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EDITED BY

MR. PERCIVALL.

Ars Veterinaria post medicinam secunda est.—*Vergetius.*

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THE

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LAMENESS IN HORSES.

By William Percivall, M.R.C.S. and V.S.

[Continued from vol. xxiii, page 666.]

Pumice Foot.

By whom or on what occasion the condition of foot I am about to enter on the description of was first called *pumice*, I have not been able satisfactorily to make out. Looking at the meaning attached to the word in our dictionaries—which is *spume* or *froth*—and applying this in the sense apparently the most natural to the case before us, it would seem as though *pumice* were intended to designate the matters which had to appearance been ejected or *spued* forth out of the horny case, such matters being sometimes covered with *spume* or froth, and, from that circumstance, like pumice-stone, having a porous aspect. Therefore, a *pumice foot*—or, as Blaine has it, a *pumiced* foot—denotes, in the strict sense of the word, no less than actual protrusion of the toe of the coffin-bone, with its covering of sensitive sole, through the horny sole; though it is used also to signify that bulge and convexity of the latter which is preliminary to its rupture, and the consequent protrusion of the soft parts.

The Pathology of Pumice Sole amounts then to this:—In consequence of inflammation in them, be that inflammation acute or sub-acute, the sensitive laminæ, from causes which have already been detailed*, become detached from their union with the horny laminæ, and the coffin-bone losing its ties of suspension, is pressed down by the weight upon the horny sole, which, unable to bear the burden thus unnaturally transmitted to it, bulges, and either immediately or some short time afterwards bursts, and lets the toe of the coffin-bone, with its covering of sensitive sole, through its breach. This, and this

* Vol. xxiii, pp. 608-9 and 636.

state of foot alone, it is, either actually present or impending, which properly constitutes *pumice foot* Flat feet, nay, even convex and fleshy feet, do not of themselves amount to *pumice*, but, on the contrary, may exist independently of it. They may be, and are, dependent upon altered states of the hoof alone; whereas pumice foot consists in disorganization of the interior economy of the foot; in altered structure and relative situation of the parts within the hoof, and in partial escape of them.

PUMICE SOLE CAN HAVE BUT ONE ORIGIN.—Its existence is demonstrative proof either of the presence or of the pre-existence of laminitis, in the acute or sub-acute form. Those dovetailed and intimate bonds of union between the sensitive and horny laminæ which hardly any amount of mechanical force can, *in situ*, rend asunder, gradually loose their hold under the action of inflammation, and let the coffin-bone down upon the horny sole. This, as we have seen, may result either from acute or sub-acute laminitis, but with these notable differences:—That, whereas under acute inflammation pumice foot is rapid, sometimes sudden, always decided in its occurrence; under sub-acute inflammation its approach is tardy and stealthy, and for some time doubtful and indeterminable. Indeed, in the latter it often happens that the sinking of the sole is the first intimation we obtain of the presence of the disease. The horse may have been observed to step short or gingerly, compared to his usual style of going, and this is succeeded by tenderness of tread to that degree that continuance at work becomes impossible, under which circumstance we are called to examine his feet, and to the surprise, probably, of the owner, find the soles either actually sunk or shewing unmistakeable signs of sinking. Pumice sole resulting from acute laminitis is, as we have seen, though at all times a lamentable affair, a more complicated and serious one still, from its so frequently having suppuration of the foot as an accompaniment; and when this proves to be the case, all prospect of remedy may be said to be at an end. It is not so, however, in the case wherein pumice foot follows a sub-acute or low kind of inflammation. Here, there is not the tendency to suppuration, but rather to adhesive action; and this it is that on occasions invites us to take the case under treatment; and now and then we succeed in restoring the integrity of the breach and soundness of the sole. But this, I am reluctantly forced to add, is but a rare issue compared with the states of pumice sole which defy our art at effecting such restoration of them as will render the feet again useful for work.

THE TREATMENT OF PUMICE SOLE—when the case happens to be of such a nature as to inspire us with hope through judicious and careful management of it—obviously presents to us

two objects for consideration; the first being, the healing of the wound and closing of the breach in the sole to which it owes its existence; the second, the elevation of the coffin-bone, and its adjustment, as far as we can, in its natural *position*: I say "position," for as to forcing up the bone into its proper place again, of course that is a matter entirely out of the range of possibility. When once complete separation of the laminæ has taken place, no power we possess can restore their union; indeed no means can be employed to effect so much as we may be able to accomplish towards the raising up of the bone before we have completely restored the integrity of the sole, and made the part where the breach existed sound and firm, and able without pain to bear pressure.

FOR THE HEALING OF THE WOUND, the continued application of poultices will be found beneficial so long as any annoying inflammatory action is lurking about the foot, and so long as the wound itself puts on a healthy aspect, and seems disposed to granulate, or actually is granulating. But whenever such is not its character, and particularly when its surface looks pallid, and the circulation through it appears languid, stimulating and detergent dressings ought to be substituted for the poultices.

OF THE VARIOUS KINDS OF DRESSINGS in ordinary use for the purpose of promoting the healing of foot-wounds and their subsequent coating by a sound secretion of horn, none are found to answer well unless they be, through some suitable contrivance, firmly bound upon the ulcerated surface, so as to give as much *pressure* to it as the animal can bear. Pressure to the extent of producing pain is injurious; but the utmost degree short of this is uniformly found to be attended with the happiest effects. In short, without concomitant pressure, the most extolled dressings will seldom prove of much avail. If the hoof be cool, and it is considered that a light shoe can be worn without hurt, providing it be put on with small nails driven through parts of the crust able to bear the concussion of the hammer and to hold such nails, great advantage will be derived from it, inasmuch as it will afford very convenient means for employing such pressure as is found so salutary and effectual. This is to be managed by obtaining two or more pieces of iron hooping, cut into lengths to admit of being placed, diagonally, across the sole, and of being confined in that situation through their ends being driven for stays between the web of the shoe and the sole. They should be so placed as to cross each other opposite to the part where the dressing is, that being previously covered with as many thicknesses of tow as become requisite for the necessary pressure. After the hoop-iron stays are arranged so as to give firm and steady support to the tow underneath them, they

may be, at the point of crossing, well hammered down upon the foot; an operation which will serve to accomodate them more completely to their situation, at the same time that it operates in giving additional pressure, which will be maintained when the foot comes to be set upon the ground by the standing of the horse upon the compressed dressing.

In regard to the best medicament to apply, providing the exposed parts of the sensitive sole be--as they commonly are—in a healthy condition, stimulating applications agree best, and no one in the class exceeds in efficacy the ol. terebinthinæ. This, under the influence of pressure, will generally of itself bring about all we desire; though, should any change of dressing be deemed desirable, we may use either tinct. benzoin cō., or tinct. myrrhæ cō. Should any signs of unhealthiness or malignancy—a rare occurrence—make their appearance, escharotic stimulants, such as solutions of copper and zinc, and even of mercury, might be employed. An astringent, such as solution of alum, or a detergent in the form of chloride of lime, may also occasionally be required.

Having succeeded in healing the wound and causing the breach to be covered over with sound though soft horn, a dossil of dry tow well pressed down will be all that will be further needed to keep the dirt and wet from the parts, and to harden and prepare them for being finally *stopped* and protected from injury when the horse shall be permitted to take exercise or go to work. The new-formed sole being now sound and tolerably firm and hard, should a shoe have not been nailed on the foot before, now is the time for one to be put on. And the shoe best for such a description of foot is that which will, either of itself or through additions made to it, enable us to give that amount of pressure upon the sole which is found to be so requisite for the purposes of support and uplifting of the descended coffin-bone, to the extent possible, into some proximity to its original place. Whether we really possess any such power as will effect this, may very properly be made the subject of doubt; but that we can, by pressure and support to the sole, prevent any further descent of it, should that appear likely to happen, is beyond a question. A broad-web shoe—such a one as Plomley's of Maidstone—is a good one for this purpose; and this should be plugged internally with stopping, intermingled with tow, the two together forming a compressible pillow, upon which reposes with ease and firmness the as yet tender sole of the foot. Over the stopping and tow should be placed, and nailed on with the shoe, a stiff piece of sole leather. Or, which some prefer, after the shoe is nailed on, a piece of gutta percha, cut of smaller size than the circumference of the shoe, may, after being softened in

hot water, be kneaded in upon the sole, over the stopping, with the thumb, and pressed around the edge sufficiently underneath the web of the shoe to maintain its hold. With his foot thus shod and cushioned and protected, the horse may return gradually to hard work.

Instead of the broad-web heavy shoe, it may be advisable in a case where the foot is thin of horn and the crust apt to break away, to substitute a shoe as light as it can be made consistent with its purpose. A shoe made narrow but *thick* in the web will sometimes be found to answer very well when used in conjunction with leather or gutta percha in the manner before directed, such a shoe possessing the advantage of being held on by smaller and fewer nails than what the broad shoe requires. And whenever we meet with a foot of such description, with thin and weak or brittle crust, we are not to be particular as to either the number of the nails used to keep the shoe on or the situations they occupy through the hoof; for sometimes it becomes necessary to nail the shoe all round in order to fix it firmly for work, and to make use for the purpose of double or even of triple the number of (small) nails we ordinarily insert. In fact, if the horse is to go to work in it, the shoe must be secured at any multiplicity and variety of nailing, and clipping in addition, save that of doing positive injury to the foot.

GORGED STOMACH AND INTESTINES.

By John Younghusband, V.S., Greystoke.

To the Editor of "The Veterinarian."

Dear Sir,—This being a time of the year when, generally speaking, communications are doubly welcome, and it being a long time since I have contributed any thing, in order to make small amends I send you the following:—

Oct. 1*st.*—Requested by a Mr. Scott, of Woodhall, a large farmer and an employer of mine, to visit a bay horse that had got loose during the night and paid an unwelcome visit to the corn-bin, from which he had purloined a large quantity of a mixture of wheat and chaff. From fear of severe rebuke, the groom did not make known the accident, and in the morning the horse was turned out with others to graze in the meadow, where he had free access to water as well as food. About ten o'clock in the forenoon he was perceived to be unwell, and

was on that account brought back to his stable, when my advice was required. On my arrival, I found the following symptoms the most predominant, from which I did not augur any very unfavourable issue :—

SYMPTOMS.—Abdomen fuller than usual, but no distention to cause any particular alarm; ears, legs, and mouth of their natural temperature; pulse small and weak, at times scarcely perceptible, so that I could not distinctly count it; evacuations profuse and watery, attended with the appearance of griping, when purging did not take place. He would, however, eat, to all appearance with his usual avidity, any thing that was offered to him. Viewing these symptoms, and considering the state of the alvine evacuations, I gave it as my opinion that we might fairly calculate upon a favourable termination.

TREATMENT.—The bowels already being well acted upon, I did not think it requisite to administer any strong cathartic. Believing that if the stomach was stimulated so as to act more energetically, and cause a more thorough digestion, so that its contents might be more speedily evacuated, and considering the state of the pulse, my belief was, that I could not do better than administer a powerful stimulant. The one I made use of was composed of æther. sulphuric. rect. cō. spt. æther. nitrosi, and tr. zingiberis, to be given in a mild solution of aloes. After the draught, the horse to be kept short of food and water, being only allowed a little mash of scalded bran once or twice during the remaining part of the day, and to have a little gentle walking exercise, with a repetition of the stimulant without the aloes: at the same time warning them, in case any untoward symptom took place, I was to be informed thereof.

"What short sighted mortals are some men!"

Upon exercising the horse during the latter part of the day, it was perceived that he reeled, or rather staggered, in his gait, and became more dull and refused his food. During the evening he got rapidly worse; lay down, and either refused or was unable to rise. I was now summoned hastily again; and on arriving at my patient's, I perceived a strange alteration for the worse. The horse was now down—stretched out at his full length; had become apparently insensible and helpless, and comatose; breathing hard, with fixed eye; pulse between 70 and 80 per minute, small and weak; the ears and extremities less than their natural temperature; and the abdomen not tympanitic. Under these circumstances I was rather puzzled to conjecture what sort of treatment I would be justified in adopting. Being, however, satisfied that all those symptoms arose from an overloaded stomach, thereby exhausting its powers,

together with those of the other parts of the frame, especially the brain, insomuch that if we could only again raise the energy of that important function, so as to cause it to act upon the other parts of the system, we might possibly, though most unlikely, snatch our patient yet from the jaws of death, I informed the owner of my opinion, but did not in the least give him any hopes; nor, indeed, had he any himself. But I remembered the advice given by that excellent practitioner, Mr Mayer: "Not to give up a case as long as there is life; for as long as there is life there is hope." Still, my hopes were small indeed. Well; acting upon this advice, and considering the stimulant already alluded to as one well calculated to suit the purpose, I was determined to test its effects (but not without doubtful apprehension as to the result), and immediately prepared a mixture of æther. sulphurici ℥ij, spt. æther. nitrosi ℥ij, tinct. zingib. ℥j, to be given in a gill of ol. lini. And, as the evacuations had become more scanty, I threw up an injection composed of ol. terebinth. one gill, mixed in two quarts of gruel. I had him then well littered up; ordered the draught to be repeated (but in less quantity) in the course of two hours, should no favourable change present itself at the end of that time. After administering the second dose, if the least favourable turn took place in the complaint, I wished to be made acquainted with it as shortly as possible. Having other patients to attend to, I was under the necessity of leaving in this manner.

Ere long I was called again, and was informed that after the second dose was given the horse made an effort to get up, which act by a little help he accomplished; he then dunged and staled freely, ate a little hay, but appeared weak and wavering. Preparing myself with more of the stimulants, and arriving at my patient's, I found him in a relapsed state, with symptoms nearly the same, except the breathing, which was not so hard. I administered another dose of the medicine, and in the course of half an hour we tried to rouse him, which we accomplished, though not without difficulty; for when he stood up he reeled to and fro like to a drunken man, and seemed as though his legs could not support him. By the aid of a few men on each side, we were able to keep him up for a while; but in spite of all our efforts he came to the ground, after which his breathing became more accelerated and his eye fixed. Again I repeated the draught, being now assured it was only by such vigorous means we could save our patient; and as his bowels had become more confined, add oil and aloes; repeat the injection, and strive to rouse the dormant powers of the frame. After administering a few of these draughts, the pulse became fuller and harder, shewing the disease to be changing its character. The bowels not responding, give more opening medicine, and another

dose of the stimulant. In a short time, by the aid of half a dozen men, we were able to raise the animal upon his legs; but he could not support himself, even for a short time, without aid. After, however, we had thus supported him for about the space of ten minutes, he began gradually to improve, so much so that he was able to stand with the aid of two men only. Making a careful examination, I came to the conclusion that the complaint was assuming a more decidedly inflammatory character; and, no wonder, viewing the quantity of medicine that had been administered, and its peculiarly stimulating character. The eye had become more bright; the visible mucous membranes injected; in short, the horse appeared to be in a state to warrant a different sort of treatment. Bleeding now presented itself; and I readily had recourse to the means thus indicated. After this operation the horse improved in a slow but satisfactory way, getting up with very little help, shewing symptoms of returning appetite by eating a small mash offered to him.

On visiting him a few hours after, I found it requisite to abstract more blood, to repeat the injection, and to give a dose of ol. lini, with a little fever medicine. I ordered his legs to be well rubbed, and afterwards bandaged; and, when he lay down, to be well littered up; likewise to have a small mash offered him, and then to be left for a time.

On visiting him again, I found the feverish symptoms running rather high. I therefore left four fever balls, containing a little aloes.

On my next visit, I was met by the owner with the glad tidings that "the balls had done more than all the rest:" the patient having improved rapidly from the time of their administration. But, in answer to this, I told him I thought I would be wrong in coming to the same conclusion, though it might be "all's well when it ends well!"

6*th.*—Visited him again, and found him rallying in a manner every way agreeable, excepting that he shewed severe symptoms of—if so I may call it—*chest founder*. But being now aware of the nature of the complaint and its attendant symptoms, I did not possibly pay that attention to the then prevailing symptom that I should have done, judging that as soon as that important organ, the brain, recovered its former action, other parts of the frame, of course, would follow a restitution of function.

7*th.*—Visited again. Steadily improving; all feverish symptoms have subsided; moves more freely, and eats his mashes with avidity, drinks his gruel, and is fast getting convalescent.

After this I did not visit him again until the 14th, when I found my prognosis as regarded the chest affection verified. The horse takes his exercise daily, and is fast improving, and at the time of writing this paper is nearly free from lameness.

STATE OF THE VETERINARY PROFESSION.

Wolverhampton, Dec. 9th, 1850.

Dear Sir,—I CONGRATULATE you on the addition of a new and novel contributor to the list of your subscribers, a Sporting Surgeon—a most ingenuous and a most faithful friend to the profession, no doubt. Of course, you think with me, otherwise the notice and partial admissions to his derogation would not have been made in your leading article. By the bye, I wonder what is his favorite sport—horse and hound, dog and gun, rod and line, or men's feelings. As a surgeon, I suppose he visits patients who live in large houses, having butlers' pantries with generous butlers; servants' halls and kind servants attached to them. O yes, of course he does; for he occasionally sees veterinary surgeons in them; yes, clairvoyant, from the dining room, or the drawing room, as it may so happen, that he is being entertained by the gentleman and his sporting friends, or by the lady and her fashionable circle. Happy man! this life of his is a very nice one, with a classical education, and the straining of the intellectual faculties by long and deep research into the maze of animal organization and function. I should like to know this sporting surgeon much; and I hope, as a friend to our profession, he will forward, without the least possible reservation, his real name and address to your Journal. I recollect well the painful suspense I endured while the name of that great writer on sporting matters, Nimrod, remained in secret, and my vast astonishment, when it was disclosed, to find that he had shortly been a near neighbour; and, what for aught that I can tell, this very sporting surgeon may be a neighbour too: therefore, as a humble member of the veterinary profession, I should feel unfeignedly obliged by his complying with the above request. Should he decline to do so, then I must confess my opinion of his friendship and kind wishes for the prosperity and improvement of our body will be, in my mind, so exceedingly questionable, that I should consider it a particular favour if he would keep his future observations and remarks on the "classical education," "extensive course of education," the use or abuse of the advantages held out by a generous and discerning public to my brother members, while he keeps his name, to himself.

I am, dear Sir,
Your's truly,
RICH. PRITCHARD.

W. Percivall, Esq.

REMARKS ON PARALYSIS; WITH A CASE SUCCESSFULLY TREATED BY STRYCHNIA.

By J. Woodger, V.S., Market-street, Paddington.

Paralysis is a disease to which the horse, in common with other domesticated animals, is occasionally the subject. We clearly understand it to arise from an injury or derangement of some part of the brain or spinal cord, or more probably from both: but beyond this we know very little.

I am not acquainted with any class of diseases in which there exists a greater degree of obscurity respecting their real nature than there usually is in paralytic affections. Cases occur in which the affection can be plainly traced to such and such cause; whereas, on the other hand, we are called upon to treat numerous cases respecting whose nature we are perfectly in the dark. The same observation, perhaps, would apply to many other diseases; but I think not with so much force. To elucidate my observation, I will here narrate a case I have at present under treatment.

A fine bay hunter, six years old, the property of a gentleman, was left by his attendant in a large airy box at night, apparently in his usual good health; but the following morning was found standing with his hind legs wide apart, affected with paralysis in both hind quarters, and particularly in the off fore limb, to that extent that it was difficult and hazardous to move him without endangering his falling. And what renders the case more unfortunate is, the circumstance of its being now about a month since my attention was first called to him, since which his improvement, if any, is scarcely perceptible. And here the cause appears perfectly mysterious. He had not been doing work of any description for three or four weeks previously; and had been moderately fed and regularly exercised. There was no loss of sensation in any of the affected parts.

We see the disease in different subjects varying considerably in degree and intensity, most likely from the difference in the nature of the injury or derangement the nervous centres sustain. Human pathologists divide the disease into four kinds,—the Cullenian arrangement (see *Hooper's Medical Dictionary*), are as follow:—1. *Paralysis partialis.* 2. *Paralysis hemiplegica.* 3. *Paralysis paraplegica.* 4. *Paralysis venenata.*

The fourth form of the disease I have never had an opportunity of observing; the other three forms I have repeatedly witnessed. The third form, or *paraplegia,* I believe to be of the most frequent occurrence in the horse; whereas the second,

or *hemiplegia*, I believe to be the most rare; at least, such has been the result of my experience. I have known horses that have recovered from this last-mentioned form of the disease *(hemiplegia)* work for years, having the upper lip completely drawn to one side.

The subject of the present case was a grey gelding, four years old, the property of Mr. T——, a very extensive omnibus proprietor in this neighbourhood.

He was bought in the spring of the present year, when only just four years old, and put to work; and he certainly appeared then a fine strong promising gelding. But he had not been at work long before he began to exhibit evident signs of weakness in the fetlock-joints of the hind limbs; for which his owner, in consideration of his youth, determined upon having him blistered, and gave him three or four months' run at grass.

In the early part of July last he was blistered in both hind limbs, and on the 17th of the same month he was turned into a large park at Barnes, in Surrey; and continued to go on well and improve in every respect up to the 4th of September, seven weeks from the time he was turned out. On the afternoon of that day he was observed by the person purposely kept in attendance upon the horses there at grass, to be lying down and struggling. At the moment he was thought only to be rolling. The very instant, however, his condition was ascertained, assistance was sought, and he was soon upon his legs again. But he experienced a difficulty for some time in standing. In the mean time a messenger was despatched for me, with a message, that the horse was down and dying. I remarked, if such were the case, it would be useless for me to go. At all events, I repaired in haste to the spot.

When I arrived, I was informed that he had been seen several times during the morning feeding with the other horses, and appeared as well as usual, even up to as late as one o'clock P.M., it being about half-past three when he was first observed lying down.

Symptoms at six o'clock, P.M.—He was standing, with head and neck considerably straightened; pulse 40; membranes of their natural hue; countenance slightly disturbed; muscles about the neck rigid; twitching of the muscles about the shoulder and fore-arm of the near side; when made to move, reeled considerably with the hind quarters; a great want of power in extending the near fore limb; occasionally, the instant he attempted to extend it, it gave way in some such manner as a prop suddenly does which is placed to support a weight, and this very nearly ended in his falling every time he made such mis-step. The affected parts retained their sensation. The next thing

that suggested itself to my mind was, what was to be done with him? It was not a case that I was likely to give any temporary relief to; and to walk him a distance of six miles appeared to be more than he was equal to perform. At all events, the attempt was made, and, with the assistance of a man at his head and another behind steadying his hind quarters, he was walked as far as Walham Green, which is about half the distance; to finish the remainder of his journey early on the following morning. He fell down twice in the course of the passage, in consequence of the near fore limb giving way in the manner described.

Sep. 5th.—Symptoms the same as described yesterday, excepting the twitching of the muscles about the shoulder, which was not present.

Treatment.—Placed him in a large loose box. Gave aloës ʒiv, c. hyd. chlor. ʒj; enema of warm water; laxative diet; bran mashes, green meadow hay, carrots, &c.

6th.—The symptoms the same as yesterday; bowels not acted on by the medicine; has passed a small quantity of fæces.

7th.—Bowels relaxed, but not purging; appetite good; passed a seton on each side of his neck, immediately over the cervical vertebræ; and applied a charge to the loins, its operation being increased by the addition of cantharides.

12th.—This, the seventh day from his admission, he was led out of his box for a few yards; but there was no apparent improvement. The setons are discharging freely.

14th.—Commenced with strychnia, in one-grain doses, twice and thrice a-day, gradually increasing it until he was taking xij grs. a-day. The setons dressed every day.

20th.—Improvement now clearly perceptible. The following day the setons were removed. Continue the strychnia, occasionally alternating it with a laxative.

30th.—He had so far improved that his medicine was discontinued; and he was enabled to walk back to the park at Barnes, where he remained until Nov. 4th, when he was brought up quite recovered; and on the 10th he resumed his work, which he continues to perform as well as ever.

Remarks.—In giving publicity to the above case, I do not entertain the impression that it contains any thing either novel or instructive; yet I view it as a somewhat singular case, both in its history and in the rapidity of its favourable result.

The generality of such cases that have come under my attention have been of very lengthened and tedious character. Too many cases have never sufficiently recovered to perform severe exertion. For instance, the bay horse alluded to is a case of a precisely similar character in appearance, yet not making the

least progress towards improvement. In both cases the attack was sudden, and the effects similar. The treatment was the same, with the exception of the setons and the charge, to which the owner objected on the score of its blemishing the animal for a long period. I confess that I have been unsuccessful in cases where I have used such auxiliaries; and, comparing the cases that have been treated in this manner with those in which such aids have not been used, I find the balance in favour of the former; consequently, I am disposed to view them as valuable adjuncts. Respecting strychnia, there are many practitioners who, after having extensively used it, emphatically confess they have never witnessed any good result from it in paralytic affections.

In my own experience I must admit that I have been frequently disappointed in not experiencing the result I had anticipated; but where is the medicine that the same remark may not be applicable to? Therefore, on the whole, I am disposed to attribute much value to its use in these cases.

I find that I have greatly trespassed upon the pages of your valuable Journal, by extending these remarks beyond my intention; for which I beg to apologise. Yet, before I close, I would make another observation; and that is, relative to blood-letting in these cases. In my own opinion, perhaps, I may be singular; but I declare myself decidedly against it. Unless there is present any unusual symptom demanding its employment—which would be shewn by an increase of pulse, &c., though in nearly all the cases that have fallen under my notice the pulse has not been in the least degree disturbed or increased—I would ask, what symptom demands it? Does experience alone? I say not. If the pulse is to guide us (and I know not a better mark to attend to) then follow it.

I remember two cases that I attended: one about twelve years, and the other about fourteen years since. I bled in both cases. One case perfectly recovered; the other partially so: but in both instances blindness was the immediate result. Whether such results are unexampled I am not prepared to say.

I remain, yours, &c.

CASES OF ABORTION AND LAMINITIS, AND FEVER.

By J. W. Gloag, M.R.C.V.S., 11th Hussars.

To the Editor of "The Veterinarian."

Sir,—If you deem the following cases from practice worth insertion in The Veterinarian, they are much at your service.

I am, Sir, &c.

Norwich, 18th December, 1850.

Abortion followed by Laminitis.

A brown troop mare, four years old, was purchased at the fair of Beverley, November 5th. From her appearance, I was induced to believe her in foal; but on the positive assurance of her owner to the contrary, and on his signing a document that he would have her back and pay all expenses if she were found to be so, she was taken. The batch of young horses to which this mare belonged joined on the 13th November, and about one week after I endeavoured to ascertain by examination per rectum whether she were in foal, but failed to detect it, although I was still convinced my first impression was correct. I may also state that, in another case of examination of a mare per rectum, last year, for the same purpose, in the early period of gestation, I was unable to satisfy myself of the existence of the fact, although in the later periods the fœtus is at once felt by this method. I mention this merely to shew that we are not to place implicit reliance on this mode of examination at all periods of gestation, but that we may be deceived.

December 2d.—The mare was seized with pain, supposed to proceed from colic, and the farrier gave some warm injections and simple remedies before I could be found. By the time I arrived the mare was in the pains of labour, and in about one hour and a half, after suffering very much, she aborted a fœtus with which she had apparently been gone about three months. The mare, the day previous, from some accidental cause, had been much relaxed in her bowels, and I expect that this may in some measure account for the casting of the fœtus. She went on remarkably well after foaling, and all pain soon subsided; she was supplied with gruel and bran mashes, with very little hay, and comfortably clothed and tended. Had it not been for her state of bowels, I probably might either have given some aperient or taken blood, but under the circumstances I did not think any treatment necessary.

Dec. 4th.—The mare has gone on remarkably well up to this date.

Half past Six o'Clock, A.M.—She has fed, and is to all appearance well. This was the account given to me by several persons who had seen her at that time.

Half past Seven o'Clock, A.M.—The mare is found suddenly to be in great pain, shifting her posture behind, panting and blowing, and when attempting to move, appears as if she were going to fall, from rapidly losing all power over her hind quarters. The farrier major came to my house and reported the above circumstance at eight A.M.; and as the first impressions on my mind were naturally connected with the subject of the late mishap, and as from the symptoms coming on in this way I augured most unfavourably of the case, I requested Mr. Wells, V.S., of Norwhich, who lived near me, to meet me at Barracks at nine A.M., to have the benefit of his practical advice. We found her in the state above described, panting and blowing from pain, the pulse about 80, and hard. On attempting to move her, it appeared as if the hind parts were paralyzed, and that she must sink down. On examining the parts of generation, we found all going on correctly, and that there was a discharge of the usual fluid, but rather of an offensive odour and character, as if the fœtus had been dead and decomposed. The hind feet were found intensely hot, and the fetlocks considerably swollen, and the pastern arteries throbbing violently. On manipulating the fore extremities, the same symptoms were observable; but the pain at this time existed principally in the hind feet. On tapping the horn of the feet with the hammer, the mare evinced pain. We forced her to attempt a movement, but she appeared as if paralyzed. We agreed, it was a case of laminitis of all four feet, of the most violent description, but still principally affecting the hinder ones. The shoes were with the greatest difficulty at once taken off, six quarts of blood abstracted from the jugular vein, and eight drachms of Barbadoes aloes given in ball; and, after the bleeding, each foot was immersed in a large poultice of bran and linseed meal, which was to be kept constantly hot by pouring warm water into it from a kettle.

