles, and, that no one might be witness to the contest, he led the horse till he was beyond the reach of observation. How far he walked, or in what manner this great business was accomplished, was never known; but when he returned from his journey the horse was as gentle as a lamb, and would obey his master's verbal orders on all occasions. When what are called irrational animals are taught such strict obedience to the commands of those of a superior order, it is, in general, supposed to be the effect of fear; but Mr. Bakewell never made use of either whip or spur; when on horseback he had a strong walking-stick in his hand, which he made the most use of when on foot. He always rode with a slack rein, which he frequently let lie upon the horse's neck; and so great was his objection to spurs, that he never wore them. It was his opinion that such animals might always be conquered by gentle means; and such was his knowledge of animal nature, that he seldom failed in his opinion, whether his attention was directed to the body or the mind.

MERLYN, OR WILD PONY HUNTING IN WALES.

A CENTURY, or rather more, has effected a marked change in many of the habits and customs of the Welsh. Though they continue to be a distinct people, yet some of their most striking peculiarities no longer exist; among the rest, the lasso, which once was universally resorted to in Wales for catching the merlyn or mountain-pony, is now unknown. This instrument has been repeatedly described by various authors. It is used in Spain for subduing the fury of the savage bull; in the deserts of Africa, the hunter avails himself of the lasso in capturing the great ostrich; and in Canada also the wild bull is tamed by the lasso. Its simplicity of construction, as well as the unerring certainty with which it enables the hunter to overcome the most dangerous and powerful animals, are admirable. It consists of a coiled rope, or, in some countries, strips of leather, of sufficient length, at one end of which is a running noose of the required size, well greased, in order to prevent the effects of friction, caused by the struggles of the entrapped animal. Hugo Garonwy, a farmer, lived in the neighbourhood of Llweyn Gevil two or three generations ago; the chief part of his wealth he derived from the open uncultivated mountains; the products of enclosed lands were of secondary consideration. Hugo Garonwy possessed a temper enterprising, vehement, and open-hearted; his pursuits depicted the bias of his mind; though he held the small tilt plough, and handled the other farming tools in their due season, yet the catching of the merlyn, the fox, or even the hare, were more congenial pursuits; and the tumbles and thumps he received, which were accidental to the pony hunter, served but to attach him to the sport; but it is not to be supposed, in so rugged a country as the Merioneddshire coast and its environs, abounding with precipices and morasses, that such were the only casualties. Far worse did it fare with Garonwy. Garonwy had proceeded to the hills, accompanied by two hardy fellows and their greyhounds. These animals are much more muscular and thickset than the lowland dog of that name; they are clothed with rough, wiry, yellow hair, and eyes so piercing that I do not know whether all writers have said of the brilliant vision of the houri, the antelope, or fiery glare of the basilisk, approaches my idea of the inconceivably bright eye of these dogs. Garonwy, mounted upon the swiftest little horse in the county, with the lasso coiled upon his right arm, and his legs armed with haybands for protection in close quarters, proceeded to the hills. On the arrival of the party at the mountain's brow, the distant herd of ponies took alarm; sometimes galloping on-

wards, then suddenly halting and wheeling round, snuffing up the wind as if in distrust of the intruders, or tearing up the earth with a wild extravagance of action; but the experienced hunters managed, with the assistance of the greyhounds, to cope the wild ponies in a corner of the hills where perpendicular rocks, rising like walls, prevented their escape. Garonwy had already captured three of the most beautiful little fellows in the world; these he expected to sell for £4 or £5 each at the next Bala fair,—to him an important sum, and amounting to one-fourth of the annual rent he paid for a considerable track of sheep walk; but there yet remained another most untameable little creature, whose highly crested mane and tail, and wild eye, and distended nostril, shewed that he was a very *Bucephalus* of the hills, and determined to preserve his liberty; nor indeed was it safe to attack him in the ordinary way. Many of the three-year-olds have been known to break the limbs of their pursuers, and I have heard of a shepherd having been killed by a pony striking him to the ground, and kicking and trampling him to death. Garonwy was determined to give the little hero a chase over the flats of the hills, and so overcome him by fatigue before the lasso was flung: the dogs were unslipped, and off they went swift as the wind, followed by Hugo, the two footmen posted on an eminence: the course was unusually long, but the iron frame of the little Merlyn appeared superior to fatigue. Hugo Garonwy, naturally impatient, became heated in the pursuit; and, neglecting to keep the arrangement of the coiled rope clear, he rashly flung the lasso over the head of the wild horse, but, at the same time, the other extremity of the cord twisted itself round his body, and, tightening to its extent, the compression became almost insupportable; at last, in spite of every effort to disengage himself, he was dragged from his horse. The affrighted Merlyn, finding himself manacled by the rope, darted off with increasing speed, pulling Garonwy over the rocky ground and stunted brushwood. The animal, terrified at so unnatural a spectacle, dashed onward, under the hope of freeing himself from the rope; but the rebounding body of Garonwy still followed: the horse's struggles to free himself were truly frightful. Whether the sufferings of Garonwy were protracted, or whether some friendly rock dashed out his brains at the onset of the struggle, cannot be known; but the wild animal, frenzied and blinded by terror, rushed over a beetling cliff overhanging the sea-shore, and the hunter and the horse were found at the bottom, a disgusting misshapen semblance of what they had been when living.

A FIGHT OF WILD BEASTS.

A TROOPER'S horse and a bull were turned out, and soon after were let loose a lion, a tiger, a bear, and a wolf, kept hungry for the purpose. The tiger crawled along upon the ground like a cat, and first jumped upon the bull's back, which soon brought the bull down, and then the great scramble began, the beasts tearing the bull to pieces, and likewise one another. The wolf and the tiger were first dispatched. The lion and the bear had a long contest. The lion with his teeth and claws wounded the bear in several places, but could not penetrate much further than the skin. The bear, somehow or other, took the lion at an advantage, got him within his grasp, and gave him such a squeeze as squeezed the life out of his body. The bear then furiously attacked the trooper's horse, who was grazing all this while at a little distance, and not minding what was done; but the horse, with his hind legs, gave him such a kick upon the ribs as provoked him to tenfold fury; and, at the second attack, a second kick upon the head broke both his jaws and laid him dead upon the ground; so that, contrary to all expectation, the trooper's horse remained master of the field. This happened some years ago, at Berlin.—*Newton's Memoirs.*

TO CORRESPONDENTS.

We have received two valuable communications on the late prevailing epidemic. We retain them for the next number, and we earnestly and confidently appeal to our friends, east, west, north, and south, to give us the character, course, and most successful treatment of it in their respective neighbourhoods. The Veterinarian for November would then exceed in interest and importance any preceding number, or, more properly speaking, it would be invaluable.

We have received a letter from a correspondent in the north, on a certain disease, or on certain diseases of cattle. We regard the communication as a valuable one, and shall readily insert it; but as it impugns the opinion of a previous correspondent, the name and address of the writer ought, in fairness, to be appended. To us, at least, they must be known. Cannot some of our friends see that these anonymous contributions never can form a part of veterinary history? There is always something suspicious and degrading about them. If they ever find a place in our Journal, it is because we know the writer, and can be answerable for his good intention. But we like them not; and we do think that the time is not far distant when they will be altogether excluded. At all events, we never more will insert a line on a controversial subject that is not authenticated, at least to us, by the signature of the writer. An honourable cause can only be promoted by means on which no shadow of suspicion can rest. These latter remarks are applicable to certain letters which we have lately received from persons whom we well know, but who would be ashamed to be known to the public as the writers of them.

Mr. Youatt's Lectures on Rabies will commence in the next January number.

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ON THE TREATMENT OF EXOMPHALUS.

By Mr. M. PATTIE, Yoker, near Glasgow.

UMBILICAL hernia is not a rare disease. It often exists at birth, or occurs soon afterwards.

I was originally taught to attempt its reduction by the constant pressure of bandages; and for several years I resorted to no other means. In many cases the treatment was quite successful; in as many more it was only partially so; and in some it did no good whatever. In all, the cure, whether partial or complete, was effected with much difficulty; the cost and trouble often bearing little proportion to the benefit. A professional friend suggested another mode of proceeding, which, for expedition and certainty, has no rival. Bandages for exomphalus I have entirely thrown aside.

The operation for this kind of hernia is very simple. The colt is not cast, nor submitted to any restraint beyond that of having his head held. The hernial tumour is emptied, by forcing its contents into the belly; the loose integument, forming the pouch, is gathered into the left hand, while the right surrounds it by a ligature, placed as closely as possible to the abdominal parietes, and drawn sufficiently tight to interrupt the circulation. The ligature is a single coil of small whipcord, dry and waxed. It is secured by an immoveable knot.

On the second day there is considerable tumefaction around the incarcerated integument, which also in a slight degree partakes of the engorgement, feels cold, and often clammy and moist. When the ligature has not been sufficiently tight, or the pouch so large as to require strong compression for arresting the circulation, it is hot and tender.

In all cases more than one ligature is necessary. Generally on the third day, the first cord is loose. The circle it embraces has been reduced partly by absorption and partly by incision, and there is no longer any compression. If neglected after this time the tumour rapidly increases in size, and is attached by a neck, whose diameter is limited by the ligature. It is necessary, therefore, to see the patient twice or thrice a week, and renew the

ligature. The second, third or fourth, should so many be required, must be placed above that which preceded, and close to the abdomen. They relax in from two to three days, and are then useless, save for the purpose of supporting those which follow them. The whole drop off, along with the tumour, in from ten to twelve days. The point from which the pouch is detached is neither raised nor excavated. It is a flat granulating surface, as large as a halfpenny, and seldom broader than a half-crown. No further treatment is required, save, perhaps, a little astringent lotion to hasten cicatrization, or an ointment to exclude flies.

In this manner I have operated upon four colts, one filly, and one quey calf. Three of the colts were from three to four months old; one was eight months, and the filly eighteen. In none was there any symptom of danger. They began to feed generally in an hour after the ligature was adjusted.

The operation was attended with no difficulty; but I have found the ligature most easy of application before the young animal has left the udder. In the eight-months colt, and in the filly, the hernial tumour had diminished in depth, and increased in breadth. The use of bulky food had enlarged the belly; the skin was tense, and less easily gathered together, and the filly had to be cast before the ligature could be applied. She was an animal of considerable value. Her age made me apprehend danger from the ligature, and I tried bandages for several weeks, but without the least amendment.

In general, I have not been anxious to detach the integumental pouch too rapidly, and have rarely applied all the compression a ligature can exert. It might, I think, be possible to make the skin slough before the internal opening became impervious. The ligature interrupts the circulation and marks the skin, but does not cut it through. It may be doubted whether sloughing by ligature can be effected so quickly as to leave an excavation. Yet I would rather err on the safe side. It is better to have the operation completed in ten days with safety, than in six or eight with the risk of an external opening.

I am not able to give any satisfactory account of the process performed by the vital agencies in this operation. The first effect is interruption to the transmission of blood; but the bloodvessels are not obliterated, since the tumour rises in volume after two or three days, when the ligature has relaxed. The veins, unable to return all they receive, deposit a portion, which becomes organized in the cellular and vascular tissues. The pressure of the cord excites inflammation above the point of its application; deposition and adhesion succeed; the sides of the sac are united to each

other, and to the walls of the abdomen. At this point the cicatrix is always rigid. In some cases the deposition seems to extend into the umbilical opening, for in most of the patients no aperture can be felt. In others it remains pervious to a certain depth, perhaps to the peritoneum. In the filly, the skin can be forced into the original passage, which, externally, is wide enough to admit two fingers, with the integument. The opening is not quite through; but I suspect it is bounded only by the peritoneum or by the bowel. I cannot account for this case, without supposing that the adhesive inflammation had extended into the belly, and united the peritoneum at the point of egress; or perhaps the bowel may adhere to the internal opening.

In none of the cases has the hernia ever re-appeared. It is nearly three years since the first, and it is one since the last was operated on.

I do not pretend that this is a new operation. But it is not described, nor even mentioned, by any of our veterinary authors. I have looked over the index to *THE VETERINARIAN*, but find no notice of it there. If it be already in that periodical, the editors, I hope, will not make me ridiculous by publishing this.

On the human being, the operation is as old as the time of Celsus. A very good account of its history, modifications, and application to children is to be found in Cooper's *Surg. Dic.* Article *Hernia*, p. 680. In reference to our patients, I am told that it is described in Hurler's *Dictionnaire*. The French, my informant adds, have different modes of performing it. One of these, it appears to me, might be very useful when the hernial tumour is large, or oblong. The colt is cast, and secured on his back; the skin is seized and raised, so as to form a longitudinal fold, grasped by the hand, or by a pair of clams; commencing at one extremity of this duplicature, the operator introduces a number of ligatures, each independent of any other. An armed needle is passed through the fold, half an inch from the one end; the thread is tied tightly; another thread is drawn into the same passage, say from right to left; this returns from left to right half an inch, more or less, from its point of entrance; both ends of the ligature are thus brought to the same side; it is then tied, and others are inserted in sufficient number to embrace the whole length of the flap, each surrounding a distinct and separate portion. When the ligatures are all secured, the fold hangs like a cow's dewlap, and the blood is entirely intercepted.

I have not, however, met with a case in which it was necessary to operate in this manner. Great care must be required to keep the bowel within the belly, least it be reached by the needle, and embraced by the ligature.

THE VETERINARY MEDICAL ASSOCIATION.

From MR. MAYER, sen. Newcastle-under-Line.

Messrs. Editeurs,

IT was with no little pleasure that I saw announced in THE VETERINARIAN for the last month, the formation of the Veterinary Medical Association, under the auspices of our worthy Professors.

Although I have preserved silence as regards the proceedings of those who have wrecked the London Veterinary Society, and whose lamentable line of conduct has for ever disgracefully and indelibly stained the annals of the Veterinary College, and the profession at large, yet I have not viewed their proceedings with the same feelings that an ordinary spectator would, from having been one of the first who mooted and promoted the establishment of that society; and who also, in conjunction with Messrs. Habgood and Henley, had the honour of drawing up the first rules by which its movements were regulated, for the purpose of being submitted to the approbation of the then veterinary students, among whom we had the honour of ranking the resident Editor of your valuable Journal.

For two years after its first formation, which was in 1813, the President and Vice President were elected from amongst the Fellows; afterwards it was taken under the fostering care of Mr. Sewell, as one of the Professors of the Veterinary College; and under whose kind auspices, and, afterwards, those of Mr. Coleman, it has been steadily conducted with every advantage which such a society is capable of conferring upon the medical students, up to the period at which the untoward events occurred that rendered it totally impossible for them and the Secretary and Treasurer to retain office consistently with their feelings as men and as gentlemen.

However I may lament, as a member of the profession, the disgraceful issue and termination of this affair, yet I hope *good will arise out of evil*, as it will not only lead to the basing of the "Association" in such a way as to guard against such consequences in future; but from its connexion with practitioners, and with the profession generally, it will assume a higher character, and consequently have a more extended sphere of practical usefulness.

I understand that some few years ago, and previous to Mr. Vines occupying the situation which Mr. Morton has so ably and faithfully filled, the whole of the library, archives, papers, &c., belonging to the society were missing, and not a vestige of them was to be found. I am unwilling, at present, to enter into any

inquiry with regard to this; but I should like to know what guarantee the veterinary student has that the valuable library, plates, medical and surgical essays, &c. which have been swept out of the walls of the Veterinary College, along with the London Veterinary Society, may not also be frittered away, abused, and lost. I should advise the veterinary students to turn their attention to this matter, as it is vitally important to them and their successors; and I make this suggestion without meaning any personal allusion or reflection upon any one.

The purport of this letter, therefore, is, not only to give in my attachment and support to the Veterinary Medical Association, but to direct the attention of the parties who have the forming and framing of the regulations of the Association, to the propriety of making a resolution which shall vest in the hands of the governors for the time being, as part and parcel of the Veterinary College, the property of all books, plate, &c. on condition, that they allow the Association to hold its meetings within the College walls, and set apart a room for the reception of the library, and allow the secretary of the College, for the time being, to be the librarian.

By some such plan as this, a splendid library would soon be permanently attached to the College, available on paying a subscription of one guinea annually to every London practitioner, as well as to the veterinary student, and which would be handed down to future generations.

Wishing permanent success to the Veterinary Medical Association, and, as one of the profession, returning you my warmest thanks for the straightforward part you have taken in this affair, allow me to subscribe myself

Yours most truly.

THREE SUCCESSFULLY TREATED CASES OF PUERPERAL FEVER,

WITH A FEW OBSERVATIONS ON THE DISEASE, AND THE OPINIONS RESPECTING IT.

By ARCHIBALD WILSON, *Pupil of the Edinburgh Veterinary School.*

Audi alteram partem.

I WOULD have sent the following cases as they occurred, if I had deemed them worthy of a place in your interesting and useful Journal; but I did not consider them worth sending, because

I supposed that nothing *new* could be elicited from them; that no symptoms had made their appearance but what would easily be recognized as belonging, generally, to puerperal fever: but I could not have dreamed of a *new cause* producing this disease, or that a novel and strange doctrine would find so many advocates, who suppose *that it is a disease of the "brain," or of the "organic motor nerves."* Seeing, however, in some by-gone numbers of your Journal, that several of the London-taught veterinarians have advanced this new theory regarding the organs affected in puerperal fever—a theory which I cannot admit, because I cannot comprehend it—one that is too ravelled and abstruse for an ordinary intellect, and by far too sublime for the heavy, fagging wings of my imagination to reach—observing this, I could not resist the temptation of sending you three cases, and also the post-mortem appearances of a fourth animal that died of puerperal fever, but which I had not an opportunity of seeing alive.

CASE I.

June 12th, 1835.—A cow belonging to Mr. Pae, Broughton, had been suddenly taken ill. I was informed that she had been bought the day previous, in the Grass-market, from a Kelso dealer, who had travelled her from that place (rather hurriedly, as too often happens) a few days after calving. I learned from the proprietor that she had been exposed, on the day of sale, to some heavy showers of rain, and after being taken to the byre she gave a considerable quantity of milk, but refused to feed, and only drank a little gruel.

Symptoms.—This morning she was milked, and gave about three quarts, after which she immediately dropped, and in that state I found her, without the least appearance of being able to stand, although attempts had been made to raise her. Pulse above 90, small, hard, irregular*; breathing very laborious, horns, ears, and legs cold; a wild, wandering look; abdomen greatly distended, and moaning most piteously.

Treatment.—I abstracted about eight quarts of blood, gave a pound of Epsom salts; back raked, gave some injections, and ordered her to be thoroughly rubbed over with a very coarse cloth.

2 o'clock, P.M.—No alteration. I ordered a bottle of linseed oil, plenty of gruel, and frequent injections.

8 P.M.—Symptoms much the same, no relief by the bowels; give another bottle of linseed oil.

* When I say "irregular," I do not mean an intermittent pulse.

13th, 7 A.M.—She is a great deal worse, pulse above 100, moaning almost continually; striking the body with her head, then throwing it recklessly down. I bled again, taking about five quarts; gave another bottle of linseed oil, adding two ounces of turpentine, and rubbing her body with other three ounces. In back-raking I brought away a considerable quantity of slimy dung, and some of it black and hard as a peat, the removal of which appeared to give her some remission of pain, as she ceased moaning for some time afterwards.

1 P.M.—Little alteration in the symptoms; breathing less difficult, bowels still costive: she has not been seen to stale since Wednesday. Give half a pound of salts, $\mathfrak{z}\text{i}$ gentian, $\mathfrak{z}\text{i}$ nitre, and let her be fomented with warm water for two hours together, without remission.

6 P.M.—All the symptoms much the same; ears, horns, and legs, alternately cold and hot; but the medicines have not operated. After giving so much medicine, I did not think myself warranted to give more without acquainting Professor Dick; but he being in the country, I commenced *volens volens* once more, and gave her a drachm of croton seed and an ounce of nitre, ordering a double allowance of gruel.

14th, 7 o'clock, A.M.—I find my patient materially improved. I was told that about four this morning she ejected an unusually large quantity of urine: with this the swelling of the abdomen went off, the moaning stopped, she turned herself and lay on the other side, and when I arrived was eating some grass; the bowels have not, however, been acted upon: give half a pound of salts.

6 P.M.—Great alteration for the better: the medicine has, at length, commenced its action; the countenance assumes a more natural appearance; the pulse is 80, small, soft, and regular, and she has eaten two bran mashes.

15th, 10 A.M.—She is decidedly still improving: has got upon her legs, pulse 65; she yielded a little milk this morning, feeding tolerably well; give $\mathfrak{z}\text{iv}$ tartar emetic, 1 ounce of nitre.

16th.—Quite recovered, feeding well, giving more milk, treatment discontinued. I cannot, in candour, refuse to state, that although this cow completely recovered, yet the proprietors have informed me *that she never gave the quantity of milk which they expected.* Query. What quantity might this be?

CASE II.

Was a fine large south country cow, belonging to Mr. Young, manager of Sunbury distillery. She had been purchased about two weeks before calving, which she effected with great difficulty, it being a remarkably large bull calf. On Thursday, October 15,

1835, she calved, and on Saturday following she seemed to be rather uneasy, and quite off feeding. I was sent about 5 o'clock, P.M., and found the following

Symptoms.—Pulse 95, small, wiry, regular; rumen very much distended; the ears, horns, and legs, I was told, had been alternately cold and hot; they were cold when I arrived, and the cow *down*; breathing very laboriously.

Treatment.—I took away about nine quarts of blood, gave one pound of Epsom salts, ℥j gentian, ʒss tinct. croton, ordered injections frequently, plenty of gruel to be poured in, and warm fomentations to be applied for two hours.

11 o'clock, P.M.—The symptoms considerably worse; pulse 110, but fuller than at the former bleeding. Abstract four quarts more: she appears very weak.

18th, 6 A.M.—The general symptoms are little altered; the breathing less difficult: give half a pound of salts.

10 A.M.—Bowels still constipated; pulse 95; give half a pound of salts; ℥ij tinct. croton; ʒiij ginger.

2 P.M.—Little alteration; repeat the last dose.

8 P.M.—Ditto, ditto, omit the croton.

19th, 7 A.M.—Pulse increased 115; bleed again, four quarts more; bowels have not yielded; give half bottle of linseed oil, adding ℥ij tinct. croton.

10 A.M.—She appears better; has got upon her legs: give salts and croton as before.

8 P.M.—The symptoms are again worse; pulse increased; eye wild; breathing more difficult; bled once more, taking about five quarts. After this bleeding she heaved at the flanks most uncommonly, so much so, that the owner expressed his disapprobation at my having bled her at all. Give the salts and croton as before. I bear abuse patiently from the owner of an animal, but I cannot endure dictation, and never allow it.

20th, 7 A.M.—She is decidedly better this morning, and a small quantity of very hard dung came away with the injections; no medicine given; pulse 80; she eats a little grass, and drinks of her own accord.

11 A.M.—The bowels are not opened; give a quarter of a pound of salts.

8 P.M.—She is purging very freely; *bran* mashes and plenty of gruel ordered.

2 A.M.—She is purging still; I have now great hopes of her recovery. I have now got little to do, as she appears so much better.

21st.—I leave a little tonic medicine, but my services are little more required. I may remark of this cow, that she never gave

any milk afterwards worth mentioning; but the owner lately informed me that she fed uncommonly well, and was sold to the butcher.

CASE III.

This was a cow belonging to James Haig and Son, Esquires, of Sunbury distillery. She calved on the 20th of March, 1836, and on the following six days afterwards her milk was diminished in quantity, and she gave up feeding; two circumstances, of themselves, which made the servant justly suppose that there was *something wrong*.

March 26th.—I was sent off to see her about 7 o'clock, P.M., and found the symptoms as follow: viz. pulse 85, hard, small, but regular; the roots of the horns remarkably hot; ears and extremities cold; eye glazed and restless; breathing quickened; rumen distended, and the cow "*down*," but, with this difference, that she was able to get up again.

I tried to bleed her, but could only extract about three quarts; it gushed out rapidly when the wounds were made, but stopped in a few moments. There was no appearance of constipation; but, considering the former two cases, I gave her one pound of Epsom salts, some injections, ordered her to be well fomented, and left her about ten o'clock.

27th, 7 A.M.—Patient worse; pulse 95, but softer than last night; horns, ears, and extremities as before; breathing more difficult; she looks anxiously round to her sides. Notwithstanding having given her the salts, no passage has been procured. I gave half a pound more, and took about five quarts of blood; I could not get any more.

11 A.M.—Professor Dick saw her: symptoms the same; no medicine given.

2 P.M.—No alteration; give another half-pound of salts, and ζ ij tinct. croton.

6 P.M.—No better; still constipated; half a pound of salts; no croton.

28th, 6 A.M.—Breathing more freely; pulse 90; swelling reduced. I gave no medicine, because in back raking, the fæces in the rectum which I brought away were softer than before.

9 A.M.—Little alteration; give half a pound of salts, ζ j gentian.

3 P.M.—Purging freely; takes a little bran mash and hay; breathing better; no swelling.

8 P.M.—Purging continues; order a small mash to be given.

9 A.M.—She is materially improved, but weak; purging not

quite stopped. She gave about three pints of milk this morning, but does not feed well; pulse 65.

8 P.M.—She is much livelier; ruminates as before. I leave a few powders, each composed of sulph. ferri ζ iv, gent. ζ j; one to be given daily.

I was informed last week, Aug. 15, that this cow, since she recovered, has given as much milk as if she never had had puerperal fever.

CASE IV.

The cow was the property of Mr. Gunn, Allan-street, Stock-bridge, and one of two which he had purchased in the Grass-market on a Wednesday, about the beginning of last month. She had calved on the Saturday before he bought her. I was informed by Mrs. Gunn this morning, August 22, *that she had requested her husband not to buy this cow, as she did not like her appearance in the market; because, continued Mrs. G. "she seemed so restless, was continually shifting her position, her was constantly open, and the eyes looked so wild-like, that I thought she was mad."* That afternoon she was milked, and gave about six Scotch pints, but she would eat nothing, and what water she attempted to drink she was unable to swallow. Next morning she gave no milk, refused her food, and was very uneasy till about four o'clock P.M., when she dropped never to rise: she died that night about twelve o'clock. I am not sure what kind of treatment was adopted, and, as I did not see it, I cannot write from hearsay.

Post-mortem examination.—Next morning the cow was opened, when the following appearances presented themselves. The rumen was distended with food, and the internal coat more vascular than natural. The reticulum inflamed, and full of food. The maniplus was full of dry food, and so hard that it appeared like cakes which had been baked: the muscular coat was considerably inflamed. The abomasum was highly inflamed, but quite empty, with numerous ulcerations on the villous coat. The large intestine natural; the small shewed considerable vascularity on different portions; the uterus seemed to have suffered much, as it was very highly inflamed, with numerous ecchymoses throughout: the gall-bladder was full, but all the other viscera of both the chest and abdomen were sound and healthy.

As upon this case I intended to stand and defend the opinions which I had formed of the organs affected in puerperal fever; and although, since March, I have regarded the theory of Mr. Friend with suspicion, as being purely imaginary, a mere hypo-

thesis ; yet I had no evidence to prove that he was wrong, nor has he given any to convince me that he is right. I did not, however, examine the brain with the other parts, as this was done (to make the proof complete and undeniable) by Professor Dick, and, strange to tell, there was not the slightest trace of disease to be seen in that organ.

On the foregoing cases, cases that recovered by the treatment pursued, but more particularly from the post-mortem appearances of the fourth, I take up my ground in denying that puerperal fever is a "cerebral disease," or one of the "organic motor nerves." If it were a "cerebral disease," why were there no traces of disease to be seen in the case last mentioned, these having been entirely confined to the viscera of the abdomen? but if it be a disease of the "organic motor nerves," will Mr. Friend have the goodness to say how this can be found out by a post-mortem examination? I do not doubt Mr. Stewart when he says (see *VETERINARIAN* for February, page 79) that Mr. Gardiner informed him "that, in examining the head of a cow which died of puerperal fever, he found extravasations of blood on several portions of the brain, and a large quantity in the lateral ventricles."

I admit that extravasations of blood may often be found on the brain; but do they not arise in consequence of inflammation extending to that organ from other parts where the primary seat of such inflammation exists? But why signalize the brain in this case of puerperal fever, and leave the reader to guess in what state the other viscera (particularly the abdomen) were found? Was there no trace of inflammation in the uterus? Did none of the stomachs (especially the abomasum) present any appearance of disease? Were the small intestines not sufferers? Were I to receive an answer in the negative to these questions, I confess frankly I should lose the vantage ground which I occupy at present; I should then have but a short distance to travel ere I embraced this strangely-new theory: but until I receive such an answer, if puerperal fever be really the disease of which the animal died, I shall firmly maintain that the brain is not primarily affected, but that it may become so ultimately from metastasis taking place.

But supposing puerperal fever to be a "cerebral disease," does it necessarily follow that the "organic motor nerves" are also affected? I most assuredly deny the assertion; or supposing, with Mr. Friend, that it is really a disease of the "motor nerves," is the same ridiculous conclusion to be made, that the brain must share in the mischief? It appears to me that Mr. Friend confounds the brain with the nerves, and the nerves with

the brain; that, in his opinion, whatever hurts the functions of the one will disturb those of the other. This is not a supposition of mine, because in his paper for March (see VETERINARIAN, page 141) Mr. Friend says, “*considering the nerves as part and parcel of the brain, as streams from the fountain, &c. &c.*”—I never before heard of the nerves being “part and parcel of the brain,” or that diseases of the one were inseparably connected or identified with those of the other; and I beg to state plainly, clearly, and unequivocally, that the nerves no more spring from the brain than the brain is formed by the union of the nerves. This, of the nerves arising from the brain, is a very common but a very erroneous opinion, and it ought to be discarded by all who rejoice in the “march of intellect;” by all who are glad to see the progress and improvements which the sciences are making. But it is quite clear that the nerves *do not spring from the brain*; and it is equally true, that disease may disturb and derange the functions of the brain, without impairing the usefulness or the vigour of the nervous system, and *vice versâ*. Has Mr. Friend never heard of a case where a part of the brain was considerably, nay materially destroyed, but where the nervous system was never interfered with? or has he never heard of the case of a child that was born *without a brain*, but still there was life in the child, and it existed for about seven hours after birth? In this case, and in many others which I might mention, the “*fountain*” was taken away, but still, though curiously enough, the “*streams*” continued to flow!!!! If this was the “*light that broke in upon Mr. Friend like a flood*,” it must have been a dazzling *new light*, an *ignis fatuus* that led him terribly astray; a light, I hope, that will remain in the southern hemisphere, as we northerns may sometimes go wrong without its misdirecting influence. The classification of “invariable living symptoms” in puerperal fever which Mr. Friend has given is not correct in many respects, because paralysis of the hind extremities (if paralysis it may be called) is not an invariable living symptom. In the foregoing four cases, only the *first* and the *last* were unable to get up; *not from paralysis*, however, but from great debility, where the fever was exceedingly high, and nature seemed to be almost worn out from complete general exhaustion. But who will say that in such a case the cow was paralysed? I, for one, never will. But real paralysis is a very different disease, with different symptoms, and requiring different treatment: this, however, is digressing from my subject.

Here, then, out of four cases only two were unable to stand, the other two getting up with some assistance at the very worst

stages of the disease; and such, I believe, will be the general result in all cases of puerperal fever. As an "invariable living symptom," Mr. Friend has omitted constipation (it may have been an omission), a symptom that I dread more than most of the others, because it is worse to overcome: it is generally preceded by purgation from or without the effects of medicine. There is only one thing more which I shall notice connected with Mr. Friend's somewhat ingenious essay, that is, his account of the "suspension of rumination." He says (page 144), "that the three first stomachs are not, strictly speaking, the organs of digestion, but only appointed to receive, *to prepare, to separate, to send the food thus prepared by an extraordinary route, viz. back by the œsophagus to the mouth for remastication.*" If this be not an "extraordinary route," it is, at least to me, a *new one*; but Mr. Friend knows better than this, and I can easily believe that the error arose from a confusion in the construction of a sentence or two, and not from ignorance, or I might not have noticed it. Although I take no more notice of any of Mr. Friend's "invariable living symptoms" in puerperal fever, it is not that I agree with him respecting either them or the "variable ones;" it is because no good would result from my stating, that I differed with him in the doctrines advanced, unless I gave opinions of my own, based on a sure foundation, and calculated to do good to all who are interested in the subject; this I am aware the limits of your Journal will not at present permit. But it may be asked, if puerperal fever be not a "cerebral disease," nor one of the "organic motor nerves;" where does it begin? what organs are affected? and where does it terminate? I refer the inquirer to Case 4, the post-mortem appearances of which are faithfully given, and are sufficiently characteristic of what the disease is; where it commences, and where it ends.

To be more explicit, however, I am fully persuaded that the uterus is, in the great majority of cases, the only sufferer at the commencement of this disease. As the disease advances, the peritoneum, the intestines, and most of the viscera of the abdomen, may become affected; "but it is soon lost," (says the clear and succinct author, who treats of this disease in the 'Library of Useful Knowledge'), it is soon lost in a peculiar general inflammatory state, as rapid in its progress as it is violent in its nature; and (sometimes) speedily followed by a prostration of vital power that often bids defiance to every stimulus."

And is it to be doubted or wondered at, that in the expulsion of the fœtus, but more particularly where this is accomplished

with difficulty, with danger, and sometimes with death, is it surprising that a great degree of fever may be set up?—fever that arises from inflammation, at first purely local, and perhaps easily combatted, but which soon assumes a very serious appearance, and setting defiance to all the powers of medicine, and all the anxious efforts of man. This fever is often set up before as well as after parturition; and I know not a more frequent cause, than the barbarous custom of dealers driving the cows to fairs and markets a few days only before calving, while on these journeys they are often exposed to cold, wet, bad food, and general improper treatment; and if these things are wrong before calving, they surely must be much worse after. Nor is it an unfrequent occurrence in these journeys, that, if a cow calve at night on the road, she is hurried off for the market next morning with her more lively companions; and whatever deficiency her travelling powers may manifest, however weak, worn out, or dejected she may appear, still the poor already suffering animal is goaded on by a large oaken rung, unmercifully applied to her by the worse than brute who drives her; and after such treatment as this, who can be surprised that the cow is seriously, nay, irretrievably affected with general inflammatory fever of a fatal description? In a cow which I had lately under my care (as the owner had had some severe losses from puerperal fever before), I followed the advice given by the last quoted author; bleeding very largely, as she was in high condition; I also gave her one pound of Epsom salts three times before calving, and one pound about three hours after: these, with spare feeding, both before and after calving, brought my patient out of danger, although there was an evident tendency to constipation. I would also in every case, but particularly where there is plethora, order the milk, such as it is, to be daily extracted from the cow before calving, as, from the neglect of this, there is frequently a considerable degree of irritation and fever set up, which must surely become worse and worse, and increase the danger at this interesting period. Even supposing that the accumulation of milk in the udder before calving did not create this irritation or fever, still, by adopting this plan of extracting the milk for a week before she calves, you have this advantage, that there is no “*beasty milk*,” as we say in Scotland; the first milk after calving being as pure and sweet as it will ever be after. I never heard this plan recommended, nor am I aware that any author has ever noticed it; I merely stumbled upon it, as it were, when a cow that I had the care of was about to calve. But keeping the economy of the plan out of view, does it not relieve the

animal in the simplest possible way?—and if you admit that this is an advantage which is gained before the cow calves, no one will deny me the advantage that comes after it.

In conclusion I have only to add, that as soon as Mr. Friend, or any other honest veterinarian, will produce two cases of puerperal fever, where, by the post-mortem examination, the disease was confined to the brain, or to the “organic motor nerves,” but where the contents of the abdomen remained unscathed (free from disease), I shall then, *but not till then*, “go over to his side.”

A CASE OF ACUTE FOUNDER IN BOTH HIND FEET.

By Mr. CHARLES CLARK, London.

THE subject was a brown mare, seven-years old, purchased at the last Lincoln fair by a west-end dealer, who brought her up to town in the string with a number of other horses. She was docked and shod after the fair, and left Lincoln sound; but after the first day's journey appeared to favour the off hind foot, which induced the owner to have the shoe removed, when, however, no cause was found for the lameness; and as it was not severe at first, they continued to travel her towards town. On the morning I saw her she had come nearly thirty miles; she was very lame in the off leg, and partially so on the near one. After standing a short time she became worse; and the blame being still imputed to the farrier, we contrived, with great difficulty, to raise the foot far enough from the ground to take off the shoe, when I was surprised to find that the wall was particularly good and strong; and the nails had all been driven with such unequivocal safety, that I at once exonerated poor Vulcan (in this instance) from all share of blame. The near shoe we could not then take off, for the mare would not stand a moment on the other feet. The symptoms now became exceedingly puzzling. The feet themselves did not feel very hot, but the legs were uncommonly so. She kept shifting them quickly, and the muscles of the thighs and loins were constricted and quivering in a manner I never saw before to such a degree. The pulse was accelerated, and eyes staring with pain; but she kept snatching small quantities of food, and drank freely.

She was bled largely, had a mild dose of aloes, and repeated clysters, with warm fomentations and bandages to all legs.

May 3d. — Much worse; equally in pain with both legs; muscles more constricted and rigid; head and tail staring. Has lain

down at full length for some hours, and got up again with difficulty: every appearance, excepting this last circumstance of her lying down, denotes approaching tetanus. Reverting, therefore, to the recent docking, I began to consider the symptoms as dependent on this operation, aggravated by her having travelled so sharply, and almost all the way in hard rain, which might have chilled the spinal column, and produced these effects.

Under this erroneous impression, I took the liberty to amputate an inch and a half more of the caudal extremity, according to old prescribed custom, being not quite clear in my view of the case, and willing to adopt any suggestion that was not injurious. The depletives were persisted in, and warm fomentations and clysters kept up without much intermission. The bowels are open, but we have not seen her stale; and the wetness of the litter prevents our judging on that point.

May 4th.—Every way much worse. A veterinary friend concurs with me that it is tetanus; the locked jaw and the twitching of the membrana nictitans alone are wanting to make it a perfect case; but resulting, as we imagine, from docking, it may affect the hind extremities principally at first. She stands almost immoveable, with the muscles hard and rigid.

May 6th.—From appearances I observed this morning, and the absence of the proper tetanic symptoms, I determined to investigate the feet most thoroughly, for I began to suspect, both being now alike, that it might be acute founder. Accordingly, with the greatest difficulty, and not without throwing her down, we contrived to pare out one foot; the nailing had been so safe, and the sole looked so white and firm, that as we removed slice after slice, I could hardly believe there was any ground for our search: but at length a slight redness was perceivable; it increased, and shortly after it became palpable that the highest degree of inflammation was existing in this apparently sound and perfect organ. To such an extent had it proceeded, that we could procure no blood from the congested vessels: the podophyllous structure was destroyed in the front of the foot, and separated from the keraphylla. The other foot was found to be nearly in as bad a condition, under the same fair outside appearance.

In a few hours after they were pared out and dressed, the fungous portion of the podophylla burst out at the coronets in both feet, like a piece of torn sponge, followed by a red ichorous discharge. I now gave up all thoughts of saving the mare, and ordered her to be destroyed next morning; however, she died in the night, in great pain. I secured both feet, and some idea may be formed of her sufferings, and the extent of mischief, when I was enabled to extract one of the feet at once from the hoof, so much was the

attachment broken up throughout. The other required but little maceration.

It is most likely that from the first time I saw her little assistance could have been rendered; but the various circumstances I have mentioned contributed to obscure the truth. The exciting cause can only be guessed at. She was a fine mare, and they said a remarkably fast trotter; and as to the feet, they were in figure and strength all that could appear desirable.

THE PAST AND PRESENT STATE OF VETERINARY SCIENCE.

No. III.

By Mr. THOMAS WALTON MAYER, Newcastle-under-Line.

THE progress of veterinary science, though marked and distinguished by its anatomical, physiological, and pathological details, which were slightly glanced at in the preceding paper, is further visible in the improved state of the members of the profession, both as regards education and respectability.

Moreover, the lengthened period of the students' stay at College, the great advantages they now experience there over those who studied at an earlier period, together with the persons studying being previously better informed, prove that the science must have made some progress to need such important additions to the former systems adopted, and which have tended much to improve its character.

The science has progressed with such rapidity as to require a periodical devoted to its interests. Such a periodical has been established now for several years, and still exists, through whose means the profession has been much advanced, and in whose pages much valuable information has been conveyed. It is much, however, to be regretted, when we come to consider the number of persons* who have graduated as veterinary surgeons, that the number of contributors to this valuable veterinary journal is so small, and that it is not better supported by those who do occasionally contribute to it. If the pages of this periodical are distinguished by their gentlemanly tone throughout—if any improvements that are thought will be congenial to the advancement of veterinary science are fairly and candidly stated—if arguments are used instead of threats and menaces, and the common sense

* The total number of veterinary surgeons published in the list of 1834 is 624 and the number of contributors to THE VETERINARIAN at the beginning of this year was only 100.

of individuals is appealed to, not their passions and prejudices, I say that that periodical is deserving the support of every member of the profession.

And now, in drawing the progress of the science to a close, I would observe that its anatomical part is no longer disgraced by the description of a gall-bladder, its physiological details by the story of nerves being long small bones, its pathology by such maltreatment of inflamed lungs as that of Merrick, nor its operative surgery by Foster's cure of splents. But were there no obstacles in the way of this progress?—were its paths always straight and even? Yes; there were obstacles that it had to conquer which, in some men's minds, might have been considered insurmountable. And what were these obstacles? Nearly all the passions of the human breast—lying, evil speaking, anger, hatred, and all uncharitableness—popular prejudice—why? Because it destroyed those superstitious notions and practices which were deemed absolutely necessary for the safety and protection of their stock; because the blacksmiths, cowleeches, &c. considered the art as an innovation on their system, and therefore they declared war against it with all their main and might. Such were the obstacles the science had to contend against from without.

Within itself it was a mass of error—no well founded principles—no data to go upon—nothing to take for granted, as the basis on which to reason—it had every thing to find out—in short, false notions on anatomy, physiology, and pathology, were the internal obstacles to its advancement. Let us hope that the days are at hand when the obstacles which prevent the future progress of the profession shall be removed, and we shall behold the glorious light of the mid-day sun.

In bringing this review of the past state of our science to a close, I would just recal the attention of your readers to the particular facts that have hastily been brought under their notice, and the proofs by which they have been maintained. First of all, I divided that time on which we now look back upon into two distinct periods, which were called, from the great dissimilarity that exists between them, darkness and light. During the dark period we proved, by observations from the then practitioners themselves, that the science was involved in the densest clouds of barbaric ignorance and superstition. Secondly, I detailed the principal means that were employed to bring about a change and the result. Thirdly, I shewed what was the state of the science at the time the College was established, gave a slight sketch of the progress of the science to the present time, referred to the works of the practitioners themselves, and the improved state of every department in the profession, as proofs of my statements.

In the last place, I have stated the obstacles it has had to surmount—yea, obstacles which we yet have, more or less, every day of our lives to contend against.

As many of the subjects here detailed will be treated of in a future paper, I refrain from making in this place any concluding remarks. I shall, in my next, proceed to consider the present state of the science.

MONSTROSITY: A CALF WITH SEVEN LEGS AND FIFTEEN CLAWS.

By Mr. W. A. CARTWRIGHT, Whitchurch.

IN the month of July or August last, Mr. Whalley, of Carden, Cheshire, had a six-years old cow that exhibited symptoms of approaching parturition late at night.

Towards midnight the people in attendance tried to take the calf away by force. It was a head presentation, and the calf was brought forward as far as half the body.

They could not, however, get the calf away, and therefore they sent for Mr. Lanceley, farrier, of Malpas, who arrived about four o'clock on the next morning. The method adopted by him in *trying* to get it away I know nothing of, except that it was extracted by manual force, and that Mr. L. had fifteen men to assist him in pulling it away, and which it took four hours to effect. The cow appeared pretty well after the calf was removed.

Mr. L. left soon after, and the next morning he sent his apprentice to see how she was, when he was informed that the cow, some few hours after Mr. L. left, threw her reid (uterus) down, and that a neighbouring farrier was sent for, who injured it very much, but could not return it. The cow was sinking fast, and the owner had her knocked on the head on the same day.

Description of the Calf.--The colour was of a Devonshire brown, or what is called in this district, red all over, with the exception of a little under its belly and the tip of the left tail. The fore quarters were natural, and single as far as the back of the withers, where it divided into two perfect bodies and whole hind quarters, each with two legs and a tail. The hoofs of the two fore legs and the four hinder ones were black. They both possessed female generative organs. They were united further along under their sides than at the top of the back. On the top, at the commencement of their division, there grew out another leg, which appeared to be a fore one, and was perfect as far as from the shoulder. It projected straight out as far as the knee, between

the two calves, to opposite the roots of the tails, where it turned acutely back towards the head, leaning towards the right side.

The leg towards its origin was spotted red and white; the other part was white. The bones of this leg were single to the fetlock joint, but below there were three pasterns and three distinct perfect hoofs, all of which were white.

It measured from the tip of the nose to the end of the tail on the right side four feet two inches; on the left side four feet ten inches. It stood two feet six inches high; girth of the two hinder parts together, as they afterwards stood stuffed, were over the hips three feet five inches; girth of the body over the chest and back two feet seven inches and a half; width across the top of the back of the two together, one foot eight inches.

Internal Structure.—I am sorry that I cannot give a satisfactory account of these parts, and have merely obtained the following particulars from Mr. L.'s apprentice. The thoracic viscera were single. The bowels were double. The division of the œsophagus "they could not discover how and where it was."

I am happy to see two more of my neighbours, Mr. Charnley of Wrexham, and Mr. Easton of Chester, coming forward, which every veterinary surgeon ought to do who has his profession at heart; and I cannot but think that it is a disgrace to the profession that so few lend their support to a periodical that is so impartially and ably conducted; especially when we think how much it was wanted, and that it is the only one that has maintained its existence and its character among us. Where also have we to look for information on many a point that most intimately concerns us?

I am happy also to see that it is your determination not to insert any anonymous communications. This is fair and honourable, and politic; for the license of anonymous writers would degrade and swamp any journal.

ON WOOD-EVIL, OR MOOR-ILL.

By Mr. T. W. MAYER, jun., Newcastle-under-line.

IN THE VETERINARIAN for September, there were some remarks on Wood Evil, or Pantas and Moor Ill, by a Mr. Cox, in reply to which I am tempted to offer a few observations.

It will be allowed, I think, that in most diseases, from whatever cause they may arise, the organs of digestion are more or less affected, and most of all in cattle, from their digestion being

so complex. This is the case particularly in the malady above-mentioned : for by whatever names it may be distinguished, or from whatever causes it may be said to spring, it will be found on examination to be but one disease, consisting in a derangement of one or more of the digestive organs.

In this opinion most modern writers on cattle medicine agree : thus, in Mr. J. Lawrence's Complete Cattle Keeper, Moor Ill, or Wood Ill or Evil, are declared to be the same disease, having two names. Pantas, or Fardel-bound, are also declared to be "different names for the same complaint," and described as arising from the same cause. In the work on Cattle, in the Library of Useful Knowledge, Wood Evil, Moor Ill, and Pantas, are described under one head, and are declared to be but varieties of the same disease.

These opinions are fully borne out by the practical experience of all who make this part of veterinary science their study, and by the various causes that produce this disease with its three inappropriate names. Bad food, or eating the leaves of the black willow produces it; turning into luxuriant aftermath is another frequent cause; bad water is another; cold, united with any one of these agents, occasions the same, and produces that affection of the joints, which I believe is a rheumatic one, long known by the term Moor Ill.

But, it may be asked, cannot we have an affection of the joints, a stiffness of the limbs, without the organs of digestion being materially affected? Yes, we can; but that is not Moor Ill, though Mr. Cox has described the symptoms to be no loss of appetite, no loss of milk, no affection of the pulse : but in Moor Ill we have all three; we have a loss of appetite, we have a loss of milk, if we have an affection of the pulse, and we have, in addition, obstinate constipation.

It must be evident to every one, that an animal cannot eat bad food without the organs of digestion becoming impaired; and if, in addition to this, they have not a sufficiency of food, the milk must be diminished. However, Mr. Cox states the fact—that bad and want of sufficient food causes Moor Ill, and describes in the symptoms that "neither the appetite nor the milk are affected."

The disease of which Mr. Cox gives the symptoms of, I consider to be a *rheumatic affection of the joints*, the *effects of cold*, and the *result of being turned out on a cold wet soil*, and *perfectly distinct from Moor Ill*.

Having now, I think, established the fact, that these names are given to one and the same disease, and having enumerated some of the causes that produce it, let us consider, in the next place, the symptoms and treatment.

Symptoms.—Costiveness, loss of appetite and cud; an oppressed state of breathing, often accompanied by a peculiar grunting noise; often a coldness of the extremities, succeeded by heat: in the earlier stages of the disease the pulse is not much affected; afterwards it becomes quick and oppressed. To these symptoms there is sometimes added a stiffness of the limbs and crackling of the joints.

The first thing to be done in the plan of treatment is to regulate the bowels; for this purpose a good smart dose of aloes in solution is the best, which, if it does not produce its effect, must be followed up by salts, repeated every six hours till they operate.

It is not good practice to bleed unless there are symptoms of inflammation of the lungs, in which case it is proper, and will relieve the animal much; but it requires to be done with caution.

It will be proper to follow up the aperient medicine with febrifuge and alterative doses until the organs of digestion are restored to their proper tone, and any effects of cold that have been existing are carried off. The animal's diet should be light, and consist of bran mashes, and oatmeal gruel sweetened with treacle. It will also be proper during the disease to take away and obviate all the causes of it, in order that the effects may cease. Here we may remark, that healthy cows should never be turned into luxuriant after-math without due caution.

This disease, when taken in time and treated properly, rarely proves fatal; but when once it gets a-head, it often defies our utmost endeavours.

ON WOOD-EVIL AND MOOR-ILL.

By Mr. THOMAS SURGINSON, Appleby.

IN the last number of THE VETERINARIAN, Mr. Cox has attempted to draw a distinction betwixt wood-evil and moor-ill, and to prove that they exist as separate diseases. Any such distinction appears to me an error of no small magnitude; and being situated as it were in the very centre where these maladies so much prevail, and having met with hundreds of cases of it both on moors and in woody situations; and having strictly marked its rise and progress throughout in different animals and places; I think myself in some measure called upon to make a few remarks on the causes, symptoms, and medical treatment of it; and to shew, that whether the disease occurs on the

moor, or in the meadow, or elsewhere, it is essentially the same in its symptoms and progress.

Wood-evil or *Moor-ill*.—This disease occurs in all seasons of the year, but is most prevalent in the summer, and especially when the season is dry. It is solely confined to certain districts, namely, moors and commons, and those abounding with wood, &c.

Causes.—Farmers, who are occupying woody situations, and have this disease prevailing amongst their cattle, suppose it to proceed from these animals eating the leaves of some certain tree or trees; or some of those plants which grow spontaneously and very plentifully under the shade of trees: and on this account they designate it the *wood-evil*. On moors and commons, &c., where this complaint prevails, some of the farmers ascribe it to the *hardness* of the water, and others to the herbage. It is for this reason that they term it the *moor-ill*. The fact is, that the causes of this complaint are very obscure. It does not proceed from a want of sufficient nutriment to supply the daily wants of nature, or it would be most prevalent on the poorest land, and in the winter season, when the provender of the cattle consists of little more than straw or very bad hay. This, however, is not the case; for I am very well acquainted with several places where the land is extremely poor, and the animals half-starved during the winter season, and still they are perfectly free from this disorder. On the other hand, it occurs in certain places where the land is apparently good, and its products plentiful, and there scarcely an animal escapes from its attack. It is not the effect of the animals eating of black willows, or crabs, or other trees possessing an astringent quality, or it would be oftenest found where these trees are most abundant, which is by no means the case. Cattle may now and then browse on the abovementioned trees, so as to become constipated, but I believe very rarely; and even when this does happen (if ever it does), it cannot be called any particular *evil*, for the laxative quality of the grass (if the season or situation admits of its growth, or if the disease is not already existing in the animal) would speedily counteract the astringent quality of the crabs or willows, or, at most, a few Epsom salts would eradicate the *evil*. I must say, that it has not the slightest connexion with the original meaning of its cognomen, *wood-evil*; and where costiveness is once produced by eating crabs or willows, it arises five hundred times from other causes. My opinion is, that the natural and spontaneous production of some peculiar kinds of soil, and the water conjointly, are the chief if not the sole agents in the production of this disease.

Symptoms.—The first appearance of wood-evil is a staring of the coat, and a seeming adherence of the whole of the external integument to the ribs below, so much so, that it can scarcely be raised by the fingers; the belly is also tucked up, and the animal is gradually and daily losing flesh; the bowels are confined from the earliest appearance of the disease to its termination, and sometimes very obstinately so: constipation is a regular attendant of wood-evil, let it occur where it will. The appetite is, at best, capricious: the animal will pick up stones, pieces of iron, bone, &c. and will grind them in her mouth for several hours successively; she will also readily seize, and greedily devour, all the linen she can possibly get at; and likewise very eagerly swallow all the oldest and filthiest urine in her way, and this she prefers to the purest water.

These symptoms are succeeded by a stiffness in one or more parts of the body, but usually in the fore extremities, the shoulders or the chest, and this often shifting from limb to limb. Sometimes intense lameness will ensue, and this likewise shifting from joint to joint. When the patient is induced to move, she utters a kind of interrupted moan or groan, expressive of the agony she feels. There is also a singular cracking noise to be heard when she walks, as if the ends of the bones of every joint were removing out of and returning into their sockets at each step she takes. The secretion of milk is now lessened, and the animal refuses to eat her usual quantity of food.

The disease, if not arrested in its progress, assumes a different form. The animal begins to heave at the flanks, and that sometimes violently, and the pulse is accelerated occasionally to more than 100 beats in a minute: the bowels, which all along have been confined, are still more so now; the secretion of milk almost ceases; the animal seldom ruminates, and can scarcely be induced to eat any thing.

Treatment.—I have but little to say concerning the medical treatment of this disease. A few doses of laxative stomachic medicine, with a change of pasture, and the insertion of a seton in the dewlap, frequently comprise almost the whole of the treatment of wood-evil, when it is taken before those symptoms of irritability appear of which I have made mention; and after this I have always successfully, treated it by having recourse to bleeding, blistering, and sedative aperient medicine.

I subjoin a case which will best explain my usual method of proceeding.

On May 12th, 1836, I was requested to see a cow, four years old, belonging to Mr. Richard Ion, a farmer in this neighbourhood. She exhibited the following symptoms: she was breathing very laboriously, the number of respirations were augmented to nearly ninety in a minute; the bowels were also confined; the urine scanty; the appetite bad; the secretion of milk diminished; the head protruded; the nostrils expanded; the muzzle hot and dry; the extremities, &c. above their natural temperature; and the eyes were uncommonly prominent, and displaying an unusually bright glassy appearance; in a word, her whole countenance was a picture of extreme suffering. The pulse was also small and wiry, and accelerated to upwards of a hundred: there was also the peculiar and characteristic stiffness of this disease, extending over the whole body, but more particularly, and to a greater extent, observable in the anterior parts. The animal was also intensely lame in one of her hind legs, but the lameness was unaccompanied by any apparent enlargement, heat, or tenderness; and, shortly after my first visit, it left this limb, and immediately attacked the other. I had her driven out a short distance, but from the general affection of the muscular system, together with her lameness, it was with great difficulty that she could move.

After this little exercise, I re-examined the pulse, and found it strangely increased, so much so that I could scarcely count it. I immediately abstracted ten pounds of blood, which had an unusually bright florid appearance. I gave her a purgative drink containing the following ingredients:—Aloe Barbados. ζ vi, mag. sulph. ζ xij, ol. crot. tiglii guttæ xvi, pulv. sem. carui ζ ij.

13th, seven A.M.—The symptoms the same, or rather more urgent: the medicine has not operated. I abstracted eight pounds more blood, and gave Aloe Barbados. ζ ss, ol. lini ζ xij, ol. crot. tiglii guttæ vi, potassæ subcarb. ζ ij.

Eight P.M.—The medicine has operated; she purges freely, but there is no palliation of the other symptoms; I therefore resolved to apply a vesicatory extensively over each side of the chest, which was done as soon as the hair was shaved off.

14th, ten A.M.—Not in the least degree better. The blister had only taken a slight effect; I therefore repeated it, and administered pulv. digit., ant. tart. $\bar{a}\bar{a}$ ζ i, pot. nit. ζ ij, al. Barb. ζ iss: and the same dose at night.

15th.—Something better. Medicine as before. I ordered her to be wholly kept on soft food, such as bran mashes, grass, &c.

16th.—Breathing not so hard; pulse not quite so quick; the

appetite somewhat improved, and the secretion of milk a little increased; but she continues stiff and lame. Medicine as before.

17th.—Recovering slowly. Medicine as before.

19th.—She continues convalescent; but she is yet sadly stiff and lame. Give once a-day al. Barb., ant. tartar., camphor. āā 3j, pot. nit., sulph. sublim. āā ʒij.

22d.—Rapidly recovering: neither so stiff nor so lame: continue medicine.

25th.—Almost well: she is not at all lame, but is still stiff. Discontinue medicine.

29th.—Quite well, except a little stiffness.

Shortly after this she was taken to a different kind of pasture, wherein she rapidly recovered from the remaining stiffness, and has continued well to this day.

It may not, perhaps, be improper to state, that this animal had been very ill nearly a month before my attention was called to her, and that she had had various medicines, chiefly of a cordial kind, given to her during that period, and a seton had been placed in her dewlap: but she became worse and worse every day. For a long time previous to this she had the peculiar stiffness, and other symptoms of this, generally, lingering malady. The situation is woody, and rather low, and very liable to produce this disorder, for the owner had scarcely a beast that was altogether free from the disease. The greater part of the land is good, and a quantity of it old meadow. The soil is of a red colour, and pretty plentiful in its products.

ON THE EPIDEMIC INFLUENZA OF 1836.

By Mr. Jos. GUTTERIDGE, Carmarthen.

INFLUENZA has been very prevalent in this part of the country for these last three years, and great numbers of horses have been swept off by it on the borders of Cardigan and Pembrokehire; that part of the country being much exposed to damp and to fogs, and the farmers rather poor, and which latter circumstance has caused many an animal to be lost through want of proper treatment.

I have constantly under my care more than 150 mail coach horses, besides which I have an extensive practice, and have consequently met with a great number of cases. In 1834 and 1835 it made its appearance only in the spring and fall; but in the present year scarcely a week has passed in which I have not had several fresh cases.

I have been most anxiously expecting, month after month, to see something concerning the influenza, with the best mode of treating this disease, from some of my brother veterinarians; but as little or nothing has been said upon the subject, I will venture to trouble you with a few observations regarding it, as it has occurred in the course of my practice, and likewise state my general mode of treatment.

The first symptom which I usually observe is a dead unhealthy appearance of the coat; the head hanging under the manger; the eyes nearly closed, and flowing with tears; the ears and legs cold, the mouth dry and feverish; the pulse accelerated to about from 55 to 60 beats in a minute; the dung voided in small quantities; frequent attempts to void urine, but which escapes in very small quantities; loss of appetite; the membranes of the nose much reddened, and generally accompanied by a discharge of yellow viscid matter; sore throat; swelled legs; great debility, and sometimes considerable cough. I therefore concluded from the commencement that it was epidemic influenza; and I was proud to find, by the few remarks upon the subject in the last number of *THE VETERINARIAN*, that you agreed with me upon that head, for it was not allowed to be true influenza by numerous medical friends in this part of the country.