One o'clock, P.M.—The pain is most intense: the fore feet appear to me now to be the most affected. The mare stands obstinately fixed. Pulse 80, and hard. With a view of alleviating the pain, gave a ball of extr. of belladonna 3j, camphor 3j, opium 3j, made up with turpentine.

Nine o'Clock, P.M.—Pain unabated. Repeat the ball. Men are left up all night to keep the poultices constantly hot.

5th.—This morning there is no change; the pain most intense. On forcing the mare to move, the peculiar action of the

laminitic horse at once seen, viz. bearing the whole weight upon the heels of the fore feet. She has continued most obstinately to stand, although, at times, one would think she must fall down.

I was desirous of passing setons through the frogs of the fore feet; but as the box was so small that I could not throw her down in it, and as I could not move her out of it to do so, I was rather puzzled how to manage the operation. As to lifting any one foot, although we had plenty of assistance, it was quite out of the question; I therefore thought, as there happened to be a beam over head, that I would contrive some slings, with the double purpose of allowing her to throw some weight into them to relieve her feet, and also that whilst she was suspended I might pass the seton. I fixed the apparatus (which is extremely simple) accordingly; but the moment the mare found she had any thing under her to support her body, she threw her whole weight into the slings, until she absolutely hung suspended in them, and could not be forced to move. I then tried to insert a seton, but found this perfectly impracticable, since the mare threw herself frantically forward. I now applied the hobbles to the legs, and lowered the mare out of the slings to the ground, and inserted a seton through the frog of each fore foot as deeply as I dared. After the operation I kept the hobbles on until every thing was quiet, and then relieved her, thinking she might be induced, by the ease she received from lying, to remain in the recumbent position; but no sooner did she find herself freed from restraint than she tottered up. For some hours she suffered most intensely, her knees and limbs trembling. The bowels had not been acted on; I therefore gave of resin ʒij, nitre ʒij, aloes ʒij, in ball. The poultices were again applied and most vigilantly tended. The mare lay down and rose again several times, until towards evening she remained on the ground fairly exhausted. A man was again left up with her to attend to the poultices, give her gruel, &c.

6*th*.—She is still lying down; the pain is intensely severe, but I do not think the feet are quite so hot; the pulse is more tranquil, and beating 65. She does not attempt to rise, but turns her head up occasionally, and groans. Her dung is quite loose, and she passes it as she lies. No further treatment to-day than attention to the wants and comfort of the mare, and keeping the poultices constantly hot.

7*th*.—The mare has not risen. She is lying quiet; the breathing much easier, and the pulse softer and more tranquil; pain evidently less; and she evinces a desire for food.

About 12 A.M., she rose, but the pain then was dreadfully intense: she endeavours to eat some mash, but the pain increases so much upon her, that she is forced to lie down very

shortly. A man was again left at night to attend to the mare, and his report was, that she rose twice during the night and ate mash, but was soon obliged to lie down again.

8*th.*—About the same as yesterday. The setons are dressed. The mare is on her feet occasionally, but only for a very short time, as the act of standing appears to produce intolerable pain, evidenced by her panting and blowing, and when lying down she appears comparatively easy.

18*th.*—From the last date to the present time a gradual amendment has been taking place. No medicine has been given, the bowels having been in good order. Unremitting attention has been paid to the poultices, and the mare has been fed on sloppy food. On the 13th the hind feet seemed very much relieved, comparatively free from pain, and felt cool, and I discontinued the poultices to them, but retained them on the fore feet. The setons are dressed daily, and the smell from them is most abominable. At this time I cannot detect the slightest signs of separation of crust or descent of sole in the fore feet, and the mare is now able to walk nimbly round her box; the feet are cold, and she appears in a fair way of recovery. I intend to follow up this treatment, after another week, by making the mare stand in clay up to her fetlocks. Consequent with the constant poulticing, I attribute the greatest efficacy to the setons, which acted in a very beneficial manner, as, besides their action as counter-irritants and local depletives, they produced such a soreness on the back parts of the feet, where the poor animal was compelled to throw her weight, that she was obliged to assume the recumbent position, which is most important, since thus the distressed laminæ are relieved.

Fever.

Dec. 4*th, Six o'clock*, A.M.—Bay mare, three years old. On the men coming to stables she was found not to have eaten any thing during the previous night, and was breathing very quick and laboriously. The farrier-major saw her, and, after putting her into a box and placing a blanket upon her, came for me.

Seven o'clock, A.M.—The pulse, scarcely to be felt, is beating 80; the mare breathing laboriously; the Schneiderian and buccal membranes inclining to a purple tinge; the legs and ears feeling cold; and by applying the ear to the chest and sides a dry râle is heard. I had known this mare to be delicate ever since she joined, about a month since. The dung is small. Gave a warm injection, and a ball composed of aloes ʒij, resin ʒij, nitre ʒij. Warm clothing to the body, and double bandages to

the legs, extending above the knees and hocks, and plenty of fresh air admitted into the box. I found that the mare had some cough. Gave a draught composed of

Spts. nitr. æth.....ʒjss
Tinct. opii.....ʒjss
Aquæ .....Oj.

Eleven o'clock, A.M.—The breathing is as laborious as before, as also the extreme debility of pulse. The head was directed to be held over the steam arising from scalded hay in a bucket, according as the animal was able to bear it, but not to distress her. This treatment was continued during the day at intervals.

Seven o'clock, P.M.—Amendment has been gradually taking place, and the mare, although still breathing quickly, is greatly relieved. The pulse is scarcely to be discerned, and beats about 70. On examining the conjunctival, Schneiderian, and buccal membranes, I was struck by the fact, that, although the animal was undoubtedly better and doing well, yet that each of these membranes was far more deeply injected than in the morning, and the mouth had a purplish congested tinge. I could only account for this symptom on the score of extreme debility, the blood, as it were, stagnating in the passages, as is often seen in low fever of a typhoid character; and thus from extremely opposite causes we may have this appearance of congestion produced. Thick gruel was left with the mare, and gentian ʒij, with ginger ʒij given in ball.

5*th*.—The mare is decidedly better; the breathing is easy and natural; but the pulse is of the same extraordinary weak character; the dung is small; the lining membrane of the nostrils still injected. The tonic ball repeated, and injections thrown up twice during the day. The mare carefully nursed. The head steamed frequently.

6*th*.—The mare as yesterday. Resin ʒij, nitre ʒij aloes ʒij, in ball, and in the evening the tonic ball as before.

7*th*.—Purging has commenced, but not violently. No other change. Gruel given freely; the tonic ball repeated.

8*th*.—Bowels still very lax. Thick gruel given, of which the animal takes freely.

9*th*.—Purging stopped. The pulse exceedingly weak. Gentian ʒij, sulphate of iron ʒss, in ball.

11*th*.—From the last date the mare has been daily improving; she has been taking occasional doses of gentian and ginger, and the most careful stable attention. Her pulse has recovered somewhat of its tone, and she is gradually getting strong. Although I have called this mare's case fever, for want of a better term, I believe we might safely call it something very contrary.

Fever.

Dec. 6th, Seven o'clock, P.M.—Bay mare, three years old. At evening stable hour she was found to be breathing very quickly, and to have refused her afternoon's feed. She was placed in a loose box, and warmly clothed, and legs doubly bandaged. The pulse was between 60 and 70, and oppressed. The pituitary and Schneiderian membranes were injected. This mare the day previous had been in physic, which was only set this morning. Gave a draught composed of tinct. opii ℥jss and spts. nitr. æth. ℥jss, with aquæ Oj. The head was to be held over the steam arising from scalded hay in a bucket. In about three hours the breathing was tranquil, and the next morning the mare knocked the door off its hinges by kicking, so that I considered she might safely be discharged from infirmary stables. Cases of this latter description are common.

REGISTRY OF CAVALRY HORSES' SHOES, COLD SHOEING IN SERVICE, &c.

By J. T. Hodgson, Esq.

To the Editor of "The Veterinarian."

Sir,—A BRIGADE of artillery horses were sent with Sir J. Moore's expedition to Sweden: the fleet returned to Spithead, and from thence proceeded to the coast of Portugal. The horses, guns, &c., were landed at Mendego Bay. The horses had been four months on board of ship, and, though their feet had been attended to, yet, it must be allowed, could not be in the best order to proceed on a march; still, they left the beach when the whole were landed, commencing the march in the evening, passing close to the field where the Battle of ——— had been fought two days before. Now, here was a case of pressing necessity; there was no time to fit shoes at the forge. Had each horse had a registered set of shoes, the men, fatigued as they were under the circumstances, would, in much less time, have shod the brigade.

Again, when the park of artillery left Lisbon with General Hope's division, there were some light carts, drawn by mules which had to be shod in the English method, when the cold shoeing method of the country was at once simple and expeditious.

In Sir J. Moore's retreat over the mountains of Gallicia there was no time for shoeing horses by any method, although the park of artillery was in Corunna some days before the battle.

During my sojourn in India I officiated two years with the body guard, which, to my knowledge, was in service where a forage cart could not have followed; and it was afterwards in the Burmese expedition, I believe, under similar circumstances, as to the nature of the country. I was also three years with the horse artillery. It is the custom for the horses of the cavalry in India to be without shoes during the hot and rainy months; yet, even in these seasons, horses might be required on emergency, and the cold method of shoeing has always afforded every facility for active service.

The men who make the shoes are Hindoos, and would lose caste if they attempted to fit horses' shoes hot. The veterinary surgeon proceeding thither is particularly instructed, as all other officers are, to attend to the prejudices of the natives in this respect. The mussulman who shoes the horses takes care to supply himself with sizes for the horses he has to shoe. He places a quoit in the ground, into the hole of which he thrusts a small hand anvil; and on this, with a small hand hammer, he punches the nail-holes in a German fuller, in which there is no difficulty, the shoes being a little thinner than cavalry horses' shoes in Europe. The horses having been bred from English stock, are the same as regards the feet. There is no difficulty in widening a shoe a little, but there is in contracting the size by this method, yet I never heard any veterinary surgeon complain of it. All involuntarily, as it were, allow of the system of having "shoes of all sizes, to fit or not fit every foot; and tin-like bar shoes," (as described in No. 24, p. 704) with which the irregular cavalry of India are shod cold, and in which to make the nail-holes is more difficult than in fullered shoes.

As I understand only two* veterinary surgeons are now in the army who have been in service, and the tug of war may come again, I here beg leave, from my limited experience on service in Europe and India, to recommend to army veterinary surgeons the adoption of the Registry system with adult horses (it is of no use with colts, for the reasons stated in my paper on conformation as to the changes of the feet during growth, No. 28, p. 185). The men will then be prepared, in cases of emergency, to adopt the cold shoeing method.

Insomuch as I have stated, do I beg leave to differ from M. Reynal, No. 34, p. 590. I have, in general, used horses without shoes: sometimes I have had a horse I have been obliged to

* Peninsular and Waterloo men.

shoe, and, if I had not had the size, I might have looked in vain, in the midst of a jungle, for a forge; the utility of which at other times, with heavy horses, I do not intend to write against or dispute.

The advantage of Registry even in the forge is this: Supposing a gentleman to have an adult favourite horse. Out with the hounds, he loses a shoe; unfortunately he is without a patent sandal; the crust is broken a great deal. His owner desires to meet the hounds next day, and the horse is shod: instead of going freely as before, he is a patterer, from being closely shod. Now, had the owner the register of the old lost shoe on a piece of paper which had been well fitted, and he were to apply the register of the new shoe, he immediately could detect that frequently the smith is the cause of those changes in adult horses' feet pointed out in Mr. B. Clark's experiments on horses, for a series of years, by the too great counter-pressure of nails, and which the knowledge of the natural size of the horse's foot by registering effectually prevents.

It is no matter whether the system of measurement had recourse to, is straw, twine, or the French podometer; the principle is not affected either by the hot or cold system of shoeing. Registry of size "protects the horse at once from the accidents he is liable to in the forge." Urgent necessity only should oblige the smith to depart from it; and, when the occasional cause of breaking the hoof does so, he should return to the original-sized shoe as early as growth of horn admits of it, to relieve the sensitive foot from the before-mentioned unavoidable counter-pressure, "and to the ill consequences of shoeing then practised."

My system of measuring the coronet for a scale, and making the fore shoe an ellipsis of this circle, is grounded on thus ascertaining knowledge of the extent of the sensible foot. The form of the hind-foot shoe being "the geometrician's oval, is a figure resembling an egg, round, but oblong, and, when laid down upon paper, is narrower at one end than the other; whereas the ellipsis is equally broad at both ends."

I took out a patent for this method of measurement in 1824, but, having returned to India, I could not follow it up. I was, nevertheless, convinced of the practical utility of registering the sizes of adult horses' feet, to subsequently ascertain if any change had happened in their form, the causes, &c. I do not know what kind of instrument the podometer is, but, from description, I believe it measures the inferior surface or lower edge of the crust: the reversing of the shoe for the near or off-feet is distinctly shewn in the plates of my work on shoeing; but I cannot take credit for this, the object being to leave as much

shelving of crust as possible, to avoid, as Mr. B Clark wished, the constraint of nails.

Out of courtesy to a foreign gentleman, I shall not go further into this subject. He has certainly been finding fault with a system that has not, as yet, had any trial but in the French army and by myself; I should like, therefore, to see what others think of it who have practised it, or may do so.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

The Breeding and Economy of Live Stock, *being the Results of Forty Years' Practical Experience in the Management and Disposal of Cattle, Horses, Sheep, and Pigs.* By James Dickson, Cattle Dealer. Edinburgh: Adam and Charles Black, North Bridge, 1851.

This will be found a very useful little work, one especially adapted as a manual for the young farmer and student veterinarian; and it has issued *fort à propos* from the press—albeit, it is post-dated — being at a time of year when the Cattle Show and the Christmas Smithfield Markets, together, afford peculiar opportunities for viewing and examining specimens of some of the choicest and purest breeds of live stock—horses excepted—in the kingdom; we might say, in the world. The work boasts of no historical research, neither does it enter into minute detail of the characters and properties of the different breeds; yet does it severally mark and distinguish the varieties with that boldness of outline which will enable the tyro to recognise them, while it appends such descriptions to each and either of them as puts him summarily in possession of a knowledge of those qualities for which they are, respectively, most held in notoriety or estimation. In these bold and graphic sketches it is that we trace "the results of forty years' practical experience;" and, without heeding the style or diction in which

they are clothed, revere the descriptions themselves for their truthful and practical complexion.

Of the several divisions the work resolves itself into, treating "on Cattle;" "on Horses;" "on Sheep;" "on Pigs;" the first and third are decidedly those the most artistically worked out. Horses are but faintly and imperfectly described; and pigs still appear to grunt for more detailed and scientific notices than have as yet, by writers on the subject, been bestowed upon them. The breeds of cattle, and particularly those "peculiar to Scotland" which form the subject of Chap. I, appear pourtrayed with that faithfulness which the pencil of the man alone who had oft viewed them and well handled them could produce. Chap. II contains the account of the "English and Welsh Breeds;" for which reason we shall give it the preference of quotation, not doubting but that the description of this department of our home stock will prove at once acceptable and interesting to our readers.

"The principal breeds in England and Wales may be thus classified:—

"1. The Short-horned, Dutch, Teeswater, or Durham.
"2. The Long-horned, or Lancashire.
"3. The Hereford.
"4. The Devon.
"5. The Sussex.
"6. The Suffolk.
"7. The Welsh.

Out of these we shall select for transfer into our pages the account of that incomparable favourite, the Durham Ox, or

"IMPROVED SHORT-HORNED BREED.

"This invaluable breed of cattle, which has, at different times, been distinguished by the name of 'Dutch,' 'Durham,' and 'Teeswater,' did not, as is generally supposed, originate in the county of Durham; as, for centuries, they have also been found in Lincolnshire, Yorkshire, Northumberland, and the Borders. There can be no doubt of their Dutch origin, the breed being improved by frequent selections and importations from Holland. It is to be regretted that a better record of the different importers of these cattle does not exist; but sufficient proof is extant that several breeders, nearly one hundred years ago, made trips to Holland, and selected some of the best bred cattle of

that country for improving their own stocks. A few bulls, cows, and heifers, imported by Sir William St. Quinton, of Scampster, and the Debinsons, effected a considerable change; and to those gentlemen the country is indebted for the present 'Improved Short-horned Breed.' The spirit of emulation once being aroused, improvement succeeded improvement; and it may now confidently be asserted that this Improved Short-horned breed is without a parallel. In the pages of *Coates' Herd-Book*, the pedigrees of all pure-bred animals are now recorded in a similar manner to those of the race-horses in the *Stud-Book*.

"Since the appearance of the bull 'Hubback,' calved in 1777, bred by Mr. Brown of Henworth, many breeders in the county of Durham, on the banks of the Tees, seeing the good effects of proper selections, and the improvements made on their own stocks by importations from Holland, were led seriously to turn their attention to the new breed, now first known as 'Short-horns,' a name given from the animals being shorter in the horns than any other large breed of cattle in the kingdom. The appellation of 'Teeswater,' or 'Durham' breed, was acquired from their having been first improved in this part of England. The first great step of the breeders in these districts, in improving this breed of cattle, was by selecting bulls and cows of the most perfect form and symmetry, with fine bone; while the Lincolnshire and Yorkshire breeders pursued a different course, by selecting large animals. From this cause, the Short-horns on the Tees obtained pre-eminence over those of other parts of the country.

"*Coates' Herd-Book*, before alluded to, contains the pedigrees of all animals of note since the time of the celebrated bull 'Hubback,' seventy-three years ago. The work is published periodically, and is now under the superintendence of Mr. Henry Strafford, an artist who for some time illustrated it. The value of this record of pedigrees is fully known to all breeders of Short-horns, and is, from the accuracy with whlch it is kept, an acknowledged authority on all matters in which the purity of blood of any animal is called in question; indeed, no breeder of the present day need attempt to sell young bulls unless the pedigrees of the sire and dam are recorded in the *Herd-Book*.

The Short-horns owe much of their fame to those eminent breeders, Messrs. Charles and Robert Collings, who did more to develope their peculiarities and good qualities than all breeders who preceded them; and to these gentlemen do this breed owe much of its high and well-merited celebrity. The famous bull 'Comet' was bred by Mr. Charles Collings, and sold for one thousand guineas!

"The Improved Short-horns were for some time confined to the county of Durham, where there were many distinguished breeders, as Mr. Hill, Mr. Maynard, Messrs. Charges, Mr. Mason, Colonel O'Callagan, Mr. Crofton, and others, through the skill and judgment of whom the breed now stands pre-eminent. Gradually, however, they have now become spread over all parts of the United Kingdom, and many parts of the Continent, America, and Australia. The breeders of Lincolnshire and Yorkshire have never, in the opinion of the best judges, been able to raise animals equal to those produced in the county of Durham, the cattle being generally wanting in symmetry. The principal breeders in Northumberland, about fifty years ago, were the Culleys, the Comptoms, the Smiths, the Greys, the Thomsons, the Jobsons, Hunt, Curry, and many others; while, north of the Tweed, was the late Mr. Robertson of Ladykirk, who procured his first stock from Mr. Collings. The writer, having had frequent opportunities of inspecting Mr. Robertson's stock, is enabled unhesitatingly to state that the animals composing it were unrivalled. Mr. Robertson kept about thirty breeding cows, all of them perfect models. In colour they were generally roan, light gray, and white, or rather cream colour, and occasionally bright blood-red. The nose and mouth, and also about the eyes, were cream coloured; eyes full, lively, and prominent; forehead broad, and from eyes to nose rather long; muzzle fine; ears thin; horns short and white; neck well set on, rising gently from the shoulders, and fine, but not thin; neck, veins, and breast, full and prominent; shoulders full at the top, and moderately so down to the forearm, and full of muscle; small, clean, flat bone below the knee; fore-legs straight, and moderately wide, the forend open, wide, and prominent; the crops full and round, and wide behind the shoulders, or girthing-place; ribs round, and well arched; back and loins full and broad; hooks wide and long to rump-bone, and well filled from the loins to the setting-on of the tail, which is almost in a straight line to the shoulders; tail broad and full of hair, dropping outside of the hocks; the hips or buttocks well filled on the outer and inner sides; hind legs wide and well set, and full of muscle above the knee; belly straight, the whole carcass being nearly cylindrical; hide rather thick, soft, and mellow, with a fine touch; hair woolly. Such were the forms and qualifications of the Ladykirk Short-horns. At one time Short-horns were preferred with thin hides and thin silky hair; but these being found unable to withstand the cold, Mr. Robertson and many other breeders selected those with soft but thicker hides and thick-set woolly hair: indispensable requisites to protect the animals from cold. Mr. Robertson's stock possessed

great aptitude to fatten, and fed to great weights at an early age—his two-year-olds weighing from 70 to 80 stones each, and his three-year-olds upwards of 100 stones. The stock arrived at maturity at two years old. Mr. Robertson was a liberal man, and did not demand such high prices for his stock as many other breeders. He frequently sold and allowed the use of his best bulls at moderate rates. To his own tenants he made no charge for the use of bulls; consequently, but little inferior stock was seen on his estate. As an illustration of the value of the stock, it is related that, on an eminent breeder visiting Mr. Robertson, and seeing twenty cows pasturing in one field, offered him 100 guineas each for the lot, which was refused. The late Mr. John Rennie, after commencing his career as a Short-horned breeder, purchased many of his best animals from Mr. Robertson; in fact, he for some years bought nearly the whole of that gentleman's surplus stock, several of which were sold at his great sale in 1827. The famed bull 'Romulus,' was bred by Mr. Robertson, and purchased from him by Mr. Rennie. This animal gained the Highland Society's premium for the best bull, at Edinburgh, in 1827. Mr. Rennie also purchased from Mr. Robertson a favourite white cow when a heifer, which he afterwards presented to Mr. Carnegie. This cow gained the Border Union Agricultural Society's first prize at Coldstream, and was the dam of Mr. Carnegie's famed bull, "Edrom," which obtained a premium on more than one occasion. This bull was got by a bull bred by the late Mr. Mason, of Chilton. After Mr. Robertson's decease, his stock was sold at very high prices to many eminent breeders. Some of the best were purchased for the Duke of Buccleuch, and among them the favourite high-bred cow, 'Vesta.' Mr. Robertson followed the practice of breeding 'in and in,' as it is termed; the reason alleged being the fear of deterioration by introducing other blood. Many of his cattle, in consequence, shewed a delicacy and weakness of constitution, which no doubt arose from this cause. The system is justified by many breeders, but condemned by a large number. A slight acquaintance with animal physiology would, however, convince breeders generally of its bad effects.

"Cotemporary with Mr. Robertson, as celebrated breeders in Berwickshire, may be mentioned the names of the Messrs. Wilsons, Thomsons, Logans, Brown, Heriot, Jobllng, Colonel Johnston, and others, the stocks of whom were much improved by Mr. Robertson's. The improved breed soon spread over Berwick and Roxburgh shires; and for many years back, very superior animals have been exhibited at the Union Agricultural Show, at Kelso and Coldstream, both for premiums and sale. The writer has seen about twenty one-year-old bulls shewn at

Coldstream, by Mr. Crisp, late of Doddington. Breeders from all quarters now attend these shows in April, to purchase yearling bulls, the best of which can now be bought at from £20 to £30. Twenty years ago similar animals would have cost nearly double the money. No farmer of any extent can, therefore, plead an excuse for using inferior bulls. Admitting the higher sums to be paid, the animals can be used for two years, and then either sold to other breeders, or cut and fed, when they will fetch, from the butcher, nearly the original purchase-money. The bull, 'Diamond,' which was purchased at the Coldstream Show, about thirty years ago, for 150 guineas, was a most splendid animal, and left a great deal of fine stock in Berwickshire. Nearly the whole of the breeders in the lower parts of this county, and the adjoining one of Roxburgh, have good stock. All their cattle are quite fat at two years old, and fit for the butcher. The average weight at this age is from forty-five to sixty imperial stones. Many of the best breeders and feeders give the animals no oil-cake, corn, or hay, during the second year. A little oil-cake is, however, usually given the first winter, which not only improves their condition, but is supposed to ward off diseases. There is less pampering in Northumberland, Berwickshire, Roxburghshire, and East-Lothian, than any of the other feeding districts in Scotland. In fattening two-year-olds, much depends on the treatment the animals have received as calves, which will subsequently be noticed."

After this copious extract—one which we have felt unwilling to mutilate or curtail—it behoves us to pass onward. And, since the account of the breeds of horses is but meagre, we shall submit one in its place, culled from the chapter "on Sheep," and take for choice our old indigenous '*Down* breed: with Mr. Dickson's account of which, and the improvements that have been wrought in it, we shall close our notice of his instructive and valuable guide for the farmer and grazier, and the veterinary surgeon, at that stage of life when either is undergoing initiation into the practice of a branch of knowledge so essential to both in their respective vocations as the breeding and rearing and feeding of live stock.

"THE SOUTHDOWN BREED."

"This breed has for a very long period been the favourite in the London market; but their true merits as a breed are not so well known and appreciated in other markets. They are not only a good breed of themselves, but also for crossing purposes.

The downs of Sussex is the principal district in which they are bred, and from this they have derived their name. They are without horns, with grey heads and legs, fine bone, and short thick fleeces of wool. Formerly their points were very irregular, having low fore-ends and light fore-quarters; their middles pretty well formed in both ribs and loins; their legs or hams being full and compact. The meat is very fine in the grain, of a bright colour and excellent quality, being full of lean as well as fat, and cutting up into very handsome joints. They are also very full of tallow, and feed readily. Of late years they have been much improved, particularly by those eminent breeders, the Messrs Ellman, whose flocks are said to be the purest in England. Most of the breeding stocks in England and Scotland have been selected from them. A very high-bred flock is in the possession of Mr. Hugh Watson, of Keillor, who procured them originally from Mr. Ellman, of Biddingham, in Sussex. Under the care of the Messrs. Ellman, the Southdowns have been vastly improved, and may, in fact, be called a new race. Not only are they improved in symmetry, but in size, wool, and feeding propensities. The fore-ends of the present improved Southdowns are now high, full, and prominent, and their general outline level and compact. In weight they are from two to three lbs. per quarter heavier than the old breed, while the wool is longer, and retains its fine texture. It is also proved that their aptitude to fatten is much increased, and they arrive sooner at maturity. The wool of wedders is now from three to four inches long; but it is yet too short for combing purposes.

"Although a short-woolled soft-looking sheep, they are proved to be pretty hardy. Mr. Watson, of Keillor, for instance, keeps his ewes on the north side of the Sidlaw Hills, near Coupar-Angus, and he has for many years bred them with great success, and produced splendid specimens of them as a pure breed, and also crosses with the Leicester tup. Not only the carcass, but the wool is much improved by this cross, which appears to be a most judicious one. Mr. Roy, of Nenthorn, has also been very successful with it. Mr. Bruce, Greenknow, Berwickshire, keeps a very superior stock of Southdowns, and has sold some good lots at his annual sales, both pure and crosses. This stock was originally from Mr. Ellman. Mr. Bruce has also tried them in crossing the Black-faced ewe, and although the produce was not very handsome, the flesh was proved to be excellent, and those who purchased them once eagerly purchased them again. This may also be considered a judicious cross, the wool being much improved. Some fat lambs of this cross were shewn in the Edinburgh market in 1849, bred and fed by Mr. Skirving, of Luffness, and others. These lambs pleased the

butchers well, being very full inside, which is a great point in fat lambs. Leicester ewes, crossed with Southdown tups, produce good lambs. A ewe lamb of this cross, killed in 1846, weighed seventy lbs.

The Southdown ewes have been crossed with the Cotswold tups with great success; but both Leicester and Cotswold tups, with the Southdown ewes, make fine sheep, and the fleeces of this cross produce a valuable combing wool, the tup giving the length and the ewe the fine texture. This cross also comes to maturity at an early age—reaching great weights, and selling at from ½d. to ¾d. per lb. more than Leicesters or Cotswolds.

"The Southdowns have now been tried in most of the northern and eastern counties of Scotland, as far as Caithness, and have done well. There can be no doubt, therefore, of its being one of the most useful breeds in existence, not only as a pure breed, but for crossing other breeds. Many breeders object to them from the shortness of the wool, not being fit for combing, and the fleece being lighter than most other breeds. This could be remedied by forming, as it were, a new breed of sheep, which has not yet been tried, and regarding which some observations will be made in another place."