Treatment.—Three drachms of Barbadoes aloes, one drachm of nitre, two drachms of tartarized antimony, one drachm of ginger; soft soap sufficient to form into a proper consistency; give this ball every morning until the bowels are moderately open: apply a blister to the throat; fomentations and bandages to the legs; bran mashes with a few oats, also carrots or Swedish turnips; drench with linseed tea morning and evening; oatmeal and water to be constantly within reach; green meat, such as lucern or vetches (if to be procured), I have found of great benefit. The patient should be turned into a loose box, and there should be frequent handrubbing of the legs, &c.

On my patient's recovering, I gave mild tonic and diuretic medicine every other day, with half a pint of linseed in his corn morning and evening. By pursuing this mode of treatment, somewhat varied by the particular circumstances of the case, I have lost but four patients out of more than three hundred that have been submitted to my care.

I subjoin the symptoms and treatment of an individual case by way of illustration.

This was a grey cob, belonging to Edward Mistery, Esq. It had been ridden as a hack for two years, and appeared perfectly well on the night of the 13th of April, when he was racked up. On the following morning he shewed symptoms of cold, and a sort of short cough. He was immediately bled by Mr. Mistery's

groom, and a cordial ball given with a warm bran mash; but on the 14th, becoming evidently worse, he was sent to my infirmary. The symptoms were as follow. The eyelids alarmingly swollen, a slight discharge of mucus of a greenish hue from the nostrils, the pharynx and larynx much inflamed, great difficulty to swallow, the mouth dry and feverish, pulse fifty-five, respiration much disturbed, the dung voided in small quantities, great difficulty in voiding urine. I administered the following ball:—four drachms of aloes, one drachm of ginger, one drachm of tartarized antimony, two drachms of sulphur, one drachm of nitre.

Injections of warm water were ordered every three hours; fomentations and flannel bandages to the legs. The horse was well bedded down and turned into a loose box; a strong blister was applied to the throat, linseed tea placed constantly within reach, and bran mashes given, but which were not touched.

16th.—No better; breathing more laborious, so much as to be heard at a considerable distance; pulse fifty-nine; blister not taken good effect, bowels not yet open, swelling in the legs increased; he cannot move without danger of falling; both eyelids much swollen, and quite closed.

I gave three drachms of aloes, one drachm of ginger, one drachm of antimony, one drachm of nitre in warm gruel; and applied a hot linseed poultice to the throat, constant fomentations to the legs; gruel, linseed tea, injections as before.

17th.—No better; breathing considerably worse, pulse sixty-one. I now began to despair; I renewed the poultice to the throat, and made an attempt to horn him with gruel, but it was quite impossible, the throat being so much swollen and inflamed, that it returned through the nostrils, and my patient almost fell from exhaustion. I then left him for an hour; on my return, I found he had voided dung and urine pretty freely; still the obstruction of the throat remained, and it seemed impossible for my patient to live, unless relief was shortly obtained. Recollecting a similar case which occurred in my practice some time previously, in which I succeeded by the operation of bronchotomy, I immediately set to work, and cut into the trachea, in the usual way, and which gave immediate relief.

18th.—Symptoms better, pulse forty-five. Remove the poultice; pass a seton on each side of the throat, and give linseed tea; horn with gruel four times a-day, application to the legs as usual.

19th.—Bowels well open; omit the injection, foment and dress setons; gruel, &c. as before. I gave a little lucern and potatoes, which he ate with avidity.

20th.—Better; setons began to discharge, eyelids not so much

swollen; discharge from the nostrils increased, but now of a yellow colour, yet not so offensive; moves pretty cheerfully about in the box; eats his mash and drinks his gruel and linseed tea freely. Legs well hand-rubbed, and bandages applied; green meat and a few carrots cut small three or four times a-day.

22d.—Still going on well, but a difficulty in voiding urine: foment and dress setons, and administer the following ball:—two drachms of Venice turpentine, two drachms of sulphur, with linseed meal and honey sufficient to make it into a ball; green meat, &c. as before.

23d.—Breathing quite free, swelling of the legs almost disappeared, the setons discharge well: treatment as before.

24th.—Better; ball, &c. as before.

26th.—Remove the tube from the trachea, close the lips of the orifice by an adhesive plaister: treatment as before.

28th.—Still going on well. Gruel, linseed tea three times a-day, and also green meat and carrots.

30th.—Improving fast. I continued his green meat, mashes, &c. with a camphor ball every other day, until the 15th of May, when he was dismissed from the infirmary, and, having been turned out to grass for six weeks, was taken up, and has done well ever since.

ON THE EPIDEMIC INFLUENZA OF 1836.

By MR. JOSEPH BEESON, of Amersham.

THIS epidemic disorder has for several months past been very prevalent in this neighbourhood: I had, however, eight cases of precisely the same nature occur to me from last November to January.

The principal features of the disease have been, inflammation and tumefaction about the eyes, with considerable effluxion running down the cheeks. The head drooping, mouth hot and dry, the animal off his feed; in short, there has been considerable fever. The flanks were tucked up, the pulse quickened more or less, the legs swelled, and in some cases very painful to the touch. A general stiffness of the whole muscular system prevailed, accompanied by extreme weakness; a great disinclination to turn in a stall, or to go through a doorway, i. e. unless it was large and the threshold low. If relief was not obtained at the onset, every symptom rapidly assumed a more intense character. There was usually increased fever or inflammation of the mem-

branes of the brain in particular; the nervous influence was more or less suspended; the animal quite staggered in his attempt to move, and now and then fell down.

With regard to treatment, I have found direct depletive measures have generally done little or no good. I have, however, in some cases, where febrile symptoms have run high, or where there has been an evident determination to any particular organ, bled moderately. I have given the fever ball, consisting of half an ounce each of nitre and cream of tartar, and one drachm of emetic tartar twice or thrice a-day, varying the dose a little as circumstances might require. I have used setons or rowels, either behind the ears or in the breast. In cases of a milder form, I have considered it of consequence to keep the kidneys, at least, alive to their natural function, and perhaps to exert them a little by combining with the fever ball a more direct diuretic. Purging in every instance that has occurred to me, so far from doing any good, has been productive of irreparable injury. The patient rapidly sinks under its operation, every symptom is aggravated, extreme prostration of strength ensues, the animal eats nothing, and, if the purgation is not immediately checked, the patient inevitably dies.

The horse should be kept in an airy but not a cold situation. Good hand-rubbing to his legs, or, at least, his usual dressing every day, will be useful, and he should be well clothed up; cleanliness and the general comfort of the animal should be particularly attended to. His food should consist of bran mashes with some oats, green meat if it can be procured, or the best meadow hay. In desperate cases, I allow him to be indulged with any thing that he will eat, as I am quite sure that he will not take enough of any kind of food to hurt him, and in such cases I have given gruel, or linseed tea, or both; and in others, bran tea instead of water.

I will give you the particulars of a few cases, which I trust may not be thought altogether uninteresting.

CASE I.

On the 6th of November ult., I was sent for to attend a horse at strawyard, belonging to Mr. Jones of this town. I found him lying down in the yard, and those around me said I should never get him up again. With a little management we raised him, and put him into a loose box. His eyes were considerably swelled and discharging; his head hung down; the pulse was sixty, and full; the respiration tolerably tranquil. It was, however, with the greatest difficulty that he could stand; he reeled about, and require several men to balance him while I was about him.

Here was evident determination to the brain, and that to an intense degree. I bled him until a sensible effect was produced on the pulse: I then gave him a mild dose of physic, five drachms of aloes; inserted setons behind the ears, and ordered thick gruel to drink, as he refused his food.

7th.—His bowels mildly acted upon by the physic. He is not quite so well as yesterday. Rub in some blistering ointment behind the ears in the course of the cervical vertebræ, and allow him plenty of gruel, and as thick as he can drink it, which if he refuses to drink, must be carefully horned down while he is lying.

8th.—Purges briskly, every symptom aggravated; staggers more if possible; pulse seventy; sleeps a great deal. It is with difficulty he can get up, and as he cannot command himself it is dangerous to be very near him. He cannot stand many minutes, but reels backwards and forwards, and falls down. Give him gruel as yesterday.—keep under him a good bed, in order that he may not bruise himself, &c.

9th.—Continues to purge; he is sinking fast: I begin to think he is purging too much, but which before had been my principal hope. I gave him two scruples of opium, half an ounce of gum myrrh, two drachms of ginger, and one ounce of prepared chalk in some starch, twice a-day, and ordered him some starch in his gruel to-day.

10th.—Does not purge so much; in other respects he is about the same as yesterday. Continue medicine as yesterday, and give him his gruel as before.

11th.—Purging ceased, but my patient is no better; his respiration is more hurried; pulse accelerated. It is with extreme difficulty that he can get up, and does not stand many minutes;—he lies stretched out, and sleeps a great deal. If he is enticed to take a mouthful of food, he falls asleep with it in his mouth. No medicine to-day.

12th.—No better; I quite despair of his recovery. I gave him two drachms each of ginger and gentian, and half an ounce of gum myrrh in some gruel, and the nursing department was attended to as before. This plan of treatment was continued with very little deviation till the 15th, when he died.

Examination after death.—Extreme congestion of the membranes of the brain; about an ounce of blood had escaped and coagulated around the pineal gland, and which was intermingled with some small bloodvessels belonging to that part; the lungs were considerably inflamed, but the abdominal viscera were quite healthy.

CASE II.

A remarkably strong and round carcassed pony, the property of Mr. Cook, of Chenies, was observed to be ill on the 13th of December. His eyes were inflamed and closed, and discharged down his cheeks; pulse 70; very much tucked up, but his breathing not quickened; his head hanging down, but every now and then tossed up, and shaking. He quite reels as he moves, and does not feed; he had already been bled. I inserted a rowel in his breast, gave him two drachms each of aloes, nitre, and cream of tartar, and one drachm of emetic tartar in a ball; and prescribed for him three drachms each of nitre, cream of tartar, and one drachm of emetic tartar to be given in a ball morning and evening.

14th.—He is about the same as yesterday; his dung quite pultaceous; eats nothing, but drinks his gruel well:—continue medicine, and give him his gruel.

15th.—Purges briskly; he is about the same as yesterday; pulse 70; breathing quiet; discontinue medicine until the purging has ceased: give him his gruel.

16th.—Continues to purge, does not eat, but drinks his thick gruel well. He appears rather more lively to-day, but in other respects about the same.

17th.—Does not purge to-day, feeds a little, and is better. The fever medicine was again resumed and continued until the 21st, by which time he was quite well, except that he was, of course, a little weak yet from his illness.

Mr. Cook had two cart horses and two colts affected at the same time, of the same disorder; but they were milder cases, and all did well.

CASE III.

This was a horse, the property of Mr. Tallent, a surgeon of this town; it was lying at straw-yard, at Mr. Cook's, the proprietor of the horses just spoken of.

On the 20th of January I was sent for, and found him in precisely the same state as the pony: I put him into a box and clothed him up, and gave him a fever ball, consisting of two oz. each nitre and cream of tartar, and one drachm of emetic tartar morning and evening.

21st.—Much the same, except that his breathing is a little quickened, and I heard him cough once while I was with him, the peculiar character of which plainly indicated that there was some mischief about the chest. I inserted a rowel in his breast, and continued the fever medicine; the pulse was 70, and some-

what feeble; there was great prostration of strength, and the horse staggered at every motion; I therefore did not bleed him. At about ten o'clock at night a messenger came to say that the patient was much worse; that he was down and could not get up. I immediately went, and found the account to be too true; he was down and stretched out on his side; respiration was very slow and stertorous; his pulse was about the same; he started at the slightest touch or noise about him. I got him up, but it was with difficulty we could keep him on his legs: he reeled very much, and required several men to balance him. Here also is evident determination to the brain. I bled him, but he could not bear to lose more than seven pints. I gave him a purgative of five drachms of aloes, and inserted setons behind his ears. The moment I had completed this he fell down. I made him as comfortable as I could, and left him under the care of an attendant for the night.

22d.—His physic purges a little; his respiration is rather quicker; he cannot stand, and he is decidedly worse than when I left him last night. Horn down some thick gruel frequently to-day.

23d.—Purges briskly; every symptom aggravated, and he is sinking fast; pulse 84; respiration much disturbed; extremities cold, and perspiration breaking out in patches: unless speedily relieved he must die. Give him immediately two scruples of opium, two drachms each of ginger and gentian, and half an ounce of gum myrrh; and repeat it every eight hours.

24th.—I was quite surprised this morning to see my patient up and looking out at a little window, and at the same time eating a bit of hay. I was informed by Mr. Cook that he began to amend after taking the medicine; and at ten o'clock last night, when Mr. C. went out to look at him before going to bed, the horse was up and feeding. He has eaten a tolerable quantity of hay in the night; continue his medicine morning and evening.

25th.—Much better; has fed pretty well; can command himself, and turns about firm and well: give him his ball without the opium, morning and evening.

26th.—Still improving; give him daily three drachms each of ginger and gentian, and half an ounce of gum myrrh; and move the setons.

28th.—Going on well: continue his medicine; increase his allowance of oats.

Feb. 3d.—Quite well, except his loss of condition. Discontinue medicine; let him be led out every day. From this time nothing more was done, except that he was kept in for a few weeks, in order that his strength might be thoroughly established before

turning him out again. From this time I have not given any kind of aperient in cases of influenza, but, on the contrary, if purging has come on from metastasis of the disorder, or any other cause, I have found the patient always worse, and I have immediately endeavoured to check the purging by giving the ball as in the last case: I have also found, that in protracted cases, after the febrile symptoms are abated, supposing the several functions of the lungs, bowels, kidneys, &c. are going on well, and although the pulse may yet continue high, that the vegetable tonics may not only be safely, but very advantageously given. There often remains a staggering gait, from nervous weakness; an appetite, though much improved, yet not good: this condition of the patient is particularly and beneficially influenced by the invigorating system.

I am by no means an advocate for the general adoption of the cordial plan of treatment after inflammatory disorders; but having put the several animal functions right, I am satisfied that nature, under proper management, will restore strength, condition, &c. But influenza is, in my opinion, an exception to this rule.

I find that influenza is by no means peculiar to any age, condition, or situation: it has occurred in the straw-yard, at grass, and to stabled horses in good condition and bad, at rest and at work. That it arises from atmospheric influence there is no doubt.

In some cases, I have found the skin much surfeited, either, I have imagined, from cold affusions or from the stormy state of the weather. Some cases presented little lumps on the skin from the size of the segment of a pea to that of a large nut; others having a thick scurf, which, together with the hair, peeled off as from the effect of a mild blister; this has happened to the saddle and collar places, &c. &c. and particularly the thighs.

This is the result of what has taken place in my practice of influenza. I have given you the several cases just as they occurred, good or bad, in order that they might be compared with the opinions of other practitioners, of which you may or will be in possession; and I shall be gratified if haply some useful inferences may be deduced therefrom. The first horse continued to purge a long time, and sunk under its operation: in the second case, although the patient did well at last, he purged too much, and would have been better without it: the third case is too striking to need any further comment. I have had a great many cases of influenza, but have not lost a single case since the first.

ON THE EPIDEMIC INFLUENZA OF 1836.

By Mr. J. HAYES, of Rochdale.

YOU desire accounts of the late epidemic or influenza from practitioners in various parts of the country; and, as I fully agree with you in the importance of such a collection of facts to the profession, and the benefits likely to be afforded to the public, I therefore with pleasure send you my humble mite, to add, if thought worthy, to your common stock.

In April last, I had only five cases, somewhat mild ones; the weather was cold and wet, the wind weak, and principally in a north or easterly direction.

The symptoms were a dull sullen appearance, watery eyes, great heat of the whole body, particularly the mouth, staring coat, loss of appetite, a soreness and tenderness of the chest, even on the least touch, disinclination to move, a general state of debility, painful and accelerated respiration, and quick but small pulse. About the third day painful cough succeeded, with sore throat and cold extremities, and with little or no discharge from the nasal cavities. About the sixth day the breathing was very quick and laborious, with continual and obstinate standing in one posture, and every symptom of pneumonia and pleuritis, except that the arterial action became slower and fuller, and the extremities were warmer and swelled. These appearances continued until about the seventh or eighth day, when the countenance became more lively, and was more attentive to surrounding objects. The appetite began to return, and there was a general functional improvement. The cough, however, still continued painful until about the 13th or 14th day, when it generally left the animal as abruptly as it appeared.

My treatment was, venesection from eight to twelve pounds, according to symptoms. The following ball was then administered: potassæ nitratis $\mathfrak{z}\text{ii}$; antim. tart. $\mathfrak{z}\text{i}$; sulph. flor. $\mathfrak{z}\text{ii}$; digitalis $\mathfrak{z}\text{ss}$; zingiberis $\mathfrak{z}\text{ss}$; potassæ sulphatis $\mathfrak{z}\text{iii}$; p. lini. $\mathfrak{z}\text{iii}$. This was repeated two or three times a-day, until the intenser symptoms abated. Mild blisters were applied to the larynx, breast and chest, with setons in the brisket, and bandages on the legs, according to the indication of the symptoms.

When the febrile state appeared to be subsiding, I gave sulph. flor. $\mathfrak{z}\text{iii}$; antim. tart. $\mathfrak{z}\text{ss}$; calomel $\mathfrak{z}\text{i}$; zingiberis $\mathfrak{z}\text{i}$; aloes $\mathfrak{z}\text{i}$, and p. lini sufficient to form a ball, to be given once or twice a day. An infusion of linseed was given three or four times a day, with mashes of bran and linseed mixed together. After the ninth or tenth day, I found the following mild tonic to have a good effect, in preventing that dreadful monster hydrothorax from

destroying all my joyous hopes, as it had too frequently done when, some ten years ago, a similar complaint prevailed. R antim. tart. ʒss; calomel ʒss; zingib. ʒi; p. gentian ʒi; aloes ʒi; in ball, and given every day, or every alternate day.

By this mode of treatment, I succeeded in 79 severe cases out of 82: for in May, I had 17 cases; in June, 16; in July, 10; in August, 22; and in September, 12 cases.

There was little variation in the symptoms or character of the disease, except in those cases that happened in August: in them the eyes were much inflamed and closed (from the swelling of the eyelids), at the first appearance of the disease. In these instances, I found a second bleeding about the third day to have a good effect: the disease seemed to take on an acuter character, and to be more dangerous in proportion to the number of horses affected. I observed that the slightest exercise for seven or eight days after the commencement of the attack raised the pulse, quickened the respiration, and aggravated the general symptoms to an alarming degree; therefore, I allowed no exercise beyond that of the box or other loose place; gentle hand-rubbing, however, was used, and the patients warmly clothed, the place being warm, but as airy as possible.

It appeared to me that wet, foggy weather, with little winds, was connected with, or was the exciting cause of this disease. I also found, that in the great majority of cases, the first symptom was a chilliness and shivering of the whole frame, and this after the horse had been drinking cold water, when he was in a state of perspiration, and the stomach empty. Of the three that died, one of them was a favourite mare of my own. They had excessive fever, and on the seventh day pleuritis with pneumonia ensued, in a very severe form, which bid defiance to every thing I could suggest. They died about the 13th day from the commencement of the disease.

In this neighbourhood there has been a marked difference in the type and course of this disease, compared with that malignant epidemic which troubled us in 1832-3. In that, the mucous membranes seemed to be the seat of the malady, with general laxity of muscular fibre. In the present case, the principal seat of the complaint appeared to be more in the muscular system; for there was a tension and slight contraction of the muscular fibre generally, and a remarkable soreness of every external part. There was no sloughing of the mucous membrane of the intestines, as in 1832-3, nor any suppuration of the glands, or nasal discharge, as at the former period; but a dryer state (if I may be allowed to use the expression) of the whole system, with great thirst and general heat.

CONTRIBUTIONS TO COMPARATIVE PATHOLOGY.

By Mr. YOUATT.

No. XI.

HEPATITIS.

1833, Nov. 4th.—LION. He is more sluggish than usual, and has been heard to cough several times lately. Give three grains each of calomel and antimonial powder.

9th.—Feeds well, but is dull, and the cough increases. Give four grains of emetic tartar.

10th.—A great quantity of bile vomited. The flanks quieter. Do not give any medicine to-day.

13th.—No change. Continue treatment.

14th.—This animal was last night removed into other quarters. His den is unfortunately over that of the young lion and lioness. He growls at the other lion, and springs against the bars, in order to get at him. This is doing him no good. He will not eat, and his breathing is short.

15th.—Still not reconciled, and worries himself sadly. He is continually protruding and moving his tongue, as if he had an unpleasant taste in his mouth, and he made one attempt to vomit. Three grains of emetic tartar were given, which brought off much bile.

18th.—He is better reconciled to his neighbours; eats a little, and looks brighter.

Dec. 3d.—I have said nothing of him for a long time, because he has been constantly improving. Strike him off the list—but—

7th.—I might well put the “*but.*” There has been a sudden and fearful change. Last night he refused his food; and to-day he began to be uneasy, shifting his posture, and his countenance assuming a most anxious expression. Give three grains each of calomel and antimonial powder.

8th.—He ate sufficient food to contain his medicine, which has operated fairly, and the breathing is much relieved. He can with difficulty be made to walk, and drops rather than lies down. There must be some acute internal inflammation to account for the sudden prostration of strength. Give ten grains of calomel.

10th.—The medicine produced a great quantity of liquid fæcal matter. The breathing became quicker. He still purges. Coax with broth and warm meat.

11th.—Coax to eat, and give six grains of calomel.

13th.—The physic operated well, and the breathing is quieter; but the animal is sinking.

15th.—Bowels still open. He ate the liver of a sheep freshly killed, but he could not be induced to touch a piece in which was calomel.

17th.—Refuses altogether to eat.

19th.—Still will not eat or drink. Sinking.

20th.—Dead. I naturally expected to find the chief morbid appearances in the lungs. They were emphysematous around their edges, and there were some spots of hepatization, but no tubercles. The heart was enlarged and flabby; but the causes of death were in the abdomen. There was chronic inflammation of the peritoneal membrane in every part. The mesentery was opaque, and the greater part of it covered with adventitious matter in the form of thick flakes. The substance of the spleen was in a manner gone; it was as emphysematous as the edges of the lungs. Neither the stomach nor mucous membrane of the intestines was inflamed. The liver presented one broken-down pulpy mass, of a greenish black hue. It was impossible to touch it without its giving way. The diaphragm was inflamed in the neighbourhood of the liver, but there was not a single adhesion through the whole of the abdominal cavity.

HEPATITIS—ASCITES—RUPTURE OF THE DUODENUM.

1833, August 12th.—CHITTAH. He has not fed as usual for a few days past, and appears to be getting thin. He is a very tractable fellow; and, on examining, I found that he was much thinner than he appeared to be at a distance; that his liver was enlarged, and that there was fluid in the abdomen. He was an old animal. Coax him to eat, and give him, morning and night, two drachms each of tartrate of iron and gentian, one drachm of ginger, and four grains of powdered digitalis.

14th.—Very little difference, except that the appetite is worse. Coax him to eat, and continue the medicine.

16th.—The animal will scarcely eat, but it laps some milk: there is, however, less fluid in the abdomen, and less enlargement of the liver. Continue balls.

17th.—No change. Continue balls.

19th.—I am sure that the fluid and the enlargement of the liver are diminishing.

21st.—Very little change, except that he is getting thinner, and his strength begins to fail.

23d.—Continued emaciation. Still give the same medicine.

25th.—There can be no longer any doubt as to the termina-

tion of the disease: utter debility is now added to rapid loss of flesh. Continue, however, to give the balls, and force to eat.

27th.—He continues to lose ground.

30th.—He cannot be far from his end.

31st.—Died. The abdomen was filled with a reddish fluid of the consistence of whey, and in which much flocculent matter floated. The liver was of a dark colour, spotted with yellow; more than usually friable, and containing several large tubercles. The gall-bladder was turgid with bile, and every part of the intestinal canal contained a portion of it. The omentum was lined throughout with a dense adventitious membrane, and adhered to the intestines in various parts, and particularly about the commencement of the colon, where was an enlarged mesenteric gland weighing three or four ounces. The mucous membrane of the intestines was perfectly free from inflammation, except in the duodenum. In this intestine, opposite to the entrance of the pancreatic and biliary ducts, was a rupture of long standing, for its edges were smooth and everted. An enlarged mesenteric gland was opposite to it, apparently answering the purpose of a valve. Several worms of the filaria kind were found in the abdominal cavity. Nothing could have saved this animal.

PHTHISIS, CONNECTED WITH (OR CONSEQUENT UPON ?)
DERANGEMENT OF THE DIGESTIVE FUNCTIONS.

1833, August 27th.—MALE PUMA. Coughed a little a few days ago, but not otherwise indisposed. Give one grain and a half each of emetic tartar and calomel.

31st.—The cough increases; the appetite fails, and the animal gets thin: the flanks heave somewhat laboriously. Give two grains of emetic tartar.

Sept. 1st.—He vomited more than a pint of what seemed to be almost pure bile. Let him alone to-day.

4th.—Better, and eats well: cough gone; but is not in good spirits, and heaves more laboriously at the flanks than he should. Supply him with dog-grass, and give three grains of antimonial powder and one of calomel daily.

6th.—Not so well; heaving greater; cough returned; mucus collecting at the corners of the eyes. Give two grains each of calomel and antimonial powder daily.

8th.—Seems occasionally to rally; heaves less; becomes more lively; ready for his food; and the keepers think that he is essentially better. I perhaps should think so too, but I have heard *the short sore cough*. Two grains of calomel act freely. Give it

sufficiently often to keep the bowels in a relaxed state. Give the antimonial powder every night. We have tried the hydriodate of potash, but he will not touch it.

10th.—The respiration is slower, and more quiet; but there is the phthisicky cough. Continue treatment.

14th.—Eats well: the countenance is brighter; but I fear—there is the cough and slow emaciation. Continue treatment.

17th.—Relapsing into his former listlessness, and the quick and laborious breathing returning. Always relieved after he has been gently purged. Keep him under the gentle influence of calomel, which is the only purgative we can give. Continue the antimonial powder every night.

I was now absent from the gardens till the 20th of October, and in the mean time this system was strictly pursued. He has gained flesh, his countenance is brighter, and his appetite better, but *he heaves at the flanks* and *he coughs*. What shall I—what can I do? He will not take either digitalis or the hydriodate of potash—the calomel I am afraid to continue. I only wonder that it has not thoroughly salivated him. In the antimonial powder I have no great faith. Leave all off, and supply him plentifully with dog-grass.

27th.—No change. There is still the cough. Continue the dog-grass, which he freely takes, and which keeps his bowels open, and occasionally pukes him.

November 8th.—Heaves shorter and more convulsively, and the cough is more frequent; the dulness and disinclination to food increases. Give three grains of emetic tartar in water.

9th.—He vomited a great quantity of bile. The heaving of the flanks has changed its character. The expiration is performed by a double effort. Two grains each of calomel and antimonial powder daily.

13th.—No change; continue treatment.

14th.—This animal was removed yesterday to new and larger quarters. He lies sulky in the corner of his den, and will not eat any thing; consequently no medicine can be administered.

16th.—Will not eat or move.

18th.—He has eaten very little; not sufficient to enable us to cheat him.

24th.—Very little change, except that it is seldom he can be induced to take his medicine.

28th.—Evidently getting worse and worse.

December 3d.—He appears to be almost choked by something filling the upper air-passages.

7th.—Died. Considerable phthisis, inflammation, enlargement, and an approach to *ramollissement* of the liver. The lungs pre-

sented, in different parts, hepatization and vomicae (one of the abscesses would have held eight or ten ounces); and in other parts there was as decided congestion as accompanies the most acute disease. The tubercles were few, and of small size. The process of hepatization, and softening, and abscess had gone on until there was comparatively only a small part of the lungs left for the purpose of respiration. The natural consequence of the overworking of the remaining part was congestion and rupture of the capillary vessels. Was the disease originally hepatitis? I am much inclined to believe so. I pretend not to understand the relation between them. The various symptoms and lesions that have been presented in different cases make me doubtful as to the order of precedence. Are they not, in fact, contemporary—the effects of one common cause—the indications of the same fatal diathesis, and the symptoms and the lesions of the one or the other prevailing in proportion as the digestive or the pulmonary systems were naturally weak, or had been abused? There is much room for useful reflection here; but, at present, I am a mere recorder of facts.

DR. CHISHOLM ON THE MALIS DRACUNCULUS.

[Continued from page 511.]

MOST of the small islands or keys, as they are called, composing the extensive group of the Grenadines, are formed, for the most part, of tuf or decayed lava, and ferruginated volcanic ashes. The cultivation of the more practicable spots of these islands yields a valuable produce in cotton and Indian corn; but they are all destitute of water, and the inhabitants depend on rain-water, or water wells, dug, as those of Point Saline, in tuf, and are subject to the action of the tides. In those instances in which the planters have attentively observed the causes of the few diseases these islands are subject to, the same phenomena of the origin, progress, and annual recurrence of the Guinea-worm have been remarked. A very ingenious and acute observer, Mr. John Campbell, proprietor of one of the largest of them, called Mystique, and of a gang of about five hundred negroes, favoured me with the following interesting information, in the year 1796, at St. Vincent:—He told me that about the year 1793 he first perceived among the negroes this disease; that never till then had any symptoms of it appeared, to his knowledge; that ever since November of that year it makes its appearance about the beginning of the winter months, and con-

tinues to prevail almost universally among the field negroes till the month of March or April; that the fever occasioned by the irritation of the worm has been in some instances extremely violent, attended with delirium, and other alarming symptoms; that in all, the inflammation has been very considerable, and productive of excessive pain; that few recovered till the expiration of six weeks or two months; that he has known three hundred out of five hundred laid up with the disease at the same time; that the embryos or ova of the animal are evidently contained in the water of the wells, which are affected by the changes of the tide; that the water in taste has a singular sweetishness, is somewhat muddy in the wells, but when taken out seems clear to the eye; that his reasons for thinking and believing that the disease is caused by drinking this water, are 1st, all the field negroes, who alone are subject to the disease, drink of this water, and no other; 2d, his domestics, who make use of rain-water, and no other, never had the disease, although, if it could be produced by any other cause existing in the island, they are fully as much exposed to it as the field negroes; and, 3d, none of the white people have ever had the disease, except in one instance, and that person once or twice, inconsiderately or ignorantly, drank of the well water; that the animalcule or embryo of the worm does not insinuate itself under the cutis through the pores of the cuticle, for none of the negroes have ever been in the habit of bathing in the water of the wells; that he has every reason to be assured, that the animalcules or ova are taken into the stomach with the water; and, finally, that he has frequently examined the water with a microscope, and discovered innumerable animalcules in it, of a very uncommon shape.