Home Extracts.

ON MURRAIN, OR THE VESICULAR EPIZOOTIC.

By Mr. Finlay Dun, Jun., V.S., Edinburgh.

[Concluded from page 695, vol. xxiii.]

Incidental circumstances influencing the severity of the disease.—The vesicular epizootic attacks animals of all ages, and of all temperaments. The calf, when only a few days old, is frequently affected by it, doubtless receiving the contagion from the sores on the udder of the mother. Young cattle at pasture, or in the straw-yard, animals tied up for final fattening, milk-cows, cattle of every breed, are all liable to be affected by this disease. All, however, do not suffer alike severely. In young animals the attack is generally milder than in the case of heavy bullocks in high condition. In these, the feet are generally very painful, and, from the weight of the animal, the cure is tedious. The constitutional symptoms also run high, and the animal is much reduced in condition. In pregnant cows, the interdigital ulcerations are also very troublesome. But the

class of patients that suffers most severely seems to be milk-cows, especially such as have newly calved. In these, the udder is almost invariably the principal seat of the disease, and often takes on acute inflammation. Animals brought up in a highly artificial condition are often severely attacked, just as, in the human subject, weakly and delicate children often have the various eruptive affections, such as measles and scartet fever, in an unusually aggravated form.

Cases in which the same animal is affected by the disease a second time are rare. When, however, they do occur, they are generally much milder, and less protracted than the first attack.

In damp seasons, especially in wet undrained districts and on soft marshy soils, the lameness is the most prominent and the most serious symptom; and by the irritation it induces, aggravates the constitutional fever, and leads to the formation of sinuses between the sensible and insensible parts of the foot, besides laying bare the ligaments, the synovial bursæ, and even the bones.

The symptoms are generally of an aggravated character when the disease happens to attack animals that have been driven long distances, or have been travelling about from fair to fair. Such animals, being jaded and worn-out, are ill able to withstand the assaults of the disease; their sore and battered feet become intensely inflamed; and although they may recover from the immediate effects of the disease, they are often rendered ultimately useless, by extensive ulcerations and sloughings of the hoof, and sometimes of the ligaments and synovial bursæ.

Duration.—In cattle, the duration of the disease is generally about twelve or fifteen days; but where the feet and udder escape, or are slightly affected, it is generally somewhat shorter. In sheep and pigs, the malady seldom extends over eight days. When, from the severity of the disease, or the neglect of proper means of relief, complications present themselves—when suppuration of the feet or udder takes place—the case will sometimes be very troublesome, and its treatment require long care and perseverance.

Diagnosis.—The vesicular epizootic can scarcely be mistaken for any other disease. It is easily distinguished from aphthæ or thrush, by the presence of vesicles in the interdigital spaces. It is also easily distinguished from inflammation of the tongue, otherwise called gloss-anthrax or blain, by the rapidity with which that disease runs its course, by the extreme swelling of the tongue, by the dark livid appearance of the vesicles, and by the absence of lameness.

The use of the flesh and milk of infected animals as food.—It has often been asserted, that it is improper and unsafe to use

the flesh of animals affected by the vesicular epizootic. This assertion is, however, entirely gratuitous, and is disproved by the fact, that many persons have for a considerable time partaken of the flesh of such animals with impunity. In very severe cases, however, and where the typhoid fever has wrought deleterious changes on the blood, on the various secretions, and on the solids themselves, the use of the flesh should certainly be abstained from.

The milk of the sick animals has in very many cases been used with entire impunity, both by man and the lower animals. When the disease is very severe, the quantity of milk yielded quickly diminishes; but, in most cases, the secretion does not present any appearance which enables us to distinguish it from the milk of animals in good health. It retains its natural colour, odour, taste and consistency, unless where the udder takes on acute inflammation.

The consul of health at Paris, in a report to M. le Préfect de la Seine, makes the following conclusive statements regarding the innocuousness of the milk of animals affected by the vesicular epizootic: "The milk of diseased cows, considered with regard to its effect on the health of human beings, does not appear to be productive of *the slightest inconvenience;* and all examinations of it, whether chemical or microscopical, have not been able to trace any characteristics that might lead to the fear that its effects would be pernicious.

It has been said that calves, lambs, and pigs, previously in good health, have contracted the disease by being fed on the milk yielded by cows suffering from the epizootic. We are rather incredulous as to the milk itself being capable of communicating the disease. The animals might have received the contagion in some other way; or, if the milk were the means of its transmission, it is probable that the active and efficient cause was some of the matter expressed during milking from the vesicles or ulcerations on the teats or udder.

Post-mortem Appearances.—Post-mortem examinations of animals dying from, or destroyed whilst affected by, the vesicular epizootic, exhibit extreme congestion and occasional patches of inflammation throughout all the mucous surfaces. In certain stages, vesicles exactly similar to those in the mouth may be discovered in the pharynx, larynx, and œsophagus, and also, but in fewer numbers, in the stomach and intestines. This congested and inflammatory state, although principally existing in the alimentary canal, is not confined to it alone; the irritation and the vesicles also affect, but in a more mitigated form, the mucous lining of the respiratory apparatus. The bronchial tubes contain a frothy mucus. The lungs are sometimes much

congested, which may result from inflammation, but more frequently from the obstruction of some of the larger bronchii cutting off portions of the lungs from the ingress of air. Œdematous swellings hang from the legs and belly. The joints are sometimes much swollen, the synovia is serous and bloody, and serous abscesses are found in various parts of the limbs. The serous membranes sometimes participate in the disease, but are in general less liable to suffer than the mucous membranes and skin. The affections of the joints and serous membranes are generally observed in cases where the eruption has not come well out, and where there has been constipation.

Treatment.—Concerning the treatment of the vesicular epizootic, much variety of opinion seems to prevail; and the most opposite modes of practice have their advocates and supporters. Some practitioners have endeavoured to hasten the appearance of the eruption and accelerate the progress of the malady by friction, by switching the animal with nettles, and by freely opening the vesicles with the lancet or scissors. Others attempt to remove the morbid virus, in which they believe the disease to consist, by the exhibition of purgatives, diuretics, and diaphoretics; or to arrest the eruption by local applications; or by blistering, to cause counter-irritation, or metastasis, from the mucous membranes to the skin.

Such measures are, however, exceedingly injurious; and those who recommend or adopt them shew a total ignorance of the true pathology of the disease, which, if it terminate favourably, must run a fixed course; and any injudicious interference with that fixed course, or with the progress of the natural eruption, must ever be attended with more or less evil consequences. All endeavours either to hasten or retard the disease must therefore prove entirely fruitless.

Some practitioners, supposing that the disease essentially consists in general inflammation, attempt to subdue it by antiphlogistic measures; but in this disease the inflammation is of a specific nature, and neither requires nor admits of the measures used for subduing ordinary inflammation. The fever also, although it sometimes runs high, is not an invariable concomitant of the disease; and when it is present, it speedily lapses into the typhoid form, when the adoption of antiphlogistic measures is worse than useless. Here, again, by trying to stop or cut short the progress of the malady, much harm may be done. Its duration is thereby lengthened, its malignity increased, and its evil consequences greatly aggravated. In a word, it is an exanthematous disease, and, as such, it ill bears "the well-meant, but often mischievous interference of the doctor." It shews an almost inconquerable tendency to spontaneous recovery.

Its course may be regulated, and the bad consequences resulting from it mitigated or prevented; but its cure is frequently to be ascribed, not to the remedies or officinal agents of the practitioner, but to the "*vis medicatrix naturæ*."

From this assertion, however, it must not be inferred that the services of the practitioner can be altogether dispensed with. We must not rush from a morbid, meddling activity into the equally reprehensible error of careless supineness, and so neglect the due application of known and approved remedies. In many cases, opportune and judicious assistance may support the vigour of the system, where the natural strength might otherwise fail; and the employment of preventive measures may avert the evil consequences which might ensue from carelessness and neglect; while, even in milder cases, the symptoms may be alleviated, and the comforts of the animal much increased.

But we must now pass from the general principles to the particulars of practice. And, first, with respect to general blood-letting. This remedy, in the great majority of cases, is not at all requisite. In many instances its adoption is worse than useless; for, by abstracting blood, the strength is unnecessarily reduced, and, thus debilitated, the animal suffers from the disease more severely than it would otherwise do. If venesection is ever advisable, it is only in a few cases, and in the earlier stages of the disease; and it is only to be practised when the fever is unusually high, and when there is a tendency to local inflammation; and, even then, blood must be taken warily, and only in such quantities as to produce the desired effect. In cases where blood-letting seems requisite, its beneficial effects may generally be secured by the use of sedatives, as, for example, tartar emetic. Extreme febrile action may be thus more safely abated, and without so much expenditure of the strength of the animal. But although, in the great majority of cases, general blood-letting is decidedly injurious, still local bleedings are sometimes advantageous. Thus the pain of the mouth and the feet sometimes experienced, especially in the earlier stages of the disease, is often much alleviated by the judicious use of local blood-letting. When the mouth is hot and painful, and the consequent irritation giving rise to fever, these symptoms may be relieved either by placing leeches on the gums or palate, or perhaps, more conveniently, by the use of the lancet. But in this disease local blood-letting is more useful in assuaging the pain of the feet than that of the mouth. The indications for its employment are heat, swelling, and pain.

In some cases the bowels are very torpid. This tendency to constipation must be counteracted by the exhibition of laxatives. These, however, must be used cautiously, for the mucous mem-

branes are in a highly sensitive state, and the abuse of medicine, and, indeed, its being given even in the usual doses, is very apt to excite intestinal irritation, and induce troublesome diarrhœa. The formula we would recommend is, from a-half to three-quarters of a pound of Epsom salts, with an ounce of ginger; but, in some cases, oil is perhaps preferable, as being less likely to cause irritation. It may be given in doses of a pound, with an ounce of tincture of opium. A tendency to constipation may be counteracted by the use of treacle, but, if there is the slightest appearance of diarrhœa, it is to be withheld. If the diarrhœa become troublesome, give flour-gruel, with astringents or opium.

The animal must be kept most scrupulously clean, and plentifully supplied with dry litter. In this, as in almost all other diseases, it is better that the animal should be in a loose box than tied up in a byre. The temperature of the house must be cool, but not cold. If the patient be unable to stand, its position must be changed several times a-day; and care must be taken to prevent undue pressure and sloughing of the integuments, by supplying the animal with plenty of straw. Parts that seem disposed to ulceration must be carefully relieved from pressure, and may be washed with some astringent solution.

The mouth may be sponged with tepid water, and subsequently washed with vinegar and water, or with a weak solution of alum, in the proportion of half an ounce to an imperial quart of water. This may be repeated three or four times a-day. Where there is a tendency to sloughing, a stronger solution of alum must be used, and the vinegar and water should be tepid. The sloughing parts occasionally require to be removed by the fingers or with the knife. In cases where a large number of cattle are slightly affected, the trouble of washing their mouths may be grudged, and, if so, a small quantity of mash, slightly acidulated with vinegar or hydrochloric acid, may, instead, be given daily to each animal. This, however, is only available when the disease is very slight, for the mashes are often of little benefit, as cattle will seldom eat food which has an acid taste. Some prefer to acidulate the water, and, if the animals will drink it, it may do some good. It is necessary, however, not to add too much acid either to the food or to the water, for, if used in excess, it is apt to induce purgation.

When the teats and udder are involved, bathe them with oil and tepid water previous to milking, and after it, wash again, and dress with mild digestive ointment. The operation of milking should be repeated regularly and often. More than usual care should be exercised in drawing off all the milk; for, if this is not done, the irritation of the already morbidly sensitive mucous membrane is much increased, and inflammation, with all its evil consequences, may be thereby induced.

In many cases in which due attention is paid to cleanliness, the feet scarcely require any local applications: in severe cases, however, advantage may be derived from softening the hoof by fomentations and poultices, and by paring away all superfluous horn. When the pain is excessive, great relief may be obtained by abstracting blood either from the vessels around the coronet, or from the vascular network underneath the hoof. The blood may be drawn either with a lancet or a small fleam, and its flow may, if necessary, be encouraged by placing the foot in tepid water, and is easily stopped by the use of wet tow and a bandage. Where the hoofs have become overgrown, as in animals that have been stall-tied for a considerable time, they should be sawn across, or shortened with the knife.

In the secondary stages of the disease, when the vesicles have come fully out, the pain is generally abated; but advantage is often derived from washing the feet with cold salt water. In the more severe cases, oils of tar and turpentine are to be used, or a solution of sulphate of copper, half an ounce being dissolved in a quart of water. This may be applied by placing over the ulcerations a piece of linen rag wetted with the solution. The dressing should be put on lightly and sparingly, for the parts ought to be kept cool, and the irritation of unequal pressure avoided. The object of applying these solutions is to promote the cicatrization of the ulcers, and to prevent their taking on an unhealthy action. The employment of caustics is in general attended by injurious consequences, and they should only be used where the ulceration shews a tendency to spread from the interdigital substance to the integuments.

If the disease is tedious, and sinuses are formed, use cold applications, which, from their astringent property, and from the low organization of the parts affected, are generally of more value than hot fomentations, and may be conveniently applied in the form of turnip or linseed-meal poultices. These must be kept soft, moist, and cool, by pouring upon them, at intervals, vinegar and water, sour or butter-milk, solutions of equal parts of sal-ammoniac and nitrate of potash, or of common salt and nitre of ammonia, or whatever else may be found convenient for keeping them moist and at a sufficiently low temperature. If this treatment be persevered in for some days without good effect, and especially if sloughings have taken place, hot applications may be substituted for the cold ones. The fœtid odour may be prevented, and the tendency to putrefaction arrested, by the use of a solution of nitric acid, in the proportion of twenty drops to an ounce of water. Yeast or charcoal mixed with the poultices, or chloride of lime sprinkled over the parts, will have a similar effect. In such cases the animals will be better in the

house than in the fields; they will there be more likely to be properly attended to, and, if kept in a cool place, will be less troubled by the attacks of flies. The annoyance caused by these insects may be prevented by washing the parts on which they are likely to alight with some empyreumatic oil.

Although the mouth is very painful, the animal will sometimes shew a disposition to eat, which should be encouraged by placing before it mashed or soft green food. The food given should, however, be both easily masticated and easily digested. But, if the animal do not eat, it should have gruel horned down twice a-day. The gruel must not be above blood heat, and must be put over very carefully.

The management of the animals during convalescence is very simple. Their food should be soft and easy of digestion, and, when the season permits, succulent green food should be given. The animals appear to recover more quickly when allowed to be in the open air during the greater part of the day. But although they may remain in the fields during the day, it is better, especially after a severe attack, that they be brought in at night. Attention must still be paid to the state of the feet, and astringents may be applied if necessary. In milch cows, the same care should be exercised as during the progress of the disease, in milking regularly, and at each time drawing away all the milk contained in the udder. The bowels should not be allowed to become constipated, but any tendency to diarrhœa must be immediately checked. The practice of giving large quantities of diuretic medicine is not to be recommended, and even moderate doses are seldom required. After a somewhat severe attack of the disease, the exhibition of tonic medicine is, however, attended with much advantage, and, indeed, its use is sometimes necessary throughout the whole course of the malady: when, therefore, there is much typhoid fever and prostration of strength, vegetable or mineral tonics may be prescribed. In conjunction with these, stimulants may also be useful: they invigorate the constitution, call forth its energies, and supply that power of reaction which is so often deficient in the diseases of cattle, and especially in those of an epizootic character.

In the treatment of the disease in sheep, the same general principles must be attended to as those which should regulate the remedies applied to cattle. In large flocks, however, the measures prescribed must be of a general rather than of a particular character. Let the animals be placed upon thoroughly dry land, and allow them a liberal quantity of succulent food. Such as shew much lameness should have their hoofs well pared, and their feet dressed with strong astringent lotion. That recommended for cattle will also be suitable for sheep. In severe

cases, where there is ulceration and tendency to granulation, a diluted solution of some of the mineral acids will be found a useful application. A few drops of chloride of antimony (butter of antimony) is a favourite remedy with some practitioners. By attention to the feet of sheep, and even by once paring and dressing, they may be saved much suffering. If these precautions be neglected, and the animals allowed to remain in damp pastures, sloughing of the hoof will be of frequent occurrence; and although this is not so serious a matter in sheep as amongst the larger ruminants, it will materially reduce the condition of the animal, and a fortnight, or even longer, may elapse before fresh horn be secreted, or the foot can be placed on the ground. In the case of sheep, it is seldom necessary to meddle with the mouth: the vesicles there generally run their course very favourably, and indeed cause so little inconvenience, that the animals, throughout the whole course of the disease, continue to eat almost as usual.

The treatment of the vesicular epizootic among pigs is, in the great majority of cases, very simple. Keep the animals very clean, and supply them with plenty of dry litter. If there be much lameness, examine the feet, and apply emollients or astringents, as may seem most fit. If the vesicles about the mouth or nose be numerous, give a mash diet acidulated with vinegar or any other acid: this, besides promoting the drying up or cicatrization of the vesicles, will be exceedingly acceptable to the animal's palate.

Such is a brief description of the measures to be adopted in the palliative treatment of the vesicular epizootic as regards the cow, the sheep, and the pig. These measures, when timely and judiciously employed, will lessen the severity of the disease and accelerate the return to health: they are simple, and may be thus stated in a few words:—Avoid bleeding, except in rare cases where the febrile excitement is great. Administer fever medicine warily. Keep the bowels in good condition by the cautious exhibition of laxatives. Check the slightest tendency to diarrhœa by the use of flour-gruel and astringents. Sustain the powers of life by tonics, and subsequently by stimulants. Wash the mouth with mild astringents, and dress the udder with digestive ointment. Keep the byres and courts in which the animals are confined clean and perfectly dry. Let the feet be washed with astringent lotions, and trust more to cold than to hot applications. Do not implicitly adhere to one course of remedial measures, but regulate your treatment according to the symptoms, the condition, and the constitution of the animal, and the circumstances in which it is placed; and while on the one hand you avoid untimely and improper interference with the

disease, do not run into the opposite extreme, and neglect the use of measures which have received the sanction of experience.

Prophylaxis.—The prophylaxis of the vesicular epizootic, or the means to be employed for its prevention, requires not only an intimate acquaintance with *hygienics* (that is the knowledge and application of the means of preserving health in general), but also a special knowledge of the nature, causes, and tendencies of the particular disease.

The first step towards the prevention of the disease is, to remove every thing inimical to health, every thing which even in the slightest degree interferes with the proper fulfilment of the functions of life, or impedes the general power and vigour of the animal body. The first care must, therefore, be to reform the sanitary condition of our domesticated animals. They must be provided with abundance of pure, cool, and dry air, and a sufficient quantity of digestible and nutritious food. The situation and accommodation of byres, courts, sheds, folds, and styes, must be consistent with health and comfort; all filth must be speedily removed, and fluids likely to prove injurious, from their offensive effluvia or from their causing humidity of soil or atmosphere, must be conveyed away by underground and air-tight drains. With especial regard to the vesicular epizootic, care must be taken to prevent communication of healthy animals with those that are, or have been recently, affected by the disease; means must also be taken to destroy, by the diligent employment of disinfectants, the contagious virus by which the disease is in great part propagated.

As this is a very important part of our subject, we shall take leave to offer some further remarks in reference to and in illustration of what we have said above.

On the purity and sufficiency of the volume of air passing through the lungs depend the health of the individual, the due aëration of the blood, and the support of the strength and vigour of the whole system. Deficient ventilation entails on all living animals bad effects more or less striking. Where the evil is in continued operation, it slowly and silently, but not the less surely, tells on the general health. Air which has passed through the lungs is not only deteriorated in quality, but, by its temperature being thus increased, it becomes rarefied, so that at each inspiration a less amount of oxygen enters the lungs. The effect of this is soon perceived on the blood; it ceases to be duly purified; its vitality is lowered; the functions of life are impaired; and the animals fall into such a state as to become an easy prey to any malady to whose exciting cause they may be exposed. Hence, it is obvious that attention to ventilation, and an abundant supply of pure fresh air, are essential to the health of ani-

mals. The best and most efficient mode of introducing fresh air has been the subject of much writing and discussion. The great desideratum is, to obtain a sufficiently rapid change of air, and yet to avoid draughts. Both these ends seem attainable by having one set of apertures for the entrance of air made in the lower part of the building, within a foot or two of the ground, and another set for its exit made at a convenient height above the eaves, and on the opposite side of the house from where the air entered. The lower set of apertures should be covered by wire-gauze or coarse haircloth, and, if necessary, ventilating boards, which can be regulated at pleasure, may be placed with the gauze. To prevent currents, similar boards should also be placed over the upper set of apertures. The principles here laid down are similar to those recommended by Dr. Arnott for the ventilation of rooms and dwelling-houses, and their application is at once simple and efficacious. An abundant supply of pure air, and a frequent renewal of that air, besides maintaining the system in a vigorous and healthy state, and preventing the predisposition to murrain, is also a most potent means of destroying the action of the exciting cause. It dilutes freely and fully the noxious and contagious principles evolved from the bodies of the sick, and by this dilution deprives the specific poison of its power of affecting the sound stock. But a judicious system of ventilation, in addition to its power of preventing disease, also carries with it a curative action, exercising on the bodies of all animals, whether healthy or diseased, a tonic power; and whilst it protects the sound animal from the assaults of the disease, enables the sick one to bear up against the attack, prevents untoward complications, and wards off that typhoid fever so frequently an attendant on the epizootic affections of cattle.

The *temperature* of the atmosphere should also be made the subject of attention. Although a certain amount of warmth is necessary to the health and well-being of animals, and materially promotes their condition, still an overheated atmosphere is very injurious, and, when breathed for a long time continuously, acts as a powerfully depressing agent, and hence becomes an active predisposing cause of disease. The bad effects which would otherwise invariably follow from living in a close overheated atmosphere are, in part at least, obviated by a beautiful and beneficent arrangement, by which "the animal body being naturally much warmer than the surrounding air, operates as a ventilator for itself, by the same consummate adaptation of pneumatic laws as that which supplies a flame or fire with a continued current of fresh air." The temperature of houses inhabited by animals should never be allowed to rise above 60° F.;

and even this temperature, except in the case of animals put up for final fattening, is perhaps several degrees higher than is suitable for most sorts of stock.

Damp or moist air is exceedingly injurious to animal life; it depresses the vivifying powers, abstracts caloric and electricity from the body, diminishes the quantity of oxygen entering the lungs at each inspiration, and probably renders the diffusion of gases more tardy, hastens decomposition, and appears to add to the activity of most contagions. It is a fertile source of pulmonary and rheumatic affections. The thorough removal of such dampness generally requires the adoption of extensive hygienic measures; such as the removal of plantations and of all superfluous trees and shrubs, and the drying of marshes, ponds, stagnant and surface water, by covered and air-tight drains. The atmosphere of stables and byres may also be rendered less moist, by placing in them vessels containing quicklime; this slakes itself at the expense of the humidity, and thus renders the air drier and more salubrious. When houses for animals must unavoidably be built in damp localities, the site should be thickly spread with gravel, sand, and mortar, and other light porous materials of a similar nature; the moisture should also be prevented from passing up the walls, by building in a layer of slates or metallic plates.

The food of animals should always be adequate to supply the wants of the system, to make up for the vital waste, and to afford materials for maintaining the animal heat. To fulfil these purposes, it should be given in sufficient quantity, and should contain nitrogenous and non-nitrogenous elements in proportions suitable to the age and condition of the animal, and to the purposes for which it is intended. All animals, but more especially the herbivora, should be fed regularly and often; the food they receive should be digestible, nutritious, and calorifacient: and it may farther be borne in mind, that variety of diet is of great advantage in the feeding of stock.

Farm-buildings should be placed in dry and sheltered situations, and protected, if possible, from severe winds. Attention should be paid to their construction, and to the judicious placing of the doors and windows. The internal fitting up also demands consideration. The animals should be allowed sufficient room both for standing and lying, as overcrowding is utterly inconsistent with good health, and still more so with that ease and comfort so necessary for animals put up for fattening.

Particular attention must be paid to the thorough drainage of all courts and places inhabited by animals; cleanliness must be strictly enjoined; and accumulations of stagnant water or urine, of filth, composts, or decomposing animal and vegetable remains,

must be prevented. All sources of noisome odours should either be removed to a distance from the habitations of animals, or effectual means put in operation to destroy the exhalations produced. The disagreeable pungent effluvia which proceed from dunghills, especially those that are watered with urine, may be effectually prevented, and with great saving to the farmer, by occasionally sprinkling them with sulphuric or hydrochloric acids. This practice is now becoming general; and as the addition of the acid forms a salt with the free ammonia of the manure, its quality is much improved, and the slow but gradual escape of one of its most valuable constituents (ammonia) prevented.

The health of the animals must be carefully watched, their ailments promptly attended to and checked before they assume a serious aspect, and attention directed to the application of those means which conduce to the well-being of the stock and the preservation of the highest degree of health and vigour.

All houses, byres, or courts that have been occupied by animals affected by the disease should be thoroughly cleaned out, ventilated, and washed with some disinfecting fluid, before sound stock are again put into them. All straw and manure, and every thing likely to retain the specific virus, should be removed. All doors and windows should be opened, and free currents of air allowed to circulate through the place. The walls, wood-work, and other parts of the building should be washed with some disinfecting solution; and the substance used should also be allowed to evaporate and spread itself in a gaseous form.

Chemistry has discovered many useful and efficient disinfectants. Chloride, or hypochlorite of lime, otherwise called bleaching powder, has long retained a high character for purifying the atmosphere of houses, stables, and byres. It is a cheap, easily obtained, and valuable disinfectant and deodoriser. Besides washing the internal parts of the building with a weak solution of the bleaching-powder, made by pouring boiling water upon it, vessels containing a stronger solution should be placed in various parts of the building, or cloths saturated with it suspended from the roof. A more rapid and copious evolution of the gas may be easily effected by adding a little acid to the hypochlorite, or allowing the acid to filter slowly upon the powder.

Amongst the other disinfectants generally employed are the various mineral acids, and especially nitric, nitrous, and hydrochloric acids. These, although fulfilling the purposes for which they are employed, are not suitable for general use; their odour is disagreeable; they corrode and destroy most substances with which they come in contact, and they are also expensive. The valuable antiseptic and deodorising properties of sulphurous acid

have caused it also to be highly spoken of as a disinfectant; as yet, however, experiments are wanting to estimate its value in comparison with that of other substances of this class. It may be used either alone, or in conjunction with chloride of lime. In using chloride of lime, sulphurous acid, or any of the other mineral acids, care must be taken not to evolve so much of their gas as to prove disagreeable or irritating to animals in the place to be purified. The gas should never be more than barely perceptible to the nose of man. Where, however, a thorough disinfection is necessary, all animals should be removed; large volumes of the gas set free; the doors and windows closed for a time; and the place freely ventilated before it is again inhabited.

Various other chemical substances are said to possess the power of destroying, or at least of materially diminishing, mal-odours and contagious miasmata. Among these substances are animal charcoal, solution of hypochlorite of soda, better known as Labarraque's disinfecting fluid, solutions of the nitrate and acetate of lead, and of per-salts of iron.

But, as disinfectants, these have, probably, less power than the solution of chloride of zinc, which constitutes the celebrated disinfecting fluid of Sir William Burnet. This preparation is devoid of odour, of corrosive or poisonous action, or of effect on colouring matters. Besides its value as a disinfectant, it is much prized as an antiseptic and deodoriser, and is found very effectual in correcting the mal-odours arising from fæculent matters, urine, bilge-waters, &c. It is not expensive: its price at present is about 3s. per quart, which is equivalent to 1d. per ounce. It can be freely used without the removal of the animals, for, unlike many other disinfectants, it disengages no vapour. In using the solution of chloride of zinc, it may be diluted with about forty parts of water, and cloths saturated with this solution hung for a time in the place to be disinfected. A small quantity of the same solution may also, with good effect, be sprinkled over the floor. The use of this fluid is highly recommended in crowded, over-heated, and ill-ventilated rooms, stables, or other places where disagreeable odours are present. It owes its value for this purpose, and also its power as a disinfectant, to its neutralising of ammonia, (with which it forms a salt, the chloride of ammonium,) and to its decomposing sulphuretted hydrogen and hydro-sulphuret of ammonia.

The contagious nature of the vesicular epizootic will indicate the necessity of instituting a system of strict separation between the healthy and the diseased animals. During the prevalence of an epizootic, more than usual care should be exercised in examining the stock; and any animal manifesting the slightest

appearance of the disease should be immediately separated from the rest. Sound animals should be prevented from having access to, or using the pails and other utensils employed for the unsound stock; and it would even seem advisable, in the case of the vesicular epizootic, that each class of animals should have separate attendants.

During the prevalence of an epizootic, much care should be exercised in the selection and purchase of stock. All animals obtained in markets, or from localities where the disease exists, or has recently existed, should be particularly examined; and, when brought home, should for a considerable time be kept separate from the rest of the stock. In the case of the vesicular epizootic, these remarks apply to the purchase of sheep and pigs, as well as of cattle.

Some practitioners have recommended bleeding, and the insertion of rowels and setons in the dew-lap, as means of preventing the vesicular epizootic. These measures, however, by lowering the powers of life and causing irritation, are more likely to induce than to prevent the disease. Depletion can only be requisite in a very few cases where the animals are in a state of excessive plethora. When necessary, it may be effected by judicious blood-letting; but more safely and effectually by the administration of laxatives, and by attention to diet.

As to preventive measures against the disease, and as mitigating its effects among sheep and pigs, the same general principles must be carried out as have been indicated with regard to cattle. They must be kept clean, dry, and comfortable. Sheep should be placed in well-drained pastures. Their food should be suitable both in quantity and in quality. A system of strict separation of the healthy from the sick stock should be pursued, and those dying from the disease, or while affected by it, must be immediately removed; and, as a further precaution, interred in their skins at a distance from the haunts of other animals.

Conclusion.—In conclusion, the statements made in the preceding pages may be briefly summed up as follows, referring the reader to the details given under the head of each particular subject:—

The propagation of the vesicular epizootic is influenced, and its severity increased, by the operation of the ordinary causes of disease; but these causes seem, in the case of the malady under consideration, to act chiefly as predisposing causes. Its most active and efficient exciting cause is contagion.

In all animals liable to the vesicular epizootic, the characteristic symptom is the formation of vesicles on the more exposed mucous surfaces, on some parts of the skin, and on the interdigital substance. It is an eruptive affection, resembling in its

nature the small-pox, measles, and scarlatina, to which the human subject is liable, and bearing some analogy to the cow-pox of cattle.

The treatment of the disease is easy. What is chiefly requisite is attention to the general health; and in the more severe cases topical applications to the parts affected. The nature of the applications must vary with the stage and severity of the disease, and with the structure and functions of the parts to which they are applied.

The great aim of the preventive measures ought to be, to keep up the health and vigour of the animal body, to remove the predisposing causes of the disease, to mitigate the virulence of the contagion, and to preserve the sound stock intact.

ABSTRACT OF AN ACCOUNT OF A CALCIFIED TESTICLE OF A RAM.

Published by Mr. Joseph S. Gamgee, Medical Student in University College.

The morbid specimen described on this occasion by Mr. Gamgee was laid before the members of the Veterinary Medical Association during the session 1849-50. The animal from which it was obtained had never been recognised as a bad stock-getter. Hydrothorax was the cause of death.

The object weighed fourteen ounces and a half avoirdupois, and in shape and size it resembled the healthy testicle of a ram. Mr. Tufnell, of the Birkbeck Laboratory, subjected a portion of the earthy substance to qualitative analysis, and ascertained its principal constituents to be, phosphate of lime, combined with a small quantity of phosphate of magnesia, a little sulphate and probably carbonate of lime; also some nitrogenized organic matter.

The surface of the testicle was of a dirty white colour, and slightly rough; it presented to the naked eye very small yellowish white, crescent-shaped objects, closely packed, and in certain points apparently agglutinated together by a calcareous amorphous deposit. After a careful examination no doubt could be entertained as to the nature of the little objects in question; they were the seminiferous tubes, impregnated with a calcareous matter; and this to such an extent, that the area of the tubes was obliterated. "So closely," the author remarks, "does the appearance resemble the characteristic structure of the testicle,

that, when the specimen was shewn to a distinguished anatomist (without any intimation as to its history), he at once suspected its true nature." The fragility of the substance having prevented the preparation of a section sufficiently thin to be seen by transmitted light, the surface of a small piece, sawn off from the testicle in a transverse direction, was examined under the microscope, with reflected light, and an inch power, magnifying 100 diameters. We prefer giving to our readers an idea of the appearances presented by this interesting specimen in Mr. Gamgee's words.

"The tubules are seen to be completely filled by uniform earthy deposit of a dead white colour; many of them are studded with a few small holes. The circumferential border of the tubes is darker than their interior. Their shape varies; some of them are perfectly circular, others oval or elliptical; and others are much elongated, and bent in the form of a crescent. This difference in shape, doubtless, depends upon the relative direction in which the tubes were divided; some being sawn directly across, others more obliquely, and a few lengthways, i. e., along their long axis. The diameters of the spherical tubes average from $\frac{1}{600}$ to $\frac{1}{333}$ of an inch; a few, however, only measure $\frac{1}{1000}$ of an inch across. Many of the tubes are in close apposition, while others are separated by a considerable quantity of intermediate substance, of a yellowish colour and apparently granular texture, interspersed with numerous small holes. In some parts this material is wanting, and the tubes are separated by irregular chinks."

In systematic works on pathological anatomy, the author found no mention made of diseases affecting the testicle similar to the case in question; but his attention was directed to a drawing in Dr. Carswell's extensive and valuable collection at University College, by Dr. Sharpey, the eminent Professor of Anatomy and Physiology in that institution; whose lectures we are glad to know have, in the last few years, been frequented by veterinary students, who, in the middle of the nineteenth century, not being taught physiology in their own school, have set an example worthy of imitation, by endeavouring to acquire elsewhere a knowledge of its truths.

Dr. Carswell's figures represent the process of calcification in the testicle of a goat, at a much earlier stage than the case described by Mr. Gamgee; and although that eminent pathological anatomist had not recognised the *hard wiry* vessels as the tubes of the testicle calcified, there can be no doubt that such was their nature.

The author, after acknowledging himself to be indebted to

Dr. Crisp for permission to inspect a *calcified ram's testicle* in his possession, concludes in the following terms :—

"The existence of two specimens of calcified ram's testicle, and of drawings representing the incipient degeneration in both testicles of a goat, renders it not improbable that the disease is of more frequent occurrence in those animals than has hitherto been suspected. The characteristic feature of these morbid productions is, that the healthy tissue of the organs appears to have become impregnated with saline matters; for, while calcification of morbid deposits is not unfrequent, such degeneration of healthy tissues is comparatively rare. Collating Dr. Carswell's statement, 'that in the testicle which he figured, and in which the process of calcification was most advanced, the vas deferens and its branches appeared to have preserved their original size;' and Dr. Crisp's statement, that, in the specimen in his possession, 'the epidydimis and spermatic cord were healthy,' we infer that the calcific degeneration commenced in the testicles, and independently of any change in their afferent or efferent vessels. And again, comparing Dr. Carswell's first figure with the second, and this with the specimens in the possession of Mr. Folliott and Dr. Crisp, it seems warrantable to conclude, that, in the testicles, the tubes were the first to become impregnated with saline matters."

POISONOUS PROPERTIES OF SULPHITE OF LEAD.

Mr. Greaves communicated the result of some experiments he had made by administering sulphite of lead to dogs. At a previous Meeting of the Society, Mr. Redwood had shewn that sulphite of lead is readily decomposed, and the lead rendered soluble, when exposed to the action of hydrochloric acid and other agents, which it would be likely to encounter in passing through the intestinal canal; from which it was inferred that this salt of lead, the presence of which had been proved in sugar made by Dr. Scoffern's process, could not, as represented, be perfectly innocuous. It still remained, however, to obtain direct evidence of the action of sulphite of lead on the animal system, and this was the object of Mr. Greaves's experiments.

Experiment No. 1.—*Effect of Internal Administration of Sulphite of Lead.*—To a young healthy dog was administered daily twenty grains of carefully prepared sulphite of lead in animal food, commencing on Tuesday, October 23d. No appa-

rent effect was produced until the seventh day, October 30th, when from all appearances he was labouring under a severe attack of colic, which continued for nearly two hours. No further symptoms were manifested until the tenth day, November 2d, when another violent attack of colic came on, which continued for several hours. On the thirteenth day, November 5th, the appetite, which had hitherto been very good, began to fail, the food being taken with apparent suspicion.

On the fourteenth day, Nov. 6th, the animal took with great reluctance his last dose; at ten A.M. another fit came on, accompanied with great prostration of strength, and at intervals there was great stiffness of the limbs. The dog would not allow any one to approach him, apparently suffering from excruciating pain, and manifesting the symptoms of poisoning by lead, which continued until death terminated his sufferings at half-past two, P.M.

The total quantity of sulphite of lead taken was 280 grains. At the commencement of the experiment the dog weighed 16 lbs. 12 oz.; at the conclusion, 13 lbs. 8 oz.: thus having lost 3¼ lbs.

Upon examining the liver a considerable portion was found to be of a dark colour, and, upon treating it in the usual method for the detection of lead, unmistakeable evidence of its presence was obtained. The brain also gave similar indications, though in a less marked degree.

EXPERIMENT No. 2.—*Effect of internal and external Action combined.*—To an old dog was administered daily twenty grains of carefully-prepared sulphite of lead in animal food; in addition to which there was rubbed into the skin of the abdomen (the hair having been shaved off) daily one drachm of an ointment composed of equal parts of sulphite of lead and lard. No evident symptoms appeared until the fifteenth day, when the dog refused to take any food; as also on the sixteenth day, when he appeared extremely sleepy and inactive: he would not take his usual dose. On the seventeenth day he took a little milk only, refusing to take the sulphite disguised in various ways: he was evidently ill. On the eighteenth day he was with difficulty induced to take a small quantity of food containing the sulphite. On the nineteenth he reluctantly took a small quantity of food with the usual dose of sulphite. From four to seven o'clock, P.M., on the same day, he barked considerably, appeared more restless and lively than he had previously been for several days: at eleven o'clock, P.M., he was prostrate upon the floor in a senseless state, and foaming at the mouth; at intervals he with difficulty raised himself upright, but failed in attempting to walk. In this state he continued, alternately attempting to move about, and relapsing into a lethargic state,

until his death, which occurred about five o'clock, A.M., on the twentieth day, November 11th.

On analysing the liver, indications of the presence of lead presented themselves.

This animal weighed, at the commencement of the experiment, 28 lbs. 12 oz., at the conclusion; 21 lbs., having lost 7¾ lbs.

Dr. Alfred S. Taylor said, it was very satisfactory to him to find that the conclusions which had been come to by himself and the other medical jurists appointed by the Government were substantiated by the results which had just been communicated to the Meeting. He and his coadjutors were unanimous in the opinion that lead in all its forms was injurious to health when administered continuously, and they thought it a great fallacy to assume that those compounds which are insoluble in water are therefore innocuous. He had no doubt the subject of the use of salts of lead in the manufacture of sugar would shortly be brought under the notice of the Legislature, in which case he should feel justified in urging upon their notice the importance of the results of Mr. Greaves's experiments. It could not be doubted, after the experiments which had been made, that had Dr. Scoffern's process been allowed to be practised without interference, there would, ere long, have been hundreds of cases of lead colic throughout the country, resulting from the use of sugar containing sulphite of lead. He might state, with reference to the report of the medical jurists, that the opinions they had expressed were perfectly unbiassed; neither they, nor the Government by whom they were engaged, having any other motive than that of protecting the public.

Mr. Bell stated, that he had received a letter from Mr. Brande, in reference to an observation made at the preceding Meeting, in which he was represented as having concurred with Dr. Gregory in designating sulphite of lead as *perfectly innocuous*. Mr. Brande said that he had not intended to convey such an impression by what he had stated in the communication referred to. *Pharmaceutical Journal, Dec.* 1850.

EPIDEMIOLOGICAL SOCIETY.

[*Abridged from "The Lancet."*]

Monday, 2d December, 1850.—DR. BABINGTON, *President.*

THE first meeting of the session was held this evening. About one hundred members and visitors were present. Dr. Babington observed, that the circumstances under which this Society originated might not be known to many present. It

was with the honorary Secretary, Mr. Tucker, that it took its rise. So long as nearly three years ago that gentleman had written some letters on the subject to "The Lancet," under the signature of "Pater." This led to the formation of a committee of a few gentlemen, who came to the decision that a society of the kind was greatly needed, there never having been a society in this country who had devoted themselves to epidemic diseases. This was followed by a meeting at the Hanover-square Rooms, at which it was finally resolved that a society should be forthwith formed.

From the earliest ages to the present period, epidemic diseases have from time to time been the scourges of the human race; and the Sacred volume, at once the most ancient and the most authentic history of remote antiquity, records, as you well know, many awful visitations of the pestilence which but too surely marked the anger of a justly offended Deity—offended, but not implacable; for the plague was ever and anon stayed by the supplications of those whom the Almighty permitted to intercede with Him on behalf of his disobedient children. In later times, we have no reason to believe that the great Jehovah interferes with the laws which He, in his infinite wisdom, has laid down for the governance of mankind and of all created beings. The days of miracles are past, yet the Author of all visits us as surely and as fearfully as ever through the operation of natural causes; and it is one purpose of our existence, on which our welfare is made to depend, that we endeavour to discover and avert them. The means of doing so have, in these latter days, been greatly increased. The practical tendencies of the age lead towards the improvement of physical science, and much success has rewarded our researches in this department. The object, then, of this Society, I take to be, to endeavour, by the light of modern science, to review all those causes which result in the manifestation and spread of epidemic diseases—to discover causes at present unknown, and investigate those which are ill understood—to collect together facts on which scientific researches may be securely based—to remove errors which impede their progress—and thus, as far as we are able, having made ourselves thoroughly acquainted with the strongholds of our enemies and their modes of attack, to suggest those means by which their invasion may either be prevented, or, if, in spite of our existence, they may have broken in upon us, to seek how they may be most effectually combated and expelled. In an address which has already been framed by the Council, and which I doubt not most of those here present have seen, the circumstances which have led the profession to join in

the formation of this Society have been so fully stated, that it would be superfluous to say thing more on this head.

Physiology has made prodigious strides of late years. I need only recal to your minds Professor Schwann's theory of cell formation, whereby he has established, by observation with the microscope, the proposition, that there is one common principle of development for the elementary particles of all organized bodies. This discovery, so brilliant as to have won for its author the Royal Society's Copley Medal for 1845, and which must be ranked amongst the most important steps by which the science of physiology has ever been advanced, evinces how the improvement of a scientific instrument leads to the improvement of science itself, and encourages a hope that our investigations may be enriched by this powerful means of interrogating Nature with regard to her most minute and secret operations. From meteorology, pursued, as it now is, under the guidance of a master mind. by a society expressly devoted to that branch of science, we have grounds for expecting many valuable facts applicable to the elucidation of our subject; and I trust that one of our earliest acts may be an endeavour to form a close connexion with that Society.

The progrees of medical science itself has been no less conspicuous of late years than that of many branches of natural knowledge. The great discoveries of Laennec have created a new era in medicine, and have given an importance to physical diagnosis, the influence of which has extended far beyond the limits of those diseases which he made the particular objects of his study. Statistics, too, have supplied us with a new and powerful means of testing medical truth, and we learn from the labours of the accurate Louis how appropriately they may be brought to bear upon the subject of epidemic diseases; his report, when engaged on a French commission for investigating the yellow fever at Gibraltar, in 1828, being a striking instance of their successful application.

As a matter for scientific inquiry, the subject of epidemics seems peculiarly well suited to occupy the attention of a society. Diseases which affect only individuals here and there admit of investigation by single observers, and perhaps are thus best studied; but those which affect masses of mankind, and whose ravages are spread over a wide extent of the earth's surface, require the combined effects of numerous labourers, and the various researches of minds directed to different branches of the inquiry, and contemplating the phenomena from different points of view. They require that observations should be simultaneously carried on in many and widely-distant places, in order

that deceptions may not arise from causes which, though in appearance general, are really only local and accidental. When the cholera first broke out at Bombay, bleeding proved so successful a remedy, if practised at the commencement of the attack, that many persons not of the medical profession learned to perform the operation, that no time might be lost; and, according to the testimony of a near relative of mine, hundreds of lives were thus saved. The same treatment, pursued in Bengal, proved entirely abortive; the inevitable inference being, not that the essential disease differed in the two places, but that the various success of the treatment depended on some accidental though unknown circumstance.

In the infancy of geology, first studied in this country, many phenomena observed in the arrangement of the earth's crust, as it is found in this island, were supposed to furnish fixed laws; and this gave rise, among our philosophers, to divers ingenious generalizations. But when these same philosophers had, from the establishment of universal peace, the opportunity of taking a wider range, and of studying the earth's structure, not in this country alone, but over the whole surface of the globe, they discovered, in many instances, that what they had supposed to be general laws were, after all, only exceptional cases: we require, therefore, in the study of epidemic diseases, as of geology, a wide field, in order that we may found theories on a sufficiently broad basis to avoid the risk of coming to partial and erroneous conclusions. When the phenomena of the migration of birds first attracted attention, how ridiculous were the notions of it entertained by philosophers! We have a paper in the *Philosophical Transactions*, written to refute a belief, confidently stated by a Dutch writer of less than a century ago, that swallows lie immersed at the bottom of the ocean and other waters during the winter season. This is no bad illustration of the effects of partial observation, and of the absurdities to which it may lead. The welfare and prosperity of the people at large ought to be a main object with all good governments. It seems, therefore, to be matter of sound policy that they should facilitate, by all available means, the study of morbific phenomena which have so extensive an influence over the destinies of mankind. Commerce, agriculture, and manufactures, have on many occasions been deeply injured, and the progress of civilization itself been seriously impeded, by the outbreak of destructive epidemics; and it is not easy to estimate the evil that has been caused by the imposition of strict quarantine laws, arising out of the fear of these visitations.

Again; a careful study of the sanitary arrangements which affect the health of our military and naval forces, falls legiti-

mately within the scope and object of this Society, and ought naturally to lead the ruling powers to aid our endeavours to promote the public good, and to take an interest in our proceedings. How much benefit, for instance, may we not confer on the state by making the proper structure and site of military barracks and hospitals, and improvement in the accommodation and ventilation of ships, subjects of investigation and study? Even the most recent intelligence from our new settlement of Hong Kong, in China, leads to a belief that much of the mortality among her Majesty's troops at that station is owing to the defective and ill-adapted construction, arrangement, and situation of the buildings appropriated to the reception of the sick.

As governments are thus so much interested in questions connected with the subjects we have taken up, let us hope that they will be kindly disposed to afford us every facility in their prosecution. That a thorough knowledge of epidemic diseases very nearly concerns the welfare of all classes of the population in a mere individual sense, is a fact which hardly needs illustration. There is scarcely a family to be found that has not lost some of its members by small-pox, measles, hooping-cough or scarlet fever; diseases which are always more or less prevalent among us, and respecting all of which there are yet many questions which remain to be solved. The length of the radius of infection,—the question of mediate contagion, to third parties, through clothing, and other channels,—the period of the attack in which the infection in each disease is most active,—the length of time that it may exist in an infected locality, and the means of its destruction,—have never yet been determined with accuracy.

The causes of exemption in individual cases have never been made out. The period of incubation admits of further investigation; uncertainty prevails as to the efficacy of preventive measures; and, finally, there is much difference of opinion as to modes of treatment. Respecting febrile diseases not exanthematous, such as plague, yellow fever, and typhus, many interesting questions remain for solution; and, among them, the very difficult one of contagion is of paramount importance. The testimonies against and in favour of its existence are most conflicting; and although we must be on our guard to avoid degenerating into mere disputants on this point, where so many others should claim a due share of our attention, yet it cannot be denied, that if by more comprehensive views, and a larger collection of well-authenticated facts, we could determine this *vexata quæstio*, we should be conferring an inestimable boon on the whole human race. Epidemic febrile diseases will no doubt be the subjects of our chief study, as being immeasurably of the

most common occurrence, and most fatal in their results; but we must not forget that there have in times past existed, and there may exist again, epidemic visitations of diseases of a nervous character, as, for instance, tarantism, the dancing mania, and other allied affections; of a hæmorrhagic nature, as apoplexy, which has been known to exist epidemically in Holland; and even of a cachectic nature, as leprosy and scrofula, in which diseases the endemic character has occasionally past into the epidemic form.—[*Great applause followed Dr. Babington's address.*]

Foreign Extracts.

TWO CASES OF DEATH CONSEQUENT ON THE ADMINISTRATION OF OLEUM CROTONIS.

Contribution by Einicke, Veterinary Surgeon to the Second Regiment of Dragoons, Prussia.

[Translated by W. Ernes, M.R.C.S., Dockhead.]

In the first case, sixteen drops of the croton oil were given on an empty stomach to a horse suffering from exanthema, in the form of a ball made up with flour and soap. Twenty-four hours after the administration not the slightest effect was produced; not even borborysm, the usual precursor of purgation, could be heard. Impatient of this operation, M. Einicke administered twelve drops more about noon, thirty hours after the first dose. The following morning he saw, to his satisfaction, that the horse was briskly purged, which continued the next day. At this time Herr E. found that the horse was very much exhausted and very ill; and gradually, and in spite of all his exertion, symptoms of putrid fever followed, of which the horse died on the fifth day after the administration of the first dose.

In the second case, the croton oil was given to a horse suffering from colic and costiveness, after every other purgative had failed. Sixteen drops were given in a ball made up with marshmallow powder and soap. Twenty hours after, no purgative effect being perceptible, the ball was repeated, containing, however, only ten drops of the croton oil. Twelve hours after this violent purging set in, and, notwithstanding every care was taken to check it, the horse died of superpurgation.

Observation.—It is possible, and even probable, that in these two cases the second dose was given too soon, and thereby the death of the animals was occasioned; but this much may be said, that sixteen drops will not produce purgative action, since, in the first case, thirty hours had elapsed before the second dose was given. It seems that with the oleum crotonis, as with the aloë and other drastics, a great deal depends on the animal's constitution, his age, temperament, &c. M. Einicke, for the sake of experiment, gave four drachms of the hydrarg. chlor. with four ounces of aloes to a horse in one dose, *without the slightest effect.* Six days after this, one lb. of sulphate of soda with two ounces of aloes were given to the same horse, which only rendered the fæces slightly pultaceous. To another horse was administered a ball consisting of hydrarg. chlor. ℥jss and aloes ℥jss, which in the space of thirty hours produced such a violent effect that the horse was ill for three days, and ate nothing except a little hay. Whenever dangerous purgation follows the use of the abovenamed drastics, that produced by the croton is the most dangerous and unmanageable. In cattle suffering from obstruction in the bowels, M. Einicke has given the croton oil with the best effect, in doses from ʒjss to ʒjj daily, for six or eight days consecutively.

ENORMOUS DISTENTION OF THE RIGHT AURICLE AND VENTRICLE OF THE HEART IN A TWO-YEAR-OLD COLT.

By Stratman, V.S. First Class.

[Translated by W. Ernes, M.R.C.V.S., Dockhead.]

On the arrival of Herr Stratman, the colt was stretched out, lying on its left side, but motionless. The information obtained was, that the colt had been bred on the farm; that it never had been ill; that it had been put to the plough for the first time a few days since, and had only been kept at it for short intervals in the morning. The servant had reported that the colt was not so lively, and had not consumed above half its ration of provender. About one o'clock, P.M., it began to reel about and fell down, but lay very quiet for a few minutes; then got up, when it was immediately sent to the stable: in going there it reeled about so much that it was difficult to keep it upon its legs. As soon as it got into the stable, it fell for the second time, and there it had lain ever since. On examination, the following symptoms

were observed :—the mucous surfaces pale ; the mouth hot and dry : the pulse irregular and small ; five or six beats very slow, full, and soft, were followed by several very quick, small, and wiry : the pulse was, notwithstanding, not more than 50 per minute. The contractions of the heart could be easily felt on both sides. The respiration was fifteen to sixteen per minute. On making the patient get up, it ate a little hay with seeming good appetite, nor did the colt appear to be very ill.

The only remedies prescribed for the moment were the abstraction of about five pounds of blood, with dry frictions applied to the whole surface of the body ; and, as the day was closing, a man was appointed to watch the animal during the night, with orders to send for Herr S. in case the complaint increased. In the morning, the report from the man was, that the colt had been quiet during the night, and had eaten nearly one-half of its ration, and had only lain down twice ; but that at each time of lying down, as well as after getting up, had reeled about a good deal. The dung and urine had been regularly voided during the night. Examination gave the following results :—Great prostration of strength ; head and neck hanging down ; eyesight weak ; pulse and respiration the same as on the previous evening. The colt expressed great pain on pressing the right pariety of the chest. and auscultation in the region of the heart betrayed a peculiar dull, respiratory murmur, similar to that present in pericarditis—a combination often found in influenza. On having the patient led out of the stable the giddiness increased so much that, if it had not been supported on both sides, it would unavoidably have fallen to the ground. And if, when quiet, the head was suddenly elevated, the patient would reel backwards, and fall. It was difficult, from these pathologic symptoms, to decide whether the case was one of affection of the brain (vertigo), or inflammation of the heart (carditis). In favour of the first, there was the giddiness,reeling, falling about, and great prostration of strength—symptoms always to be found in congestion of the brain. On the other hand, the great irregularity of the pulse, the increased respiration, the sensibility on pressure in the region of the heart, the paleness of the mucous membranes, and particularly the dull respiratory murmur in the chest, seemed to point more to affection of the latter organ.

The Medical Treatment consisted in repeating the bleeding to the amount of four pounds, in the insertion of a seton in the chest, and in giving internally kali nitr. et kali sulph. in large doses. The diet ordered to consist of bran and good meadow hay. Eventually, the colt got better. The appetite returned, the giddiness disappeared, and there was a gradual return to health. The pulse, however, was only from 28 to 30 per

minute, and very weak, but it had lost its intermittence. The respiration still remained from 14 to 16 per minute, and was performed by a remarkable effort of the abdominal muscles, the same as in asthma. The contractions of the heart were stronger on the right side than before. The sensibility at the region of this organ had ceased. On the other hand, the dull respiratory murmur had increased. These symptoms rendered the diagnosis as to organic disease of the heart more certain. Digitalis and calomel were now prescribed, and continued for some time, but without any good effect resulting; for, after a time, all the above described symptoms returned with increased intensity, and terminated in sudden death, as the colt was being led back from the watering-trough.

The obduction shewed the heart of extraordinary size. The right auricle and ventricle were enormously distended, and filled with black venous blood. On a more careful examination, the parietes were found to be very thin, the whole forming a sort of pouch, which, on being measured, was found to contain nine quarts (German) of water. The left auricle and ventricle were of the normal size.

Magazin für die Gesammte, Thierheilkunde, Berlin, 1850.

THE VETERINARIAN, JANUARY 1, 1851.

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

IF the Spring of the year has its "Derby," Midsummer its "Steeple Chace," and Autumn its "St. Leger," Christmas can boast of its "Cattle Show;" and this last exhibition is one which, like its predecessors of far older date, can boast of not palling the public appetite, or even of diminishing in attractiveness, from repetition. A good deal of sameness runs through all these and similar spectacles; nor do we believe that the Cattle Show in this respect possesses much advantage over its fellow annuals; though the late Show has proved some exception to this in its increased dimensions, as well as in the improved quality of the exhibitants, as will appear from the following account extracted from "*The Times*:"—

"The exhibition has in former years been blemished by a display of enormously fat and overgrown animals. Prizes were awarded, and admiration bestowed, not upon those beasts that at the earliest age, and in the

most healthy and regular manner, were clothed with the greatest amount of wholesome food, but upon mountains of tallow, ungainly to look upon, useless for the purposes of subsistence, and valuable only to be manufactured into candles. The Smithfield Club have in this respect effected a decided reform. They have at length, and unmistakeably, surrendered their predilections for the melting-tub, and the danger, if any, against which they now require to be warned, is to prevent their show running so far into the opposite direction that it may become an exhibition to promote purity of breed rather than one which has reference to the supply of our metropolitan meat markets. The principle on which the prizes are awarded properly recognizes the breeder as well as the feeder of each successful animal, and the materials upon which it has been fattened are also specified. These precautions do, to a certain extent, keep the show true to its original design, and this result is still further secured by the arrangement and classification adopted, which place beasts of different breeds side by side, and induce a general comparison of merits between the different varieties of stock. It is quite true that the best bred ox will generally shew himself best adapted for the purpose for which nature has destined him; but, on the other hand, the merits of cross-bred animals ought not to be lost sight of, and something is due to the appetites of our citizens, more solicitous about a good sirloin of beef or haunch of mutton than as to whether the beasts that furnished them were Devons or Herefords, Southdowns or Leicesters. If we were to find a fault with the general character of the present exhibition, we would state it thus—that the great breeders, and especially those who breed for amusement, as, for instance, the Duke of Richmond, or, to quote another name without any invidious motive, his Royal Highness Prince Albert, should, with their advantages for maintaining a successful competition, come into the field and carry away so large a proportion of the prizes against the men who the whole year round supply Smithfield-market, and appease the appetites of a population of 2,000,000. The noblemen and gentlemen who keep up fine herds of cattle, partly as a matter of amateur farming and partly to raise the quality of stock throughout the country, have their legitimate sphere of competition at the great annual shows of the Royal Agricultural Society. The Smithfield Club ought to encourage a less dignified but not less useful class of competitors,—the men who supply the best mutton, the best beef, and the best bacon to the inhabitants of London. We are far from saying that these last are altogether excluded; and a glance at the list of prizes will shew that many of our best known feeders have met with the success which they deserve. Still, practical men, looking at the result, would, we suspect, be disposed to think that several great names occur therein somewhat too often. The show is particularly strong in Leicester sheep and in crosses. It has improved greatly also in the display of Devons, in which hitherto it has been deficient."—*Times*, 16*th Dec.* 1850.