All the information communicated by Mr. Templeman, and most of that I received from Mr. Scott, I have often verified on the spot myself. I have examined with precision the well and its water of Point Saline plantation, and the various stadia of the progress of the worm during the epidemic season. As far as it was possible, by a tolerable microscope, by filtration, and other means, I have ascertained the existence in the water of extremely minute and agile animalcules of nearly the adjoined figure, and of innumerable white granulated substances, little more than perceptible even with the magnifier I used, which I concluded, on a comparison of the circumstances I have stated, to be, the former the embryos, the latter the ova of the dracunculi. Farther than this I found it impossible to proceed in my investigation. More perfect instruments might, no doubt, have produced more perfect evidence of the existence of the dracunculi in the animalcula and egg state.



Having these facts before me, for the most part minutely observed by myself, and confirmed by the experience of three years, during which nearly three thousand cases of the disease were under my charge, I feel much disposed to offer a speculation on the mode in which the Guinea-worm is generated and received into and evolved in the human body. Whatever can be said on the subject, in the present state of our knowledge of it, must be considered merely as speculative, or can amount to little more than very probable conjecture. Were it possible, indeed, to procure some of the dracunculi in a perfect living state, and to watch their economy in their native medium, then the inferences I am disposed to draw from the imperfect knowledge I have acquired of that economy, might become established facts; and the mystery of their generation, of the mode of their admission into the human body, and of their growth there, might be developed. But before I proceed to this, it may be useful to state the following interesting facts*.

In July 1812, a very ingenious and respectable friend, Mr. David Inglis, from Bombay, favoured me with the following statement: A particular friend of his was engaged in digging a well in his garden at Bombay, the soil and rock of which seem to be similar, from the description given, to those of Point Saline. The gentleman's anxiety to have the work properly executed induced him to oversee the workmen, and even to go down into the well, with slippers only on his feet. He one day perceived a sensation of pricking in one of his feet, and some days after evident symptoms of a Guinea-worm appeared. After suffering

* In all countries in which the dracunculus is endemic, the prevailing belief of the people is, that it proceeds from drinking water which contains the ova or embryo of the animal. Among a variety of authorities, I may cite the following: In Africa, the Chev. de Marchais, *Voy. en Guinée, l'année 1725-1727*, tom. ii, 136, says, "On en attribue la cause des vers cutanés aux eaux croupissantes, et de mauvaise qualité, qu'on y (en Guinée) boit." Mr. Park says, "The Guinea-worm is likewise very common in certain places, especially at the commencement of the rainy season. The negroes attribute this disease to bad water, and allege that the people *who drink from wells* are more subject to it than those who drink from streams."—*Travels*, p. 276. Mr. Bruce says, that "this extraordinary animal only afflicts those who are in the constant habit of drinking stagnant water, whether that water is drawn out from wells, as in the kingdom of Senaar, or found by digging in the sand, where it is making its way to its proper level, the sea, after falling down the sides of mountains after the tropical rains."—*Travels*, vol. iii, 4to, p. 37. In Asia, we have already the authority of Dubois. At Ormus, an anonymous writer in the *Phil. Trans.* abridged, vol. iii, 138, says the Guinea-worms are bred by the water. Kœmpfer says the same thing. *Friend's Dict. of Phys.* vol. i, p. 49. In St. Domingo, M. Chevalier says, "ces vers sont engendrès dans le corps par les mauvaise eux," &c.—*Lettres a M. de Jean sur les malades de St. Domingue*.

much pain, the worm was extracted in the usual way. In this instance it seems evident that the insect in its embryonic state must have made its way into the foot through the skin. It is therefore a fact of great importance in the discussion of the question relative to the mode of admission of the Guinea-worm into the human body, establishing the proof that this may be effected by the skin. Mr. Inglis also informed me, that a medical gentleman of that presidency had assured him that, in the soil composing the surface of some parts of Bombay island, dracunculi have been often taken alive. These facts have been farther confirmed by Dr. H. Scott, from Bombay, in a communication he obligingly favoured me with on the subject. He says, "the dracunculis, or Guinea-worm, is common at Bombay, and all over that part of the coast of India. It becomes endemic in the rainy season, and hardly appears during the dry weather, especially towards the conclusion. There are no appearances of a volcanic kind in Bombay, where it is chiefly prevalent, nor in Sulsette, *although in that island there are proofs that in particular parts the mineral kingdom had been subjected to great heat.* Our strata are all of the secondary kind. These worms are sometimes found in India, in the moist earth, in great numbers together; but we have not yet seen them in any prior form or state of existence to that of a worm. During our rainy season the legs of people who walk among grass, and particularly those of gardeners, are full of them. The Indians wear no covering on their legs. Those who are obliged to wet themselves frequently are at all seasons liable to them. Men who carry water on their backs, in leathern bags, have that part of their back which is so often wetted very full of these worms."

On comparing these facts with those which I myself have witnessed at Grenada, there seems to be sufficient reason to believe, first, that the dracunculus propagates by ova, or that it is oviparous, not viviparous; second, that the insect affects an argillaceous soil, or one composed of the ferruginated ashes and decayed lava of volcanoes, and more especially when such soil has a considerable impregnation of salt, or when it is percolated by sea water; third, that the insect may deposit its ova in this soil, or in the interstices of the skin of the human body, when these are conveniently disposed for their reception; fourth, that water percolating through such soil may have the ova floating in it; fifth, that when this water becomes the drink of any part of the human race, the ova are necessarily thereby received into the human stomach; sixth, that therefore it seems a just inference, that the hatching of these ova may take place in the soil and in the human body; and, seventh, that in the first instance

the insect may in its embryo worm state insinuate itself through the interstices of the skin; in the second, may be deposited in its egg state by the secretory organs under the skin, or in the interstices of the muscles, and there hatched.

[To be continued.]

ROYAL AND CENTRAL SOCIETY OF AGRICULTURE.

PUBLIC SITTING, APRIL 10, 1836.

BY M. HUZARD, *Sen.*

Report of the Works, Memoirs and Cases relating to Practical Veterinary Medicine, presented at the Concours.

THE Society has received fifteen printed works, and thirty-four memoirs or cases, addressed to them by twenty-nine veterinary surgeons, civil and military, natives and foreigners, and also by medical men, and the proprietors of cattle.

The committee cannot dissemble that several of these works and memoirs wander, more or less, from the special object of the society; nevertheless, they prove the zeal and industry of the contributors, and their desire to be useful, and to merit your approbation.

It would be impossible in the space allotted to this meeting to analyse all these productions, and the committee will confine itself to the enumeration of those practical works that appear to be most valuable; and they propose that the honours and prizes should be awarded in the following order:—

1. M. Didry, veterinary surgeon to the arrondissement of Montmédy, in the department of the Meuse, who obtained the large silver medal at the concours of 1830, and the gold medal in that of 1831, has addressed to you this year a memoir on “staggers in the horse.” This disease prevailed as an epizootic in 1831 and 1832 in the arrondissement, and was frequently fatal.

M. Didry had occasion to examine thirty-eight horses after death. He attributes the malady to the bad forage of 1830, the constant dampness of the air, local inundations, and over-work. Colts and horses that did not work hard seemed to be exempted from its attack.

M. Sarget, V.S. in the department of the Corrèze, and who obtained honourable mention in 1828, has contributed some observations on the employment of the chloride of sodium in the typhoid fever of cattle, both internally and externally. His cases, which shew that the exhibition of it is attended with considerable advantage, deserve to be repeated, and put thoroughly to the test.

M. Blavette, V.S. at Bayeux, in the department of Calvados, has sent several cases of urethral lithotomy, complete dislocation of the hock, and of the cervical vertebræ; the reduction of umbilical hernia in colts by the use of the *suture entortillée**; the successful treatment of palsy of the hind leg in a mare; and fracture of the bones of the nose, and the extraction of a portion of them, from a colt.

We propose that the society should make honourable mention of MM. Didry, Sarget, and Blavette.

2. M. Canu, V.S. of Torigny, in the department of La Manche, has sent us some observations on a malady produced by the use of clover hay as the food of colts. It is a species of gastric bilious fever, which attacks them during the winter, and especially those that have been lately weaned. When taken at its commencement, it has yielded to bleeding and antiphlogistic treatment.

Some remarks are added on a malady improperly called the marsh disease, because it attacks the colt bred on the upland ground, as well as those that are pastured upon the marsh. It approaches very nearly to anasarca, and its name indicates the principal cause of it. It attacks the colts in the winter, and often much perplexes the veterinary surgeon. It attacks almost every colt that is pastured on the marshes of Isigny during a wet season. On the uplands, and in dry years, it is occasioned by drinking unwholesome water, by suppressed perspiration, peculiarly frequent when cold nights succeed to the burning days of autumn. It rarely attacks them after they are three years old; it destroys great numbers of them, and the treatment, which is the same as for lymphatic diseases generally, is not always successful.

M. Canu has also related a case of strangulated inguinal hernia, in which the protruded intestine was much ecchymosed, covered with yellow and black spots. It was cured, contrary to all expectation, after the return of the intestine and the operation of castration.

M. Roche Lubin, of St. Affrique, has sent a memoir, accompanied by cases, on the most frequent diseases of ewes, during the period of their being milked in the neighbourhood of Rochfort, preceded by an account of the agriculture of that district, and the manufacture of the Rochfort cheese. The diseases are all of an inflammatory character, and occasion very considerable

* In this suture the lips of the opening are brought neatly together, and retained in their situation by pins passed through them. A thread is then wound circularly from one pin to another, in the form of an *∞*, placed thus laterally, and which lies upon the front of the wound.—Y.

loss every year. They are, more especially, inflammation and induration of the teats, which are often followed by the loss or after-uselessness of the animal—by gastro-enteritis—by meningeal enteritis, called in that part of the country, *the croop*, or *the tremblings*—by aphthæ and turnsick; and these carry off a great number of sheep annually, and bid defiance to the vaunted cauterization of M. de Neyrac.

To this interesting memoir, M. Roche Lubin has added other cases, of the reduction of protrusion of the womb in the sow, by spaying—on staggers in a horse following extraction of one of the eyes—on the extraction of a calculus in the neck of the bladder of a young bull—and on worms in the aqueous humour of the eye of an ox, and extracted by puncturing the cornea.

The society decreed the grand silver medal to Messrs. Canu and Roche Lubin.

3. M. Gayot of Strasbourg, besides a MS. on the management of a stud, and which he was about to publish, and the decision on the merits of which the society very properly left to the public, sent a memoir on the intermittent fever which had prevailed among the merinos at Bonnes; and which has been successfully treated by bark, holm, and the lesser centaury. This memoir is the more interesting, as it proves the existence of fever in the sheep, which had been doubted by some practitioners. M. Gayot has added a statistical account of the commune of Savoy, the canton of Marson, and the arrondissement of Châlons sur Maine. This memoir describes the progress of agriculture in those places during the last twenty-two years, and which only needed more extended knowledge of the breeding and diseases of cattle and sheep. The society awarded him a well-bound copy of the “Théâtre de Agriculture,” by Olivier de Serris.

4. M. Mouris, V.S. of Oloron, of whom honourable mention had been made in 1828-9, to whom the society had awarded the grand silver medal in 1827, and the “Theatre of Agriculture” in 1835, has sent two memoirs. The first contains an account of an acute epizootic fever, which attacked various kinds of animals, but particularly cattle in the arrondissement of Oloron, during the year 1832. The disease is well described, and the causes clearly exposed. It is principally attributable to the carelessness of the proprietors, which can neither be prevented nor lessened. The treatment was not always fortunate; that which oftenest succeeded consisted in copious and repeated bleedings, emollient and mucilaginous drinks, and restricted diet. One hundred and twenty animals, submitted to the treatment of empirics, had been destroyed by a stimulating plan of treatment, and out of eighty which he found ill, seventy were saved by the means which he adopted.

A second memoir contained a detailed account of the operation for canker in the foot of the horse. One patient had laboured under the disease more than a year, and was perfectly cured by M. Mensis. The society awarded him the gold medal, with the portrait of Olivier de Serris.

5. M. Caillieux, V.S. of Caen, and who had often obtained honorary rewards from the society, sent some valuable observations on the numerous fatal cases of tetanus after castration that had occurred at the depôt of Caen. He justly attributed it to the want of proper care in the stables, and to the cold to which the horses were exposed after the operation. The cases which he relates leave no doubt as to the importance of proper attention to the horse, both before and after castration.

M. Caillieux has also presented you with a printed essay on "the causes of the diminution of the breeding and sale of horses in Normandy, the means by which it may be re-established, and the proper treatment of horses recently castrated." This work is an exceedingly valuable one, not only with regard to the supply of horses for the cavalry service, but to the farmers who are engaged in breeding horses. The society nominated M. Caillieux an honorary correspondent.

You would have bestowed the same honorary title on M. Lautier, formerly veterinary surgeon in the department of Ille and Vilaine, if he had not been prematurely cut off by death. He addressed to you, 1st, a statistical account of the department of Ille and Vilaine, the agricultural and zoological portions of which were treated much in detail. 2d. A memoir on the construction of artificial meadows, and on the cultivation of nutritive plants and roots in that department. 3d. A memoir on the sheep pox, and inoculation for it. And, 4th. A memoir on the acute fever which attacked the cattle in many departments in the year 1833; which destroyed a great many animals, but finally yielded to proper treatment, when it came under medical treatment in an early stage.

In terminating their labours, your committee beg leave to direct your attention to the memoirs and publications which have been addressed to you in this year, by Messrs. Grogner, Professor of the Veterinary School at Lyons—Jacob, V.S. to the 11th regiment of dragoons—Mathieu, V.S. department of Vosges—Levrat, of Lausanne—Haspin, Doctor of Medicine—and Collaine of Metz, and who continue to justify your election of them as corresponding members of your society.

May this Concours long continue, which produces yearly results so advantageous to veterinary science, agriculture, and the interests of the country!

THE VETERINARIAN, NOVEMBER 1, 1836.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

THE session that will soon commence at the Veterinary College at St. Pancras will, in the importance of its results, good or bad, be second to none which the institution has witnessed since its first establishment. The good that will be effected is evident, and beyond the reach of malice or mischance. An Association—there is something grateful in the sound of that word—an association of practitioners and of pupils—of all who are engaged in the study and the working out of the veterinary art—will be formed. More than sixty practitioners have already declared their adherence to it,—the Professor has consented to be its patron:—its library will, at its opening, consist of more than 100 volumes, and those of the most useful and valuable description; and the Governors of the Veterinary College have consented that the meetings of that Association shall be held within the walls of our alma-mater—that school, the remembrance of which, with all its faults, we cherish still; and they have likewise consented to afford that protection to its meetings, its records, its library, its labours, which will put it beyond the power of youthful impetuosity, or malignant purpose, again to endanger; much less to separate from the place which they honour, and to whose prosperity they are essential.

The laws by which this new Association will be governed have received the consideration which they deserve from a sub-committee; they will soon be submitted to the revisal of those who, at the appointment of that committee, had signified their adherence, and paid their subscription; and, immediately after that, the regular working of the machine will commence. If the restrictions imposed by one or two regulations may appear to be somewhat severe, it must be recollected that, while the paramount object of the committee was the establishment of an association the results of which could not fail of being beneficial to the cause

and progress of veterinary science, they could, none of them, easily forget the scenes that lately passed; and it became their imperative duty, in the language of Mr. Mayer, "to base the Association in such a way as to guard against such consequences in future." All depends on the results of the ensuing session. No boyish thoughtlessness or pertinacity, no jealous, envious feeling, must disturb the harmony of its first movements;—but when, in the language of the same gentleman, "it has assumed a higher character, and obtained a more extended sphere of practical usefulness," its regulations, like itself, may be liberal and free.

An interesting account of the proceedings of one of the French associations precedes this article. It was purposely placed there. It gives us a glimpse—a cheering and delightful one—of what the Veterinary Medical Association may in due time become—its members scattered over every part of our extended empire,—and englishmen and foreigners contributing to its treasures and contending for its honours.

I hope in the next number to be enabled to give a sketch of its early meetings, a copy of its regulations, and a list—a proud one—of its members.

But is the battle to be won without a struggle—is the course to be uniformly smooth and prosperous? I fear not. What was the character of the Veterinary College during the greater part of the last session? Were the students quietly, honourably devoted to the acquisition of veterinary science? Were the instructors honourably devoted to the imparting of that knowledge which was essential to the future reputation and usefulness of the pupil? When the lectures of the day were concluded, or in the intervals between them, were the students, in little knots and circles, discussing the important subjects to which their attention had been directed, and eagerly adding to their store of useful and indispensable information? No. The attention of all was absorbed by one overpowering subject—the contest between a portion of the Veterinary Society and its officers. The greater part of the lecturers were faithful to their trust; they disgraced neither themselves nor the art they professed to teach,

by wandering from the legitimate objects to which the attention of the student should be directed. But it was not so with all; and the consequence was, that the attention of the students generally was distracted; and gradually it was drawn away from its legitimate objects, and absorbed by disputes and quarrels in which good feeling and gentlemanly conduct were too frequently forgotten.

And what was the result of this? Towards the end of the session there were more, many more than the usual number of rejected candidates for their diplomas. From what class of students they principally came, I will not now inquire; but even the most successful grievously deplored the loss of much valuable time, and with deep regret confessed that their examination had not been so gratifying to themselves as it ought to have been, and that the session had been in a manner lost to them.

And shall another session be thrown away? shall it again be said that the line of conduct pursued is “disgracefully and indelibly staining the annals of the Veterinary College?” Except the voice of authority interferes, the grieved friend of the art will again have to say so.

The concluding sentence of the memorial of the then managing committee contains a wilfully false insinuation respecting the funds of that society—“that the insolvent state in which it was left could not have happened if the funds had not been devoted from their original object, the purchase of books for the society, not of presents to its officers.” Now the writer of this libel, and the committee, well knew that not one farthing of the funds of the society had been misappropriated.

While I am writing this article, a letter thus worded is finding its way to every practitioner and student in the neighbourhood of the metropolis:—

“*To Veterinary Practitioners and Students.*”

“PRACTITIONERS and STUDENTS who are of opinion that MESSRS. SEWELL, SPOONER, and MORTON, have not already received more than an equivalent for any services rendered by them to VETERINARY SCIENCE, are informed that an opportunity now offers for more voluntary subscriptions (*by compulsion*) for *more* pieces of plate, &c. to those distinguished individuals,

who, having worn out the funds of one society, are now desirous of instituting another; and kindly intimate (not in the *best of* English, certainly, but in terms which may be *well enough* understood), that Mr. Morton is ready to receive a guinea, or any thing worth having, from any person gullible enough to part with it."

Now, what is this but an accusation against those gentlemen by a knot of disaffected students, and in league with an inferior officer of the establishment, which, if true, would go far to constitute a felony, and subject them to the penalties of the law? True, the letter is not signed, nor is there even a printer's name affixed to it!—A compound of cunning and of cowardice!!

I have a right to assume that the anonymous calumny comes from the same party from which similar compositions proceeded in the last session. And who is one of the persons thus accused?—the Assistant-professor at the Veterinary College—he whose character and whose labours ought to command the respect and not the detestation of its pupils.

In addition to this, I state it advisedly, the dissecting-room of the Veterinary College is not exclusively devoted to the purposes for which it was designed; but too much time, and almost daily, is employed in maligning the character and blasting the reputation of the officers of the old society—in poisoning the mind of the young pupil from the very moment that he enters the College, and inducing those habits and that state of feeling which are totally inconsistent with the pursuit of honourable and useful study. Is Professor Coleman aware of this? Was he not plainly told that it was the case in the last session? Has he not seen the deplorable effects of the system? Are the governors aware of this? Will they permit a line of conduct to be pursued towards their superior officers, which equally sets at nought truth and common courtesy?

In an interview which I had the honour to have with Mr. Coleman during the last session, I told him that he had the whole affair in his own hands, and that one word of his would at the very beginning have settled the whole matter. I tell him so again; and as an humble individual of the profession, but speaking the sentiments of them all, I call upon him in justice to his colleague, in justice to the students, peremptorily to inter-

fere, and to terminate these disgraceful scenes. Shall another session be lost to the students and to the art? Or does he think that well-disposed young men will continue to flock to an institution at which such anomalies are allowed?

Let the adherents to the old Society continue to meet in the rooms which they have taken; and let them honestly devote themselves to the accomplishment of those noble purposes which, well conducted, it is calculated to effect. Let the adherents of the new Association meet in the theatre of the College, and gradually bring to maturity all those invaluable improvements which it promises to achieve! Thus let them rival each other; but let them not disgrace, beyond redemption, the school whence they sprung, and the profession to which they belong.

The students!—let them deliberately weigh the comparative advantages or defects of each society; and then, with no feeling of ill-will towards the other, attach themselves to that which promises to answer best the purposes for which they are attending at the College: and let them sternly set their faces against those (to whichever society they may belong) who disgrace the lecture, or the lecture-room afterwards, by any reference to party politics, or display of malignant feeling. Let them regard those as their greatest enemies who would, by thus distracting their attention, deprive them of the advantages which, if neglected in this the most valuable year of their lives, can never be recalled.

Y.

A CASE of successful paracentesis thoracis was related in our No. for June last, p. 320. The operation was repeated six times in the course of about five weeks, and the animal was apparently doing well after three weeks more had elapsed, and it was determined that he should return to his usual work. Mr. Lambert, who saw him at this time, and left Edinburgh a few days afterwards, naturally concluded that the horse was at work, when he did me the honour to call on me in London.

Professor Dick also, whom I have since seen, assured me that the horse, at the time alluded to, was apparently in perfect health. The patient, however, never worked again. In a few days after-

wards he sickened, and died of acute farcy. Every practitioner will regret this termination of a very interesting case; and our faith in the ultimate effect of paracentesis in the horse will be somewhat weakened; but still, I think, we shall be disposed to have recourse to it oftener than we have done.

Y.

Review.

“ Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

The ELYSIUM of ANIMALS.

THE elegant style, the wit, humour, and incidents of this little work, very happily blended with a great deal of instruction, render it by no means an unacceptable present on the table of a reviewer, were it merely to drive away the *ennui* occasioned by the constrained perusal of dull and prosing works. The only disappointment, mingled with a little regret, which the reader is likely to experience, is when he is finishing the last page. In fact, there are few readers who will not be led, like ourselves, to peruse it, at least some parts of it, again and again. This remark applies more particularly to the brilliant and imposing description of the aëronautic voyage in a balloon to this *terra incognita*, which, perhaps, has never been surpassed.

The Elysium of Animals is represented as a *dream*. The author ascends in a balloon, and is wafted, days and nights, through unknown aërial regions, until, at length, he descends on the *Elysium of Animals*. “The scenery was such as nature brings together in her sublimest mood: sounding cataracts; hills which rear their scathed heads to the sky; lakes that, winding up the shadowy valleys, lead, at every turn, to more romantic recesses; rocks which catch the clouds of heaven: all the wildness of Salvator Rosa here; and there the fairy scenes of Claude.” Here “beasts and birds of every kind were seen repairing to the amphitheatre, where they soon assembled in countless myriads, forming the most awful convocation.” The intruder is then brought before this extraordinary and numerous assembly, and addressed by their president, the Elephant, from whose speech we give the following extract:—

“Audacious descendant of Adam! how and wherefore hast thou dared to pollute with thy unwelcome and odious presence

our peaceful retreat, which the all-wise Author of Nature has been pleased to provide as the immortal abode of those animals who have consummated their earthly career in that world which a too indulgent Providence has committed to the capricious and mischievous control of thy unfeeling race? Know, rash mortal, that this happy island is the elysium of those creatures which man, the self-styled 'Lord of the Creation,' in the vanity of his heart, calls 'Irrational brutes.' Instant death ought to be the penalty of this unhallowed intrusion into our blessed sanctuary; but, that thou mayest know that our race do not, like thine, inflict pain or death out of mere wantonness, it has been unanimously resolved by the immense multitude by which thou art surrounded, that thou shalt be permitted to plead thine own cause, and, if possible, extenuate the crime thou hast committed in thus breaking in upon our happy sanctuary where we daily offer up thanksgiving to our Maker that we have escaped from a world where the cruelty of man rendered our lives one prolonged scene of suffering and sorrow. After we have heard thy explanation, it has been further determined that some of those animals which have suffered persecution from thy race in their former state of existence shall publicly relate their history, in order to prove to thee that the aversion and horror in which we hold mankind is not a groundless prejudice. The wrongs which many of my fellow-creatures, who are here assembled, have endured during their earthly career, are so manifold, that, to expatiate upon their enormity, or even to enumerate them, would be an endless task. It has, therefore, been resolved that a few instances only shall be cited; after which it shall be submitted to the decision of this meeting, whether 'man is deserving of any mercy from those animals which have been subjected to his domination during their earthly pilgrimage.'"

The Horse, the Bull, the Bear, the Cock, the Monkey, the Dog, the Ass, and the Cat, then give, in detail, the particular histories of their lives, and of the various cruelties to which they were subjected. The author has rendered the speeches of the animals, with the aid of various important notes, not less instructive than amusing. The Elephant thus commences the recapitulation:—

"The evidence which has been adduced is most disgraceful to a people pretending to civilization, and professing the religion which enjoins them to do unto others as they would that others should do unto them. There are, however, many honourable exceptions to the too general depravity; and it is fortunate for the stranger before us that he is himself guiltless of any participation in the manifold abuses which have been proved against his

countrymen. I carefully marked his countenance during the recital of human guilt, and I saw there unequivocally depicted mixed emotions of shame and indignation, which greatly prepossessed me in his favour, before the redeeming evidence of the dog and the horse were adduced in confirmation of the protestations of his innocence, which he made previous to the commencement of the examinations. I am so well aware of the justice of your nature, that I am fully persuaded that you will not visit the sins of the guilty upon the head of the innocent; and I confidently anticipate that the acquittal of the stranger will accompany a verdict of guilty against his countrymen in general. Should he, by any means, ever revisit England, his native home, and report to his brethren what he has seen and heard during his unexpected visit to this our Elysium, the narrative may tend to accelerate that reform in the laws relative to wanton cruelty to animals which has long been advocated by those benevolent individuals to whom the stranger has alluded in the course of his address."

On account of the intercession of some of the animals in behalf of the stranger, between whom and himself a mutual attachment had previously existed, a verdict of acquittal is awarded him.

"On the announcement of this just and merciful sentence, there arose from the countless assemblage to whom it was addressed an universal acclamation of so extraordinary and indescribable a nature, that I awoke from my strange and protracted dream, and, to my great astonishment, found myself in bed, while

‘Fancy, like the finger of the clock,
Ran the wide circuit, yet was still at home.’

So vivid were the impressions which the singular vision had left upon my mind, that I was enabled to commit the whole to writing; and I have been induced to publish it, in the hope that it may have a tendency to promote the good cause so feelingly and so effectually advocated by the benevolent practical Christians to whom the public is indebted for that excellent work, ‘*The Voice of Humanity.*’”

We would observe, that, independently of the beauties and merits of this work, which of themselves will insure it, we hope, an extensive circulation, on account of its humane object, which the author has very successfully advocated, the work has very strong and peculiar claims on the patronage and support of the public; and we are most happy to see that the Duchess of Kent has condescended to give her patronage to this humane and laudable publication.

Miscellanea.

A DETERMINEDLY VICIOUS MARE THOROUGHLY TAMED.

HAVING in former letters given it as my opinion that many brilliant hunters are thrown away for want of a patient trial, I will here produce an instance in which one was preserved to signalize herself and her rider by a lengthened and determined perseverance, which although to the credit of my brother, I cannot recommend as a practice by reason of the danger which attended it. The facts are these. About the third or fourth horse I purchased was a four-year old filly that had gone amiss in training, owing to symptoms of a sinew giving way. Of her breeding it is enough to say that she was got by Lord Sherbourne's Spectre out of a Highflyer mare; her dam Fairy Queen by young Cade; she was in height fifteen hands and a half. Her form was that of the race horse, but she had lengthy shoulders, long hind quarters, great ribs, twisted fore legs, but excellently formed hind ones; a head beautifully put on, coal black eyes, and the temper of a devil.

Veterinary surgeons being in those days scarce, with the usual presumption of youth and ignorance combined, and fancying myself a *farrier*, I set to work with her leg, and by the use of cruelly strong blisters made it twice the size of its fellow, and so it remained to her dying day. *But she stood sound* upon it; and after having been subjected to the scrutiny of a great judge of horse-flesh, I sold her to my brother for thirty pounds. Of all the dangerous brutes that ever man threw a leg over at hounds I doubt whether her equal could have been found. She went headlong *at every thing*, and generally *through every thing*; seldom rising at timber when she was required to do so; but more than once jumping clean over a gate which she was not required to jump, *and over a man (and his horse) at the same time*, who was in the act of opening it. In short, she was for the two first seasons so apparently incorrigible and dangerous—though from her activity not falling so often as might have been expected—that a request was made to her rider to part with her before she broke his limbs or his neck. He however stuck to his mare, and in time she made one of the coolest and most perfect hunters ever taken to the field; and in her eleventh year Lord Charles Somerset offered 200 guineas for her after seeing her performance from Staunton Park; at the same time declaring his conviction that the mare and her rider might be backed against England.