Our intention in making this extract has not been so much to submit any description of an exhibition, which, most probably, many or most of our readers have visited, as to set forth the opinions of an authority standing so high in public estimation on the advantages that have been, or promise to be, derived from it. Viewing the animal exhibited as an article it is the *desideratum* to produce of the best quality at the smallest possible cost, the question of production resolves itself into *breeding* on the one hand, and *feeding* on the other. Looking to the purpose for which the animal is *bred* or brought into existence, that breed is entitled to the most encouragement whose offspring evinces the greatest aptitude to accumulate flesh or fat in the quickest time, from the smallest consumption of food, or from food of the least costly description; thus making the business of the breeder subservient to that of the feeder, the merit derivable from the quality or quantity of the product being fairly divisible between the two. An unthriving animal falls short of perfection under the most judicious and luxuriant feeding, while the most kindly disposed likewise fails of success under improper or innutritious feeding. Thus the breeder and feeder are inseparably linked together in their work, though their occupations very properly form two distinct branches of the science of agriculture. Notwithstanding the main object of the breeder, however, must be to produce that which will thrive and do best in the hands of the feeder, he will have other considerations to study. It will not answer his purpose to go to such expense for his production as will preclude him from deriving fair and sufficient profit by its sale; no more than it will to bring an animal into the market worth no feeder's notice. He will take care to steer clear of both these errors, while he never loses sight of that which directs the steps of every man in trade, viz. that he must so conduct his business as to make it a source of profit to him. He not only has to breed, but he has also to *rear* his progeny; and here his success in production, together with the expenses attending it, must very much depend upon circumstances of situation, soil, climate, &c. In districts where waste lands and common rights abound, the cost of rearing will be small, compared to what it amounts to in other parts of the country; but, then, the offspring upon such uncultivated and for

the most part impoverished lands, lack the size and development which they would have attained through better keep, and consequently fall short of the price they would otherwise have commanded in the market. Still, they may pay better than they would, had they been reared at any considerable outlay; since such are, for the most part, an inferior breed of animal, and therefore have it not in their power, under any circumstances, to repay great cost of production.

To the feeder, the cattle shows within these few years past have certainly read an important lesson. They have warned him of going to the expense of heaping loads of a substance upon his thriving beasts, which, after all, can only serve the tallow-chandler's, not the butcher's, purpose. We should be sorry to see the day when fat meat was despised; at the same time, feeders ought to understand that it is not the fattest beast that is the most admirable, no more than it is the most valuable, though that which is the most disposed to become so may be, and is, deservedly lauded. The beast of all others the most justly admired and valued, is the one disposed to fatten *in*, in place of *upon*, the substance of his flesh. What can be finer or more prized than the *marbled* ribs of beef or the sirloin, wherein the fatty matter, running in streaks among the fibres of the flesh, assumes the admired aspect of veins of marble, so that, when brought to table, the two substances eat together, mutually enhancing the flavour and relish of each other? This is the kind of fat beast that we desire, and this is the breed—if a breed so disposed there be—which demands cultivation. So far as *fat* is the question, it behoves both breeder and feeder to keep this consideration in view; and it especially concerns the latter to save the money in his pocket which he now so wantonly expends in the over-production of a commodity worth only half the price of parts consumable for food. The last show of cattle, it is generally allowed, evinced improvement in this respect; and, so far as it did so, it may be regarded as giving earnest of advancing a step towards a show at some future day, when it shall become a matter of marvel how we could have awarded prizes for sheer *adeps*, to the exclusion of all regard for whereabouts it was deposited, and without any thought about what was to become of it.

MISCELLANEA.

Goitre and Fever.

M. Grange, whose investigations I told you of a short time ago, has made further researches on the subject of goître. He journeyed to Turin; and on comparing notes with the savans of that city, ascertained the remarkable fact, that a geological map of Piedmont, and a *goître map* of the same country, fully confirm his views respecting 'the presence of goître and cretinism on magnesian formations.' He shews that in the valley of Aosta, where the soil is schistous, with a layer of diluvium, and dominated by metamorphic rocks, goître is rare; but beyond Bard, where the water becomes purgative, from the large amount of sulphate of magnesia which it contains, goître and cretinism abound. In the valley of Entremont there is a small district, a sort of oasis, as it were, of mica schist, on which five villages and several hamlets are built, in none of which do the distressing diseases ever appear, while they prevail in the surrounding localities.

Another sanitary fact is related by M. Ancelon. In Meurthe there is a village named Lindre Basse, where endemics are constant, appearing as intermittent and typhoid fevers, the latter at intervals of three months; besides which, other affections prevailed, caused by miasmatic influence. Close to the village was a large pond, which was kept full for two years for the breeding of fish, and then emptied, to allow of the land, which had been submerged, being cultivated in the third year; after which it was again refilled, and the process repeated. In the first year of the cycle came the intermittent fevers; in the second, the typhoids: in the third, the miasmatic. The practice was interrupted in 1848-49, when, instead of emptying the pond as usual, the proprietor kept it on the increase, until the whole valley was overspread with water several inches in depth for a distance of about six miles. This change produced an alteration in the development of disease: the miasmatic affections did not appear, but the whole country was infested with intermittent fevers, which seemed to repel or absorb all other complaints: the cholera even stopped at the edge of the marshy land. M. Ancelon considers that the statement of these facts will assist in the study of cause and effect as regards disease.

Chambers' Edinburgh Journal.

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LAMENESS IN HORSES.

By William Percivall, M.R.C.S. and V.S.

[Continued from page 5.]

Frush.

Etymology, supported by primitive* and the best modern† usage, is my authority for giving this orthography to what is, in these our days, commonly spelt *thrush*. Custom may be urged as a forcible reason for even continuing in literal error, and it is at all times an awkward power to make war against; at the same time, I think it behoves us to rid our nomenclature of as much of the false orthography which has crept into it as possible, and particularly when we come to be warned of such error by our own lexicographers‡. The derivation of the word *frush* is a matter which has been so learnedly discussed by Bracy Clark, in his "Essay on Running Frush," that I shall avail myself of the opportunity on the present occasion, since it appears a question of some importance to settle, of translating the passage treating thereon into these pages:—

"The term *Frush* is originally derived from the Latin *Furca*, signifying a fork; and probably more immediately to us from the French word *Fourche*, also signifying the same thing; and its derivative, *Fourchette*, is the appellation, in this language, of the frog at this day. Hence formerly we obtained *Running Fourche*, and by an easy transition *Running Frush*, which word actually occurs in our English writers, as in Blundeville and De Grey, and others, and *is therefore the true word*."

Frush is so notorious, that any horseman would risk being accused of unpardonable ignorance who should confess to any lack of knowledge concerning it; and yet, as a vete-

* Blundeville, De Grey, Solleysel, &c. † Bracy Clark.
‡ Richardson's New Dictionary of the English Language.

rinary writer, I find it to be a subject calling for a somewhat extended consideration. So common is frush, that, if ever there was a disease that could be called universal among horses, this may be said to be the one. Everybody's horse has a frush, and yet nobody appears to be concerned about the matter. Horses, in general, seem to go as well with frushes as without them; hence the reason of so little or no notice being taken of their presence: added to which, the circumstance affords a pretty convincing proof that the judge who, in former times, pronounced frush to constitute unsoundness, erred most egregiously in his *fiat justitia*.

A FRUSH IS NOT TO BE ACCOUNTED UNSOUNDNESS unless it produces lameness, which it rarely does. A horse having an ordinary frush will go as far, and as well—save that he may perhaps at times "drop" from treading upon a stone—as one whose frogs are in a normal condition; and therefore cannot in reason be regarded as unsound. And besides, were a frush to be viewed as unsoundness, there would be perhaps more unsound than sound horses in the country; in fact, hardly anybody would possess a sound horse. But

FRUSHES ARE NOT SO COMMON NOW-A-DAYS AS THEY WERE some years ago. This is one of the fruits of an improved practice of shoeing; though so long as shoeing shall exist in any thing like its present form, supposing there were no other cause for the disease, we should still have frushes. Constituted as the frog is, both as regards its own structure and its relation to other parts of the foot, it is quite impossible it can, in the state of constriction in which the whole foot is held by the shoe, perform to the full its natural functions; and being unable to do so, the hoof gradually contracts and shrinks, in spite of every contrivance through shoeing to prevent it; and though, by very good management on the part of the smith, and little proneness to such affection on the part of the foot, frushes are in some instances kept aloof, the frog is still too apt to become, in the course of time, a shrunk, sharp, narrow body, meanly comparable to what it, in the colt's foot, originally was. The observation of this fact it is that has led to the development of one of the

CAUSES OF FRUSH, and that, too, the most general one. The frog was given to the foot for important purposes; and Nature has so ordained in this, as in all other organised bodies, that, unless those purposes be fully carried out, it cannot maintain its original state of development. Diminished function entails diminished form; the same volume of structure is found not to be required; the body falls away under the decrease of demand upon it; and in the end becomes "beautifully less," or else actually diseased. The late Professor Coleman's mind was fully

alive to all this. He argued, that the frog, being made to bear pressure, must receive it, or fall into a state of degeneracy and disease, pressure to the frog being a means of counteracting contraction. The most convincing and satisfactory proof we can have of the salutariness of pressure to the frog, is the state of the organ in those feet in which it has been exposed to pressure from tread upon the ground, contrasted with its condition in feet in which it has been removed out of the way of pressure. In the one case, the frog is bold and prominent and sound; in the other, shrunk and shrivelled and frushy. But something besides pressure is wanting to preserve the full normal state of the organs, as is shewn by the frog in the natural or unshod foot, as compared with the frog of the foot that has been for some years shod, albeit upon the best of principles. The latter may have been all along maintained in a state of soundness, and yet it will not bear comparison with the former. This does not arise from lack of pressure to the frog, but from habitual constriction of the shoe upon the foot. Perhaps nothing more strikingly evinces the truth of this than the wearing of tips. With the heels left, as they are in tips, at liberty, at the same time that pressure is given to the frog to the uttermost, the organ is not only maintained full and perfect, but may, by such means, even after its degeneracy, be restored to its original normal condition of expansion. Light blood horses, with feet rather oval than circular, and that go near the ground, are most prone to contraction and frush. And when the frogs—of such horses especially—are pared away, as they are too apt injuriously to be by the smith, contraction both of frog and foot goes on with redoubled force, in consequence of the counter-operation of that body being entirely annihilated. Leaving the heels high when the horse is shod, or shoeing with thick or high-heeled shoes, has precisely the same effect: in fine, every mode of shoeing or paring the foot which, directly or indirectly, deprives the frog of its natural bearing and pressure upon the ground, must be regarded as a predisposing cause of frush, contraction in such cases being the excitant. Not content with cutting away the frog, that they may give it a shape pleasing to their own eye, however injurious to the horse, farriers will very often, at the same time, what they call "clean out" the cleft. This means not merely removing any appearance of ruggedness and dirt there may be, but making a fresh or "clean" chasm in it, which must necessarily prove a harbour for more dirt, and probably will allow of its still deeper insinuation into the cleft, thus giving origin to irritation and frush. In addition to which I may mention, *en passant*, farriers have an offensive habit of grooving along the *sides* of the frogs, and often to that depth to graze the sensi-

tive parts, the consequence of which is the issue of a discharge afterwards from them not very dissimilar to frush.

HEAT OF STABLE, and perhaps *foulness of stable* as well, contribute to the production of frush; operating either through the general system, or locally on the foot or frog itself. Any thing that will dispose to heat of foot, such as lack of moisture to the hoof, standing for hours together upon dry and heated litter in a hot atmosphere, or standing in dung and urine, may tend to produce this feverish state of foot; while, at the same time, the latter may exert some effect in irritating the frog itself. Coleman used to say, he could at any time create a frush in twenty-four hours, by putting on a high-heeled shoe, so as to raise the frog off the ground; and placing the horse at the same time in a hot and impure stable, where he would be standing all the while upon heated litter, saturated with dung, urine, &c. Here, it is evident, the Professor depended for the success of his experiment upon more agents than one. There were in simultaneous operation heat and non-pressure, both tending to contraction; and heat and moisture, and it is probable pestilential vapour from the horse's bed as well, to assist in the production of frush.

CONTINUED EXPOSURE TO WET AND DIRT, notwithstanding the frog be all the while subject to pressure—nay! the horse even be wearing tips at the time—will in many feet produce frush. Horses returning from low and marshy pasture, or from mucky strawyard, in the spring of the year, after having been out all the winter, and particularly after a prevalence of wet weather, are extremely likely to come into their stables with frushes. In this case frush is caused by a softening and decay, and partial solution, of the horn of the cleft, whereby the sensitive structures become annoyed by the contact of wet and dirt, and, in consequence, take on anormal action. It is possible for frush to be engendered in the same manner within the stable, not only, as has already been mentioned, from horses continually standing for hours together with their hind feet in dung and urine, but from their fore feet being injudiciously over-much plastered with wet and irritating stopping, such as clay and cow-dung, &c.

BUT A FRUSH MAY HAVE A CONSTITUTIONAL CAUSE.—That which produces eruptive skins and swelled legs may produce frushes. Horses high fed, full of blood, and in fat, gross, and plethoric condition, and particularly young horses, making flesh fast, will now and then be so disposed. Indeed, idle or laid-up horses in general may be said to have this propensity. Nor are such cases to be set right again without attention to the system—by giving physic, alteratives, &c., as well as to the feet.

SYMPTOMS.—Horse persons in general are so familiar with the appearance of frush, that any description of symptoms seems almost supererogatory. The cleft of the frog either simply exhibits a moisture, as though humidity exuded through the substance of the horn, and this moisture emits a peculiar noisome odour, especially recognised by the introduction of the finger into the cleft; or perhaps fluid may be made apparent by squeezing the frog and the heels together, to cause it to exude from the cleft; or else the cleft itself is in an actual state of raggedness and rottenness, issuing matter with stench, but too palpable, amid the ruins. When this is the case, farriers denominate it "a running frush." At other times when the disease is farther advanced, and particularly when wet and dirt have been the cause of the frush, the entire cleft exhibits "a mass of corruption." Nor does the disease now any longer confine its ravages to the cleft, but extends them throughout the substance of the frog; the matter insinuating itself between the fibres of the horn, under-running the substance of the frog from heel to toe, and along the sides as well, and so laying the foundation for complete destruction of the body. In the incipient stages of the disease the discharge is *ichorous*, i. e. thin, acrid, and serous in its nature; afterwards it turns to purulent matter, though by its colour it would rarely be recognised as such, owing to its being stained of a dingy, dark or sooty hue, by the decaying horn which becomes eroded by and partially dissolved in it. In the worst stages of frush, when large and open chasms of rottenness and corruption exist in the frogs of many horses standing together, the stench arising from their offensive odour is so great that the very atmosphere of the stable is contaminated by it; and the smell thereof so perceptible, that any person acquainted with it pronounces at once, on entering the stable, what is going on amiss there.

FRUSH AFFECTS THE HIND AS WELL AS THE FORE FEET, and in this circumstance differs from most other foot diseases. And the reason why it does so appears obvious, when we come to consider how much the hind frogs are apt to be raised off the ground by shoes with calkins, and how very much exposed the hind feet are, in stables in general, to wet and dirt from the excretions. Still, we more frequently find frushes in the fore than in the hind feet, owing to the application of causes occasioning contraction in them whose power is counteracted from exerting the same influence in the hind feet.

THE PATHOLOGY OF FRUSH will require for its explanation a reference to the physiology of the part affected, which we have found to be *the cleft of the sensitive frog*. This part of the foot receives into its cavity the obverse side of the cleft of

the horny frog, a part to which Bracy Clark has given the name of *Frog-stay;* and the mortice sort of connexion thus subsisting between the sensitive foot and horny hoof, while it operates in preventing any dislocation between them, at the same time admits of such motion between the one and the other as is requisite for the play or performance of the functions of their several respective parts during the time the animal is in action. But motion of no kind, however limited, can go on, especially between organized and inorganized parts, without lubrifaction of some sort, and this is, in the instance in question, provided for by a peculiar sebaceous kind of secretion known to us more perhaps by peculiarity of odour than by any other property it may possess. This secretion naturally escapes through the pores of the horn into the cleft of the frog where it becomes absorbed and disappears. Should it, however, from irritation or inflammation of the parts secreting it, become so redundant in quantity as to give rise to the appearance of moisture in the cleft, and perceptible smell likewise—and it never does so without undergoing at the same time alteration in quality—the discharge of it constitutes frush. Coleman used to compare this secretion to the exudation taking place between the toes of our own feet, to prevent them growing together; and, no doubt, some similar purpose is answered by it in the cleft; though I would rather make a comparison between the secretion in the axilla of man and that in the cleft of the frog, seeing that there is something in both instances beyond mere exposed superficies.

Bracy Clark has represented frush to be a fracture of the *frog-stay;* and has distinguished it into *natural* and *secondary* or *acquired.* "The frog-stay," he says, is "the last of the foot in obtaining its perfect growth and consolidation—being in some perfected at two years and a half, in others not until three and a half or four; and, if opposed by natural weakness or externally destructive agents of the horn, such as wet, dirt, urine, &c., *then the frog will never be properly closed,* and a frush will be the consequence *through life**." In proof of which opinions being founded in fact, he gives an account of having visited some colts belonging to the East India Company at pasture near Epping Forest, and finding several among them with frushes: a circumstance plainly explicable in my mind by the "place where they were confined being," as he himself states, "particularly wet."

FRUSH IS ONLY ON RARE OCCASIONS ATTENDED WITH LAMENESS.—Horses having frushes—and the exceptions, in a general way, are not numerous—appear to go, and to do their

* See his "Essay on Running Frush."

work as well, with as without them: hence, the little or no attention paid to them, and the unscrupulousness with which one person sells or purchases a horse known to have frushes. Still, there are occasions on which lameness proceeds from frushes. A frushed horse may, at such times as he happens to step with his frog upon a stone, "drop;" this, however, is but momentary, and probably occurs but rarely. Nothing is more likely to produce lameness from frushes than a sharp dressing. The horse is taken, perhaps, to be shod, going as well as usual; but returns quite lame or tender-footed. The farrier is discovered to have used some *sharp* dressing to his frushy frogs, and all is accounted for. Dealers are very fond of mentioning as a cause of lameness the existence of a frush whenever a horse they are selling happens to go lame or tender, when, all the while, they know or ought to know better. Frush in its worst stages will at times occasion lameness, and severe lameness too, simply from exposure to tread of the sensitive parts of the frog. As a general rule, however, frushes are not to be reckoned among the causes of lameness, and hence are not accounted as unsoundness.

THE TREATMENT OF FRUSH—supposing it be deemed requisite or worth while to adopt any treatment at all—is to be regarded in two points of view: either the horse is intended to continue his work the while, or he is suffered to be laid up as a patient. Hundreds and thousands of horses having frushes —running frushes—are doing their work as though their feet were perfectly sound, and no heed whatever is taken of them; save, perhaps, that some of them may have their frogs pared and "dressed" every time they happen to be fresh shod; though in general they derive little benefit therefrom, owing to the injudicious and clumsy manner in which such dressings are performed. A leading principle in the treatment of frush necessarily is, or ought to be, the restoration, to the extent we are able, of the frog's natural office, at the same time that we are eschewing all such causes as appear to have given rise to the disease. With a frog that has been raised off the ground so long that pressure to it can only be safely restored by degrees, we must rather have recourse to artificial means of pressure than think of lowering the heels all at once, much less of applying thin-heeled shoes or tips suddenly. Such a frog cannot bear pressure like this; though it will be much benefitted by filling the vacancy left between it and the ground when the shoe is on with tow and leather, or gutta percha, or other soft and impressible material, which will not only sustain any dressing we may desire to apply, but give for a time the required pressure. Sometimes a bar-shoe can be borne very well, and will give the requisite support; where it cannot, cross-bars of iron hooping

may be introduced underneath the web of a plain shoe to sustain any dressing we may desire to apply, and by dossils of tow upon the dressing to give pressure at the same time.

Coleman, many years ago, introduced what he called "patent frog-bars" for this purpose, and to a certain extent they answered; but they were found troublesome, from the nice application they required, and were too expensive for common use, and could not be worn for any very long time, or indeed very comfortably, owing to the constant and partial pressure they invariably made upon the frog. And pressure such as this was likely to be productive of harm instead of good, unless the heels of the hoof were set at liberty to yield to it. With the patent frog-bars this could not well be managed, owing to the number of nails required to keep the apparatus on the foot; though Coleman succeeded, in this respect, better afterwards by means of his frog-bar shoe. With the shoe in ordinary use—the *plain shoe*, as it is called—we must effect the object to the limited extent we are able, by carrying the nails, which ought to be as few as possible, as far as we can toe-ward; though when we have leather and dressings as well to retain, even this measure of forward nailing is taken at a risk. Gutta percha has an advantage in this respect, inasmuch as it admits of being moulded, after being soaked in hot water, into the sole of the foot, after the shoe is nailed on, and can be made to serve equally as well as leather for covering and protection. To narrow or contracted feet, with strong and deep heels, no shoe possesses half the virtue of a tip. Providing the frushy frog be, or through the means recommended be brought to be, able to bear the pressure from partial tread upon the ground, leaving the heels unpared down, and substituting a tip for the plain shoe, will really work wonders. Hardly any person who has not made trial of this plan would credit the reports I myself—in common with others—could make of it; I shall, therefore, not attempt any further eulogy of the tip here, but simply, circumstances suiting, most strongly repeat my recommendation of it. In wet weather, the tipped horse ought, most assuredly, to be kept as much as possible out of wet; but in dry weather, and upon country roads, on such a foot as I have described, the tip will bear all the usage of the plain shoe.

IN DRESSING FRUSHES some distinctions will, in general, require to be made between the horse intended afterwards to go to work, and the one we can afford or obtain permission to lay up. In the former case, the state of the ground, wet or dry, will have something to do with it. In any case, little or no benefit can be expected to be derived from dressings superficially or imperfectly applied—applied by merely smearing over

the ragged or rotten parts of the frush rather than applying them to the *seat* of the disease. For any permanent good to be done, the entire decayed or ragged covering of horn lining and filling the cleft must be scooped out and got rid of; all the *dead* horn, in fact, must be removed with the drawing-knife, and the living horn and deep-seated diseased sensitive parts of the cleft freely exposed; and then, but not till then, may we apply our dressings. To accomplish this, it may, indeed, in inveterate and *bad* frushes, become necessary to cut away the major part of the frog, or indeed the whole of it, supposing it to be under-run, which is sometimes the case. Notwithstanding this, however, it is often in our power, in case of emergency or compulsion, to send such horses to work by bolstering their diseased frogs up with pledgets of tow, and defending them from wet and dirt by leathern or gutta percha soles. In such a case, however, the same *sharp* dressing is hardly applicable which we would, perhaps, prefer applying to the frush of a horse in a similar state whom we had an opportunity of confining within doors. I should then, unscrupulously, apply a sharp dressing, such as the compound solution of sulphate of copper*, or the chloride of antimony, or even undiluted nitric acid, according to the exigencies of the case. I know there is a feeling in the minds of grooms and farriers, and in those of some veterinarians too, against such "sharp" treatment; and I am not ashamed to confess I have felt, and perhaps do still feel, at times, some hesitation at so acting. I have, somehow or other, imbibed this vulgar notion, or, as I believe it to be, "popular delusion," and cannot altogether disencumber my mind of it; notwithstanding, I can with great force and truth say, that I never saw "inflamed eyes"—for they are said to be the seat of the apprehended metastasis—arise out of the arrest of the discharges from frushes; though I have many times witnessed, and indeed expect, in certain cases, inflammation of the foot and lameness from it after the first application of such acrid and caustic dressings: and therefore do I invariably take care to prepare the way by low diet and physic; and also, wherever such lameness does ensue, take pains to mitigate it all in my power by warm baths and poultices, and abstinence for some time to come from any repetition of such dressings, should they even be found needed.

Were I to set about to offer any list of the various medicaments, either in the shape of simples or compounds, which have at one time or another, and by one person and another, recommended and extolled for "the cure of frush," I might, I verily believe, enumerate all the articles of the veterinary pharma-

* According to Mr. Morton's formula:—see his "Veterinary Pharmacy."

copeia, and the medical almost as well. Alum, nitre, calomel, chloride of lime, the oxydes and sulphates of zinc, iron, copper, verdigris, sulphuric and nitric acids, hydrochloride of antimony, the spirituous tinctures, tar, &c., have all been called into requisition. Not that above one-tenth of them are really required; though frushes in general, like troublesome old ulcers, often do best under change and variety of dressing. A very old unguent, and I think—and I believe I shall be supported in my opinion—a very useful and efficacious dressing for frushes, and one of general application, is the following:—

Take of Verdigris .....℥iss
Alum .....℥ss
Vinegar .....℥ss
Treacle .....℥iv

The first two ingredients being separately powdered and subsequently mixed together, the vinegar is to be poured upon them, and afterwards the treacle, and the whole well stirred and incorporated. The mixture is then to be simmered over a dull fire or in a water-bath, and kept constantly stirred the while it is simmering.

For ordinary frush, some simple dressing, or this ointment—which is emphatically called *frush ointment*—will suffice. The latter is likewise an excellent resource after we have done the required execution with the escharotic applications. The grand considerations in the treatment of frush, after all, however, are, as I stated before, to look to the restoration of the functions of the frog, and to take special care to guard it from wet and dirt; since there are no greater enemies than these to the healing and well-doing of all diseases of the secretory tissues of the foot. And these precautions are not only necessary during treatment, but become requisite to be continued for some time after cure, in order to ward off relapse: for relapse, in the case of long-standing and habitual frush, is but too likely to happen. Nor does any measure we can put in practice more completely and wholesomely effect the principal of these objects, viz. the return of healthy action to the frog, any thing like to the same degree as the shoeing with tips. It is really quite surprising what a salutary metamorphosis the contracted and frushed foot, or the foot that has been frushed, in a few months undergoes under the operation of tips. It no longer remains like the same foot; neither does it any longer possess the same liability to become disordered*.

* It may be useful here to remark, that the preferable mode of applying gutta percha as a substitute for leathern sole, is, by way of preparative, to warm the hoof first in hot water, and then to stick the softened gutta percha to the sole and frog by means of the "solution of gutta percha." The surfaces intended to adhere must previously be wiped quite dry.

RUPTURED STOMACH.

By John Younghusband, V.S., Greystoke.

"The struggle after knowledge is full of delight: it renews and invigorates the faculties of the mind."

In one of my wandering explorations through the volumes of The Veterinarian, looking over the opinions and experience of those men from whose genius and science I have received much and valuable information, my attention was arrested by an account headed, "Pleuro-pneumonia and Ruptured Stomach," by that indefatigable veterinarian, Mr. Cartwright, in which he has given the opinions of some talented veterinarians as to the occasional occurrence of vomition in this disease of the stomach. Myself having had only a slight opportunity of viewing this occurrence, I do not think myself justified in giving an opinion. Nevertheless, I will shortly relate two cases in which, after death, that viscus was found to be ruptured; in one of which cases the act of vomition was clearly shewn, though, in the other, the symptoms did not indicate the disease.

February 18, 1849, I was called to attend a black mare, of the strong cart breed, who, six months gone in foal, had been regularly fed and worked the day before;—had been done up in the evening the usual way;—had had no extraordinary feed given her;—and was left for the night. On visiting her again in the morning, she was found to be unwell. From the supposition that it was a case of "gripes," it was treated by the owner for that complaint. Relief not being obtained, I was called in. On arriving at the place, and approaching the mare for examination, I was surprised to find the rack, manger, and all other parts, nearly void of any thing in the shape of food. From this observation, I asked if they had removed all away. The reply was, that she had not only eaten her night's ration, but likewise all her litter. After this explanation, and from the appearance of the mare, I gave it as my opinion that it was a case of indigestion from an overloaded stomach. For this she had the usual treatment. She obtained no relief—grew rapidly worse. From a slight cringing, or perhaps a kind of kneeling down, of the fore parts, she reversed the symptoms, and began to sit upon her haunches, in which position she would remain a considerable length of time, shewing symptoms of the most acute pain. Again rising up, she would distinctly exhibit the act of vomition, and a painful act it was to appearance. At times she discharged from her nostrils a quantity of fluid of a dark

colour and of a sour smell. All the other symptoms were those of enteritis in a most violent form. In this state she continued for six or seven hours, when death put an end to her sufferings. Upon inspection, a large rupture was found to have taken place in the stomach, and part of its contents was found floating loosely in the abdomen.

The other case was that of a foal somewhere about six months old, which had only been from its mother a short time. When parted from its dam, it was placed in a pasture of strong aftermath, along with another young horse, and there left to provide for itself. In this situation it remained about a fortnight, when one day it was perceived to be unwell. It had been subject to a large scrotal hernia, but this had gradually subsided as the colt grew up. Being called in to attend, I soon made my appearance, and, from the knowledge I had of the animal, quite expected to find a case of strangulated hernia. Not so, however. The symptoms and appearance of the animal were of a quite different nature to those I expected to find, so that it was not without great hesitation that I could be prevailed upon to give an opinion.

The Symptoms.—The most prominent were :—He stood in an almost immoveable position, perspiring very much ; eye dull and languid; body rather swollen ; ears and legs cold, deathy cold; pulse much accelerated and weak ; increased respiration ; anxious look ; no evacuation *per anum.* Upon a careful examination, I could not detect any thing to convince me it was a case of strangulated hernia ; nor could I give a decided opinion upon the case. In short, to give the particulars of the case would be of no avail. I shall merely state that he was bled, and had febrifuge medicine given, under the faint idea that the lungs were implicated in the disease—but which did not in the least mitigate his sufferings—so that death speedily closed the scene. On making my post mortem examination shortly after death, the stomach was found to be largely ruptured in its lower half, and crammed full of hard, dry, and, I might say, almost indigestible, substances. Now, from the dissimilarity of the symptoms attending these two cases, by what signs are we to be guided, so that in giving an opinion it may stand the test of an examination ? I am aware there is one symptom in particular said to attend the rupture of that viscus, i. e , *the spasmodic action of the muscles of the tail.* For my own part, however, in the first case I could not detect it; and, in the second, my observations did not warrant me to look out for it.

TAXING HORSE AND DOG PATIENTS.

Kirkaldy, Jan. 9th, 1851.

Sir,—Will you have the kindness to spare me a space for the insertion of a few lines in your valuable columns, it being my intention to place before the veterinary profession that which I conceive to be both an oppression and an imposition?—since attempting to extort a tax from some of us veterinary practitioners in this district for keeping and treating animals in our own premises, amounts, I think, to nothing short of this. Having received my certificate from the Royal Veterinary College, I was made to believe that I had obtained freedom, without any restraint, not only to practise the veterinary art abroad, but also to keep and treat any domesticated animal at my own residence. But circumstances have occurred which render it necessary not only to call the attention, but also to submit to the discretion of those that have it in their power to lend an aid in assisting to adjust, and if possible to prohibit, such measures as are calculated to be injurious to practitioners, since evils are never so successfully opposed as when their extent and bearings become properly understood. Of late there have been several very severe complaints made by veterinary practitioners here. I may mention that I have kept both horses and dogs for months at a time under my treatment. One horse, the property of J. E. Wemyss, Esq., late M.P. for this county, was kept by me, in consequence of being a suspicious case of glanders, for a long while; he, however, eventually recovered, and was rode by me for months on trial before being returned home. I may also state, that I neither keep nor use any dog of my own; though I have a boxed stall where I occasionally keep diseased dogs as patients. One of these, the property of a gentleman at present residing in Manchester, was left with me several months ago, with a large speck on its left eye (for which I applied ung. sub. mur. hydr. ʒss, axunge ʒss, which has completely removed it): notwithstanding the proprietor has not as yet removed it, in consequence, the surveyor of taxes here has made it convenient to make an attempt to impose upon me a surcharge for keeping it, amounting to the sum of £1..10*s*..8*d*. He has, however, dealt rather lenient with me in this case, in giving me a chance of fortune through an appeal court to hold its session soon; and should he be successful in the present case, he will in all probability institute a similar charge on some of my colleagues here, with a view of making them, as well as myself, liable for horses also. Now, since we are at a con-

siderable distance from the theatre of knowledge on actions of this sort, how they may operate, or how we ought to treat them, it is with confidence that we apply for information and advice to persons whose opinions are likely to be just and impartial, in the hope that the counsel they may impart may prevent a succession of such disagreeable occurrences.

I remain, &c.

ROBERT DODD, M.R.C.V.S.

*** Surely neither right nor reason can justify the imposition of a tax upon a horse or a dog resident with a medical man as a patient, unless it could be proved that any sort of use were made of either; and then, according to "law," it might, we believe, be charged as *used* by the doctor; but, then, the *same* animal must not be assessed elsewhere.—ED. VET.

NAPHTHA AS AN ANÆSTHETIC.

By Mr. BARKER, Student, Edinburgh Veterinary College.

AMONGST the anæsthetics occasionally employed in veterinary practice is one which, I believe, is not sufficiently well known or appreciated; viz., naphtha, medicinal naphtha; or, as it is sometimes termed, "Tennant's anæsthetic fluid." This substance has, during the last two years, been frequently used at the Edinburgh Veterinary College, and in general with tolerable success. The following notes of a case in which I lately saw it successfully administered may, perhaps, interest some of your readers, and be of sufficient importance to merit a place in the next number of your valuable periodical:—

There was sent to the Edinburgh College, on 9th January, 1851, a bay horse, about fifteen hands three inches high, of a lightish make, and apparently half-bred. He was rendered useless from a severe fracture of the os coronæ, and had been sent in for dissection. The naphtha was administered without any of the complicated apparatus used and recommended by some practitioners. Some tow saturated with the fluid was placed in a small canvass bag, and this secured by one string passing over the ears, and another round the face. The quantity of naphtha used was half a pint: of this, a little more than half was poured upon the tow at first, the rest being poured on at intervals.

In about one minute after the bag was securely fixed, the saturated tow being inside, the pupil of the eye began to dilate. In six minutes it was very much dilated, the eye also rolled backwards and forwards, and an unusually large portion of the sclerotic coat was visible. There was also present shaking of

the body, and tremor, and occasional twitching of the muscles. In eight minutes the intensity of these symptoms was much increased; in eleven minutes the animal fell: in falling the bag was displaced, and he immediately rose again. A little more naphtha was poured upon the tow, the apparatus fresh adjusted, and in thirteen minutes he was down again. For two or three minutes after this there was constant tremor and contraction of the muscles, and repeated attempts to rise.

In sixteen minutes from the first inhalation the extremities were still, and the tremor of the muscles in a great measure ceased, although it afterwards recurred at intervals; the pulse was quicker than natural, sensation entirely gone, and several minor operations were performed without the animal evincing the slightest indication of pain. This state of complete coma continued during nearly twenty minutes.

In thirty-five minutes from the first administration of the naphtha the bag was removed from the nostrils, and in about ten minutes after symptoms of recovery were apparent. The pupil contracted to its natural state, the pulse fell to its normal standard, and in sixty minutes from the commencement of the experiment the animal got up without assistance; there remained, however, for some time, slight tremor of the muscles and some debility; but sponging the head with cold water, and a free supply of fresh air, quickly put these symptoms to flight, and the animal was soon perfectly recovered.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

Bulletin de la Societe Centrale de Médecine Vétérinaire, publié par les Soins de son Bureau, et rédigé, par M. H. Bouley, *Secretaire Annual. Anées* 1844-45-46: Tom. Premier, Paris, Labé, 1827. Bulletin of the Central Society of Veterinary Medicine, published under the Direction of its Committee, and the Editorship of M. H. Bouley, *the Annual Secretary*. For the Years 1844-5-6. Vol. I. Paris, Labé. 1847.

Notwithstanding the present "Bulletin"—comprising three volumes in one—has been for some months in our possession, our pages have not until now admitted of the introduction of any portion of its valuable contents. And although this

may be matter of regret to us and loss to our readers, we can console both them and ourselves by remarking, that the papers which we select from the volume before us, though, like good port wine, they may not improve by being kept on hand, yet are of that character which, within any reasonable period, will prove as acceptable as though they had actually appeared in print the day after their being read to the Central Society of Veterinary Medicine in Paris: in proof whereof we now submit *abrèges* from a "Memoir"

On Fitting Horseshoes HOT, *as compared with* COLD *Shoeing; including some Researches into the Nature of the Hoof.*

Before we commence our extracts, however, it will be necessary to prepare the mind of our reader by observing, that one part of the subject on which the paper treats has already had attention given to it in our pages, and that this, added to what we are now about to transcribe further, is really more than, to us, it is deserving of; since, although hot shoeing has had some enemies in our country, we know of but few advocates for the cold plan. M. Delafond, the author of the paper before us, concurs with the Committee in the rejection of the *podomètre* or foot-measurer, the invention of M. Riquet, and proceeds to inquire if there exist any serious or real objections to fitting shoes hot to the feet.

Fitting shoes hot—*hot shoeing*, as it may be called—is said to heat or burn the sole, to dry the hoof, to incline its fibres to separate, to incite inflammation in the internal tissues of the foot, and to produce organic alterations in them of a grave and hardly remediable character. It was not until the middle of the eighteenth century that hot shoeing came into practice, and the first author we find complaining about it is Lafosse, who, in his "Nouvelle Pratique de Ferrer les Chevaux," 3d edit., published in 1758, has spoken of such accidents under the names of heated and burnt hoofs. And his son (Lafosse, jun.) has well described them in his "Guide du Maréchal," and subsequent works.

If burning the hoof is an evil consequent on hot shoeing, is it a frequent occurrence? The Committee and M. Reynal have already come to the conclusion that it is not, and I am quite of their opinion. In order, however, to assure myself further than the mere *on dit* or practice of the forge on this point, I resolved

to institute a series of experiments on the conducting power of horn of caloric; and the results have proved as follow:—

1. That the conducting power of the crust is inferior to that of the sole; whence we derive the indication in practice, that it is absolutely essential that the heated shoe should not be allowed to come in contact with any substance but the crust.

2. That caloric is transmitted tardily either through crust or sole.

3. That it is not before the elapse of three, four, or five minutes after combustion that the thermometer indicates the highest degree of heat in the hoof.

4. That the thinner the horn of the crust is, the more heat becomes transmitted through it to the parts it envelopes.

Having thus assured myself of the conducting power of heat of the hoof, I now sought to ascertain the *amount* of heat it was capable of transmitting to the living tissues enclosed by it, as well as the degree of heat required to produce *burning*.

Before, however, I proceed to give an account of these experiments, I wish to shew the anatomical structure of the parts situated underneath the sole and the crust, and particularly of those subjacent to the points of junction between these two parts of the hoof.

When, through maceration, the horny sole has become detached from the parts beneath it, we come upon the sub-ungular tissue which Lafosse and Bourgelat have named the *fleshy sole;* and which our honourable president, M. Girard, has designated, after Malpighi, *reticular tissue*, upon whose surface we observe numerous slender prolongations, filiform, which have gone under the names of *fibres*, *filaments*, *villosities*, and in later times *papillæ*. Now, these villosities or papillæ, which, on account of their vasculo-nervous organization, I shall denominate *villo-papillæ*, are extremely numerous over the entire surface of the reticular tissue, and particularly around the circumferent border of the coffin bone, where they come opposite the parts burnt by the hot shoe. These villo-papillæ, extremely important to be known, and which even up to the present hour authors have not described with sufficient minuteness, vary from $\frac{4}{25}$ths to $\frac{6}{26}$ths of an inch in length throughout the entire circumference of the fleshy sole.

Another very remarkable disposition, as it regards hot shoeing, and one which has not, that I know of, been pointed out, is that every plait of the laminated tissue, before it terminates in the circumferent border where it unites with the velvety tissue of the sole, sends off numerous papillæ in digits or teats, of no more than from $\frac{4}{25}$ths to $\frac{6}{25}$ths of an inch in length.

Examined through a microscope magnifying 250 times, on

a very clear day, these villo-papillæ appeared of a conoid form, having their broad parts or bases attached to the reticular tissue, while their middles became contracted, and grew pointed, the extreme points shewing, in many instances, sorts of olive-shaped buttons, altogether resembling so many little drum-sticks.

Around the villo-papillæ is observed a delicate membrane, of a greyish white colour, sometimes exhibiting black patches, continuous with the superficial layer of reticular tissue. This membrane, which envelopes the vascular nervous villo-papillary tissue underneath it, constitutes what I call the *keratogene* or *blenogene* of the villo-papillæ, because it secretes the *epitheliums* constituting the horny tissue.

The tissue contained within this membrane is formed essentially of vessels and nerves. The arteries, two in number, rarely three, are prolonged to the bottom of the sheaths in order to meet the veins, and thus form one or two remarkable arches. The veins, much larger and more numerous than the arteries, anastomose very freely with one another, forming inflexions and arcs before uniting into two or three single trunks which run to empty themselves into the larger veins, at the base of the villo-papillæ, and afterwards join those, more numerous, of the reticular tissue. The vascular apparatus first described is not visible but through the microscope, magnifying from 150 to 250 times, and altogether amount to no more than a capillary network.

I have been able to descry some fine nervous threads upon the base of the keratogene organs, but I have never been able to trace them any farther. Nevertheless, I hope to trace them even to the very extremities of the sheaths, since they must, of necessity, exist there.

Such is the organization of the villo-papillæ of the sole of the foot, and of the inferior border of the laminated tissue, parts which, we have seen, are most delicately constructed. Lastly, I may remark, that it is these villo-papillæ which are concerned in the secretion of the horn.

If, after long maceration, the hoof is detached from the subjacent tissues, and a transverse section is made of it between the crust and the sole, about from $2\frac{1}{2}$ to 4 inches from their reunion, there come very visibly into view upon the inside of the hoof, as well as the bottom of the laminæ, and upon the entire surface of the sole, multitudes of small holes, perfectly isolated one from another, placed at nearly equal distances, very like, altogether, the perforations of a fine sieve. These little holes, which are named the *pores* or porosities of the hoof, are the superior receptacles of so much of the canals or tubes of the

villo-papillary apparatus just described as project into them. I have described these last organs as being from $\frac{4}{25}$ths to $\frac{6}{25}$ths of an inch in length. Now, the canals just mentioned hold the same length (which consequently becomes buried up to their point of junction in the substance of the sole and crust) of living parts, of a most delicate organization, destined to secrete, to produce, to nourish, and to regenerate the hoof. It is these villo-papillary prolongations which on occasions are heated, altered and burnt within the horny substance in the course of the process of hot-shoeing, as I shall point out further on.

I will now, still keeping the object of inquiry in view, say a few words on the structure of those portions of the crust and sole which are heated by the shoe.

Up to this day it has been believed that the horn of the crust was composed of fibres agglutinated together by horny matter; and that the substance of the sole was constituted of superimposed layers of horn, exfoliating by degrees in scales. This is true. But if we would prosecute the inquiry further than with our eyes—if, for example, we dissect the horn after having caused it to undergo certain preparation, and we examine it through lenses of different powers, we distinctly perceive that the horn of the crust, the sole, and, I may add, the frog and periople, is veritably composed of filaments in fibres represented by the agglutinated hairs; but that these fibres are hollow, constituting so many tubes in distinct canals, into every one of which dips one of the villo-papillæ we have been speaking of; and these are the canals which, cut across when the sole is being pared out and the crust cut down, constitute the pores or porosities of the hoof.

These canals, which contain neither greasy matter similar to what enters into the hair, nor marrow analogous to what is found in birds' feathers, though still an organic substance, are not of the same diameter throughout their extent; their caliber being much more considerable, and their transverse section exhibiting porosities so much larger, in proportion as the division is made nearer to the parts containing the villo-papillæ ensheathed within them.

Lastly, these canals, as I have fully assured myself, are themselves constituted of delicate epithelial layers, elongate or oval, bearing a bulb more or less distinct, whose *keratine* or horny matter constitutes its primordial element. These epitheliums are attached to prolongations of organic substance, lining the canals, and serving as supports to them.

The lamellæ of the canals of the crust are placed longitudinally one upon the other, like the tiles upon a roof, while in the sole they are placed horizontally, and lie flatwise upon one

another; a disposition which explains, we may remark *en passant*, why the crust grows lengthwise, and by wear unravels itself into fibres resembling hairs, and why the sole grows in thickness, and shells off in flakes.

Having submitted this short account of the structure of certain parts of the foot, I now return to my experiments on the propagation of caloric through the horny tissue, affecting the delicately organized living parts which this tissue, as we have now discovered, incloses.

From twelve experiments made on dead feet with the view of throwing light on this part of our subject, the conclusions we have come to are—

1. That an ordinary shoe, heated to cherry redness and applied to a horny sole of an inch in thickness, and kept burning for one minute, the carbonised portion not being obliterated in paring out the foot, has transmitted from three to four degrees of caloric to the villo-papillary and reticular tissue, which however remained in their normal state.

2. That the greatest amount of caloric transmitted in these experiments was felt, according to the thermometer, between the fourth and sixth minute from the application of the heated shoe.

3. That the sole pared to the thickness of one-third of an inch, giving under the pressure of the thumb, and the iron kept burning upon it for half-a-minute, exhibited its villo-papillæ destroyed by the caloric

4. That when it had but one-eighth of an inch in thickness, and readily bent under the thumb, when the heated shoe was held upon it burning for half-a-minute, both its villo-papillæ and the surface of its reticular tissue were destroyed by the caloric.

The conclusions arising from twelve experiments performed with the shoe heated to *black redness*, are—

1. That, applied to the sole upon which the burnt mark still remained, it was found to transmit in the same time more caloric to the living tissues than the iron at a *cherry red heat*.

2. That the dull heated iron, the thickness of the sole being the same, caused a more lively and deeper burn than the bright heated one.

3. That these experiments confirm what was said by the elder Lafosse in 1758, viz. that it was not the bright heated iron which oftenest occasioned the burning of the fleshy sole, but rather the iron brought to a dull or obscure heat.

A notion has passed current among veterinarians and smiths, that, if the burnt part of the sole be pared away with the drawing knife immediately after the application of the hot shoe, the

burn is abstracted, and all effects of it at the same time. I found this, however, by placing my hand upon the spot where it had been, and by testing it with a thermometer, not to be correct; and I further demonstrated its fallacy by direct experiment.

I feel convinced that hot shoeing, practised even in the most rational manner, dries up the inferior border of the hoof, and occasions separation between the wall and the crust. This is an opinion founded upon anatomico-physiological reasoning and practical observations, which I might make known in justification of it. The crust and sole have been said to be simply joined together, and in a manner soldered by horny matter. I do not quite coincide with this opinion. Observation has shewn me that these two parts made but one continuous whole, and were not contiguous, and that this entirety was affected through a particular cogging or dove-tailing of the horny canals of the sole, and of the extremities of the podophillous with the keraphillous laminæ, an arrangement which gives at once both solidity and elasticity to the entire circumference of the hoof.

Now, it is my belief that, independently of too narrow or too heavy shoes, with the insertion of large nails, having a tendency to provoke separation between crust and sole, hot shoeing contributes to produce the same effect; seeing that the caloric introduced at each shoeing into the horny canals, at the place of reunion of the sole and crust, little by little alters the keratogeneous organs inclosed within these canals, diminishing their secretion and drying up the horn, and thus bringing about, by degrees, the separation in question.

I likewise believe that the frequent additions which take place, on the one part, between the villo-papillary tissue and the sole, and, on the other part, between the podophillous and keraphillous tissue around the inferior border of the coffin bone, and particularly at the toe, are caused, in numerous cases, by the repeated slight cauterizations which the keratogeneous organs receive either from the shoe or from the hot pincers.

I am also of opinion that the dryness of the inferior border of the crust is connected, among other causes, with hot shoeing.

Such are M. Delafond's opinions of fitting shoes hot—or *hot shoeing*, as we have laconically denominated it, as contradistinguished from fitting shoes cold or *cold shoeing*—elucidated, as these opinions have been, by careful microscopic researches into

the structure and texture of the hoof. The subject is one of much import to us, since in our country no other mode save *hot* shoeing, in any part of it that we know of, prevails. Nor do we believe that any evil or injurious consequences are supposed to result therefrom. One striking ill effect, however, M. Delafond seems to have demonstrated, and that is *seedy toe.* We have ever had doubts in our own mind, that the common notion that seedy toe proceeded from nailing, though seemingly plausible at first view, was erroneous; and was shewn to be, by the fact of seedy toe first beginning at a part wherein, ordinarily, no nails are inserted. Shutting out this cause, however, we must confess we were at a loss, and have been so until now, where to look for another. If M. Delafond be right in his view of the matter, one cause at least—and one he himself did not suspect before—is brought to light. And this, so regarded, constitutes one objection, and a serious one it appears, to hot shoeing. And with it, we must not forget, is connected the curious fact of the dull red-heated shoe doing more injury than the one at a bright-red heat. This is too important a subject to be dropped. We hope we may hear from some of our practical men further about it.

VETERINARY JURISPRUDENCE.

WINDSOR COUNTY COURT.

[Before J. B. Parry, Esq., Q.C.]

VALLANCE *v.* BROOKS.

In this case a jury of five was empannelled, with Mr. Harris, of Slough, as foreman. Mr. Williams (instructed by Mr. Bisgood, of London) appeared for the plaintiff; Mr. Skinner (instructed by Messrs. Voules and Last) for the defendant.

Mr. Williams said, in this case Mr. Henry Vallance was the plaintiff, and Major-General Brooks the defendant. He had the honour to appear for Mr. Vallance, who was well known as

a legal practitioner in Essex-street, London, and whose office was equally distinguished by the largeness of its business and the correctness of its proceedings. Without imputing any thing to anybody, they said that General Brooks had sold them a horse under circumstances which led them to believe that the animal was sound. The horse proved to be any thing but sound, and, the defendant refusing to take it back again, the horse was sold by auction for £13..8*s*..6*d*., and the present action was brought to recover the balance. Other expenses, beyond the difference in price at which the horse had been purchased and the price for which it was sold, had been incurred: these consisted of £2..5*s*..6*d*. for keep, and £1..1*s*. fees to veterinary surgeon. The price given for the horse was £52..10*s*., and, if he proved what he fully expected to prove, he should be entitled to a verdict for £44..1*s*. as the balance.

The solicitors employed on both sides appeared to have gone through the case very properly, and the material facts were all admitted. It was admitted that the purchase took place on the 23d of May, in the past year, that the price was £52..10*s*., and that the horse was a chestnut gelding. Several letters had passed between the parties, some of which it would be necessary for him to produce, but he should not be put to the trouble of proving them, inasmuch as they were all admitted. Mr. Vallance would probably be known to some of the jurymen as a gentleman who occasionally brought his family down into this neighbourhood, and took a house in Upton Park. In May last, Mr. Vallance was residing at Upton, and, being in want of a horse, he heard that Major-General Brooks, of Clewer-green, had one to sell. On the 10th of May, Mr. Vallance sent a friend, Mr. Blundell, to look at the horse; and the question for the jury would be whether General Brooks did not, on that occasion, say that which was tantamount to a warranty. On the 23d of May, Mr. Blundell, accompanied by Mr. Vallance, went again to Clewer-green, and had an interview with General Brooks. The horse was brought out; and, on the General saying the horse had been twice to Windsor that day, no extended trial was made as to the paces of the animal. The horse was driven about 100 yards one way, and the same distance another way. The General repeated the terms of warranty: a little haggling as to price took place; but Mr. Vallance being satisfied with the action of the horse, and being satisfied also with the representations of General Brooks, the horse was purchased and paid for. The horse was sent to Slough by the defendant, and afterwards ridden to London by Mr. Blundell. That was on the Thursday. On the Sunday following, Mr. Vallance's

servant discovered that the horse was a most outrageous roarer. The horse was then examined by a gentleman more celebrated than any other person in that line in England or in Europe—Mr. Field, of Oxford-street—who declared the horse to be a roarer, and that the roaring was a disease of long standing. An application was made to General Brooks to take the horse back, but the General refused to do so. Mr. Vallance then sent the horse to a livery-stable, and from thence to Aldridge's Repository, where it was sold for £13..8*s*..6*d*, *plus* the commission. It was somewhat singular that General Brooks should declare the horse sound, when Mr. Field pronounced the roaring to be a disease of some standing. He should shew that General Brooks had had the horse for twelve months, and must have heard it roar. The great battle, the jury would perceive, was one of character. When Mr. Blundell saw the General, the latter said he believed the horse to be sound and quiet; he had been warranted sound to him, and nothing whatever had been the matter with the horse since he had had him. It would be for the jury to say whether General Brooks did or did not then know that the horse was unsound. There was no specific warranty given; but the whole of the reported cases on what the law termed qualified warranty went to shew, that, when a man said he believed a horse to be sound, but would not warrant him, he was still answerable on the qualified warranty. [The learned gentleman here cited several cases.] The General stated that he was not in the habit of warranting horses, but he believed the horse in question to be sound; and he (Mr. Williams) would apply the cases in that way. General Brooks declined to warrant the horse, but he said the horse was warranted to him twelve months previously, and nothing had happened since. If he could shew that the General was in the constant habit of driving the horse or riding behind him, and that the horse was a confirmed roarer, the inference would be that the General knew the horse was unsound at the time he sold him, and that Mr. Vallance was induced to purchase the animal on the erroneous representations of the defendant. He should call a servant—or, rather, one who had been a servant—to the defendant; and that witness would state, that not only did his master know the horse to be a roarer, but had pointed out the circumstance to the witness. The defendant gave the horse some physic, observing that the horse was young, and would probably get over it. The witness doubted whether there was any cure, and advised the General to get rid of him. He called this witness at some risk, as he came from the enemy's camp. The General refused to take back the horse, but wrote the following letter:—

"Clewer Green, May 28th.

"Sir,—I was much surprised at the receipt of your letter this morning, and it gave me great concern that the horse had not answered your expectation. I believed him to be sound, as I told you; and unless Mr. Blundell has injured him by riding the poor animal to London (which, considering his heavy weight and the horse being unused to the saddle, is not improbable), I should say he is so still. I beg to remind you that, in the first instance, you sent Mr. Blundell to examine him, he drove him in my heavy carriage, and was allowed every trial he asked for. Some days after, you came down accompanied by the same person, when he again drove him, and you were both allowed whatever trial you wished. You asked if I would warrant him, and two of my men can testify that I declined. I told you he was warranted to me, and I considered him a much better horse now than when I bought him, but I never would warrant a horse. At the same time I said I wished you and your friend to examine him thoroughly, which you both did. After consulting with your friend some time you left, saying you would write to me in the evening, and the next morning I received your letter offering £45, which I rejected. Six days afterwards Mr. Blundell again appeared, with your letter offering £50. This was also refused. Mr. Blundell then said, if I would give him a sovereign for his trouble he would pay me £51 10s. I replied, the price was fifty guineas, and I would not take a fraction less: a tolerable proof that I considered the horse sound. Under these circumstances you must excuse me for declining to take the animal back.

"I am, Sir, very obediently your's,

"G. B. Brooks."

"H. Vallance, Esq."

The letter said the General never warranted the horse; but the question for the jury would be, whether the General really believed the horse to be a better horse than when he bought him. To that letter Mr. Vallance replied as follows:—

"Sir,—I was absent from town yesterday, or I should have replied to your note received yesterday morning. I am much surprised at the contents. The question, however, between you and I is a very simple one. You sold me your horse, telling me the horse was sound. I bought him on the assumption he was sound—you led me to suppose he was so. It is, you will observe, quite immaterial to me whether you knew he was unsound or not. I paid a sound price for him; you said he was warranted sound to you, adding, that nothing had been the matter with him since you had had him. Now, this unsoundness must have existed a long time. I only saw him to judge of his shape and action. As to his soundness, I could not try him or have him examined. I relied on your assurance as an officer and a gentleman, and upon this I will rely; for I feel assured you will not allow me to assume any other tone than to ask you now to take back the horse. I have no hesitation in adding, you are legally and morally bound to do so, and, waiting your reply,

"I am, Sir, very obediently your's

"H. Vallance,

"50, Porchester Terrace,

"30th May, 1850."

"Major-General Brooks."

Had such a letter been sent to him, he (Mr. Williams) certainly thought he should have answered it. General Brooks, however,

did not answer it; Messrs. Voules and Last wrote the reply, and in it they had made a rather unfortunate admission. The letter was as follows :—

"Windsor, 1st June, 1850.

"Dear Sir,—General Brooks has handed us your letters to him with reference to the horse you purchased. He denies the correctness of the statement made in your letter of the 30th May, and regrets you should so write to him, after the manner in which he treated you and your friend. You must be aware that the horse was never warranted, and that a long conversation took place on the subject, throughout which the General, more than once, declined giving any warranty, and he now objects to take the horse back, having purchased another, and he requests that any further communication on this matter may be addressed to,

"Dear Sir, your's faithfully,

"Voules & Last."

"H. Vallance, Esq."