NIMROD—*New Sporting Mag.*, July 1833, p. 195.

THE LENGTHS OF THE NEWMARKET AND OTHER COURSES.

N. B. 1760 yards are a mile ; 220 yards are a furlong ;
240 yards are a distance.

	Miles.	Fur.	Yards.
THE Beacon Course is	4	1	138
The Round Course	3	4	187
Last three miles of B. C.	3	0	45
Ditch-in	2	0	97
The last mile and a distance of B. C.	1	1	156
Ancaster mile	1	0	18
From the turn of the Lands in	0	5	184
Clermont Course (from the Ditch to the Duke's stand)	1	5	217
Audley End Course (from the starting post of the T. Y. C. to the end of the B. C.) about	1	6	0
Across the flat	1	2	24
Rowley mile	1	0	1
Ditch mile	0	7	178
Abingdon mile	0	7	211
Two middle miles of B. C.	1	7	125
Two years old course (on the flat)	0	5	136
New ditto (part of the Banbury mile)	0	5	136
Yearling course	0	2	47
Banbury mile	0	7	248

ASCOT HEATH.

The two-mile course is a circular one, of which the last half is called the old mile. The new mile is straight, and up hill all the way. The T. Y. C. is five furlongs and 136 yards.

EPSOM.

The old course, now seldom used except for the cup, is two miles of an irregular circular form, the first mile up hill. The new Derby course is exactly a mile and a half, and somewhat in the form of a horseshoe ; the first three quarters of a mile may be considered as straight running, the bend in the course being very trifling, and the width very great ; the next quarter of a mile is in a gradual turn, and the last half mile straight. The first half mile is on the ascent, the next third of a mile level, and

the remainder is on the descent till within the distance where the ground again rises.

The new T. Y. C. is six furlongs, the old T. Y. C., or Woodcot course, is somewhat less than four.

The Craven Course is one mile and a quarter.

DONCASTER

Is a circular and nearly flat course of about one mile, seven furlongs, and seventy yards.

The shorter courses are portions of this circle.

LIVERPOOL.

The new course now used for both meetings, is flat, a mile and a half round, and with a straight run in of nearly three quarters of a mile, and a very gradual rise.

MANCHESTER

Is one mile, rather oval, with a hill and a fine run in.

New Sporting Mag., May 1835, p. 73.

HOW TO SHOE A VICIOUS HORSE.

As soon as breakfast was over I generally enjoyed the luxury of idling about the town; and in passing the shop of a blacksmith who lived opposite to the Goldene Kette, the manner in which he tackled and shod a vicious horse always amused me. On the outside wall of the house two rings were firmly fixed, to one of which the head of the patient was lashed close to the ground; the hind foot to be shod, stretched out to the utmost extent of the leg, was then secured by the other ring about five feet high, by a cord passed through a cloven hitch, fixed to the root of the poor creature's tail. The hind foot was consequently much higher than the head; indeed it was exalted and pulled so heavily at the tail, that the animal seemed to be quite anxious to keep his other feet an *terra firma*. With one hoof in the heavens it did not suit him to kick; with his nose pointing to the infernal regions, he could not conveniently rear: and as the devil himself was apparently pulling at his tail, the horse at last gave up the point, and quietly submitted to be shod.—*Bubbles from the Brun- nens.*

HOW TO KEEP A HORSE FROM STRAYING.

THE Icelanders have a most curious custom, and a most effectual one, of preventing horses from straying, which I believe is peculiar to this island. Two gentlemen, for instance, are riding together without attendants, and, wishing to alight for the purpose of visiting some objects at a distance from the road, they tie the head of one horse to the tail of the other, and the head of this to the tail of the former. In this state it is utterly impossible that they can move on either backwards or forwards, one pulling one way and the other another; and, therefore, if disposed to move at all, it will be only in a circle, and, even then, there must be an agreement to turn their heads the same way.—*Barrow's Visit to Iceland.*

METHOD OF DISCOVERING THE SEAT OF INFLAMMATION
IN THE FOOT OF THE HORSE.

SOME years since I was hunting in the neighbourhood of Dartmoor, and in the course of a severe run my horse sprung a shoe, to replace which I was obliged to go to Ridgway, the nearest smith's shop I could find. Just as the shoe was replaced, a boy brought a horse belonging to a farmer in the neighbourhood, complaining that the smith had pricked him in shoeing two days before. The common method of applying the pincers and hammer was tried without effect. An old infirm pauper of the parish standing by, observed, that if it was in the foot, he thought he could find the place. He requested some water to be brought him: the horse's foot (being of the near fore leg) was held out forwards; he poured some of the water from the coronet, running over the hoof, a part of which dried instanter. Being repeated, the same effect was again produced: it of course shewed that there was fever just at that part, and by tracing it to the nearest hole inside, the mischief was discovered, it having already festered. On asking the old man what made him think of such an experiment, he said, he recollected his master did it when he was a boy. I thought it shewed that our forefathers had some clever ideas about them. I have found it occasionally useful during my travels both to myself and those I have recommended it to, and if it is worth insertion in your work, it is at your service.

New Sporting Mag. Jan. 1835, vol. vii, p. 205.

Babbicombe, Dec. 1834.

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LETTERS TO A STUDENT.

By A. B.

[Our readers must kindly accept a lecture from an old correspondent, under a feigned signature, in lieu of the drier one on animal pathology, which usually occupies this situation in our periodical. In the first number, however, of the ensuing volume these lectures shall be resumed, and, we trust, continued without interruption. It was a new and a difficult, although a highly important and interesting, division of these lectures, which we were approaching; and, if there were no other excuse that could have been pleaded, a little hesitation and delay will not be very severely censured.

As to our valued friend—our present *locum tenens*, well worthy of a better office—his lecture contains some exceedingly good hints on which the student will do well to ponder. He promises us “a bundle of these letters.” We agree to his terms. We will not “erase *any* thing;” he shall have “the whole bill.” We will “bear his praise and forgive his censure;” and we will, “for the present, suppress his name”—a name that we shall not be ashamed of when “somebody shall *publicly* accuse us of writing these letters ourselves.”]

No. I.—COLLEGE CONDUCT.

UPON the manner in which you spend your time at the College depends much of the gloom and sunshine of your after life. The purposes for which you are there should not be forgotten even for an hour. Your residence is so short, that a single day given to amusement or idleness may be the loss of all the professional skill which that day's labour ought to have produced.

In all congregations of young men there are some who lead

the others. Their example is followed by a certain number of their fellow-pupils. Unfortunately it is not the talented nor the industrious that are most generally imitated. There are always a few daring dissipated characters, who do things in an impudent off-hand manner, and demand the approbation and the imitation of their fellows. Those I allude to are oftener in the tavern than in the dissecting-room. They speak of plays, actors, sights, and politics, oftener than of professional matters. They are often absent, and, when present, they look and listen with the indifference which marks a fool. The worst of them are obscene, riotous, prone to boast of their exploits in "drinking, fencing, swearing, quarrelling, drabbing," and other vices, in which no man can participate without permanent contamination. Characters of this kind are to be studiously avoided. They waste your time, and do you harm otherwise. They can give you no aid in your studies, or, if they could, you should reject it. It is dangerous even to know them. They never succeed in business. They start with a great deal of flourishing; they are to carry all before them. But in a short time they betray their vice, and few men are inclined to look for skill where there is no virtue. Suspicion once excited, ignorance is soon discovered; and, in a little while, your College dash-away is a beggarly bankrupt.

There is generally a good sprinkling of tom-foolery among Collegians. Your true fop is a man of great pretensions. He knows to a hair's-breadth how much of the waistcoat should be left unbuttoned. He is learned in tailoring and barbering; and he hath read "The whole art of dress." He has rings on his fingers, hair on his upper lip, an eye-glass dangling from his neck, and a head on his shoulders originally intended for a barber's block. Your coxcomb is a very fine gentleman. He cannot, indeed, dissect, because dissection hardens the hands, soils the rings, and is altogether a nasty sort of employment. Reading gives him the headach; lectures are a bore; and the debating-room is just a place for sport and trifling.

What these gentry do at College nobody can tell, unless it be to squander away the money which they never earned. They pretend, indeed, to be learning something about the horse: other animals they abhor. They ridicule those who venture to make any allusion to the cow, or to the dog; and to speak of swine, is perfectly shocking. I have seen one of these puppies go into a sort of hysterical fit merely because he saw a fellow-pupil reading an account of nasal gleet in ducks. He did not altogether escape the rebuke he deserved: if now alive—for these empty pates are seldom traceable through life—he still remembers what was said.

You must shun all these butterflies. Puppyism is contagious. Mere foppery in dress is not, indeed, a vice; it wears off in all those who arrive at years of discretion; but neither old nor young indulge in it who are capable of doing much good. It indicates an empty head; it may, and often does, exist in combination with vicious habits; but it is never seen in combination with the acquirements of solid and laborious application. If you do your duty, the drudgery in which you must be engaged, both as a pupil and as a practitioner, cannot be performed in the trumpery of a dancing-master.

Beware of extremes. If you are determined not to be vicious, yet you need not be a methodist; and there is a wide difference between foppery and slovenliness. Be good, but never speak of virtue. Let your dress be plain, orderly, and, like your manner, unaffected. Avoid pedantry as much as you would avoid ignorance. Let your associates be those who have been longest at study; those who have been under a practitioner before their arrival at College; those who must, can, and will depend upon their own exertions for their bread.

Above all things, be industrious. Rise early; never miss a lecture; visit all the patients several times a day; keep short notes of the cases; ask questions about them, consult your books, and compare the description with the patient. Dissect night and day, until you have seen all that anatomy can shew. You will spend a good deal of time in reading; yet it is better to read little and understand all, than to read much and understand only a part. Consult the College library. Read all the books: of those which cannot be purchased, make short abstracts; and quote what is useful from those that are not worth purchasing. Get a few quires of paper bound into a book; and in this record cases, abstracts, quotations, and any other professional matter worthy of remembrance. At first you will write much nonsense, and record much that may not deserve record. Never mind that: you can burn the book when it becomes useless. It may be useful for future reference, and you can hardly fill it without learning to think, to know, to write, and to remember better than if you had trusted all to memory.

You must have a library of your own. The principal works you require are those of Percivall, Blaine, and Youatt; some medical works and dictionaries on anatomy, surgery, practice of physic, physiology, chemistry, agriculture, and stable economy. In the French I can recommend Vatel, Girard, and D'Arboval. You should take in, at least, one of the French periodicals, as well as *THE VETERINARIAN*. Our own Journal must on no account be omitted. The published numbers contain an im-

mense mass of information, mixed, as I confess, with much error, and a great deal of useless and frivolous matter often repeated. But the same is true of all medical journals, and cannot be otherwise. THE VETERINARIAN has no more than its share. The French periodicals have much more. If you do not read it, and appropriate all that is worth appropriation, you must not go where there is any opposition in practice. Those that surround you will have more skill, because they will have read more.

You must study the diseases of all domestic animals—that is, as far as you can. Never heed the sneer of anybody on this point. Let the chatterer exhaust himself. Learn you your business as fully as you can. You will be a successful practitioner when he is a beggar.

You will be a mere pretender, little better, indeed, than a quack, if you offer to treat diseases of which you have never heard. If you cannot learn them at College, you must go to the University, as I did. You need not murmur at that. Are you to go without information because you cannot get it all heaped within four walls? There never was any single college in the world famous for every branch of instruction. Why should that be expected from the Veterinary College which is not expected nor obtainable from any college of medicine? The additional fee is a very paltry consideration. There would be more good practitioners, were the fees all doubled or trebled. Education, in reference to its cost, is like every thing else: the less you pay, the less you receive.

Remember, wherever you settle, you cannot confine your practice to the horse. If an opponent sits down against you, who can manage cattle, sheep, swine, dogs, &c., he will get the horses too.

You are not such a fool surely as to imagine that you can treat the diseases of these animals merely because you can treat those of the horse. If you try it, you are ruined: you will very soon be found out. Your friends may give pity; but enemies will brand you for an impostor. I speak from what I know. I have seen many young men commence business with fair prospects. Several of them were not half taught. Of these not one has succeeded well. Some have gone entirely to wreck; one is selling books; one is selling stockings; one, very lately, was begging; some are keeping grocery and whisky shops; one is a gentleman's gardener; one is keeping livery stables; many are working as blacksmiths, and, three months ago, I had one in my own forge seeking employment. Had these men known their business, they would have done well. There was work to do, and it might have been obtained by skill and perseverance. This country is not yet

half supplied with GOOD practitioners. More than half of the work is done by quacks.

I have just one thing more to say. Learn to handle your patients. It is good to be expert at all operations, but it is essential to your success that you be able to perform those *well* which everybody can perform. Every groom will judge of your skill by the mode in which you go about a horse, the manner in which you handle, bleed, or ball him. You may bungle neurotomy, and escape discovery; but if you are awkward in lifting a horse's foot, in bleeding or balling him, no skill will command confidence. You must learn to do every thing that the groom, cowherd, or gamekeeper can do. If you do them better, you will likely get more praise than you deserve. Nothing will give you stable dexterity sooner than the labour of cleaning and shoeing horses. You are not to say that you do not like such mean employments. Men who mean to get on in the world must do much that is not agreeable. Business now-a-days is not amusement. If you can acquire mechanical dexterity by other means, do so: but remember that it must be acquired, if you would practise without suspicion of your professional skill, and without danger to your limbs. Bleed and ball as often as you can. Pick up the feet, examine the horse all over. Look at his mouth, eyes, nostrils, and *feel* every part about him.

ON AN ANOMALOUS EPIDEMIC WHICH APPEARED AMONG THE HORSES OF THE TENTH ROYAL HUSSARS.

To the Editors of "The Veterinarian."

York Barracks, 10th Nov. 1836.

Gentlemen,—If you consider the following essay worthy of a place in your valuable Journal, it is at your service. It is my intention in the present paper to give a general sketch of the disease as it appeared; and in succeeding numbers to illustrate the subject more forcibly, by cases from practice.

I am, Gentlemen,

Your most obedient servant,

J. W. GLOAG,

V. S. Tenth Royal Hussars.

THE Tenth Royal Hussars marched into Glasgow Barracks in April 1835, and there was very little sickness and no death among the horses until the end of December in the same year,

when this alarming and fatal disease broke out Fifteen horses died, and some idea may be formed of its malignity from the fact, that, between the 2d and the 14th of January, eleven were lost. This epidemic raged with greatest violence about three weeks, when it began to assume a milder form, and gradually disappeared. The principal points to which I beg to direct the attention of the reader are its peculiar debilitating and depressing nature, the great value of stimulants in my treatment of it, and the intense disease of internal organs that may exist without perceptible pain.

The cavalry barracks at Glasgow are situated on the north side of the Clyde, on a slightly rising ground. The last winter was unusually severe; and about the time that this disease appeared we had a great deal of damp, heavy, foggy weather: the prevalent wind in that season was from the north east. These barracks have generally been considered as unhealthy for horses, but from what particular cause I am unable to determine. The men's rooms (as is usually the case in English barracks) are built over the stables; the forage was of fair quality; the water was conveyed by pipes from the River Clyde into the barracks; the ventilation was of the ordinary description; and the horses were not unusually exposed during the season, but had their general exercise.

So far as I may venture an opinion on the cause of this epidemic, I can only refer it to some unaccountable character of atmosphere; and while I am on this topic, I may add (although I do it with reluctance, because it is mere supposition) that there was a gasometer erected outside the barrack wall, the effluvia from which, at certain states of the atmosphere, were highly offensive, and especially in the heavy damp weather prevalent at that time.

I am of opinion that this may have assisted, together with some peculiar atmospheric influence, in the formation of the disease; and I am confirmed in this opinion by the fact, that immediately after this gasometer began to work the epidemic appeared. The malady was confined at first to the youngest horses, but, as its fatal character was more developed, horses of every age suffered. The bad or good condition of the animal seemed to be thus far only connected with the disease, that the horses which were attacked were generally in the best order.

In the first stage of the disease, the following were the symptoms:—The animal was unusually dull, and was off his feed, or he ate with indifference; there was hanging of the head and ears. The pulse usually rose to 50 or 60, and was very weak; there was likewise great debility of the muscular powers: the eyes

were dull, and the lining of the orbital cavity slightly increased in vascularity. As the disease increased the pulse continued to rise in number and diminish in strength; the general debility increased fearfully; the bowels were completely torpid; the pulse gradually grew weaker until it became imperceptible, and the voluntary powers at last totally failed. When the patients once fell, they were seldom able to rise again. About three hours before death I have observed that the mouth was cold, and the pulse imperceptible; but immediately previous to the animal's dropping the eyes grew bright and staring, and seemingly fixed on one object, and directed upwards: the horse then usually fell backwards, and expired almost immediately.

The duration of the disease was various: some horses died in thirty-six hours, others lingered on ten days; but in all those cases that were slowest in their termination, the pulse on the first appearance of disease was 40, and gradually rose to a considerably higher number. The first two cases that I had died with a pulse that never exceeded 45, but the strength of the pulsation decreased hourly in every case until it could be no longer felt. The blood was always very dark-coloured, nearly black, and flowed very tardily from a large orifice. There were none of the appearances of epidemic catarrh about this disease; no soreness of throat or cough; no enlargement or pain in the submaxillary or sublingual glands; no swelling of the legs or increased secretion of tears, or swelling of eyelids, or discharge from the nostrils. The extremities retained their natural warmth until the near approach of death; and, I may add, that there was little or no acceleration of breathing visible in any one case. The urine passed freely, and in sufficient quantity. In some cases, the appetite was only slightly impaired; in others, there was a total refusal of food: fluid has always been taken in large quantities. Throughout the disease (except until the near approach of death, when more or less spasmodic action of the intestines might be inferred) there was no perceptible pain in any particular part. The coat usually looked well; the abdomen not tucked up; but in some cases the animal flinched under pressure. Shivering fits were not an accompanying symptom, yet there was a slight staring of the coat in some cases at the very commencement, but during the after progress of the disease the skin looked healthy. In general, the animal remained standing in one position, disinclined to move, with great languor and loss of spirits, and a certain sleepy look: and on attempting to rouse him the swaying motion of the hind extremities, and in later cases the dragging of the hind legs, shewed how grievously the strength had wasted: however, I may add, that two

or three horses of high mettle, although the loss of muscular power was very apparent, yet, until within a few hours of death, they retained their natural lively look. I never observed any disinclination to rise or lie down in this disease.

In two cases, a few hours before death, the animal suddenly purged a black fœtid fluid, so disagreeable that it was almost impossible to remain in the stable.

This fatal disease lasted about three weeks, and then assumed a milder form, and gradually disappeared. At the expiration of this time, however, I had horses afflicted in a different manner, and great numbers of them. They were seized with violent shivering fits, which would sometimes last for hours, accompanied by great debility and a quickened oppressed pulse, varying from 50 to 70. In some instances, intense cholicky pains were observed. From symptoms so opposite to those of the foregoing disease, it might be inferred that it was of a different form and character: my reasons for considering it to be a milder form of the epidemic are these,—the great number of those cases at that particular time, the very debilitating nature of the disease, and the perfect analogy in the effect of the same kind of treatment. In a subsequent part of this paper I shall again refer to this.

This epidemic disease, besides the usual termination in restoration to health or death, in a few instances ended in a different manner; producing, in one case, disease of the spinal canal with consequent paralysis of the hind extremities; in others, disease of mesenteric glands, with dropsy of the abdomen. Ruptured liver has likewise been the consequence of it.

I trust to be excused entering fully at present into the treatment of this malady, as I have stated that I intend in a future number to give extracts from my practice: my remarks, therefore, must now be of a general character. From the very obscure character of the disease, with a pulse gradually rising in number, I considered it at first to be of an inflammatory nature; but of what kind, or to what organ principally determined, I could not find out. There was no increased or quickened respiration; I therefore argued that it was not in the lungs. It was not similar to any of the varied forms of catarrhal disease: all that there was to guide me, was the torpidity and inertness of the bowels, the extreme debility, and the oppressed quickened pulse. I treated it as an inflammatory attack, and used depletive measures, endeavouring by every means to open the bowels; I also applied counter-irritants to the chest, in the shape of blisters. Almost every animal that lost any blood died, and very often in a few hours. In another part of this paper I have observed the black appearance of the blood, and the small wiry stream in which it

ran from the animal. Few could bear the loss of more than three quarts without falling. I must candidly own, that when I saw these fatal effects, I attributed them to having bled too late; but I tried venesection in all ways, and I invariably found it highly injurious, and generally fatal.

I now adopted another plan: I had opened several of the horses, and had seen that the contents of the stomach and bowels were always fluid, but that these viscera seemed to have lost their natural contractile powers—they were paralysed. I now gave as much purgative medicine at once as I conceived ought to act in ordinary cases; and then administered large quantities of stimulants, with slight doses of calomel, in the hope that if the contractile power of the stomach and bowels could once be restored, the purgative might assist in causing the evacuation of this fluid. I blistered the region of the liver on both sides most extensively; and I may mention, that I never saw a case recover in which the blister did not act well. Warm clothing was applied to the body, and bandages and hand-rubbing to the legs. Clysters were thrown up three or four times a-day, and the animal supported by giving plenty of gruel, or any thing that he could be induced to eat. All the horses that recovered were treated in this manner. There were some with regard to whom I had abandoned all hope: but suddenly an evident change took place for the better, the natural action of the bowels returned, and the animal did well.

I come now to consider the milder form of the epidemic, which appeared three weeks after the more fatal one had passed away. Its treatment was perfectly analogous to the foregoing. Immediately on its commencement I gave two ounces of spirits of sweet nitre, and two ounces of tincture of opium, in one pint of common oil, and repeated it in two hours, if necessary; adding warm clothing to the body, stimulating embrocations and hand-rubbing to the legs, and warm clysters thrown up repeatedly. The severity of the attack usually went off in half an hour, and the appetite returned, when a hot bran mash was given; but it always left great debility, and generally a cough; and it was necessary to give strong tonics daily, for some time, before the animal fully recovered its strength. A horse, after one of those attacks, was left much more likely to have a second or third. I may here remark, that bleeding, whenever resorted to in these cases, seemed to be highly injurious.

The post-mortem appearances were as follow:—the *brain and spinal marrow* I have examined carefully, but must own that in the majority of cases I could not discover any disease in them. I thought the substance of the brain looked paler than usual.

In the case of a horse that died from paralysis of the extremities, as an after-consequence of this disease, the spinal marrow only filled half the space allotted to it in the vertebral canal; the fluid which must have been present escaping when the head was taken from the body. The *lungs* were usually perfectly healthy; but in some few cases there was a dark damask flush in the lining of the trachea and bronchial cells. The *heart* was always softer than usual, and this organ generally contained black blood on both sides. The *stomach* was in all cases diseased; the villous portion was of a dark damask flush, very dissimilar from the regular appearance of inflammation. In many cases, it was marked here and there with patches of a sub-gangrenous nature. I have, in several instances, seen this organ distended to an amazing size with fluid, and balls, that had been given two days previous, lying undissolved. The *intestines* presented a similar appearance to the villous portion of the stomach; the contents were always fluid, and there was no apparent obstruction throughout the canal; the coats were not usually thickened from disease. In two cases, the contents of the stomach and bowels were nearly black, and smelled offensively, gangrenous inflammation having supervened. The *liver* was always diseased, the degree varying according to the length of the attack. In those cases which ended quickly, it was found highly congested and easily lacerable, and gorged with blood. In cases that lasted longer, it has been a complete pultaceous mass, through which the finger could easily be passed from end to end of it. In the first two cases, and which laboured longest under the disease, and wherein the pulse never exceeded 45, the liver was highly congested, or almost rotten, and filled with miliary tubercles. The *kidneys* have been healthy, and the other organs of the abdomen generally so.

I am induced to consider this disease as fever of a typhoid character. The appearance of the dark flush on the villous portions of the stomach and intestines, totally dissimilar from that of ordinary inflammation—the same peculiar colour over the lining of the cavities of the heart, bronchial cells, &c.—its gangrenous termination, and all this without evident pain, in the generality of cases, during life—the very debilitating and depressing character of it, &c. &c.—all this will be inexplicable except on consideration of its typhoid nature. I hope, in future numbers, to be able to shew by cases from practice the great value of stimulants, and thus to add another reason to those I have assigned for considering it as typhus fever.

EXTRACT OF THE PROCEEDINGS OF THE VETERINARY SCHOOL AT ALFORT, DURING THE SCHOLASTIC YEAR 1835-36.

DURING the last session, 648 animals have been admitted into the infirmary, namely, 460 horses, 183 dogs, 3 mules, 1 cow, 2 goats, and a pig.

Of the 460 horses, 347 have been returned cured or recovering; 21 yet remain in the hospital; 45 have died under treatment, and 47 have been destroyed, after having been given up to the school, either because they were absolutely incurable, or because the expense of cure would be too great.

The greater part of those which were destroyed were farcied or glandered.

Of the 183 dogs, 127 were dismissed cured, or in the way of being so; 22 remain in the infirmary, and 34 have died. The greater part of those that were lost were distempered. The three mules and the cow were cured, the two goats died in consequence of some nervous disease, and the pig was cured.

Two circumstances will here probably attract attention. Although the number of animals sent to the school is greater than in 1830, 31, 32, 33, and 34, it is considerably smaller than during the last year, probably because we have increased the expense of their being kept with us full 20 per cent. : and notwithstanding the number admitted has been diminished, the number of deaths has increased; but this also is readily explained: an epidemic of a typhoid character has prevailed during the last year, and has been exceedingly destructive. It is for the same reason that, while in 1835 our losses in horses averaged about one in fifteen, in the present year we have lost nearly one in ten.

It may also be stated, that in our list of patients we have not mentioned the cows, and sheep, and hogs, which are always kept in the establishment, and many of which have been submitted to medical and surgical treatment.

In addition to the patients within our walls, 1609 horses, 96 dogs, 19 asses, 9 cows, 5 pigs, and a mule, have been brought to us for medical advice, or for certain operations, or to be examined previous to purchase. One of the professors has given written prescriptions or certificates, as the case required, or has performed the necessary operations; so that during the year, 2387 animals have passed in review, from the examination of each of which some information might probably be gained by the pupils.

Still, in addition, the pupils of the fourth year have attended

on 195 animals belonging to persons in the neighbourhood of the school*.

We limit ourselves to a very few subjects in reviewing the proceedings of the year.

GLANDERS AND FARCY.—For a long time patients afflicted with this disease have not been so numerous as they used to be; yet we have not been more fortunate than heretofore in our attempts to conquer this dreadful malady.

It is true, that many horses that had laboured under the one or the other, or both of these diseases, were to all appearance cured; but these were young and strong constitutioned horses, that had been diseased only a little while, and that presented none of the characters of confirmed chronic glanders: and it must be added, with regard to those that have remained in the infirmary, and those, of whom, continuing with their former proprietors, we have not lost sight, that, at the expiration of some months, every symptom has reappeared, and they have been destroyed. Perhaps we must confess yet more: that these temporary cures have been attributable to cleanliness, and care, and good feeding, far more than to the influence of any drug, or any medical treatment whatever. Therefore Professor Renault always frankly expresses his opinion, that, in the present state of veterinary knowledge, glanders is an incurable disease; and that it is more for the interest of the owners of horses to destroy them on the very first appearance of this pest, than to incur any expense in fruitless attempts to arrest that which must run its course.

This Professor deems it his duty to state one fact of considerable importance to practitioners. He had long observed, that many good-constitutioned horses, after having for one or two months presented all the symptoms of glanders, ceased all at once to discharge from the nose, and the chancres on the nasal membrane rapidly healed, but that the enlargement of the glands of the jaw remained, and that until the reappearance of the other characters of the disease. The dissection of these glands in some horses that he had thought it right to destroy, having proved to him that they always contained, in their centre, or on their surface, a greater or smaller number of reservoirs of puriform or tuberculous matter, he thought that it was the increased

* The translator had occasion to see at Alfort, in the beginning of October, a small flock of Merino sheep, and a more numerous one of Leicesters. The director of the school, M. Yvart, has enthusiastically devoted himself to the improvement of the French breed of sheep. Experiments were likewise conducting for the amelioration of the breed of swine. A considerable number of cattle, and sheep, and hogs were necessary for the provision of more than 200 students, all of whom, according to the regulations of the French schools, lived within the walls of the establishment.—Y.

quantity of this matter, and the absorption of it, which was the cause of the return of the nasal discharge, and of the ulcerations and farciéd cords by which it was accompanied. In consequence of this, he attempted to extirpate these glands in horses that were in the situation just described. For the most part, this operation was attended by the happiest results; but if it was practised on animals already chanced and discharging, it not only was unavailing, but it always aggravated the disease.

It is well known, that ulcerations, variable in number and extent, sometimes develop themselves most rapidly on the nasal membrane, and which are not accompanied, at first, either by discharge from the nose or enlargement of the glands beneath the jaw.

Many cases of this kind have presented themselves this year in our hospital, in which the cicatrization of these ulcerations has been obtained by touching them with the nitrate of silver, and, after the fall of the different eschars, injecting on the little wounds that remain, a solution of the subacetate of lead, and blowing some powdered charcoal into the nostril several times in the day.

The Contagion of CHRONIC GLANDERS, to the fear of which the army and the commercial and agricultural interests have sacrificed so many excellent horses, has always been regarded as doubtful by the director of this hospital. Not a single case of it has occurred, or been suspected during the present year. He thinks, more than ever, that the government would render an essential service to all these interests if it would institute a series of simple and not expensive experiments on this point.

The Contagion of ACUTE GLANDERS, on which all veterinarians are nearly agreed, has been the subject of two experiments during the last year. A horse, six or seven years old, and sadly knuckling over in both fore feet, had been sent by the knacker for the purpose of dissection. In order to demonstrate to the pupils, by the evidence of their own eyes, the efficacy of the section of the perforans tendon in such a case, M. Renault performed that operation; and the wounds having perfectly healed, he caused this horse to be worked in a carriage by the side of another horse that had been sent to the school on account of acute glanders. Some days afterwards small chancres appeared, and then discharge from the nose, and enlargement of the glands under the jaw. But this animal, being placed in a stable by himself immediately after the appearance of these symptoms, and the glands having been extirpated, and the chancres cauterized, every character of glanders disappeared, and he is at the present time in the service of the school, and in a good state of health.

Another horse that had been sent to our school, where he had been treated with success for farcy and inveterate grease, was placed, in his turn, by the side of another labouring under acute glanders. He worked with him fifteen days without the slightest symptom of glanders appearing. We content ourselves with stating these facts, without pretending to draw any conclusion from them.

Many cases have occurred during the last session, confirming the opinion of M. Renault respecting the occasional cause of FARCY; namely, that it may be reproduced by the reabsorption of pus; that reabsorption either taking place in the interior of the abscess, which was not opened sufficiently early, or from the surface of wounds where pus was suffered to remain too long, either not being removed so often as it ought to have been, or having no mode of escaping from the wounds.

This kind of farcy has almost invariably been cured, when the existence of the cord, proceeding from the point of suppuration, and before it has reached the ganglions and empoisoned the fluids collected or circulating there, has been recognized. As to the nature of farcy, M. Renault regards it as perfectly identical with glanders, there being no other distinction between them than the region which they each occupy—the one appearing in the lymphatics of the nose, and the other on all the superficial textures of the body. As to the objection which may be urged against this opinion, arising from the different degree of curability in the two maladies, it is more specious than just. It is certain, in fact, that a surgeon could cure as many glandered horses as those afflicted with farcy, if the diseased lymphatics of the nasal membrane were as much within the reach of the knife or the cautery as those which appear upon the skin; and if they were surrounded with as much cellular tissue, in order that the wounds resulting from their extirpation or cauterization may be as easily healed.

HOMŒOPATHY.—Whatever faith the veterinary surgeon may place in the usual routine of medical treatment, he should not reject, without trial, other curative measures, the theory of which he may not be able to understand or explain. M. Renault, properly acting on this principle, has put the homœopathic system to the test in the infirmary at Alfort. A medical man, a professor of homœopathy, sent a farcied horse to the school, and begged of the Director that it might be treated according to this new and inexplicable doctrine. The request was readily granted—the experiment was made—but the issue was not fortunate. Different veterinarians have transmitted to M. Renault similar accounts of its failure in cases of farcy and glanders.

CASTRATION.—The possibility of the introduction of air into the abdomen by means of the tunica vaginalis has been considered by some veterinary surgeons as a reason for preferring the *covered* way of castrating with the clams to that in which the vaginal tunic must necessarily be wounded. Two horses were operated upon according to the latter method in the course of the last year, and the air was heard to pass through the opening of this tunic with a very audible *glou glou*, after they got up. At every inspiration and expiration the same noise was repeated, and loud enough to be heard at a distance of ten paces. This continued nearly an hour, but the health of the animals was not in the slightest degree affected. In the preceding year two instances of the same kind occurred.

STRANGULATED HERNIA.—Two cases of this kind have come under our notice during the last year. In the first case M. Renault practised the mode of *Herniotomie*, described and recommended by M. Girard. He cut through and turned up the scrotum and the dartos muscle, and then penetrated with some precaution into the hernial sac, in which he found nearly two feet of intestine. He unravelled it, and caused it to be held by an assistant, while he divided the ring; after which, and with greatly difficulty, he returned the whole into the abdomen. A clam was then applied on the cremaster muscle, and M. R. congratulated himself on the fortunate termination of the operation; when the animal making a sudden and violent plunge, the intestine again escaped through the ring, separated or tore the fibres of the cremaster above the clam, and protruded quite as much as before. The intestine was returned once more, and the lips of the incision into the scrotum were held together by the continued suture; but all hope had now fled, and the animal died a few days afterwards.

As this accident might often occur after the operation for strangulated hernia, already surrounded with dangers sufficient; and as it is not in the power of the surgeon to prevent it, M. Renault considered with himself, whether the strangulated hernia being recent, and no great swelling having yet taken place, and a small portion of intestine being entangled in the ring, it might not be preferable to make an incision at the superior part of the flank, by the side of the hernia, and endeavour manually to return the intestine entangled in the ring, and more or less descended into the scrotum or sheath. Nothing then would remain for treatment but a wound penetrating into the inferior part of the abdomen; and the result of surgical experience is, that simple wounds, like this, may generally be successfully managed. It is true, that this method of reducing hernia has

been resorted to in one unfortunate case: but the horse had two strangulated herniæ; the strangulation had existed twenty-two hours; more than two feet of the small intestine had descended into the scrotum, and that portion of intestine was already distended by gas.

RABIES.—A singular case of rabies occurred during the last month in a filly, five months old. Five weeks before she had been bitten by a rabid dog. During two days she presented almost every symptom of rabies. Sometimes she was calm, at other times she exhibited a universal convulsive agitation. She stamped and kicked, and especially bit at every thing within her reach. Abandoning herself to the dreadful impulse of the disease, she furiously seized her own breast and fore arms, and shook the skin, and endeavoured to tear it away with her teeth. If she was threatened with a stick, she sprung at it, and bit it, and shook it again and again. Her eye was open, and frightfully brilliant; and her lips covered with foam. Like the rabid dog, far from dreading the sight of water, she rushed to the pail that was presented to her, and plunged her muzzle into it, but without swallowing a drop: again she would dash at it, and plunge the lower part of her face into it. To a greater extent than in dogs that have died rabid, we failed in finding any satisfactory morbid lesions after death.

This was too favourable an opportunity to be suffered to escape for trying the effect of the saliva of a rabid herbivorous animal. We introduced under the skin of a horse a small pledget of tow that had been abundantly impregnated with her saliva. We removed the epidermis, and rubbed some of the saliva on various parts of the same horse; we also inoculated a dog in the same manner; and when the filly was dead, we gave her tongue to another dog, and he ate it. In none of these animals was rabies produced.

SWELLED LEGS.—At the close of the last wet and snowy winter, a great many horses with swelled legs were brought to the infirmary. Emollient applications were used at the commencement, and, after that, an ointment composed of lard, honey, and subacetate of copper, and seconded sometimes by a seton in the upper part of the limb: these means were usually successful. In some of these horses the engorgement of the lymphatics on the inner face of the thigh having caused us to fear the development of farcy, we prevented or arrested this evil, by excising, to a greater or less extent, the vessels already affected. Towards the end of the year we obtained very good results from the use of a solution of sub-acetate of copper in the proportion of two ounces to a pint and a half of water; in cases of inveterate swelled legs, ac-

accompanied by enormous *fics* (grapes). This method of treatment was introduced by an old professor of this school, now a veterinary practitioner at Paris.

M. Renault, who superintends or performs the operations which the respective cases may require, is engaged in a course of experiments, with a view of ascertaining the dangers by which the principal ones may or may not be accompanied, and the degree in which they may be simplified, or otherwise modified. These experiments are made in the presence of the pupils, and cannot fail of being profitable to them, while they will serve as the basis of a work which M. Renault is preparing on "Veterinary Surgery."

Recueil de Méd. Vét. Septembre 1836.

ON WOOD-EVIL AND MOOR-ILL, IN REPLY TO
Messrs. MAYER and SURGINSON.

By Mr. W. Cox, of Leek.

I FEEL myself called upon to make a few observations on the papers of Messrs. Mayer and Surginon on Wood-evil and Moor-ill, contained in the last number of THE VETERINARIAN, and to illustrate these observations by a practical fact or two.

If Mr. Mayer will again look over my communication, he will find that I merely stated the opinion of various farmers as to the complaint which I call moor-ill, and which he thinks I have confounded with a kind of rheumatism of frequent occurrence on cold and wet ground. May I not ask him whether, out of fifty-two cases of this disease which I have seen this year, both in the commencement and the advanced stages of it, I should not have observed the swelled joints, and other symptoms of that complaint, described by Mr. Youatt in his work on Cattle, and by other writers of minor authority, if it had in truth been a kind of rheumatism, whether chronic or acute?

I was called this summer to see a cow belonging to Mr. Snow, of Park-head, that had inflammation of the liver. On looking over his dairy I found three cows affected with what I call moor-ill. He told me that it was a complaint produced by the pasture on which they had fed; but that as soon as he put them on his after-grass they would mend, which they did. I observed that the first pasture and the meadow-ground were contiguous—they were separated by a wall. May I not here ask, would the chilling wind of September and October, exchanged for the warm weather of June, July, and August, cure "a kind of rheu-

matism by a mere change of herbage, but neither of soil nor of climate.

There is another farmer, whom I have known for many years, who had a particular field into which he turned all his cattle that were attacked by moor-ill, and they almost immediately were cured. He has been obliged to part with that field, and he laments it; for he has no longer a ready and certain means of getting rid of the disease. I could adduce many other facts of the same nature if it were necessary; and perhaps I may be forgiven if I add, that I ought to be, and think I am, well acquainted with rheumatism in cattle, both in its chronic and its acute form, and from the calf in the stall to the sturdy ox.

Mr. Mayer, in stating the causes of what he calls moor-ill, enumerates bad food, bad water, leaves of the black willow, and luxuriant after-grass. They, or some of them, may be concerned in the production of wood-evil, or other complaints incident to cattle; but they cannot always be adduced as the cause of moor-ill.

As to Mr. Surginon, I agree with that gentleman in two particulars: that the cause of moor-ill is very obscure, and that poor land is not the sole cause of it. I know very poor ground in various parts of my neighbourhood where the disease is almost or altogether unknown.

As to what I call wood-evil, I take it to be nothing but constipation of the maniplus, and which will arise from various causes, and differ in its symptoms according to the difference of the cause. In this I am, in some measure, borne out by some modern as well as ancient authors, who use the terms wood-evil, moor-ill, pantas, maw-bound, and fardell-bound, indiscriminately, as indicating one and the same disease.

I consider the disease moor-ill or wood-evil to be a kind of garget, without the swollen udder which will shew itself in plethoric cattle in May or June, and sometimes in after-grass time, or any time when the grass is luxuriant and the weather changeable. It is known among some farmers and graziers by the names body-garget, humours in the blood, &c. I have seen it without constipation; and after the inflammation has subsided, and the bowels have been opened in consequence of bleeding and purgatives, I have seen the patients remain stiff and sometimes lame for a certain period. A few diuretics, or tonic-diuretics, according to circumstances, constitute the whole art and mystery of treating this stage and form of the disease.

In conclusion, I beg to remark, that some of the cattle that laboured under what I call moor-ill have been cured; and others that were not thought worth medical treatment through the approaching winter, have been destroyed, so that I cannot produce

many cases for inspection ; but if Providence should spare me to the beginning of another August, I shall be very happy to see any candid and well-informed brother practitioner to assist me in investigating the real nature of this disease. I have now three cases of moor-ill, of which I will send you the particulars, if you will insert them in your excellent periodical.

[We shall be happy to receive and to insert the cases to which Mr. Cox refers.]

ON PUERPERAL FEVER IN CATTLE, IN ANSWER TO MR. WILSON.

By Mr. FRIEND, of Walsall.

IN THE VETERINARIAN for March last, was inserted an article of mine on Puerperal Fever in Cows: this has been attacked in the last number; and I shall feel obliged by the Editors' publishing the two cases which I then promised, and allowing me a little further space in their valuable Journal.

CASE IV (*in continuation of that paper.*)

This was a cow, belonging to a lady residing at Handsworth, near Birmingham. I saw her first at two P.M. on the 15th January. She had been down some hours; the symptoms, such as I described at some length in my last, were intense in their kind, and I had, at first seeing her, no hopes of her recovery.

Treatment.—V.S. 12 lbs. R sulph. mag. lb. j, sulphur. ℥ij pulv. sem. crot. ℥j, crem. tart. ℥jss, ant. tart. ℥ij, ammon. carb. ℥i, lyttæ pulv. gr. xx, zingib. ℥j, gentian ℥j, in three quarts of gruel. Warm oatmeal gruel was given every two hours, and changed for linseed gruel as soon as it could be procured. I stimulated the spine immediately from behind the horns, along the cervical vertebræ, and also along the back, with a very strong liquid blister, made more active by the addition of ant. tart. This was repeated frequently until her convalescence.

The drink was repeated at six P.M. Raking and clystering employed also.

16th, 11 A.M.—R Sulph. mag. ℥viii, spts. tereb. ℥iij, spts. æth. nit. ℥ij, lyttæ gr. xx, zingib. ℥j, gentian ℥j; in gruel as before.

Sent sulph. mag. ℥xij, sem. crot. ℥iv, sulphur. ℥iv, spts. æth. nit. ℥vj, spts. tereb. ℥vj, lyttæ gr. xl, zingib. ℥j, gentian iij; divide in four draughts, and give one every three hours in gruel.

17th.—Sulph. mag. ℥viii, sulphur. ℥ij, crem. tart. ℥j, ant. tart. ℥ii, zingib. ℥j, gentian ℥i; give at twice in gruel.

After this she required no farther medical treatment: her se-

cretion of milk increased to her usual quantity, and she rapidly recovered her health and strength.

This is simply the medical history of the case during the few days that I found it necessary to attend her: there are, however, some circumstances in it that I have not yet mentioned, but which I shall now proceed to do, accompanied by some remarks, intended to illustrate the opinions which I forwarded you in my last communication.

The want of power in the constrictor muscles of the œsophagus was strikingly displayed in this case; there was for some time no attempt to swallow, and the drinks were poured down the throat, as a person assisting said, "like running down a gutter." And really there was a feeling in my mind sadly responding to the remark. There was such an utter apathetic indifference to either the nausea or the stimulus of the medicines given, that I felt, whilst administering them, as if there was as much hopelessness in the act as if they were literally destined at once to the common sewer. On the morning of the 16th she had got back so near to the wall, that I found it necessary to have her lifted forward a little way: this was done, as carefully as possible, by putting a large horse-cloth under the body, immediately posterior to the fore legs; and she was thus carried forward about a yard. As soon as this was done she laid her head flat on the ground, stretched out her legs straight and stiff, opened her mouth, which turned suddenly cold, with a spasmodic gasp, closed her eyes, and gave every symptom of immediate dissolution. In short, for a few minutes there was no appearance of life, but a slight heaving at the flanks. She recovered from this, however, and the next morning she was standing, and positively gave upwards of six quarts of milk. She fell off from this quantity considerably afterwards, and then gradually improved again. I account for this particular fact (as I did in my last on general principles) from the circumstance, that there was a sufficiency of nutritive supply taken, previously to the cow falling, to produce this quantity of milk; and that the reason for the non-secretion of it in the first instance, was the necessary influence from the organic motor nerves being withdrawn, and that this abundant supply, so suddenly afforded, was owing to the equally sudden restoration of nervous energy. This, I think, is strengthened by the fact, that her milk fell off considerably from this quantity, and then, as she gradually improved in her appetite, her milk gradually increased.

Another remarkable fact in this case was, that the cow got up before purgation took place. This has been, in my practice, a very rare occurrence, and I account for it, from the great quantity of stimulus applied internally and externally.

CASE V.

Was a cow, belonging to Mrs. Swift Aldridge, seen first on the 22d Jan. This also appeared a very hopeless case; but she recovered under the same treatment, in the same manner, and secreting afterwards her usual quantity of milk.

The eyes of both these cows were very much affected: the first appeared quite blind.

My next case was a cow belonging to a poor widow, residing in Walsall. This cow I did not see until evening, some time after she first fell; and she had had medicine of some kind given to her. I found her in a most deplorable state, both as to disease and want of comfort. Medicine seemed unavailing in this case, and she died the next morning.

On a post-mortem examination, I found the first three stomachs inflamed, but not so much so as in many other cases I have seen. No decided inflammation of the uterus; the intestines but little affected; the gall-bladder full. I was anxious to see the brain and spinal marrow; but, unfortunately, I found that in chopping off the horns, they had quite divided the brain, and thus destroyed it for a perfect examination. The dura mater was highly injected; but I did not detect any decided alteration in the substance of the brain itself. I took out a portion of the spinal marrow, and subjected it to maceration for a short time in water. It became a soft homogeneous mass, and the bloodvessels running along the centre were gorged with blood.

These, gentlemen, are the cases I promised in my paper of March last. I must now beg leave to make a few remarks on Mr. Wilson's article in the Nov. Number, as freely as you have allowed him to do on mine.

Mr. Wilson, in a most extraordinary preface, says that "he will not admit this new theory, advanced by some London-taught veterinary surgeons, because *he cannot comprehend it*. Really, Mr. W., if I have furnished you with an argument, it is too much to expect that I should furnish you with a comprehension also. And I must say, that I admire the excessive modesty of a young man, who can so sneeringly condemn an opinion, submitted without affectation for the benefit of the profession generally, on the strength of the experience derived from *one post-mortem examination** (especially where the examiner had not the opportunity of observing the living symptoms in that particular case), and of setting up his *comprehension* as the standard by which we are all

* See VETERINARIAN for November, where he acknowledges, that *till this case, which occurred in August, he had no evidence to prove that I was wrong.*

to dress, with "Hitherto shalt thou come, but no further," as "I have not yet dreamed of a new cause producing this disease."

Mr. W. next proceeds to the statement of four cases, and tells us that he shall stand and defend his own opinions on this subject on the last one; and I, gentlemen, have not the slightest objection to endeavour to defend my theory on the same cases also.

After telling us in what state he found the abdominal viscera of the one that died, he says that the brain and other parts (meaning, I suppose, from the nature of the proof sought, the spinal marrow and the nervous system generally) were examined by Professor Dick, and that there was not the slightest trace of disease to be found in that organ. I am rejoiced to hear of this examination, because I hope we shall have a particular account of it from the pen of that gentleman. I, for one, acknowledge myself to be very much at a loss, what different appearances to expect to find, under the supposition that these parts are affected by specific disease. If there were engorgement of the vascular system connected with them, I might observe it. If there were much loss of substance I might notice it. If there were any considerable difference as to the hardness or softness of the parts, I might detect it: but further than this I should be at a loss to go. And yet I can conceive that some other specific affection of these organs might exist, which I was incapable of perceiving: or a slight affection of any of these, or of all of them, I am free to confess, might escape me. I might not be able sufficiently to appreciate the results which the simple affection of any, or the mingled affection of all might give rise to.

In the examination alluded to, was the whole of the spinal marrow brought under notice? Were the nerves immediately connected with those parts most affected, minutely examined? Was any experiment tried by macerating parts of the brain, spinal marrow, and nerves of this animal, and of another in a state of health at the same time, and a comparison of the results instituted? Answers to these queries, and an explanation of such other particular means as the well-known and highly appreciated talents of the Professor would suggest to him, would confer an obligation on many of the profession.

Mr. W. next notices a case mentioned by Mr. Stewart in *THE VETERINARIAN* for Feb., in which extravasations of blood, &c. were found in the brain of a cow that died of puerperal fever; and he adds (in a spirit which does him the highest credit for the extent of his liberality), that "he does not *doubt* Mr. Stewart, when he says that Mr. Gardiner informed him of this." He then makes the following inquiries:—"Was there no trace of inflam-

mation in the uterus? Did none of the stomachs (especially the abomasum) present any appearance of disease? Were the small intestines not sufferers?" And adds, "were I to receive an answer in the negative to these queries, I confess frankly I should lose the vantage ground which I occupy at present." Indeed, Mr. W. ! your vanity would be highly amusing if it affected no one but yourself; but who told you that you do occupy any vantage ground? I guess you have found it out yourself; but, in common justice, sir, look over by-gone papers in the *THE VETERINARIAN*, and honestly say if you have told us any thing on this disease which you will not find in substance already there: and you will also find, sir, that you occupy the very ground which I have vacated; and, let me add, you are welcome to it.

But, gentlemen, whilst I give Mr. W. credit for his liberality with regard to Mr. Stewart, I feel sorry to be obliged to complain of his want of credence with regard to myself. I have presented him (in the very paper he is criticising) with a case, in which I proved that the disease *did not originate in inflammation of the parts which he alludes to*; and I must say, gentlemen, that I repel with honest indignation the insinuations conveyed in these remarks, coupled with others interspersed in his paper. By what right does he impugn the credibility of my testimony? And why does he insult me, by requiring that evidence from Mr. Stewart, which I have already furnished him with, without even adverting to a case in point of mine, before his eyes at the very moment? Once for all, let me inform Mr. W., that there are others who can relate cases quite as *faithfully* as himself.

I must now proceed to where he quarrels with my opinion as to the intimate connexion subsisting between the nerves, spinal marrow, and brain. He assures us that this does not exist, but has not thought proper to substantiate such an assertion by any adequate proofs. Mr. Youatt, Mr. Youatt, are you not ashamed of yourself, to mislead folk, as you have attempted to do, in your Lectures published in *THE VETERINARIAN*? If it had not been for this antidote, most judiciously administered by Mr. W., many might have been led, by your baneful example, to suppose that some nerves do actually arise from the brain, and that these organs are really most intimately connected.

I profess to be willing to listen to the voice of reason on any subject; but I have been so long in the habit of considering that an intimate connexion does exist between these parts, that it will require something much stronger than the *ipse dixit* of Mr. W. to convince me to the contrary.

But Mr. W. seems to think, that destruction of a great part of the brain will not materially interfere with the nervous system;

or that being born without a brain at all even, is not of half the consequence that many people foolishly imagine. If he wants to put this to the test, let him divide the spinal marrow, between the atlas and dentata, and favour us with the results in another VETERINARIAN. But, to me, nothing can be a greater evidence of the weakness of his argument, than the proof he has adduced to support it. "A child was born without a brain; but still, though the fountain was taken away, the *streams continued to flow!!!!*" "a period of seven hours," out of seventy years (this not the maximum of human life.) How he must have been struck with the brilliancy of his own imagination, when he appended five large notes of admiration to this sentence in italics! Why, gentlemen, what would he say to me if I were to tell him seriously, that dividing the tendo-achillis in the race-horse would not interfere with progression? and instance a case where a horse had them both divided, *and yet continued to run on*; that is, he ran seven yards out of a four-mile heat after the operation. Would he not say, that *the horse did not continue to run*? He would: and I say, that the child *did not continue to live*, and the streams *did not continue to flow*.

Was there, in this half-existence of seven hours, the proper performance of those functions necessary to *continue life*? Was there digestion, arterialization, &c.? Assuredly not; if there had been, the child might have *continued to live*, which it did not ("!!!!") Never halloo till you are well out of the wood.

Mr. W. next asserts, that my classification of invariable living symptoms is not correct in many respects; and out of these *many respects*, he favours us with two objections: first, he says, paralysis of the hind extremities is not an invariable living symptom; and he notices, in support of this, that in two of his cases, "the patients were able to get up, with some assistance, in the worst stages of the disease." This is to me a very strange doctrine. Does the mildness or the intensity of any disease alter its real character? It would be just as fair in me to retort, that these two cases were not really puerperal fever, because they could get up at all, even with assistance. Would Mr. W. have the assurance to tell me, that a horse could not be afflicted with lock-jaw because it might be possible to open his jaws a little way? But we will look at it in another light. Of course, so admirable a critic as Mr. W. would be careful to let his theory and practice be perfectly consistent. Now, what is his theory, and what his practice? He says, this inability to rise is "not from paralysis, but from *great debility*." "*Nature seems worn out from complete general exhaustion*." This is his view of the case. Now, how does he prepare to remedy this "*great debility*," this "*com-*

plete general exhaustion?" Could you believe it, reader? By abstracting from the *exhausted wretch* thirty-six pounds of blood, giving six and a half pounds of Epsom salts, ten ounces of tincture of croton, half a bottle of linseed oil, and to this enormous quantity of purgative medicine (enough to operate upon half a score cows under ordinary circumstances, and given, too, in about forty-eight hours), he adds from *one to two ounces of tonic powders* *. If this does not beat Jack Falstaff's pennyworth of bread to his many gallons of sack, I will acknowledge that I am no judge of physic. But he may retort, that the medicine given produced the effect required. Granted; but this does not alter the real state of the case; nor does it prove that it was the best method of treatment that might be adopted. Many roads lead to one town: and I do say, that if Mr. W. really believed that the poor animal was in a complete state of "*general exhaustion*," his practice was as much at variance with his theory as it could possibly be. And here let me ask Mr. W. (on his view of the case), what is there in inflammation of the internal coats of the stomachs and intestines (supposing no paralysis to exist) to require this enormous quantity of physic to operate on the patient? And does he find it generally the case with his patients—the greater the *general debility*, the stronger the purgatives are required?

This doctrine of complete general exhaustion, in the generality of cases of puerperal fever, is perfectly absurd: the greater number of cases that fall are in high condition, and the paralysis is generally as perfect the moment the cow falls as at any subsequent period. I have also met with many cases where the struggles of the fore parts of cows were so great, that it was scarcely possible to retain them in the situations in which they were, from their exertions to rise, but which exertions were not seconded in the least by the hind extremities. This could not possibly be *complete* general exhaustion; and it looks a little like paralysis of the hind extremities.

The remark of Mr. W., that, as two of his patients were able to rise in the worst stages of the disease, he believes that such will be the general result *in all cases of puerperal fever*, is one which could only have arisen from want of practice, and which practice will correct.

Here, gentlemen, is an opportunity for me to contrast my mode of treatment in these cases with Mr. W.'s, and to express a modest hope, that my "*new light*," my "*ignis fatuus*," (as he politely terms it), does not "*lead me so terribly astray*" as he seems to fear. The reader will readily perceive, that Mr. W. depends altogether on depletion and purgatives, whilst I find it necessary

* See Case II, page 608, November Number.

to add to these very strong stimulants externally and internally—a system of treatment which has not only answered in my own practice, but which I have the most flattering testimony (both public and private) to prove, has answered equally well in the practice of others: and I feel convinced, that if Mr. W. were to try the effects of these, he would not find it necessary to bleed to such an extent as to destroy, or nearly so, the secretion of milk, as he informs us was the case in one or more of his patients.

To prove that I am wrong in my invariable living symptoms, he next says, that I have “omitted constipation.” This would have been an omission, indeed; but if Mr. W. will have the goodness to turn again to the article in question, he will find that I have named as one of these symptoms, “evident loss of muscular action in the three first stomachs, proved by their *retaining their contents after death.*” Now, I should have thought that even a “*a student in a veterinary school*” might have known that this was quite tantamount to calling it constipation. But, however, if he had meant to have used me quite fairly in his critique, he would not have mentioned this at all; for he knows that I have, in another place in the very same paper, called it *severe constipation!* Why I particularized it in the way I did, in my classification of symptoms, was, because the true stomach and intestines are generally found, after death, empty, or nearly so; and I considered the terms I used as more expressive of the real state of the case than the word constipation. I will now, gentlemen, turn to his fourth case, to prove the correctness of this arrangement, and to gain an argument in support of my theory of the paralysed state of the three first stomachs. He says the “two first stomachs were full of food,” and the manyplus not only “full, but the contents so hard, that it appeared like cakes that had been baked;” whilst the other stomachs, though inflamed as much or more than the others, were “*quite empty.*” Now, Mr. W. contends, that he has satisfactorily accounted for the effects of this disease, by proving that inflammation existed in certain parts, a report of which, he says, is “*faithfully*” given in this very case, and is “sufficiently characteristic of what the disease is.”

It is from the post-mortem examination of such cases as these that I am induced to think that “simple inflammation is not sufficiently characteristic of the disease.” Looking at this very case, let me ask Mr. W. why inflammation had the effect of completely emptying one stomach, whilst it had a directly contrary effect on the other three? I apprehend it is no stretch of the imagination to conceive that the true character of inflammation, simply considered, is shewn in the abomasum and intestines,

where nature has succeeded in getting rid of the offending matter; and that the true character of paralysis, from defection of nervous energy, is equally strikingly displayed in the other stomachs, where such want of power is on all these occasions equally evident. Surely there is some reason in this; for on Mr. W.'s system, we are obliged to make inflammation powerful and powerless in the same animal, and in parts immediately contiguous.

His remark on the subject of rumination is scarcely worth a reply, as no veterinary surgeon who has seen what I have already written on the subject, would suppose that I could mean that the food was returned from any but the two first stomachs to the mouth for remastication. But there is an ambiguity in his expressions which leaves it doubtful to me, whether he really means to say that the food is not returned at all by the œsophagus.

This, Mr. W. tells us, is all the notice he takes at present of "my invariable living symptoms—or variable ones;" not that he agrees with me respecting them, but because "no good would result from his stating that he differs with me in the doctrines advanced, unless he gave opinions of his own, *based on a sure foundation, and calculated to do good to all interested in the subject.*" This he has declined for want of room; and really I think too, as the book-makers say, this requires a chapter to itself: at any rate, it would have been a pity to have mixed it up in this article with so much of a contrary nature.

His next opinion, as to the "uterus being, in the great majority of cases, the only sufferer at the commencement of the disease," as it is contrary to what I have seen and heard from others on whom I can rely, I must leave for the experience to be derived from his future practice to decide for him.