Having got rid of the roarer, and with the price bought a good one, General Brooks thought he would keep the good one, and cut the roarer. Mr. Vallance reminded the General that he told him the horse had been warranted only twelve months before, and that he had sustained no injury since; but Messrs. Voules and Last did not even allude to that circumstance. The lawyers stuck to the text, and advised the defence of the action, because the word warranty had not been used at the time of the bargain. He should now proceed to call his witnesses.

The Judge.—Then the point at issue is on the question of warranty, and also on the question of unsoundness.

Mr. Skinner.—Yes, your Honour.

Mr. Field, veterinary surgeon, of Oxford-street, deposed, that on the 27th of May last, he examined a chestnut gelding for Mr. Vallance. The horse was a roarer, and unsound—diseased in the wind. [Witness here described the symptoms and effects of the disease.] The disease must have been of some standing—two months or more. The following was a copy of the certificate given by him at the time :—

224, Oxford-street, May 27th, 1850.

"This is to certify, that I have this day examined a chestnut gelding, sent here by Mr. Henry Vallance, and am of opinion that the said gelding has disease in his wind, a bad roarer, and which has existed a long time and renders him unsound.

"William Field, Veterinary Surgeon."

(Received 10*s*..6*d*. as his fee.)

In answer to a question from Mr. Harris, witness said, that it would be possible for General Brooks to have driven the horse twelve months, and not discovered he was a roarer. The disease would not shew itself unless he were driven fast.

In answer to the Judge, Mr. Field said, he considered the horse a bad roarer, because he roared when put into a gallop, almost before he got into his pace. Six miles an hour up a hill—coming into Windsor—would make a roarer shew the disease.

After some length of evidence of a dubious and contradictory character—

Mr. SKINNER argued for the defence.—But if the jury, by their verdict, should say that General Brooks had wilfully deceived Mr. Vallance, then would the General forfeit that high character, without which, in a service so vigilantly watched as the British army, he would never have attained the rank of Major-General. General Brooks might be said to be placed on his trial before them. The General asked not a verdict to escape the payment of a miserable sum of money—for that was a matter of indifference to either the plaintiff or the defendant—but as a proof that he had not descended to falsehood in the description of the horse. Would any man with a horse intrinsically worth no more than £14 refuse an offer of £45, had he known of the animal's unsoundness? Would he, when the offer was increased to £50, and £51..10*s.*, insist upon his original price of 50 guineas? As to Mr. Vallance's letter, the jury might take it for granted, that when a lawyer wrote to a man to say that £45 was legally and morally due to him, an action at law was at hand. As sure as effect followed cause, so sure was the man to have a writ (*laughter*). General Brooks had been served, and would be served out, unless the jury stood between him and Mr. Vallance's long range. If the warranty was good, it stood upon the General's knowledge of the existence of the disease, and upon his declarations to the contrary continued throughout the whole of the negociation. But had it been proved that the General had said any thing about the soundness of the horse at the third meeting, when the bargain was concluded? He believed there was no case against the defendant, and he might have asked his Honour to direct a nonsuit, but he was instructed to take a verdict on the merits; and, on General Brooks' part, emphatically to deny the imputation insidiously made upon his character.

The *Judge* then summed up. The case, he said, notwithstanding the time it had been before the Court, lay in a nutshell. The law was perfectly plain, and the only question for the jury was, whether at the time the horse was sold, General Brooks knew that the animal was a roarer, and so, unsound. The only difference between an absolute and a qualified warranty was that, in the former case, the party had to shew the written undertaking; in the latter he must shew that deceit had been

practised on the part of the vendor at the time of the sale. If the jury were satisfied that deceit had been practised in the present instance, then the plaintiff was entitled to recover, the same in all respects as if this had been a breach of absolute warranty. Deceit, if proved, vitiated the bargain. That the horse was unsound immediately after it came into the possession of the plaintiff, had been proved beyond all doubt on the evidence of Mr. Field, and that unsoundness could not have been caused by riding the horse up to London. One of the jury had certainly formed an erroneous opinion :—roaring was an unsoundness in law. The issue was reduced to the question, whether the General knew the horse was a roarer at the time it was sold.

Mr. Skinner would ask his Honour whether he connected the last conversation with the first—the conversation of the 13th with the conversation of the 23d of May ?

His *Honour* replied in the affirmative. The horse was bought on the 23d on the faith of the observations previously made by the defendant.

The jury consulted for a short time, and then returned a verdict for the defendant, adding,—" We believe that General Brooks was not at all aware of the unsoundness, although the horse might not at the time have been sound."

Mr. Skinner said, the General would feel deeply indebted to the jury for the rider they had added to their verdict.

Windsor and Eton Express, 21*st December*, 1850.

Home Extracts.

INFALLIBILITY OF PHILOSOPHICAL THERAPEUTICS.

By S. Thomas D'Allex, M.D., &c.

We must carefully abstain from hypotheses in searching for truths of vital influence over the welfare of mankind. For, in experimental philosophy, whatever cannot be deduced from constant or frequently recurring phenomena is hypothetic, and ought to be shunned as a source of danger, likely to mislead into the paths of error, whence it is so difficult to withdraw.

Moreover, since nothing is more simple, more true, and consequently more beautiful, than the system which Nature

delights in incessantly developing perfect in all parts, and interesting to a degree, whence arise those erroneous systems whose baseless fabric invariably crumbles under the march of time, the sure destroyer of all that is not based upon and upheld by truth? Let the question be asked of error and vanity, for from them only can we receive a reply.

The natural taste for novelty contributes, also, in no small degree to bring forth the errors of particular systems, and wonderfully increases their transient triumphs; whilst imagination, uncontrolled by sound judgment, seeks the most extraordinary changes. How contrary to the uniformity and simplicity of nature! Thence, doubtless, the causes to which we must attribute all past and future heresies—the doctrine of Hahnemann and his shallow disciples, who, failing to comprehend the immutable truths of our great ancestors,—truths consecrated by time and experience,—have adopted, with the earnestness due only to truth, the dreams of their notorious leader, whose knowledge of human weakness taught him to infuse that much of truth in his counsels which gives error such vitality and progress.

And here I must point out the extraordinary modesty of those infinitesimal gentlemen, who, by virtue of their own and their master's authority, put to naught the time-tried wisdom of Hippocrates and his worthy imitators, and stifle the experience of a thousand years, making it almost appear, that at length, after six thousand years, they alone have discovered the truth, and, of course, are justly entitled to bear the noble task of rebuilding on a new basis the Temple of Medicine!

But fortunately this heresy, though one of the most presumptuous, is at the same time one of the most insignificant and least dangerous which has ever existed. Its active powers are as feeble for mischief as for benefit, the weapon of the sincere disciple being absolutely *nothing;* and bad indeed is the fortune of those patients who, deserted by Nature, have only the *infinitesimal* powers to rely upon. Justice would demand that the fees of these learned gentry should bear some proportion to the professional guinea that their remedies do to the active and invaluable remedies they dare to reject. But this subject is too serious in the eyes of just and feeling men to bear jesting upon; and the ideological nullity which does not prevent death whilst promising a cure can never be defended, nor could, indeed, ever hold its ground, were not men so strangely misled by the passion for strange things and the power of mysterious art. But, in truth, if we look at the history of all nations, we shall see novelty in every page, folly, fashion, or opinion, procuring the triumph of the most absurd ideas, the learned or unlearned alike swelling the general praise. It is, doubtless,

much to be regretted that so many clever and intelligent men should be misled, equally with the ignorant and uninformed, in judging medical evidence. But such has been, and always will be, the case, so long as the morbid taste for novelty endures; and educated and clever men in other subjects will not remember what, it will be thought, the simplest reflection ought to shew, namely, that we can only know what we are taught by the invaluable lessons of our excelling masters, or by that wisdom and that experience which are the admirable offspring of all time and of all nations.

Nor can any of us hope to discharge the part of faithful shepherds to the immense flock committed to our charge, unless we carefully fit ourselves for the assigned task, or, in other words, "Acertis potiùs et exploratis petendum esse, id est, iis, quæ experientia in ipsis curationibus docuerit, sicut in cæteris omnibus artibus." In every case the proper remedy for the mischief of heretical error is to endeavour to prove, even to the most incredulous, that the great facts to which the world have done homage by their very simplicity and endurance shew the truth, and are incomparably superior to the specious subtleties of the most plausible heresy.

And to prove ourselves worthy of our noble mission, to do that homage to truth, the neglect of which would be a sin, we must labour incessantly, day after day, to clear from her august face the clouds and mists with which error dares to veil it, and insist upon the recognition of the incontrovertible, daily-recurring fact, that, with a treatment founded on philosophical therapeutics, on a natural system, inveterate disorders may be successfully checked and often cured in a few hours or days; whilst the fanatical homœopaths, armed with their wonderful globules, their *terrible nothings*, their infinitesimal inanities, would combat vainly during months or years. Verily, I can say (for the close observation of four months gave me unusual opportunity) the *mania Hahnemannia* is the most profound folly ever developed by mystery-loving Germans or any others; and, if a system were dangerous only in proportion to its power, that of homœopathy might be considered almost innocent from its inanity and insignificance; nor need we to elevate it even to the importance of requiring a single critical remark, were it not, unfortunately, impossible to remain indifferent to any error so indirectly mischievous, by the deception it imposes on the patient, and the loss it occasions of precious time (*occasio præceps*), too frequently irreparable.

I hasten, however, to the Hippocratic or natural facts the more eagerly, because, the more frequently we can draw comparisons between them and the inferences of erroneous systems,

the more shall we render it certain they form a natural or complete system, the best adapted for the relief of suffering humanity, when guided and enforced by the genius of enlightened medical men; and, to prove this, I will refer to some remarkable cases I shall hereafter report, and to the principal points of my memoirs.

I also propose to point out the absolute necessity, not only of giving tangible doses of medicines, and varrying them according to the intensity or chronicity of the case, but also many other points more closely connected with the system of natural therapeutics, which I have inferred from the labours of my excellent instructors, and the observations of my own practice,—assuredly a very large and successful one.

But, before entering into the parallel between the facts collected by the incomplete allopaths, as well as by the infinitesimal practitioners, and between the facts produced by the complete or philosophic therapeutics, may I be allowed to offer a friendly advice to the medical youth, the rising generation, upon whom all must look with so much interest, wishing it may be received with the same goodwill and sympathy with which it is given.

The young practitioners of the present day begin with much eagerness to labour in the immense quarry of practical science, ardent for praise, and thirsting for fame; hardly have they passed their examinations, or published a few observations in the medical reviews, than they believe themselves to have reached the summit of their own wishes, and are astonished that their reputation does not answer to their merits, which are very often great. Sometimes they complain of the blindness of the world, sometimes of the injustice, not perceiving that opportunity is, perhaps, wanting, so that public opinion, so occupied in a thousand ways, cannot declare itself but in the lapse of time. They ought also to understand, that it is not sufficient for the wine-grower to have made good wine, but that it is quite indispensable to let it so perfect itself by degrees, until, having matured a proper length of time and become as palatable and as restorative as possible, it will undoubtedly be sought for, and very liberally valued by the best connoisseurs among the public.

Let, then, our young fellow-labourers wait with patience, nor weary in expecting the harvest which they will undoubtedly gather in continuing their labours, and especially their studies, in the inexhaustible book of nature; for at a time and upon a stage like the present, it is not enough to act properly, but we must endeavour to do still better, progressively. It is but by renewed efforts and repeated successes, that any can raise him-

self above the crowd : medical reputation cannot be acquired in any other way, and it is quite impossible for a man to be happy if he forget that the law of labour is the holy law of humanity, and that this law, like all those established by our Divine Creator, is best adapted for insuring his health, his greatest satisfaction, or the prosperity of his own family, which is inseparable from his own happiness.

Also, let my young friends beware, and take the greatest care not to adopt too easily doctrines or systems not derived from, or not founded on Nature, which will be found too frequently rejected both by Nature and experience. Nothing is easier, when endowed with any degree of imagination, than to lose oneself in monstrous dreams, to strain facts, to exaggerate every thing. And now-a-days there are so many and such active imaginations incessantly at work, it is, I think, no small distinction and advantage when one is found faithful to the Hippocratic traditions; or, in other words, to the first, truthful, simple lessons of Nature delivered to men of genius; following them, however, not with servility and bigotry, but as a sure beacon and safeguard to modern explorers in the paths of science. I do not fear being taxed wrth prolixity for these exhortations. Never were they so much needed as now; never were nature and truth so outraged as they are by the systematisers of the present day. O Hippocrates, and ye, his worthy disciples, from whose rich stores I have drawn in such abundance the manna of sound doctrine, accept here the humble but most earnest tribute of gratitude and respect of an ardent and admiring follower, whose chief wish and aim in life is to do homage to your genius, and rejoice your noble souls, by labouring unceasingly to compel a universal acknowledgment of those divine therapeutic truths which you discovered and taught.

Med. Times, 11*th January*, 1851.

HOMŒOPATHY.

" Diseases are sometimes cured by remedies capable of producing an analogous affection." HIPPOCRATES.

" Take thou some new infection to the eye,
And the rank poison of the old will die." SHAKESPEARE.

" Similia similibus curantur." HAHNEMANN.

THERE is but a step between the sublime and the ridiculous. The philosopher and the quack alike profess to elucidate truth; but there is this distinction between their methods of proceed-

ing: the philosopher deduces his theories from established facts, the quack builds up his "facts" on a theoretical foundation.

The above aphorism of Hippocrates and the analogous observation of Shakespeare afford evidence of acute and philosophical observation; but the same sentiment, distorted by Hahnemann into a supposed universal law of nature, involves an absurdity which is perfectly ridiculous.

The doctrine of infinitesimal doses is another absurdity which defies both proof and contradiction, since no evidence can be deduced from atoms so minute as to elude detection either by microscopic examination, or by the most delicate chemical tests. If it be the case that the potency of a medicine when triturated, *secundum artem*, increases in proportion to its dilution, then it would follow that the maximum intensity is attained at "zero," that is to say, when the quantity is reduced to nothing.

The "*vis medicatrix naturæ*" is the sheet-anchor of homœopaths, and, if they had the candour to confess this fact, the ground-work of their theory might admit of demonstration. This, however, would not suit their purpose. The inventor of infinitesimal sugar-plums was an acute observer of human nature, and he knew the value of mystery as a vehicle of imposition. Like the priest who pretended to exhibit a hair from the head of the Virgin Mary, which during forty years he had never seen himself, this arch quack relied on the imagination of his dupes, and suited the size of the dose to the amount of their understanding.

Another artifice of the homœopaths relates to the regulation of the diet; and this is ostensibly founded not on the applicability of the prescribed regimen to the physical state of the patient, but on the alleged interference of certain kinds of food with the action of the medicine.

Thus the infinitesimal sugar-plum is the talisman which rivets the imagination and enchains the reason of the patients; it is the charm which reduces them to insane credulity, and consequent implicit obedience.

When cases arise in which the *vis medicatrix naturæ* is not adequate to the cure of the disease, a variety of tricks are resorted to for the purpose of obtaining the aid of medicine, without unmasking the sugar-plum imposition. Sometimes strong medicines—morphia*, strychnia, &c.—are administered in appreciable doses, the patient not being aware of the fact. Sometimes patients are *permitted* to take purgatives or other medicines on their own responsibility, the quack pretending to protest against the practice, and administering a globule pro-

* Dr. Taylor has found as much as one-third of a grain of morphia in a powder professedly homœopathic.

fessedly to counteract the prejudicial effect. A paste consisting chiefly of aloes has been lately in fashion among the craft. Patients taking cod-liver oil in globules, have, in some instances, been allowed to take the same remedy in ordinary doses, with the assurance, however, that the medicinal effect is attributable to the homœopathic dose, the other acting merely as an article of diet. These and other similar subterfuges may be compared to the evasion of a man who sells a straw and gives away a pamphlet, or to the trick of a conjuror, who pretends to pour wines and liqueurs out of an empty bottle.

Some of the homœopathic practices are no less disgusting than absurd. A friend of ours was lately requested by one of these quacks to prepare a tincture of bugs for internal administration. This he respectfully declined. To such an extent is the doctrine *similia similibus curantur* carried, that "syphiline" is administered to patients suffering under secondary syphilis; and "Blennorrhin," which is gonorrhœal matter manipulated according to the rules of homœopathic confectionary, is mentioned in the Homœopathic Archives* as a remedy for gonorrhea and gleet. On the same principle the microscopic itch-insect *(acarus scabiei)* might be clad in a cuirass of sugar and administered as a cure for the itch. Sulphur, which is the most effectual remedy for this disease, is homœopathically prepared in the form of tincture as follows† :—Five grains of sulphur, previously washed with spirit, are added to 100 drops of spirit, in a well-stopped bottle, which is twice shaken, and allowed to stand in a cold place for twenty-four hours. One drop of the supernatant liquid is diluted with ninety drops of spirit for the first attenuation. This is further diluted (one drop to ninety) to the thirtieth degree!

Jahr's *Nouvelle Pharmacopée Homœopathique*, published at Paris in 1841, contains, in the list of Materia Medica, various disgusting absurdities, among which are *lachesis*, the poison of the rattlesnake; *formica rufa*, the red ant; *aranea diadema*, a species of spider; *rana bufo*, the toad; *lacerta agilis*, the lizard; *scarabæus melonthola*, the cockchafer; *viverra putorius*, stinking polecat, of which the officinal part is the fœtid secretion from the glands near the anus. The *écrivisses*, or fresh-water crabs, are directed to be pounded ALIVE in a mortar until reduced to a fine paste. This is diluted with about twice its volume of alcohol, then strained, and the liquor preserved for dilution in the usual way. Toads, lizards, cockchafers, and other reptiles and insects are brayed (alive) in the same manner! A nice dose for the fair denizens of Belgravia!

* Published at Leipsic, 1841.

† Quin's Homœopathic Pharmacopœia.

The author of the above work describes (page 290) the administration of physic by *olfaction.* This is done by passing before the nose of the patient three or four globules in a small tube. We have heard of a lady who, having been subjected to this process by her homœopathic doctor, passed the fee before his nose in a similar manner, and then replaced it in her pocket.

Pharmaceutical Journal, January 1, 1851.

POISONOUS PROPERTIES OF SULPHITE OF LEAD.

[Continued from THE VETERINARIAN for January 1851, p. 48.]

MR. GREAVES, at a previous Meeting of the Society, gave an account of the action of sulphite of lead in dogs. Three dogs had been put under treatment; to one the sulphite of lead was daily administered in the food, to another it was both administered internally and applied by friction to the skin, and to the third it was administered by internal application only. The report of the two first cases had been given at a former Meeting; but the poison had not then taken effect in the third case. The result in this case was communicated on the present occasion.

After a period of thirty days, during which the salt was applied, the dog died with confirmed symptoms of poisoning. For some time previous to his death he lost his appetite, and became completely emaciated; and during the last day or two of his existence he was affected with paralysis, so as to be unable to stand. Lead was found in the liver and other parts of the organism after death.

Pharmaceutical Journal, Jan. 1851.

ON TRUE OIL OF ORIGANUM.

By DANIEL HANBURY.

IN a recent number of the *Pharmaceutical Transactions,* I endeavoured to prove that the article sold in this country as oil of origanum is, in reality, the oil of thyme (*Thymus vulgaris*), under which latter name it is imported from the south of France. I further stated, that, so far as my observations extended, true oil of origanum was unknown in English commerce.

As it appeared desirable to have an authentic specimen of oil of origanum for comparison, a quantity of the herb was procured, and distilled with water in the ordinary way. The plant, which was chiefly collected in the neighbourhood of Sheerness, was quite fresh, and very fully in flower when submitted to distillation. It afforded an exceedingly small amount of yellow oil, seventy pounds producing scarcely an ounce. This small produce may, in part, be attributed to the coolness and humidity of the weather for some time before the plant was collected, as it is evident, from the following passage in Brande's "Dictionary of Materia Medica," that a much larger amount of oil is usually obtained. This author states, "The average produce of essential oil from this herb (origanum) is one pound from two hundred weight; but it varies exceedingly with the season and culture of the plant."

Contrasted with oil of thyme, oil of origanum is distinguished by the following characters:—

1. Odour, which is somewhat analogous to that of oil of peppermint, and entirely dissimilar from that of oil of thyme.

2. Colour, which in oil of origanum is bright yellow, while the ordinary kind of oil of thyme is of a more or less deep reddish-brown.

The specific gravity of the two oils is so nearly alike as to afford no distinctive criterion. That of oil of origanum is ·8854, of oil of thyme (average of three samples) ·8934, at 62° Fahr.

Pharmaceutical Journal, Jan. 1851.

Foreign Extracts.

RACING CONSIDERED AS A MEANS OF IMPROVING BREEDS OF HORSES FOR GENERAL USE, AND FOR MILITARY SERVICE.

THIS constitutes a most important question in the animal production of a country. A people deprived of so precious a locomotive as horses afforded them, lose the use of the most influential elements of their well-being and civilization, as well as of their defence in the event of war. And it evidently becomes their duty to render so admirable an auxiliary of as good quality as they can.

In the arts and manufactures the price of an article is regulated

by its perfection, its capabilities, and the amount of benefit it confers. The horse is subject to the same general rule; but in order well to determine his capabilities a trial becomes indispensable. In practice, we see fine-looking horses re-uniting the very best points of mechanism which are so desired. Their make and shape, their powers of muscularity and leverage, are all in perfect harmony. Notwithstanding which such horses are without energy, without strength: they are wanting in blood, in the soul which should animate the machine. We compare them to a locomotive machine of perfect construction, but which is deficient in the required steam to force it onward. And to ascertain this nothing comes up to proof by trial.

If racing has shewn itself to be the best means of improving our breeds of light or speedy horses, experience has also shewn that, as practised in England, it has operated to a greater extent than might be imagined in destroying the breeds of saddle horses, in times past so much in request for commercial and military purposes.

We, no doubt, shall be told, in answer to this, that our old stock called for regeneration, and that crossing was the only way to effect this. We reply, that this substantial error, persevered in for the purpose of supporting acts condemned both by reason and experience, has been the cause of a load of deception. Animal development is ever subordinate to the nature of the elements or the localities it lives among. If we desire to give form through crossing, without any reference to the circumstances upon which it is dependent, we may be certain to degenerate, or even to destroy it, instead of improving it. To this general rule of nature there is no exception. Is it possible to modify or ameliorate any effect without any reference to the cause producing it? Nothing can be more contrary to the laws of reason: besides which, facts have proved it.

England is the first nation in Europe that practised racing to any extent. James I, Charles I, and especially Charles II, were the kings who gave most encouragement to the pastime of horse-racing. In those days, however, the trials were more searching than they are in England at the present time. The length of the races run were twice or even thrice as great as they now are; and the weights carried amounted to nearly or quite double. But to the English it matters little what the length of the race is, or the weight to be carried! With them gambling is the object, the bets they make amounting to enormous sums, enriching one and ruining another. This is the kind of spectacle suited to the British national taste; and, were it desired, they would speedily invent others of the kind, with other animals, and another order of contests; for they still have their pugilistic encounters, their cock-fights, and their

contests between bull-dogs, whose jaws they have singularly brought to a perfection of strength for this express purpose.

From this we understand why the English love and encourage racing, such as it is; viz., for the pleasure they receive from it or for the gains the more adroit derive from it. Among them all expenses attending it are borne by private individuals. They manage it as they like. The state has nothing to do with it.

But in France it is not so. The subdivision of property, fortunes divided, preclude engaging in such concerns. Frenchmen cannot, like opulent English landholders, maintain their racers, and their studs, and their breeding establishments. Neither do the French possess the same thirst for speculation as the English, one but too frequently ruinous to its entertainer. Under these circumstances, the state has considered it a duty to found breeding studs at its own expense, to give all possible encouragement to the production of racers in perfection. We believe we shall be able to shew that these endeavours cannot be attended but by untoward results, and that our opinion is not founded upon theory so much as upon facts established, and notorious to every body.

It is a common notion in France, that the various breeds of horses in England owe their perfectionment to racing. This, however, is an error. Every species of British horse has its particular type, which is (rather, *ought to be*) carefully preserved, so as not to be destroyed by injudicious crossing. The English employs the thorough-bred stallion for the perfection and conservation of his breed. It is the same with the hunter, the hackney, the carriage-horse; each one to its kind. If there be any exceptions to this general rule, they serve not to destroy the principle so wisely observed*.

* There can be no doubt but that the English breeder has a principle or object in view when he sends his mares to particular horses. But, save in the case of the race-horse, which the stud-books preserve genuine, and the cart-horse, whose peculiar character preserves him, a great admixture of breeds is known to take place, which has proved, every horseman admits, of great injury as regards some of our most valued and serviceable descriptions of horses, to wit, weight-carrying hunters, and hackneys, and cavalry horses. The "good old sort" of those breeds is hardly to be found; while their places are filled either by over-bred horses deficient in power, or by mongrels deficient in blood. Most useful crosses have been made, and are, and we believe ought to be, made between thorough-breds and strengthy half-breds, &c.; but the object has been to get "as much blood as possible" in combination with some mongrel or spindle-shanked mare who never ought to have been suffered to breed a foal; or else some mongrel of a stallion has travelled the country and covered all the best mares; and the result, in either case, has been a cross-bred produce, calculated neither for one thing nor the other. —Ed. Vet.

In France, on the contrary, there has been a notion abroad that through the blood of speed and conformation all our breeds of horses were susceptible of regeneration, even up to the harness-horse. What has been the consequence of this?

The study of the most elementary principles for the improvement of animals teaches us that, to improve the breed of a country, to render it superior to its originality, it becomes requisite to cross it with other breeds which possess at least some analogy of structure with it, providing that be of a superior order. Another consideration is, the mode of rearing of the two breeds, and it is one which is of the greatest importance to consult: in this respect, animals bear the greatest resemblance to vegetables. In one as in the other kingdom, a subject reared upon rich soil, with every care and attention, will thrive altogether as badly if suddenly transplanted to opposite nutriture and treatment. To be able to reckon on success, it is absolutely necessary that there exist some approach, if not analogy, in the main circumstances of the cases. There is no practical breeder, no man of observation, who does not agree in opinion with us on this point.

These, then, are the leading considerations to be regarded as forming the fundamental basis upon which the success of crossing depends. If one desired to effect an entire change in any breed, to give to it a form different from that which was characteristic of it, it would be a very unwise proceeding to set about crossing it with individuals very distinct from itself in character. This would produce mongrels without any distinctive character, without useful designation. In conformation they would consist of a spurious mixture of defects and points, and, as horses, they would be valueless. Their structure would prove ill proportioned and ill functioned; they would not repay the cost of their rearing and the interest of the money expended on them; and therefore would turn out profitless.

In nature, transformations are ever slow in bringing about. If we would evoke them, we must act with discretion, and advance a step at a time by judicious combination and wise precaution. If we attempt to force them, and especially under circumstances little favourable to their development, it is possible that, instead of promoting them, we may destroy them.

This is just what has come to pass in France. Let us now inquire how it might have turned out otherwise.

To proceed methodically in this inquiry, we shall first describe what ought to be the nature of the thorough-bred horse (*cheval de vitesse*); in what manner he is reared and managed; what the sole end of his production is. Afterwards, we will inquire in what capacities he is employed in France, and then see if he be anywise calculated to regenerate our useful kinds of horses, and especially such as are required for the army.

Physiology, like experience, demonstrates, in a general sense, that, for the purpose of making the greatest exertions of which he is capable in the shortest possible time, a horse must unite in his own body two indispensable requisites, without which it is impossible for him to become a turf horse. He must, in the first place, possess a nervous, irritable, and highly ardent temperament; and in the second, the construction of his locomotive apparatus should be such, in its mechanical relations, as suits best the race he is intended to run, even though this be at the expense of the strength or the resistance of the apparatus; qualities which are not, in point of fact, required for the speed that is demanded.

Convinced of this, the English, so skilled in the art of modifying the nature and conformation of animals according to the purposes for which they are designed, made choice, in the first instance, of Oriental blood, as offering the material (*étoffe*) the best adapted for the model they were desirous of forming. Upon this admirable canvass they subsequently spread their pure indigenous blood, such as it was, taking advantage of every condition conducive to the production of the animal they had in view.

But, to change the nature of Oriental blood, to instil into it those generous qualities which distinguish the pure English thorough-bred, what acute observation, what study, what perseverance, must have been employed in those artificial proceedings which ought to take the lead in operations so delicate! It not only became requisite to preserve certain qualities of the pure primitive blood in a climate little favourable to it, but at the same time it was necessary to alter its nature, in order to render it, in certain respects, superior to its original condition. To accomplish this, recourse was had to crossing and pairing always with relation to speed, to which every other quality became sacrificed.