Having now gone through every thing in Mr. W.'s paper that bears on the subject in question, allow me to make an observation or two not immediately connected with it. Mr. W. is, I suppose, a young man; and he must allow me to say, that in all controverted points of theory or practice, the matter, and not the manner of bringing it forward, ought to be the object of consideration. It is ungenerous and absurd to waste time in sneering at the style or peculiarities of any writer in the pages of *THE VETERINARIAN*. The facts and opinions introduced into this work are common property: a man's style of expression is his own: attack the one as much as you like, but spare the other. Many might be deterred from giving valuable opinions to the public through the medium of this work, if such a line of conduct be not adopted by us all. We ought not to make *THE*

VETERINARIAN the arena on which to make personal attacks. I can conceive that a subject like the foregoing (abstractedly considered) may be interesting to a great number of its readers; but the moment we quit it to attack each other on any other point, we become the subject of derision to the lookers on. But, gentlemen, I would not say that to Mr. W. which I would not apply to myself; and I am ready to confess, that this paper is not quite free from a stain of this kind. But I have two things to plead in extenuation: I did not cast the first stone; and as this is not the first time that Mr. W. has appeared in THE VETERINARIAN in a most unamiable light, he must endeavour to take this retort with a good grace. I assure him I consider that he has laid himself open to much greater severity than I have treated him with. I shall be happy to see his name to any paper in future, and should he be inclined to pursue this subject any further, let him proceed at once to business. I can easily conceive all he can say of me, as feeling myself sore, &c. &c. &c.; and as no one else can have any business with it, it will save your readers trouble to omit it altogether.

I remain, gentlemen, yours respectfully,

E. A. FRIEND.

CONTRIBUTIONS TO COMPARATIVE PATHOLOGY.

By Mr. YOUATT.

No. XII.

PALSY—THE POWER OF STRYCHNINE.

August 19th, 1836—ALPINE DOG. He was to-day suddenly attacked with a strange nervous affection. He was continually staggering about and falling. His head was forcibly bent back, and a little on one side almost to his shoulder. Take a pound of blood from him; insert a seton from ear to ear, and give eight grains of calomel.

21st.—He has perfectly lost the use of every limb. He is also blind—amaurosis. He hears perfectly. Still he eats when the food is put to his mouth. Give two large spoonfuls of the castor oil mixture daily.

23d.—A little better. Can lift his head, and throw it on his side; will eat when the food is put to his mouth. Continue mixture: give half a grain of strychnine daily.

24th—Little change, except that his scrotum is very much

enlarged ; much exudation and soreness. Apply the red calamine ointment, and continue treatment.

27th.—No change, except that he is rapidly losing flesh. Continue treatment.

31st.—Scrotum nearly well. He continues taking the strychnine, which is increased to three quarters of a grain morning and night. He has also the castor oil mixture daily. Feeds well, but there is a sunken, vacant, idiotic expression of the countenance that bodes no good.

Sept. 2d.—He can move his head better, and has a little motion in his limb. Continue treatment.

4th.—He can almost get up. He recognises me for the first time. His appetite, which was never much impaired, has quite returned. Is this the strychnine, or the seton, or the daily aperient mixture ? They have all, perhaps, been serviceable, but I attribute most to the strychnine ; for I have seldom seen a dog recover from such an attack. Continue treatment.

6th.—Fast recovering. He can now toddle about a few yards. As before.

14th.—He has been improving, yet slowly. Still continue treatment.

28th.—Going on slowly, but satisfactorily. Remove seton, but continue the other treatment.

Oct. 13th.—Quite well, and sent down to Leicester-square as a watch-dog.

PALSY—MANGE—ŒSTRUM—MILK FEVER.

Feb. 11th, 1836.—PERSIAN BITCH. Well yesterday, now staggers as she walks, and has nearly lost the use of her hind legs. Give a good dose of the castor-oil mixture.

13th.—Materially worse ; drags her hind legs after her. I would fain put on a charge, but the keeper does not like that her beautiful coat should be spoiled, and wishes to try what gentle exercise will do. She certainly, after she has been coaxed a great deal, will get on her legs and stagger on fifty yards or more. Give the castor-oil mixture daily.

19th.—She is a little stronger, and walks a little better. Continue the mixture. Embrocate well with the rheumatic mixture (sp. tereb. sp. camph. liq. ammon. et tinct. opii), and give gentle exercise.

March 2d.—She does improve, although slowly ; the charge is therefore postponed. Continue treatment.

30th.—She is certainly better. Remove her to the carpenter's

yard, where there is more room for her to exercise herself. Give the mixture, and use the embrocation every second day.

April 10th.—She has mange in the bend of her arm, and on her chest. Ointment and alterative balls; the embrocation and mixture to be omitted. As soon as the mange began to appear, she nearly recovered from her lameness, and ran about almost as well as ever.

30th.—She runs about very fairly, but the mange has assumed that character of scurvy which we do not know how to grapple with. Give the alterative balls, and use the ointment.

May 18th.—The mange has disappeared, but the palsy is returning: she staggers slightly, and every now and then droops behind. Give the castor-oil mixture, and use the embrocation.

June 14th.—Mange quite gone, but palsy continuing not so bad as at first, but to a very considerable degree. I want the plaister, but the keeper pleads for a little delay. Continue treatment.

26th.—She has been strongly at heat; but this seemed neither to increase or lessen the paralytic affection: of course, she was not permitted to have access to the dog. She has been very fidgetty, but the œstrum is now going off. The palsy remains the same.

July 1st.—I have at length determined to have recourse to the plaister. A piece of good thick sheep's leather was fitted to her loins and haunches; a pound of pitch and a quarter of an ounce of bees' wax were melted together, and spread over it; ten grains of cantharides, most finely powdered, were sprinkled over the plaister, and it was applied as hot as it could be without scalding her. It fitted, and fixed itself beautifully. Give a dose of the mixture when she is costive.

18th.—She appears to be improving, but it is very slowly.

31st.—Very little change. The plaister keeps on well; she has no power over her hind limbs; but she eats and drinks as well as ever.

Aug. 23d.—No kind of change. The strychnine is seemingly doing good to the Alpine dog. Give her half a grain morning and night.

26th.—That singular secretion of milk to which the bitch is subject nine weeks after œstrum is now appearing. Her mammæ are enlarged, and I can squeeze a good deal of milk out of the teats. She is fidgetty, but otherwise is well. She still has her mixture when the bowels are constipated. Give an aloetic pill now.

31st.—The secretion of milk continues. There is slight enlargement and some heat of the mammæ; but she feeds as well

as ever. Increase the dose of strychnine to three quarters of a grain.

Sept. 1st.—To my great surprise she was found dead this morning. On making the usual longitudinal incision through the integument of the abdomen, a considerable quantity of milky fluid, mingled with blood, followed the knife. There was very slight enlargement of the teats, but intense inflammation of the whole of the mammary substance. The whole of the omentum, and particularly the portion opposite to the external disease, was also inflamed. Beside this there was not a vestige of disease.

This is an interesting case, and deserves record. I fear that justice was not done to the animal at the commencement of the paralytic affection. In nineteen cases out of twenty in the dog, the constant but mild stimulus of a charge over the lumbar and sacral regions removes the deeper seated inflammation of the spinal cord or its membranes, when the palsy is confined to the hind extremities, and has not been sufficiently long established to produce serious change of structure. The charge should have been applied at first. The almost total disappearance of the palsy during the cutaneous disease—that species of mange which is attended by more than usual inflammation of the integument, and heat and itching—is an instructive illustration of the power of counter-irritation, and of what might possibly have been effected in the first case. The cause of the paralysis, however, whatever it might have been,—and we had no means of ascertaining that, for the body was wanted at the museum,—was for a while subdued, but not removed; and the external irritation was no sooner removed, than the internal disease was again speedily developed. A little time was once more lost before the application of the charge; and when, at length, it was applied, it and the strychnine were powerless.

The cause of the palsy seems to have been of a local nature, for it interfered not materially, for a considerable time, with the functions of animal life: the appetite was good, the bowels, although not acting freely, were not constipated, and the periodical œstrum appeared. The secretion of milk succeeded to this at the usual period; but she had been lying on her belly during several months, and the mammæ were, probably, more or less excoriated, and disposed to inflammation. The distention of the vessels, and the irritation caused by the secretion of the milk, speedily produced local inflammation in its acutest form: it quickly spread to the omentum, and the powers of nature, which had so long been struggling with the former maladies, sunk at once.

THE NUMBER OF HORSES IN ENGLAND AND WALES.

HAVING for some time been a constant subscriber to that valuable journal THE VETERINARIAN, I may, perhaps, be allowed to request, through the medium of it, an answer to the following question, which I have no doubt some one of your very ingenious and well-informed contributors will be able to furnish:—“What is the fairest estimate of the total number of horses employed in Great Britain for all the purposes of pleasure and utility to which they are subjected?”

If the gentleman who will oblige me by answering this will, at the same time, be so kind as to state on what data he founds his calculation, he will confer an additional obligation on me.

O. H. F.

I COPY from M'Culloch's Dictionary of Commerce (an expensive but an invaluable work, and not half so well known as it ought to be) part of an official statement of the number of horses of various descriptions that paid duty in 1814, when those that were used in husbandry were taxed, and also of another statement, when horses used in agriculture were exempt:—

<i>Horses used for riding, drawing carriages, and charged at progressive rates:—</i>				No. of horses.	No. of horses.
	1814.		1832.	1814.	1832.
Persons keeping 1 horse	161,123	...	123,668	161,123	...
2 horses	15,921	...	15,337	31,842	...
3 do.	4,258	...	3,580	12,774	...
4 do.	1,903	...	1,461	7,612	...
5 do.	734	...	642	3,670	...
6 do.	510	...	356	3,060	...
7 and 8	...	...	...	3,372	...
9 do.	80	...	59	720	...
10 to 12	...	...	...	079	...
13 to 16	...	...	...	746	...
17	3	...	3	51	...
18	8	...	7	144	...
19	2	...	4	38	...
20 and upwards	...	...	...	1,348	...
Horses let to hire	...	...	...	1,454	...
Race-horses	...	...	...	560	...

Other horses, exempt in 1814, but taxed when the agricultural tax was withdrawn:—

Horses used for riding or drawing carriages, and not exceeding 13 hands	...	19,121	...	24,639
Horses rode by farming bailiffs	...	1,251	...	1,438
Ditto by butchers, when one only is kept	...	2,089	...	3,364
Ditto where two are kept, solely for trade	...	1,025	...	1,213
Horses not chargeable to any of the foregoing duties, yet taxed	...	112,989	...	123,728
Mules	...	410	...	348
		367,578		
Horses taxed for agriculture in 1814	...	973,714	...	
		1,341,292		

It is probable that the horses used in agriculture increased in number when the tax was withdrawn, and that during the agricultural tax many more horses of small size, and for various purposes, were kept; and we shall not be far from the truth if we average the whole number of horses at about 1,340,000. But this does not include stage-coach, mail-coach, and hackney-coach horses, nor those used in posting: these may be reckoned at 125,000. To these must also be added young horses, for they are not taxed until they are used for drawing or riding; and if we average the age of the horse at eight years (and that, perhaps, is over the mark), they will be nearly 200,000. Then there is roguery in all things, and a great number of horses were not taxed at all. A glance at the number of those which are said to be let for hire in England and Wales, will speak volumes with regard to this. If we suppose that there are 35,000 that are in this predicament, or that do not rank under any of the divisions in the table, we may safely calculate "the total number of horses employed in Great Britain" at 1,700,000. To this must be added the Scottish and Irish horses. Y.

THE VETERINARIAN, DECEMBER 1, 1836.

Ne quid falsi dicere audeat, ne quid veri non audeat.—CICERO.

ON the 14th ult. the session of 1836-7, commenced at the Veterinary College at St. Pancras. The Professor appeared to be fully as well as at the close of the last session, and lectured during more than an hour and a half, disdaining the chair on which he used to recline. The theatre was crowded to excess by those who came to pay their respects to their old master, and by others who were anxious to hear what he would say with regard to the late dissensions. The Professor repeated his usual lecture on the natural history of the horse, so far as connected with veterinary practice. He then, at greater length, and with stronger emphasis than he had adopted during many a year, protested against the evils and the dangers of comparative anatomy; for, different as was the structure of the various organs in animals and in man, and varying as they did in the numerous classes of animals, the student might be misled by analogy, but could never arrive at any legitimate or useful conclusion; and

the knowledge and the practice of the veterinary student must be founded on facts alone. The diseases of the biped and the quadruped, and also of the different quadrupeds, were essentially different. It was impossible to predicate what would be the symptoms, or what should be the treatment, of any disease in one animal, from what we know of the same disease in another animal; and comparative anatomy was too apt to lead on to comparative physiology and comparative pathology. So utterly, indeed, were the diseases of different animals at variance, that marsh miasmata, the most fatal of all poisons to the human body, had no effect on cattle and sheep; and the seasons which, so far as the effects of a marshy country were concerned, were most destructive to the human being, were those in which health reigned almost uninterrupted among sheep and cattle. They agreed only in one point,—they were all subject to the destructive influence of that animal poison which is generated by every living creature.

The difference between the medical pupil and the son of the farrier and the groom was also drawn in broader, harsher lines than we have witnessed on any former occasion. Little of the knowledge which the medical student brought with him could by possibility be useful to him; for the diseases of the horse were few, and the remedies were few: but there was every thing new, and every thing disagreeable to him, as regarded the management and the treatment of the horse. It might take him a long time—six or seven months—to recognize the existence of spavin, or to pick up a horse's hind foot, or to prepare him for casting; and in eight or nine cases out of ten, he would be wrong with regard to the lame leg. To the farrier's son, on the contrary, his study and his employment at the college was one continued course of pleasure; for he had been taught to perform all these operations, and to recognize the prevalent diseases, and it was now a pleasure to him to listen to the explanation of them.

Then, after advising his class to make themselves acquainted with chemistry, so far at least as the medicinal agents which they employed were concerned; and to frequent the knacker's yard and compare the lesions which were found after death with the symptoms that had existed during life, he proceeded in nearly the following words: "The subject which I have next to touch upon is one exceedingly painful to me. I have always been accustomed to recommend to my class diligent attendance on the meetings of the London Veterinary Medical Society. It was a society over which I have had the honour of being patron for more than twenty years, and in the formation of which I had a great share. Every opinion and every fact connected with

veterinary practice, or that could be useful to the student, was freely discussed there. I was satisfied with the beneficial result which it must necessarily have, and I warmly recommended it. Some offence, however, has been taken at the proceedings of this society, and I have had a list of names put into my hands, containing, I must confess, a great many highly respectable and scientific practitioners, both in town and country, who have seceded from this society, and formed a new one (consisting of practitioners as well as students) under the name of the Veterinary Medical Association: so that we have now the old London Veterinary Medical Society, and the new Veterinary Medical Association.

“I confess that I had some doubts how these two societies could exist at the same time, connected with the Veterinary College, without occasional and unpleasant dissensions; but I recollected that a similar occurrence took place in my earlier days. A great many practitioners felt offended with certain proceedings in a medical society, and seceded, and formed a new one—the Medico-Chirurgical. I was not a seceder, but I attached myself to the new society; and they both continued to work on, without annoying each other—without any explosion of bad feeling—and they both were of essential service to the medical profession.

“I have thought a great deal of this matter; and I have asked myself, why should not this take place with you, and thus good come out of evil? You are all gentlemen. The commission of the cavalry-veterinary surgeon, which gives him admission not only to the table of the regimental mess, but of royalty itself, confers on you this title; and why should you not act consistently with it? Although you belong to different societies, why should there be any ill-blood between you? I have thought of this: I am patron of both societies—you are all my pupils—my children. Why should ill-feeling towards each other injure the cause of veterinary science? I trust that it never will. But whatever be your conduct, my object will be the advancement of our common art.”

The Professor then alluded to those who had particularly distinguished themselves by their writings and discoveries connected with veterinary science; and after having paid some well-merited compliments to Messrs. Bracy Clark, William Percivall, James Turner, Blaine, and Sewell, closed his lecture.

On the following evening, Mr. Sewell commenced his course of lectures. He took a rapid view of the state and progress of the veterinary art, from the earliest period, and was anxious to give to every author and practitioner his due share of praise, with reference to the time in which he lived. If we were to

object to any portion of his historical detail, it would be to the credit which he seemed inclined to give to those monopolizers of every discovery, but with whom every invention has strangely stopped at the first step, the Chinese — with whom no age *has dared* to add to the knowledge of that which went before, and, a thousand years nearly before whose certain existence as a nation, we read of the horse, and its beauty, and its uses, and its treatment.

His account of the science in modern times was correct; and there was, to a far greater degree than we had wrongly anticipated, a spirit of justice and of liberality which will best become the situation which he fills and the institution to which he belongs.

At the close of his lecture the Veterinary Medical Association held its first meeting. Their former assembly was that of friends and zealous veterinarians, in order to consider the possibility and the advantage of forming such an Association.

The Sub-Committee reported the result of their deliberations, and presented a series of Rules and Regulations, which, with a few alterations, were adopted by the Association. The following is, we believe, a nearly correct copy of them:—

RULES AND REGULATIONS OF THE VETERINARY MEDICAL ASSOCIATION, INSTITUTED A.D. 1836.

“*Vis unita fortior.*”

1. THE objects of the Association are the advancement and diffusion of veterinary knowledge.
2. The means of obtaining these are twofold:—
 - I. The meeting together of persons connected with veterinary science, for the discussion of proposed subjects.
 - II. The formation of a library of reference and circulation.
3. For this purpose, the Association shall consist of four distinctions of persons; viz. Members, Fellows, Honorary Fellows, and Honorary Associates.

MEMBERS.

4. Members of the Association shall be restricted to those who are or have been students of or connected with some public veterinary school; and each Member at his election shall pay the sum of One Guinea.
5. A candidate for admission must be recommended in letter signed by three Members, and in the following form:—
We, the undersigned, recommend Mr ——— as a proper person to become a Member of the Veterinary Medical Association.
6. The recommendation, being presented to the Secretary, shall be read by him, and suspended in the Theatre until the next night of meeting, when the ballot shall take place, five members constituting a quorum.
7. If five, and fewer than ten Members are present, two black balls shall

exclude the candidate. In a meeting of ten, and under fifteen, three black balls shall be required for this purpose; four from fifteen to twenty; and at all times five black balls shall exclude the candidate.

8. The Secretary shall inform the candidate of the result of the ballot in writing, and instruct him—if he has been elected—that at the first or second meeting of the Association subsequent to his election, he must pay his subscription, or such election will be void.

9. The Member on paying his subscription shall enter his name in a book kept for that purpose.

10. A candidate rejected, or one who neglects to make good his election by timely payment, is not eligible to be again proposed until the following session.

11. After the second meeting the Association shall be considered as fully formed; and no Member afterwards elected shall be allowed to vote until his name has been entered on the books three months.

12. The Association shall hold its meetings in the Theatre of the Royal Veterinary College during the pleasure of the Governors of that institution.

13. The business of the meetings shall be thus conducted:—the chair shall be taken at Seven o'Clock; the Secretary shall then call over the names of the Members, and mark the absentees; read the minutes of the last meeting; receive the recommendation of candidates; and ballot for those proposed at the preceding meeting; after which the paper containing the subject for the evening's discussion shall be read.

14. The evening on which a paper presented by a student is first read shall, unless otherwise thought desirable, be considered as the student's evening: during it the anatomical and physiological sections of the essay shall be passed in review; and the author of the essay shall be expected to maintain it against all opponents. The following Tuesday evening shall be common to the students and the practitioners; in it reports of any interesting cases which may have occurred in their practice shall be received and commented on; but the time thus occupied shall in no wise exceed half an hour. The paper shall then again be read, and a discussion on its pathological division entered upon; reverting, if necessary for illustration and elucidation, both to the anatomical and physiological parts of the essay. The discussion shall terminate at Nine o'Clock, when the Secretary shall again call over the names of the Members, marking the absentees, and collect the fines and subscriptions due.

15. Should not the consideration of the paper be concluded at Nine o'Clock, it shall be resumed at the next meeting; or should it be concluded before nine, the next subject in order shall be entered upon.

16. A tablet shall be provided and suspended in the Theatre, containing notices of the subjects for discussion. These shall be entered according to the seniority of membership, and discussed in the order in which they stand. When only three subjects remain on the tablet undiscussed, the same shall be announced by the Secretary; and, at the next meeting, should not the number be increased, three students, in the order of their admission, shall be called upon to name subjects of which they will undertake the defence, or be subjected to a fine of Five Shillings each.

17. The essay shall be delivered to the Secretary at the meeting of the Association, antecedent to that on which it is to be discussed, and should the subject be a disease, it is recommended to the students to divide it into the following heads:—Causes, Symptoms, Treatment, and Terminations.

In considering the causes, it is expected that the author will be acquainted with their various natures, whether predisposing or exciting.

In commenting on the symptoms, he should be aware of their variation in

different stages of the disease; also with the anatomy of the parts, both healthy and morbid; and likewise with the physiology of the different organs that may be influenced by the disease.

When on the treatment, it will be necessary for him to understand the various surgical operations that may be required; also the chemical nature and mode of preparing and compounding the medicines employed, with their doses and mode of administration; as well as the manner in which they operate upon the system: he should likewise know the nature of the various local applications.

In the terminations should be explained the changes which take place in the different textures, whether in a restoration to health or in death.

18. The essays shall be retained by the Secretary until the decision of the Council on their respective merits.

19. Every person speaking on the subject under discussion shall stand and address the President.

20. Members shall be subject to fines for non-attendance, unless living at a distance of five miles from the College, or engaged in practice. Sixpence shall be paid if a Member is not present at Seven o'clock, and also Sixpence if he is not present at Nine o'clock, or when his name is called over.

21. Communications on practical subjects will be thankfully received from Members residing beyond this distance from the College, and shall be discussed, the personal attendance of such Members not being required if inconvenient to them.

22. Students subject to fines for non-attendance, being absent on account of professional duty on behalf of the College, or from illness, shall be exempt, on sending a written notice to the Secretary.

23. Students sending notices to the Secretary shall not be obliged to repeat them at every meeting of the Association, provided they have not been at the College during the intermediate time.

24. Students leaving the College for more than a week shall, on sending a written notice to the Secretary, be exempt from fines.

25. A Member being called to order by the President twice during the evening, shall forfeit two Shillings and Sixpence; and if the President shall be obliged to call the same person to order a third time, he shall be considered as expelled from the Association. The Secretary shall inform him of the same in writing, and place a notice to that effect opposite to his name on the books.

26. Should an expelled Member persist in disorderly conduct towards this Association at any of their Meetings, his conduct shall be reported to the Governors of the College by the President, in order that they may investigate the matter, and take such measures for the protection of the Association, by his expulsion from the College or otherwise, as they may deem proper.

27. Should a Member be expelled or withdraw himself from the Association, he shall in nowise be again admitted until the most ample apology has been made by him for his misconduct; and, after this apology, he must be elected by ballot, in the same way as any other candidate.

28. All fines to be paid on the first evening of the Member's attending subsequent to that on which they were incurred; the non-performance of which shall be considered a neglect. In case of neglect, as well as refusal to pay on application, the Secretary shall forward a written notice to the Member, stating the amount of his fines, and requesting payment; and should he refuse or neglect to pay them after three written notices have been sent to him, he shall be considered as expelled.

29. Should the fines of any Member amount to the sum of Ten Shillings,

he shall be informed thereof, and unless he pays the same at the next ensuing meeting of the Association, he shall be considered as expelled.

30. A Member expelled for non-payment of fines shall not be eligible for re-admission until such fines are paid, and then he can be admitted only by ballot.

31. All Members shall be considered as belonging to the Association, and subject to fines until their resignation is sent by letter to the Secretary, who shall immediately acknowledge the receipt of such letter, or unless they have otherwise forfeited their claims, agreeably to the laws.

32. The certificate of the Association shall be granted, as a matter of course, to practitioners on their becoming members; but to such students only as have been regular in their attendance, who have conformed to the rules of the Association, whose conduct at its meetings has been consistent and proper, and *who have obtained their diplomas from the Board of Examiners.*

33. The granting of the certificate shall be proposed in writing by two Members, and the awarding of it take place either prior or subsequent to the business of the evening.

FELLOWS.

34. Fellows of the Association are those who have introduced and defended an Essay, and who are in possession of the certificate of the Association in which the same is notified. In virtue thereof, they shall be exempt from fines for non-attendance; they shall be free to attend all meetings of the Association, and have a vote in the ballot and voice in its general affairs. While attending, they shall be subject to the same fines as ordinary Members.

35. They shall be allowed the use of the books of the library, under the same restrictions as Members.

36. Any communication they may be pleased to make in or connected with veterinary science will be gladly received by the Association, which will, in return, debate on any disputed point on which they may wish to have its opinion; and which opinion shall be transmitted to them by the Secretary.

HONORARY FELLOWS.

37. To those Members who have presented valuable Essays for discussion, and ably defended the same; or who have communicated useful information during the debates, or in any other way rendered themselves worthy, shall be awarded the "Thanks of the Association," the possession of which shall confer on the receiver the distinction of Honorary Fellow*.

HONORARY ASSOCIATES.

38. Veterinary surgeons or others, who are or who are not members of the Association, and whether Foreigners or British subjects, who have rendered themselves eminent by their writings or professional skill in or connected with veterinary science, shall be eligible to become Honorary Associates.

39. They shall be recommended in the same form as Members, and elected by a ballot of the Members; the same number of black balls excluding them.

* The Council, at the close of the present Session, will have to take into consideration the propriety of instituting other rewards of merit.

40. The Association will thankfully receive any communication which they may send to the Secretary, and will debate on any doubtful case of theory or practice on which they may require an opinion.

41. Honorary Associates, who are in no other way connected with the Association, shall be exempt from subscriptions and fines; but they shall have no vote in the ballot, nor voice in the general affairs of the Association.

VISITORS.

42. Each constituent of the Association shall have the privilege of introducing one Visitor at any of the meetings of the Association, except those called for special or private business.

43. The Visitor shall be admitted by a card containing the following form, to be laid before the Secretary, and by him before the President.

VETERINARY MEDICAL ASSOCIATION.

Admit Mr.

as a Visitor.

The chair taken at seven o'clock.

(Signed)

Date.

44. No Visitor shall be admitted more than three times in one Season.

45. Visitors shall be allowed to speak on any medical subject then under discussion.

46. A Visitor who has been called to order three times in one evening by the President shall never again be admitted to any meeting of the Association.

47. The Secretary shall be empowered to present cards of admission to any Foreigners visiting the College.

OFFICERS OF THE ASSOCIATION, AND MANAGEMENT.

48. The Association shall have a Patron, a President, twelve Vice-Presidents, a Treasurer, a Secretary, and Librarian.

49. The Patron shall be chosen for life.

50. The President, Vice-Presidents, Treasurer, Secretary, and Librarian, shall be chosen by ballot from the Members annually, at the first meeting in the Session.

51. Six of the Vice-Presidents shall be practitioners in the Metropolis, and six students at the College. Vacancies shall be filled up as they occur; a week's notice being given by the Secretary of their existence.

52. The *President* shall regulate the meetings of the Association; keep order in debate; decide on all disputed points relative to the Rules and Regulations; and strictly notice all improper conduct.

53. He shall have the power of convening a meeting of the Association whenever he may deem it necessary; and shall at times call a special meeting at the requisition of twelve Members. At these meetings each Member present shall be subject to fines as on regular meetings.

54. In the absence of the President, one of the Vice-Presidents shall take the chair, who shall be invested with all the power of the President during such occupancy.

55. The Vice-Presidents shall take the chair in the order of their election.

56. The *Secretary* shall take and keep minutes of the transactions of the Association; write letters and notes; receive subscriptions and fines; and pay the amount into the hands of the Treasurer monthly, taking a receipt for the same. His accounts shall be examined every three months by the Council; and a Report thereof read by him to the Association at the first meeting following the audit.

57. The salary of the Secretary shall be ten pounds annually.

58. He shall not be allowed to pay any sum above one guinea without an order from the Council; and vouchers shall be given by him for all sums paid above two shillings and sixpence.

59. All notices and medical communications sent to him must be post paid.

60. The *Council* shall consist of the President, the Vice-Presidents, the Treasurer, and Secretary, who shall have the management of the Association. Their measures, however, before being acted upon shall be laid before the Association as a body, which shall possess the power of either confirming or negating the same; the majority on the ballot being decisive.

61. They shall meet for general business on the first Tuesday in every third month, at three o'clock in the afternoon; or at any intermediate period, on a requisition signed by four of them being forwarded to the Secretary. Five shall form a quorum.

62. After having audited the accounts of the Secretary, they shall inspect the papers which have been discussed during the antecedent three months, and shall select such as by them are considered worthy of the "thanks of the Association" for the approval of the Members, and return to the authors such as by them are considered to be unworthy of preservation. Should an objection arise as to the correctness of their decision, it shall be decided by a ballot of the members.

63. To the Council shall be submitted, in writing, any complaint against any officer or constituent of the Association; all propositions for the formation of new laws, or the amending or annulling of old ones; the recommendation of books for the library, and any and every other proposition affecting the Association. The originator shall be allowed to attend to enforce his reasons, but shall withdraw during the discussion on his proposition; and which shall not be brought before the Association unless it receives the approval of the majority of the Council.

64. Monthly abstracts of the proceedings of the Association shall be published in the leading Veterinary Journal; these being drawn up by a Subcommittee chosen by and from out of the Council; and a yearly Report shall be given by the Secretary of the state and prospects of the Association.

65. The Council shall draw on the Treasurer for such sums as the Association may require to be at its disposal, according to the report of the Secretary; the amount not exceeding the balance then in the Treasurer's hands. Each cheque so drawn shall be signed by the President and four members of such meeting of the Council.

66. On the first Tuesday after the close of the General Meetings for the season, the Council shall assemble at the usual hour, and consider whether it may be advisable to publish a volume or a pamphlet composed of such Essays as they have preserved, or any portion of them, under the title of "Transactions of the Veterinary Medical Association," and at the expense and for the benefit of the Association; it being clearly understood that the authors of such Essays shall likewise have full power to publish them in any way they may think proper.

67. The property of the Association is thus far vested in the hands of the Trustees of the Royal Veterinary College, for the time being, that *in case of such disagreement between the members of the Association as may lead to its removal or dissolution, the library and other effects shall remain within the walls of the College for the benefit of future students or any similar Institution that may be formed under the sanction of the Governors of the College.*

RULES OF THE LIBRARY.

1. A Library be bought at the expense of the Association, and a Librarian chosen by the Members.

2. Members shall be enabled to obtain books on any day, except Sundays, between the hours of Ten and Five.

3. The books shall be numbered, to prevent confusion in the return of several copies of the same work.

4. Members requiring *particular* works shall enter such request in a book kept for the purpose, and these works shall be delivered to the Members in the order of such entry.

5. Opposite to the Member's name and the title of the work required shall be placed the day of the month, &c, written in ink, to obviate mistakes.

6. Folio and quarto volumes may be kept two weeks; octavos, containing 500 pages and above, ten days; others one week; and duodecimos and pamphlets, two days.

7. If a work is retained by a Member beyond the time allowed, he shall be fined Sixpence for the first day, and Threepence for each succeeding day.

8. On books being returned by Members, they shall present them to the Librarian, and see an acknowledgment made of their receipt in his book.

9. Should a work be defaced or injured while in the possession of a Member, he shall pay its value.

10. Should a Member be dissatisfied with the decision of the Librarian with respect to Fines, or as to whether a book is injured or defaced, he shall have the privilege of referring the question to the Council.

11. All Fines shall be collected weekly, and, being paid into the hands of the Secretary, they shall by him be transmitted to the Treasurer monthly.

12. Fellows of the Association, and other constituents, shall have the use of the books of the Library, subject to the same laws as Members.

13. The state of the Library shall be examined by the Council at the close of the session, and a report made of it by the Secretary at the following meeting of the Association.

14. The Salary of the Librarian shall be Five Pounds annually, and he shall be considered responsible for the books belonging to the Library.

15. During the vacation, books shall be delivered to the Members by the Librarian, or his substitute, under the same restrictions as during the session.

The officers of the Association for the ensuing session were then elected; after which Messrs. Sewell, Spooner, and Morton, proposed as candidates for admission a long list of practitioners and students.

In order that the successful candidates might have an opportunity of being present, and assisting at the discussion of the first subject, a requisition was presented to the President by twelve members, requesting him to appoint an extraordinary meeting on the 17th of November, for the purpose of proceeding to the ballot. The President gave his consent, and the Secretary was instructed to summon such meeting.

The President then announced the first essay to be presented by himself on "The present prevailing Epidemic among Horses."

Two other subjects were presently announced: "The method of detecting the more energetic poisons," by Mr. Morton; and "Pneumonia," by Mr. Daws.

On the 17th the members again met, and proceeded to the ballot respecting the proposed candidates, at the close of which the following was the state of the Association:—

PATRON,

Professor Coleman.

PRESIDENT,

Assistant Professor Sewell.

VICE PRESIDENTS,

PRACTITIONERS RESIDING IN	STUDENTS AT THE VETERINARY
LONDON.	COLLEGE.
Mr. E. Braby	Mr. Barrow
— Field	— Barth
— Sibbald	— Battie
— Spooner	— Daws
— Jas. Turner	— Mortlock
— Youatt	— Rogers.

TREASURER,

Mr. Spooner.

SECRETARY.

Mr. Morton.

MEMBERS

(PRACTITIONERS.)

Mr. Adamson, Durham	Mr. Hallen, 6th Dragoons
— Ainslie, London	— Holford, Northwich
— J. Baldwin, Fakenham	— Hollingworth, Manchester
— Bardell, London, (since dead)	— Hope, London
— Beeson, Amersham	— J. C. Jumpson, Chelsea
— Boutal, London	— King, jun. Stanmore
— Jas. Braby, ditto	— Lepper, Aylesbury
— Case, Huntingdon	— Lowes, 3d Dragoons
— Charles, London	— R. Lucas, sen. Liverpool
— Cheeseman, Wandsworth	— McKenna, Belfast
— Cheetham, London	— Marshall, London
— Clayworth, Spilsby	— Mavor, ditto
— Cortis, Shipton	— Mayer, sen. Newcastle-under-Line
— Dawson, London	— ——— jun. ditto
— Duffield, Bungay	— Mayor, Garstang
— Edlin, 7th Hussars	— Moneymont, Norwich
— Farrow, Ash, Durham	— Morgan, London
— Ferguson, Paris	— Nice, ditto
— W. Field, London	— Peach, Sheffield
— Gloag, 10th Hussars	— Philips, Staines
— Gray, sen. Edinburgh	— Plomley, Maidstone

Mr. Pritchard, Wolverhampton	Mr. Jas. Sewell, Brighton
— Read, Teignmouth	— Simonds, Twickenham
— Robertson, 9th Lancers	— H. Taylor, Belfast
— Robinson, Tamworth	— H. Taylor, Sheffield
— Rogerson, Kirkham	— Walker, Lydde
— Rogers, Exeter	— Wells, Wymondham
— R. Rush, Diss	— Wheatley, Staindrop
— W. Rush, London	— Wilkinson, 17th Lancers.
— Salter, Eltham	

(VETERINARY STUDENTS.)

Mr. Bagnall	Mr. Hewish
— Barrett	— Hodgson
— Brett	— Holmes
— Bretterton	— Hurford
— Brough	— Hutson
— Carlisle	— Moon
— Cartwright	— Norton
— Corbett	— Phillips
— Dawber	— Richmond
— Goodwin	— A. J. Sewell
— Goslin	— E. Sewell
— Gray	— Snewing
— Hardy	— Sparrow
— C. W. Harvey	— Staveley
— J. Harvey	— Wallis
— Hedley	— Woodger.

In all 106, and at the second meeting! Good as was the cause, no one anticipated so glorious a result. *The feeling and the determination of the profession cannot now be misunderstood*; and the cause of good order, good feeling, and of the art itself, has signally triumphed. And what remains? Why, that while we cherish, one and all, a watchful care, and an irrevocable determination, that the peace of the Association shall not be disturbed, or *hazarded*, nor its honour tarnished, we will lay aside every demonstration, and, as much as possible, every feeling, of ill-will towards those with whom we have been contending; and exert every power in the accomplishment of an object which ought to be common to us all—the improvement of the student—the improvement of the practitioner too—the advancement of our art, and its elevation to that point of public estimation and honour which, considering the objects that it embraces, it well deserves to occupy.

And now, until the commencement of another year, we bid adieu to our readers. We shall then meet them with considerable satisfaction; for we have reason to hope that our periodical will increase in interest and in usefulness. An abstract of the proceedings of the Veterinary Medical Association will be given every month, similar to the reports of the discussions of the Veterinary Medical Society formerly held in Nassau Street; and no pains

will be spared to render that abstract more or less copious, according to the nature of the subject, and always correct. A few of the essays may likewise occasionally appear.

The Lectures on Comparative Pathology will certainly be resumed, and continued without interruption. An intercourse with several of the continental schools has been opened, and will be maintained.

Our long-trying and valued Correspondents, who have made *THE VETERINARIAN* what it is, and who are worn in our hearts' core, ay, in our "heart of hearts," they will not forget the periodical which they have nursed to deserved reputation and sterling value—we will say this, because we are speaking of them far more than of ourselves—they will not forget us. One storm, and that which threatened to wreck the character and almost the existence of our profession, is lulled, never again to rage. Our scientific discussions in this periodical or elsewhere, we do not say that they should be carried on with a coldness and apathy unworthy of their importance, and of our deep sense of it; but let them not degenerate into a rudeness of expression and rancour of feeling, disgraceful to us and the cause which we espouse. Do not let some of our correspondents be offended; but there is a little reason for this hint; they will profit by it, and we will act upon it.

Ere we shall have met again—a something more with the greater part of us than a mere visionary meeting—the peculiar season of festivity and good humour and good feeling will have commenced. Before that, our readers, and our valued correspondents will have a time of comparative leisure, but after that, for some month or two, they will have more than enough to do. Most of us will probably keep the old and rightly cherished custom at Christmas tide—we shall have those around us whom we love most, and we shall knit still closer those ties which give to life its chief value; yet, although, happy in his own domestic circle, is there a man who will not look a little or a great way beyond, and think of those, and mentally at least enumerate them, whom he includes in his kindly regards and best wishes? Some of our readers, perhaps, will then think of the profession to which they belong, and of *THE VETERINARIAN* as connected, however humbly, with the weal and onward progress of that profession. To the toast which they will pledge, let them fancy that they hear a responsive voice wishing to them the prosperity which they merit, and perhaps a little more emphatically designating those who have employed an hour or two of that comparative but temporary leisure to which we have alluded in giving us the assurance which admits of no mistake, that we shall continue to be supported, while we endeavour to deserve it.

VETERINARY MEDICAL ASSOCIATION,

*Tuesday, Nov. 22d.**Professor SEWELL, President.*

THE PRESENT EPIDEMIC.

A PAPER on this subject, by the President of the Association, was read by the Secretary*. A disease under the name of Influenza, exceedingly prevalent at different times, although having occasionally existed from time immemorial, was first described by some Italian physicians. They traced it to atmospheric agency, but they differed as to the nature of that agency. That disease has been differently described by different writers in later times. In truth, it had no fixed character; but it varied with the peculiarities of the seasons, and with the want or the defect of ventilation, and with various predisposing causes, arising out of the locality, and constitution, and habits of the patient. He, therefore, entitled his paper "The present Epidemic," because it differed materially from all that had hitherto been described.

It differed mostly in its mode of attack. Local circumstances seemed to have little to do with it. It went through the best regulated and best ventilated stable almost as completely as that which was most neglected. It attacked the young and the old; the stabled horse, and the one at grass, and even the foal that had not yet been stabled. Its causes were in the earth, or the atmosphere, or both. It assumed a more serious form in those that were previously affected with chronic disease; and no treatment which the animal was undergoing on account of other disease would avert its attack. It simulated almost every disease. It was most prevalent and severe when the thermometer was at 58 degrees of Fahrenheit and more. It had hitherto been confined to the horse.

* Our notice of these papers will be comparatively brief, although no important point will be omitted. It is the intention of the Council to publish the more valuable of them at the close of the session. The peculiar views of the respective authors, and their own mode of illustration, will then be brought before the public without curtailment. In justice, therefore, to the author and the Association, much now must be omitted. This is stated, that we may not be accused of negligence. The debate shall be given, with some curtailment, yet more at length; and on any subjects of more than usual importance we should be grateful if the respective speakers would, on the next day but one, favour us with their speeches at as much length as they please.

At its first appearance there was a depressed countenance, rough coat, slightly hurried breathing; pulse 50 to 60, but sometimes as much as 110, small and feeble; frequent inflammation and enlargement about the pharynx and larynx; inability to swallow, the food and water rejected through the nostrils, the eyelids swollen, much weeping, blindness. The limbs stiff, tender, œdematous. Sometimes bloody discharge from the mouth or nostrils; fever; rapid prostration of strength, not from visceral inflammation. Tumours in various parts; legs enormously enlarged.

For such a disease there could be no specific remedy. He bled in large or small quantities, according to the degree of inflammation and the state of pulse, and repeated it until the inflammation was subdued. He inserted setons in the neck and the chest; gave from two to four drachms of Cape aloes, and afterwards slight diuretics composed chiefly of nitre, and farinaceous and succulent food of various kinds. He availed himself, if possible, of an open place, or change of situation. He gave no medicinal stimulants, for food was the best tonic in such diseases.

The appearances after death were as different as could be. Pleurisy and hydrothorax, inflammation of the stomach and gangrene of the intestines, congestion of the liver, congestion of the vessels of the brain, effusion on the brain, and sometimes total absence of all morbid lesion.

In conclusion, it appeared sufficiently evident that stable malaria was not concerned in the production of this disease, any further than as a predisposing cause, or probably aggravating the symptoms and destructive effects of the malady. In the open, and, apparently, the purest air, and which the animal had breathed for many a week or month, he was occasionally attacked by influenza. Fed on every possible species of food, the animal did not possess immunity. We must look, therefore, to the air which they breathed, and that either being altered in the proportions of the gases by which it was composed, or empoisoned by miasmata received from the earth. He had not met with any authentic account of the existence of the former to any considerable amount, and he was driven to the latter. He might have alluded to the influence of the seasons, of late so uncongenial; but the epidemic had shewn itself, in some degree at least, before the unfavourable weather could have produced any morbid effect. There was another source whence pestilential vapours might be derived, and when he thought of the late frequency of earthquakes in various portions of the globe (although not destructive in our own country), he could not help thinking that

from the deeper-seated parts of the earth some vapour had escaped, not cognizable by our senses, but destructive to life. He gave a long and interesting account of many of these convulsions of nature, and expressed his belief that they were somewhat concerned with the epidemic which had prevailed.

The Secretary having finished the reading of the paper, Mr. Sewell immediately observed that he waived every privilege which the laws of the Association might give him as a practitioner and as President. Let his paper be treated like that of one of his pupils. "Here I am," said he, "and I am ready to answer to the best of my power any question that may be put to me."

Mr. J. Turner inquired whether cases had not occurred in which the disorder was exceedingly intense, but no vital organ participated?

Mr. Sewell.—There were some instances in which no vital organ participated; but then there was general œdema.

Mr. Sibbald.—If there was such general disturbance, must it not be considered as a disease of the nervous system?

Mr. Sewell.—Undoubtedly the great prostration of strength must be traced to nervous affection. There may be apoplexy, or effusion in the spinal cavity. He had seen serous effusion within the spinal membranes.

Mr. J. Turner.—Was there no cough?

Mr. Sewell.—Not in many, and rarely violent.

Mr. J. Turner.—The disease seemed to be common to all localities?

Mr. Sewell.—Yes; many were brought to us who had been turned out for the season.

Mr. Simonds.—Was not the liver constitutionally affected at first?

Mr. Sewell.—Rarely. There has been occasionally a slight yellow tinge. I, however, differ from the common opinion here. I do not trace this to bile thrown into the system, but to its not being removed from the system by the discerning power of the liver. In many, the liver was perfectly sound; in others, congested. It was a perfectly Protean disease. He knew but of one viscus that had not been affected, and that was the bladder.

Mr. King, jun.—What was the prevalent cause? He had many cases, but not one from the fields. The horses had all been regularly at work, and their stables were as clean and as well ventilated as possible, and in good and even elevated situations.

Mr. Sewell.—We had some foals that had been turned out in June and July.

Mr. Wallis.—Was it consequent on the predisposition that had been produced—the artificial state of the constitution—by over-feeding—or over-work, or any other cause? In many of the cases which he had seen, the horses had been turned out during the summer; therefore it could not result in their over-work, or over-feeding, or any other cause, predisposing or exciting, connected with the stable. It was some unknown atmospheric agency.

Mr. Sibbald.—Many horses had come under his care that had been out at grass for months. He had had very few hackney-coach or cab horses, although it might have been thought, from the manner in which they were fed and worked, that they would have been the most of all predisposed to be affected by this disease.

Mr. Sewell.—The disease did not seem to spread in the course of the wind. It prevailed in hot weather and in cold, but certainly most when the temperature was high. It had appeared in Scotland in the spring, and it was now raging there again. There was not a corner in the country in which it had not prevailed. There are two breweries in this town, on different sides of the river; they are managed in the best possible manner: to the cleanliness and to the ventilation there could not be the slightest exception. It broke out in one of them. It fairly ran through the stables. Scarcely a horse escaped. In the other brewery not a horse was affected. Three weeks or a month passed, and it was all quiet and right at the first brewery; when it suddenly broke out in the second, and it is raging there now. In both, they took the sick from the healthy as soon as they were attacked; and the change of situation had the best possible effect. In the College he gives his patients every possible advantage to be derived from pure air; but he does not quite approve of their being altogether turned out. He has lost only four horses out of about two hundred. From what he has heard, he concludes that where the mortality has been considerable, the patients have nearly all died from drastic purging.

Mr. E. Braby.—In the first stage was any particular organ or membrane affected? He believed not. If it was any, it was the conjunctival, or some portion of the respiratory membranes. Then, what was the disease at its first stage?

Mr. Sewell.—A constitutional disturbance that increased the action of the heart, but produced more general irritability than inflammation, properly speaking.

Mr. E. Braby.—Then inflammation is not a correct term. It is some mysterious energy, some extreme nervous sensibility; the surfaces are generally affected—the membranes are diseased;

but it is not absolute inflammation. It is a diseased state which he hardly knows how to describe; but it is not proper inflammation. He has examined some horses in whom no apparent cause of death could be found.

Mr. Sewell.—Did you examine the spinal cord?

Mr. E. Braby.—No; but I did examine the brain.

Mr. Field.—The question of Mr. Braby had particular reference to a stage and period of the disease. It affects the surface of the body, and a large portion of membrane. You say the serous, the mucous, and the cellular membranes. With regard to the mucous and cellular membranes, I agree with you; but not to any considerable extent as to the serous membranes. It is inflammation of the envelope of the body—the skin—the whole of its texture—and that by means of which it is connected with the subjacent parts. It affects also the mucous membranes; and there, too, it penetrates to the subjacent tissue. Looking at it in this view, it is essentially erysipelas, and allied more strictly to this than to any other disease of the same kind.

With regard to the symptoms, they are of two kinds, or the disease is two sorts;—spontaneous or primary, or secondary. Take the secondary, as shewing its nature best. A horse meets with an accident, or the skin is excited by firing, blistering, &c.—there is a certain degree of inflammation excited. That inflammation, under certain states of the animal, spreads and extends itself over the skin—it spreads deeply—it extends rapidly over the whole limb, and over different and very distant parts, and a general irritation is excited. It is inflammation of the skin, commencing at the situation of the original wound or injury, but spreading from this, and extending to other parts, from sympathy and other causes.

The primary disease does not take place in this manner, because it begins locally. Its first symptoms indicate a febrile state: they are, loss of appetite, quickened circulation, depression, local pain, the pain shifting its seat as indicated by a shifting of posture and other circumstances. From all this I infer, that the disease is a species of erysipelas. This also shews the strict sympathy which exists between the skin and the mucous membranes. We excite the disease to a certainty if we excite inflammation of the skin. Thus, it follows purging, and hence the danger of purgatives in this disease. Immediately on the cessation of the working of the physic, the erysipelas appears, or, if previously existing, is strangely aggravated.

If I am right in my view of this disease, there can be no difficulty in understanding the train of symptoms. The skin is highly sensitive; the skin of the horse is peculiarly so. If there

is so much irritation on the skin, will there not be irritation every where? and must not this be speedily followed by prostration of strength? It is not at all necessary to look for organic disease, or to the suspended influence of the brain, in order to account for the extreme prostration of strength which attends every case.

With regard to the duration of the disease:—the crisis will generally occur about the fourth or fifth day, if the animal has not been injudiciously treated, *i. e.* if purgatives have not been administered, and he has not been too largely bled. Until we get the natural serous effusion into the skin; until the skin becomes softened, relaxed from the state of tension produced by the inflammation, we cannot get rid of the disease.

What are the causes of this disease? I confess that I am not satisfied about this matter. I am inclined to believe that they are some miasma, and atmospheric influence, acting conjointly. The exciting cause may be wound and irritation; but I know not what to say satisfactorily of the predisposing causes.

I come now to the treatment of the disease. Our duty consists in placing the skin in an opposite state or condition. If there is great inflammation and tension of the skin, and no particular local tumour, how shall we obtain relaxation of the skin, and thus remove the pain? We soak the legs in tepid water—we use repeated warm fomentations, and thus endeavour to restore the obstructed perspiration; and in this state of fever, exposure to the air has a great but most beneficial influence in abating the pain and reducing the temperature of the skin. Although these two modes of treatment appear so different, they effect the same salutary object.

What shall I say of medical treatment? If there be such an utter prostration of strength, surely I cannot advocate the cause of bleeding? In the cases in which I have not bled, my patients have become convalescent much sooner than where I have had recourse to venesection; and when bleeding has been employed largely, from the supposed extremity of suffering, collapse has taken place about the fourth day, and the animal has sunk. As regards other means, the use of diuretics almost to any extent is allowable.

As regards the stimulating plan, it is decidedly the best. The nitrous ether is an admirable remedy; it is a stimulant and a diaphoretic. We want to excite again the action of the skin that has been suspended, and, according to the order of the symptoms and the nature of the case, warm applications, and cool and fresh air, and the spirit of nitrous ether, are our best and most effectual means.

Mr. Sparrow saw a case which was accompanied by excessive staling of high-coloured urine:—how would diuretics suit here?

Mr. Symonds.—Have the early symptoms occasionally been those of spasmodic colic? or have they supervened in the course of the disease?

Mr. Field.—There is often a great deal of gastric irritation.

Mr. Richmond.—May not the disease arise from obstructed perspiration?

Mr. Field.—There is always a want of cutaneous perspiration.

Mr. Cheetham.—The disease seems to arise from or to be connected with every other, colic, inflammation of the lungs, inflammation of the feet. In every case that he has seen, there has been variation in the occasional and almost in the primary symptoms. Colic has frequently been present in the course of the disease, but he did not have recourse to physic, for all that. The only admissible medicines are, tincture of opium, the spirit of nitrous ether, carbonate of ammonia, and nitre. The two first of these, while they relieve the irritation of the disease, will relieve the colic too. The disease has found its way into the extensive brewery of which he has the medical care. Some cases were lost at first; but he has now adopted the full stimulating plan, and he loses no more: he has given as much as half a pound each of the nitrous ether and carbonate of ammonia in the space of four-and-twenty hours. When effusion is once produced, the most important object is accomplished, and the medical attendant has little to do, except to keep up the strength of his patient. He has occasionally given as much as half a gallon of porter to a patient in the course of the day. He does not now bleed. He did so in one case; the pulse was full and strong—the blood was buffy—there was every thing to justify the bleeding; but the horse fell, and he rose no more. The grand thing is to support the strength of the animal. This is a fever of a peculiar nature:—the skin is highly diseased—the mucous membranes of every kind are frequently diseased, and the intestinal canal does not escape. As soon as effusion takes place, nature tells us that she has set up her own method of cure. In some cases he thinks bad effects have been produced even by rowels and setons. The cause of the disease is some peculiar state of the atmosphere, of what kind he knows not. If the animals have been accustomed to an impure atmosphere, or in other respects have been mismanaged, they will be more susceptible of the disease, and it will appear in an aggravated form. His stables are excellently ventilated, and the utmost attention is paid to cleanliness; but he one day perceived an unusual fog in them—he could not get rid

of it. He thought of the influenza. "It is surely coming to us," said he; and in the course of a few days it did come.

Mr. Holmes.—So far as he has observed in the College, or in his practice previously, if the pulse evidently indicated bleeding, no bad effects had followed from the use of it, but quite the contrary. The pulse has fallen, and the horse has recovered. He has seen them attacked in the field as well as in the stable. In some the affection of the mucous membrane was confined to the eye, or extended slightly to the mouth.

Mr. Cheetham.—He imagined that, if bleeding was ever serviceable, it was when only a small quantity of blood was abstracted, the loss of which, relieving the distended vessels, acted as a stimulus. Horses at grass are attacked by this epidemic; but they have the disease much more lightly than in the confined stables of London. He now sends his five miles away, and the symptoms immediately abate; and the horse that, before, could scarcely move, is soon running about and kicking.

Mr. Holmes.—There have been nearly two hundred horses with this disease in the College, and the greater part of them have been bled. Two only have been lost that have fairly undergone treatment here; the other two were destroyed by previous bad treatment.

Mr. Carlisle.—Has practised five years in Cumberland. He has seen the disease, both in the stable and the field. He always bled, and sometimes freely. The horse always appeared to be relieved, and he never experienced the collapse that has been described.

Mr. Spooner.—It seemed to be acknowledged on all hands that this was an epizootic disease. All horses were liable to its attack, but some were more pre-disposed to receive it than others. It attacked them even in the open field; but it was most prevalent, and most dangerous in stables, and where the horses were most highly fed. He agreed as to the two distinct characters of the disease, symptomatic and idiopathic. He looked upon it as decidedly an integumental disease; but he could not view it as bearing so completely the character of erysipelas. It was more governable, and it was more local; and the cases in which it arises from external wound or inflammation are few compared with those in which it must be traced to this obscure atmospheric influence. He agreed with Mr. Field, that the skin was in a state of extreme inflammation, and that the capillaries were gorged, and could no longer perform their natural functions. The mucous membrane likewise participated; but the sensorial organic system must be previously affected, or soon implicated, in order to account for the violence of the symptoms. If the

pulse was firm, or if it indicated great irritability, surely bleeding, cautiously applied, could not be injurious; he never found it so. The pulse alone would decide whether it was or was not warrantable. As to purgatives, he was of the same opinion as Mr. Field. Where they are given, nine times out of ten the animal will sink. They should be avoided, and, generally speaking, all depletive measures. He was surprised to hear Mr. Cheetham say that he should be cautious how he gave any thing to lower the system, and afterwards acknowledge that he gave such immense doses of nitre. Where but little medicine has been given, and the patient has been turned into a loose and open box, he has usually done well; and with regard to bleeding he must acknowledge that, where he did bleed, his patients were longer in getting well than some others were from whom he had not abstracted any blood.

Mr. Cheetham.—By means of all the doses of nitre which he had given, he had never increased the discharge of urine beyond what he wished; and where he has given it, there has been, and it is of frequent occurrence in this complaint, a tendency to suppression of urine. He considers it to be a disease of the capillary vessels, and, if you dispose of the effused fluid through the medium of the kidneys, you contribute to and hasten the cure.

Mr. Spooner had no doubt as to the accuracy of Mr. Cheetham's statements, but he only argued on the broad principle of the thing. He was afraid of the debilitating effect of too great urinary discharge. There was another point that he wished to mention: Inflammation of the vein—integumental inflammation—had it not been far more frequent since the appearance of this disease? More horses than usual had been sent to the College with phlebitis.

Mr. Field.—In his experience, there had been very few inflamed veins, because there had been very little bleeding. Even pneumonia had frequently been treated without any bleeding at all. The disease required a modified antiphlogistic treatment at the commencement, and, where there was no prostration of strength, he might be induced to take a little blood from the eye-vein, but always cautiously, and regarding with terror the collapse that might follow.

Mr. Braby.—All depends upon the indication of the pulse and the kind of horse: more blood, and with less danger, can be taken from a light than from a heavy horse. He has thought that the danger of purgation depended on the nature of the drug that was used. He regarded aloes as a very dangerous purgative in this case. Even three drachms of aloes (equal parts of Cape and Barbadoes) destroyed a horse.

Mr. Wallis has seen between three hundred and four hundred cases of this epidemic. He has almost invariably taken blood in the early stage of the disease. If the pulse ranged from 60 to 80, and was full, he always thought that he was justified in bleeding. In some instances he has taken from 8 to 16 pounds. When the disease is fully developed, he can imagine that bleeding may be unsafe, but not in the early stage. He has been fortunate in his practice, for he has not lost a single case. He always found the mucous membrane of the bowels very susceptible, yet he gives a small quantity of aloes. He knew one horse that died from four drachms of aloes, and another from three drachms; and he believes that superpurgation is the most frequent termination of the disease.

The clock had struck some time, and the meeting separated.—Several new Members were proposed.

We deem it an act of justice to the Association to state, that the most perfect order prevailed during the whole of the debate, and that the subject was announced, amid universal plaudits, for farther discussion on the next night of meeting. Our readers will peruse this first debate with no little interest. The theories of the different speakers were their own—they were matter for debate—and our opinion of the real character and proper treatment of this epidemic will doubtless become more correct, more satisfactory to ourselves, and useful to our patients; but it was the number of facts that were elicited in the course of the debate, and by which, and which alone, our opinions and our practice should be chiefly guided, that render it highly valuable. Our anticipations of the usefulness of this Association to the students, the practitioners, and the profession, will, at no distant period, be more than realized.

Miscellanea.

STUDENTS WHO HAVE OBTAINED THEIR DIPLOMAS.

Nov. 24th, 1836.

Mr. J. Fitzmaurice, Longford.

Mr. J. B. A. Miniken, Cork.

Mr. A. Bagnall, Liverpool.

CONTINUATION OF THE THYMUS GLAND.

By Professor DUPUY.

This horse, aged five years, died of ruptured stomach, at the school at Toulouse. The thymus gland was found of a triangular figure, and being an inch and a half in thickness at its centre. Its edges were considerably thinned, and each was about four inches in length. It was enclosed between the duplicatures of the smaller mediastinum, and extended under the trachea, to within an inch and a half from the entrance into the chest. One of its borders was situated inferiorly, and the others anteriorly and posteriorly. A branch of the axillary artery sent to it three considerable vessels, and the blood is returned into the corresponding vein. Its tissue was of a red colour, and formed of granulations, very small and easily torn. This organ had communication with the neighbouring parts only by the arteries and veins already mentioned, and some very loose cellular texture which united it with the mediastinum. There was no trace of any excretory duct; and this unusual appearance of it leaves the use of the thymus gland in all its former obscurity.—*Journal, Juin 1836.*

TO CORRESPONDENTS.

We have received communications from Mr. Harrison and Mr. Moneyment, which shall appear in the next month. Mr. Harrison's bidding has been done, as he doubtless will shortly hear.

We accept Mr. Gloag's offer with thanks. He can guess at that which made a letter from him peculiarly welcome to one of the Editors. More of this when we meet, which we shall do before we die.

We apologize to our readers for the manner in which the discussion on puerperal fever has been conducted in the last two papers which have appeared on it. We blame not Mr. Friend, for he was too rudely and sarcastically attacked, and of that we are assured that his antagonist is quite conscious, and will not offend again. It is not the way in which scientific subjects should be discussed, nor shall they so again in our periodical. We object not to wit and humour, and a little playful sarcasm, when the subject admits of it; but on our arena friend meets friend. We try each other's mettle, but we do not maliciously wound.

In removing to his present residence, among other things that were purloined or lost, was the Book containing the list of all Mr. Youatt's pupils at the University, and previously, who had obtained certificates or prizes. Will those who had earned these testimonials of merit kindly furnish him with their names and address, and also the nature and date of the bestowment of these rewards, on or before the 20th of the present month.

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