The produce called for situations of suitable temperature, assisted by woollen clothing, soft flannel, cut to fit every part of the body. Their stables are kept at a temperature of from 60° to 70° Fahr.; are provided with well-distributed apertures; are well combined, with convenient appendages; in fact, provided with every appurtenance required for the accommodation and comfort of horses of every age. Add to this, aliment of the choicest quality, a regimen well seasoned and regulated, exercise under the direction of men kept for superintendance, diligent cleaning and hand-rubbing: in fact, a thousand acts of care, dictated by observation practised every hour in the day, have all equally contributed to the creation and conservation of the English thorough-bred horse.

Recueil de Med. Vet. de Juin 1850.

[To be continued.]

RESULT OF THE SUBSCRIPTION OPENED IN FAVOUR OF THE FAMILIES OF DUPUY AND RODET.

	Francs.	Cents.
AMOUNT of Subscription announced in the RECUEIL of February 1850	2484	65
Since which the Treasurer of the National and Central Society of Veterinary Medicine has received from fifty-one Civil and Military Veterinarians .	228	10
From the Pupils of the Alfort School . . .	124	0
From M. Felix Perosino (of Turin) . . .	10	0
From Mr. Morton, Professor of Chemistry at the Royal Veterinary College of London, Treasurer of the Subscription opened in England, in response to the appeal of the Veterinary Society of France	1444	80
The Professors and *Employés* of the Veterinary School at Brussels	86	0
Total	4377	55

The Treasurer of the Society of the National and Central Society of Veterinary Medicine,
ROSSIGNOL,
Veterinary Surgeon, of Paris, Rue Basse-de-Rempay, 28.

The National and Central Society of Veterinary Medicine express, through the medium of the RECUEIL, its sentiments of profound gratitude to every member of the profession who, whether in France or in a foreign country, has enlisted himself in the cause of confraternal charity set a going by the Society itself. It has the happiness to announce to the contributors, that M. the Minister of Agriculture has just conferred upon the eldest daughter of M. Rodet the situation, recently vacated, of superintendent of the linen department *(directrice de la lingerie)* at the Alfort School; and that there is every reason to hope that the widow of M. Dupuy will obtain the same situation at the Lyon (Veterinary) School.

The General Secretary of the Society,
H. BOULEY.

Recueil de Méd. Vét. de Sept. 1850.

THE MORBID STATES DENOMINATED PNEUMATOSES.

By M. Rainard.

[This Memoir will comprise four parts :—The first will treat of the physiologico-pathological generalities of gaseous fluids in the animal body during life; the second will have reference to pneumatoses, and, first of all, to pulmonary pneumatosis or emphysema of the lung; the third will inquire into pneumatosis of the alimentary canal, or typanitis; and, lastly, the fourth will investigate cellular pneumatosis, or external emphysema.]

ON THE GASEOS FLUIDS OF A LIVING ANIMAL BODY, CONSIDERED IN THE LIGHT OF GENERAL PHYSIOLOGY AND PATHOLOGY.

M. Dumas, by a learned deduction from scientific facts, establishes on proofs furnished by the chemistry of organic bodies, that the primitive materials of organization are derived from the atmosphere. According to him, plants, like animals, spring from air, are real dependants of the atmosphere.

The vegetable kingdom, adds this learned chemist, is the grand elaboratory of organic life. Therein is it that vegetable and animal matters are produced at the expense of the air, and by a transmutation no less true than surprising, these matters, ready formed, pass from vegetables to herbivorous animals, and then to carnivora, which either consume or preserve them according to their wants. Lastly, either during the life of such animals, or after their death, these organic matters, in the ratio in which they become consumed, return to the atmosphere whence they are derived; and thus is formed the organic circle of organic life upon the surface of our globe.

The air contains or generates certain oxyde productions, carbonic acid, water, azotic acid, oxyde of ammonia. Plants, the veritable decomposers of these, absorb their bases, carbon, hydrogen, azote and ammonia, with which elements they compound the whole of the matters organic and organisable, yielded to animals. These veritable apparatus for combustion, in their turn, reproduce carbonic acid, water, oxyde of ammonia and azotic acid, which once more depart into the air in order to regenerate afresh, through endless ages, the same phenomena.

To this picture, striking no less by its simplicity than its grandeur, we must add the undeniable influence of solar light, which alone can set in action this immense apparatus of the

vegetable kingdom, whence is effected the reduction of the oxyde ingredients of the air to serve the purposes of the formation and repair of organization.

So that modern chemistry has traced with admirable profundity the important part performed by the air, the grand agent, this immense reservoir, which, by itself or through the agency of the substances contained in it, furnishes the primary elements of vegetable organization. Here, then, is the primitive form of the constituent elements of living bodies (to wit), the gaseous state. It is likewise through the same state that comes their end.

But it is not only at their formation, or at their decay, that their immediate principles become resolved into gas: the same thing happens in the course of their lifetime. Even in their very tissues gas becomes developed, and commonly as the product of secretion; only such products are not generated in any continuous or permanent manner, like carbonic acid gas exhaled by the green parts of vegetables: they form but under certain conditions and for certain uses, which we shall now consider.

M. de Blainville, in his General Physiology (vol. iii, p. 124), is of opinion that there are two kinds of principal gases: one to be accounted elementary, composing the integrant part of the organism, which exists constantly and normally; the other, as I have just remarked, secreted or exhaled by the tissues.

The elementary gases, observes this learned physiologist, enter into the composition of the body, are found in the cells of the tissues, and through them distributed over every part of the body. The physical characters of these elements become confounded with the anatomical character of the tissues, so that they are only to be found in the component solids of organization: we may add, *or in liquids*, since it is beyond all doubt that the blood contains among its molecules particles of aëriform fluid.

And gaseous products are, like other products of the body, according to the same author, substances differing in nature, disposed about the orgasm, oftenest upon the surface of the body (meaning by surface not only the skin, but the different mucous inlets, all corresponding to the exterior as well), but sometimes likewise within certain cavities and cells, without, in fact, composing part of their organism, and which may, without disturbing them, be extracted from them, or may be rejected by them.

Gaseous products appear to be the result of secretions analogous to those producing fluids. Like as the skin furnishes the perspirable matter, it produces likewise carbonic acid gas; and the mucous passages of the bronchi give issue not only to carbonic acid gas, but likewise to azote and to water. Glands

also, it is probable, secrete gas with their habitual fluids; and the cellular tissue itself generates gas in the case of emphysema, as well as serosity, and so likewise do serous surfaces.

These general positions established, without stopping to inquire into the distinction prescribed by M. de Blainville, the order I propose to observe is this :—

In the first paragraph I shall exhibit the parts of the body in which gases are found, and this paragraph I shall divide according as they are met with; viz.

(A.) In the Blood.
(B.) ——- Cellular Tissue.
(C.) ——- The Serous Membranes.
(D.) ——- The Mucous Membranes.
(E.) ——- The Skin.

In a second paragraph I shall treat of the physical and chemical characters of the gas.

In a third, of the physiological conditions of the production of gases, either as elements of the body, or as products,—1st, of respiration; 2dly, of nutrition; 3dly, of digestion; 4thly, of absorption; 5thly and lastly, of the secretions.

In a fourth paragraph, of the gases belonging to the diseased state; of the morbid conditions under the influence of which gases are generated, and of the nature of the disorders which they beget.

In a fifth and last paragraph, I shall offer some general considerations on the therapeutics of flatulent disorders.

I. *Of the Parts of the Body where Gases are found.*

The existence of gas has been demonstrated in the blood, in the cellular tissue, in the serous cavities, upon the surfaces of the mucous membranes, and upon that of the skin.

A. *Of Gases contained in Vessels, mixed or circulating with the Blood.*

Venous blood admits gases, as may be plainly proved, and in health too, and we know that they become accidentally introduced into it.

Commencing with animals occupying a low station in the scale of animal existence, the tench for example, we ascertain, by opening the body of the animal under water, that there exists in its veins a notable quantity of aëriform fluid. And without a question, pulmonary absorption, in other animals, introduces gases into the venous system; and chemistry has taught

us, that the blood flowing through this system is most greedy of it. Magnus, the Berlin chemist, has established, by his researches, that the blood has the power of dissolving a certain quantity of all gases in contact with it; but that, whenever this liquid, already charged with gas, comes to absorb another, it can only do so by giving out a certain portion of the one first taken up; so that, when venous blood is agitated with hydrogen, a portion of this gas is dissolved, and a corresponding quantity of carbonic acid already existing in the liquid is disengaged; and when, instead of hydrogen, oxygen is made use of, an analogous result is obtained. The venous blood absorbs a certain quantity of gas, and liberates a quantity of carbonic acid nearly equivalent thereto.

Persons engaged in dissection know full well that it is by no means an uncommon thing to meet with gaseous globules in the veins of animals slaughtered in a state of health.

We also know that the insufflation of air into the jugular vein of a horse does not always produce ill consequences, much less death. Under these circumstances, without doubt, the air introduced becomes absorbed by the blood.

Is gas likewise present in arterial blood? Chemists think so, and M. Lassingen assures us positively of the fact. According to him, arterial blood, though in less quantity than venous blood, both contains acid gas and azote.

Brummer has proved the existence of gas in arteries by the following experiment. After having produced a slow circulation by means of foxglove on a dog, he seized the aorta, and by means of a couple of ligatures dammed up the blood flowing through it, closing the farther ligature first, instantly after the contraction of the ventricle. On opening after a little while this imprisoned portion of trunk, he discovered an aëriform fluid in it, of which we shall anon ascertain the composition.

We are told that every time we take a large quantity of blood away from an animal, we find gas in the arteries, introduced there to fill the void left by the flow of blood; a void which is not suffered to pervade the arterial parietes, on account of their not returning with sufficient rapidity to their natural caliber.

For a very long time it has been known that, after death, aëriform fluids occupy the place of the blood in the arteries, which has been propelled into the venous system. It was, indeed, from this discovery of Erudistratus that the arteries received the name they bear to this day.

The presence of gases in the sanguiferous system, and in the interstices of tissues, is never observed, according to M. de Blainville, in the fœtus, before it has respired. He assures us

he has never seen globules of air escape from the body of the fœtuses which he has opened under water. Notwithstanding this imposing authority, however, one is tempted to doubt the correctness of the assertion, when one knows that the blood of the mother and the waters of the amnion both contain gas.

(B.) *Of the Gases of the Generative or Cellular Tissue.*

The presence of gas in the cellular tissue is abundantly proved by the formation of emphysema, at times very considerable.

We find them within the cellular tissue entering into the composition of organs, as well as in that which forms the adherent surface of serous and ligamentary membranes.

Underneath the skin, emphysema, in some cases, makes its appearance spontaneously, or without any appreciable cause: it then seems to be the result of a particular and entirely local secretion of this tissue. More commonly, however, the accumulation of sub-cutaneous gases depends upon some internal morbid condition, of which it is but the effect or a symptom. Fevers called adynamic and typhoid, and typhus fever, and the introduction through the skin of certain poisons, furnish examples of this.

But the presence of aëriform fluids underneath the skin, constituting emphysema, is at times purely accidental; it may depend upon a solution of continuity of the skin, permitting the introduction of atmospheric air into the subjacent cellular tissue.

As for the gas discovered within the parenchyma of organs, especially of the lungs, it no doubt owes its presence to respiration, which escapes through some laceration or perforation of some of the air-cells, previously dilated and softened by the action of inflammation.

It is the same with the gases found in the sub-pleural cellular tissue, and within the abdomen, in the peritoneal cellular tissue, as the consequence of rupture or perforation of the stomach and intestines.

(C.) *The Reservoirs and Sacs formed by Serous Membranes are in some cases, normally or from morbid causes, the Seat of Gaseous Collections.*

Everybody knows that certain fish, such as carp and perch, are provided with a reservoir called a swimming-bladder, placed at the posterior part of the visceral mass. This reservoir contains an aëriform fluid, which remains within it and distends it, and thus serves divers purposes to the animal. It is well known that this gaseous fluid is not directly derived from the lung.

M. de Blainville assures us that the swimming-bladder has no communication with the buccal cavity. He has never been able to empty it through this passage, nor to force the gas out of it through the respiratory channels. Indeed, the analysis made of it by Messrs. Rumboldt, Provençal, and Delaroche, has shewn that it is not directly furnished by the air of respiration, but must be the product of a particular secretion.

The feathers of birds are, likewise, another example of air reservoirs having no communication with the respiratory passages; the air appearing to be introduced into them through absorption, at the period when the gelatinous matters disappear which up to that time had filled the tubes.

We know that the air of respiration gains admission into the osseous system of birds of high flight. We also know that in insects, which, like birds, have need of great specific lightness, there exists plenty of air, brought by the trachea, and afterwards distributed through the different parts of the animal, to place it in relation with the molecules designed for its assimilation.

Among fish, shell-fish enjoy the faculty, which to them proves a source of health, of filling their stomachs with air, and so of considerably augmenting the volume of their body, and, through an extension of their skin, facilitating the erection of the scales by which it is covered, and which remain depressed so long as the skin continues in inaction. It is likewise the atmospheric air which enables that frolicsome animal known by the name of *dolphin* to render himself light enough to swim upon the surface of the sea (Blainville's *Physiologie Générale*).

Not even vegetables are without reservoirs containing air. Chemists have demonstrated that it is the fluid found in certain plants of the leguminous family, that fills and swells the pericarp at the period of maturity; and Gaspard has assured himself, in opening under water many seeds of the same family, regarded by physicians as full of wind, that they contain in their tissue a large quantity of atmospheric air.

In regard to collections of gas within the serous cavities, such as the peritoneum, the pleura, and even the pericardium, they are attributed, and with reason, to two different sources,—to the atmospheric air, and to an exhalation from these membranes. It is thus that we account for peritoneal tympanitis when there exists no mechanical lesion, viz. through the effect of physiological operation; but in a much greater number of cases they proceed from rupture of the stomach or intestine.

Pneumatosis of the pleura depends, most commonly, upon these two latter circumstances; either proceeding from rupture of some air-cell near the surface, as in the case of emphysema; or else from the perforation of the pulmonary pleura, as the

sequel of the softening of tubercles in communication with the bronchi. In this last state, the air proceeding from the lungs is constantly mingled with purulent and other matters.

(D) *Of the Gases of the Mucous Surfaces or internal tegumentary Tissues.*

Although we are assured of the existence of gaseous collections in all organs lined with mucous membrane, such as the Eustachian pouches, the lung, the alimentary canal, the uterus and the bladder, it is more particularly within the lungs and alimentary canal that they are frequently observed. We give the name of *pulmonary emphysema* to the collection of air within the lung, to that within the alimentary canal the name of *abdominal pneumatosis* or *tympanitis*. As for the Eustachian pouches, it is the same with them as with the air-cells, it being only when their orifices are obstructed through some morbid condition that gaseous fluids remain in them. We then find them mingled with muco-purulent matter, furnished by the lining of the reservoir, and commonly collected within the reservoir.

In the normal state, the stomach and intestines contain variable quantities of aëriform fluids; and it is their accumulation in any considerable quantity that constitutes the flatulent or pneumatose condition.

Gases spring from various sources. Some are the product of an exhalation going on from the free surface of the lining membrane; others are introduced through deglutition along with the food, to which they in a manner adhere; and there are some which are even contained in the alimentary matters, and which become disengaged during the process of digestion.

The fact of the exhalation of gas from the internal surface of the intestine has been placed beyond doubt by experimentation. Messrs. Majendie and Girardin, having caused a portion of the intestinal canal of an animal to protrude from its abdomen, containing nothing, and secured it with ligature before and behind, they have found shortly afterwards the imprisoned portion of gut filled with gas; and all the while the mucous lining perfectly healthy. Bernard Gaspard, who has made the same remark, informs us that this gaseous exhalation is even more active than at the time of digestion.

It is generally believed that this fluid is of use in continually preserving the form and dimensions of the intestines. If it be true, that the body of the fœtus prior to birth does not admit any gas into the cells of its tissues, as M. De Blainville has asserted, it is no less certain that we have witnessed in the

fœtus of several animals, while as yet *in utero*, a certain quantity of gas within the intestines. And M. Baumés (in his *Traité des Maladies Venteuses*), assures us of having made the same remark in the human fœtus; whence he concludes gases to be a product of exhalation of the intestinal mucous membrane.

As to the gaseous fluids which find their way from without into the gastro-intestinal passages, they necessarily derive their source from the atmosphere, or from the food. It is evident that every time men and animals eat and drink, they must take into their alimentary canals a certain quantity of air mingled wiih the saliva. It is likewise evident, that the aliments themselves introduce into the same passages a certain quantity of atmospheric air, adhering to the particles of food, or penetrating them while under mastication. Lastly, some aliments there are which contain by nature, within their interstices, aëriform fluids, as the experiments of Gaspard shew. These are especially the vegetables belonging to the family legumina and crucifera, recognised commonly as being of a ventose nature.

Aliments of this description introduced into the alimentary canal, into the vast stomachs of ruminants, and the capacious intestines of horses, give escape to such an abundance of gas that, through their accumulation and their expansion from the heat of the situation, they are capable even of occasioning death from the impediment they cause to the respiratory and circulatory functions. The presence of gas, and its accumulation within the cavity of the uterus, in human medicine characterized by the name of *physometra*, is most rare with domestic females. The only cases in which we have been able to trace the presence of gaseous fluid in this reservoir are those, *mal-à-propos* named, uterine dropsy. We know that in this sort of cases evacuations take place from time to time of muco-purulent matters, which occasion remarkable sounds, caused by the presence of gases found mixed with them, and in which we very distinctly detect air-globules after their escape.

(E.) *Of Gases furnished by the Skin.*

The skin is also the seat of the continual exhalation of gas. With some animals, the frog especially, it is so abundant, according to Edwards, that it exceeds that which proceeds in the same animal from the surface of the lungs. We may be convinced of this by placing the living animal in water underneath the glass of an air-pump. As soon as exhaustion is effected, there escapes a certain quantity of aëriform fluid.

The body of man placed in a bath and exposed to the solar

light, becomes covered with a multitude of aërial bubbles, as do the leaves of vegetables under certain circumstances.

But M. De Blainville has remarked that we must not confound the gases of the skin with the matter of perspiration reduced to the state of vapour by the heat either of the body or of the atmosphere. Neither must we confound them with the atmospheric air, of which a thin layer reposes upon, adherent to, the surface of the skin, disengaging itself in the form of bubbles whenever the body is plunged into water.

However it may be, gases exhaled from the skin are never retained upon its surface, like those of the intestines. We have no means of obtaining them, save through artificial means.

Journal de Médecine Vêtérinaire de Lyon.

EXPERIMENTS MADE ON SHEEP WITH THE INSECT, THE ICHOR, THE SCURF AND BLOOD OF SHEEP AFFECTED WITH THE SCAB.

By Herhwig.

[Continued from vol. xxiii, page 638.]

Experiment No. 6 *(the second repetition of the former Experiment.)*

On the 1st of December, 1827, the sheep marked No. 7 (and which had been already employed for another experiment, but now in a perfectly healthy state), was inoculated in the middle of the back in the following manner: To the extent of the palm of the hand the wool was clean cut off; then the skin was moderately rubbed for eight minutes, and then some matter was smeared over it, taken fresh from a very scabby sheep, and gently rubbed in.—2d day. The spot shewed a dark red appearance, warmer and somewhat moister than the surrounding skin. No insects could be seen in the matter.—3d day. The skin somewhat more red and warm, covered with a very thin, soft, yellow scurf.—4th day. The same.—5th day. There is still the same scurf.—6th to 9th day. The same; the thin scab, however, is falling off, and the skin below appears quite sound. —10th to 13th day. There is no kind of disease to be seen in the part inoculated, and on observing further the animal up to 17th of February, 1828, and for seventy-nine days afterwards, there was not the slightest appearance of the scab observed, so that it cannot be said in this instance any effect was produced by the experiment.

Experiment No. 7.

Communication of the Infection without Inoculation.—(Sheep No. 8).—On the 14th of October, in the forenoon, the sheep marked No. 8 was brought into the same stall in which were kept the three scabby sheep, that it might become spontaneously infected, and for the purpose of seeing how soon after being with the diseased sheep the first symptoms would distinctly shew themselves. On the 2d day, neither in the general condition of the sheep nor in any part of its body was there evidence of the disease.—From the 3d to the 9th day the sheep was still apparently quite free.—On the 10th and 11th days the insects were found on the skin of the back in several spots, and of different sizes, but there were no blotches of the skin, nor any other change of it apparent.—On the 12th day the insects appeared in several places on the outside upon the skin, and the skin itself, in three different places, about the size of a grain of linseed, was of a yellow reddish colour, and somewhat thickened, but not inflamed.—On the 13th day, the same as yesterday.—On the 14th day the spots on the skin appeared changed, and moister than the sound skin. On the 15th day things were the same, but now scabs began to shew themselves. On the 16th day the scabs increase in circumference, and when the scabby places are scratched the sheep wags its lips; in other places, where the skin is of a bluish colour, little knots are felt, and in all such places insects are found.—From the 17th to the 26th day, the scabs increase in hardness and size, and the insects in number.—From the 27th to the 32d day. The scab now occupies the greater part of the back, especially in the neighbourhood of the shoulder-blades and at the beginning of the neck.—On the 23d day, as there now could be no doubt of absolute infection, the sheep was treated with Walz's wash, and which was well rubbed in for the first time.—Eight days later the wash was repeated, by which the cure, in most of the places was accomplished; but, as appeared afterwards, the animal was not wholly cured; and from the spots which were uncured the disease spread, so that at the end of January 1828, the disease had nearly covered the whole body. Probably this would not have happened if the wash had been used the third time, which Walz directs to be done on the 16th day.

Experiment No. 8 *(repetition of the former Experiment.)* (Sheep No. 4).

On the 14th October, with the same object in view, this sheep was exposed to the spontaneous contagion by being brought into the same stall with a scabby sheep.—On the 2d day nothing

could be seen which indicated that there had been an infection. —From the 3d to the 6th day the same.—On the 7th and 8th day. On many points upon the skin of the back the insects made their appearance, but without any change of the skin itself.—On the 9th day. Insects are seen in many places; on the middle of the back, thick behind the shoulder blades, and many spots of the skin have become of a yellowish red colour. —10th day, as yesterday; little spots are now formed, elevated, red, hard and inflamed, and there is a discharge of a gluey nature, which dries into thin scabs.—11th day. The change of the skin continues to increase in a great many places; under the wool the insects are discovered.—12th and 13th days. The same appearances.—14th day. The diseased condition of the skin shews itself in yellow, hard, and fixed scabs, under which the skin is bare, uneven and cracked, and shews a great many small and large insects; for half an inch around these spots the skin is red and harder than the rest of the sound skin, and on all the changed points of the skin the animal manifests great irritability; it tries to rub itself sometimes with its snout, and when rubbed with the finger it wags its lip, as is the case with all scabby sheep.—15th and 16th days. The same condition; where the scabs were taken off two days ago, fresh ones are formed, which spread themselves to fresh places; the dark redness near to the diseased spots has greatly changed, and has become almost the colour of lead; the inflammation goes on increasing, and insects of different sizes are present in abundance.—From the 17th to the 19th days. The diseased condition of the skin goes on increasing in extent in the same manner that it has done; the neck is now affected as well as the back, and it is spread more backward; and the spots on the skin are hard, elevated and inflamed, and of a bluish or greenish colour. Thus the scab has shewn itself fully established. By further observation up to January the 7th, 1828, the well-known disease was seen to spread more and more over this poor animal, and at last it had spread over the head, the whole neck, and back; the legs and feet, however, remained free.—On the 7th of January it was killed for the purpose of another experiment.

Experiment No. 9.

Spontaneous Infection.—The interesting question having been excited as to the propagation of the disease, whether sheep quite healthy will become infected with the scab if they are mixed with scabby sheep and made to rub against each other. With a view of answering this question, the sheep marked No. 7 was on the 24th of October put into the stall with the scabby

sheep, there kept for two full hours, and during that time made to run against each other, and thus to expose it as much as possible to catching the infection in the natural way. After this time the sheep was put back into its own stall, which, of course, was perfectly clean. After the closest examination of the sheep for five weeks and a half, i. e. up to the 1st of December, not the slightest vestige of the disease was to be discovered, and it was therefore concluded that no infection had taken place. This sheep was afterwards the subject of another experiment (see the foregoing, No. 6).

Experiment No. 10.

Inoculation with the dry Scurf or Scabs.—(Sheep No. 5.)—On the 15th of October, the sheep marked No. 5 was treated in the following manner: After the wool was clear from the skin on the middle of the back, I placed a good deal of dry scurf, taken from a very scabby sheep, upon the naked surface: I then drew the wool around over this place, and fixed it there. This scurf was well examined with a lens, and was found to be free from insects; moreover, no eggs could be discovered in it.—On the second day the scurf remained in its place, but not the slighest change was perceptible in the skin.—From the 3d to the 6th day. The scurf is now gone, but there is no appearance of change in the skin.—From the 7th to the 12th day. The part remains quite healthy.

Experiment No. 11 *(repetition of the foregoing Experiment).*

As no change was produced from the last experiment for the space of twenty-one days, it appeared useless to wait any longer, and on the 5th November the same sheep was treated exactly in the same manner, the dry scurf having been taken from a sheep covered with the scab: the scurf was placed on the back between the wool. On the second day not the trace of any effect could be seen. From the 3d to the 11th day. Still no change could be seen on the skin.—From the 12th to the 21st. During this period nothing was to be seen, and the experiment may be considered to have failed in producing any effect.

Experiments Nos. 12 *&* 13 *(third and fourth repetition of the above).*

On the 26th of November, the experiment was performed in the following manner: 10 grains of fresh and perfectly pure scurf from a scabby sheep was moistened with a small quantity of lukewarm water, and gently rubbed so as to make it into a solution: this solution was rubbed partly into the skin of the

back of the forementioned sheep and partly upon another healthy sheep for about five minutes, and on the first sheep punctures were made in three places with a lancet. On the second day the places on the skin of both sheep were of a darker red colour and dryer than on the other parts of the backs.—3d day. There has been dlscharged upon the surface of the spots a fatty, greasy fluid, which dries into thin yellow scurf; this scurf was fixed upon the skin until the 14th day; it was then thrown off, and the skin itself underneath appeared of a bright red, and soft, without elevations or any other change. Minute observations of these sheep up to the 1st of January, 1828, discovered not the slightest change from health in any part of their bodies: there was not the least trace of the scab.

Lynn Advertiser.

THE VETERINARIAN, FEBRUARY 1, 1851.

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

WE learn from the Council Report for the present month, that before the observations we are now about to pen shall meet the public eye, Mr. Thomas Turner will have resigned the presidentship of the Royal College of Veterinary Surgeons; and that his successor, whoever he may be, will by a vote of Council assembled on the 29th ult., be elected into his place. We do not profess to know for certain on whom the election may fall, although we have heard the names of two or three gentlemen mentioned as likely to be put in nomination. For our own part, we have no predilection in the matter further than that the appointment, being the highest honorary post a man can occupy in the veterinary world, should in our opinion be conferred upon some one or other of the respected elders of the profession, attention being paid to fitness to undertake so high and responsible an office, and to readiness to perform, to the best of his ability, the duties thereof. Of all others, the individual we should like to see occupying the station is he who, while he is respected and beloved by those around him, combines in his own person that conciliatoriness of manner and address, that soundness of judgment and tact of action, which

would tend to soften down the jarring elements of our chartered body, so as eventually to succeed in re-uniting them into one harmonious whole. The discord and disunion which has unfortunately prevailed, *ab initio*, among the members of our College, has sadly tarnished the lustre of the charter through the impediments it has thrown in the way of its brightest development. But for the opposition which the charter has met with, there is every reason for believing that the corporate body would have occupied a station in advance of the one it now holds. Let us hope, however, that differences are giving way, and that all parties are at the present time about regarding their common professional interests in too dear a light to harbour any inclination to set them in peril by fresh agitation; and, moreover, that under our new President all matters will go on quietly and amicably, to the entire repair of our lacerated profession. Nothing would please us more than to see such a President as would assemble our scattered flock around him, and ere his year of office run out—in imitation of the President of the College of Surgeons in the delivery of his Hunterian oration—giving a COLEMANIAN ORATION, and in such manner affording most convincing proof that neither the spirit nor the talent for uniting and amalgamating the members of the corporate body, and advancing their common interests, was wanting, at least in the person of the President.

In ushering our new President into office—albeit he be at present unknown—we must not cast from memory our late President. We most sincerely lament the indisposition which has forced Mr. Thomas Turner to so suddenly and prematurely relinquish his official post. During his six years' retention of it, he has advocated the cause of the Charter with truly untiring ardour. He has done all in his power to advance the objects of its representatives; and if that desiderated position which they, through virtue of it, fondly anticipated and had a right to look forward to, has not been attained, the fault has not rested with him. Few members of the profession would have gone through what he has for the sake of the Charter. He has sacrificed his time, his business, and we are afraid his health likewise, in the cause; and we feel ourselves bound, both by

duty and gratitude, to make him a return, and the least return we can thus publicly render him is, to offer him our warmest acknowledgments and thanks. His presidential functions have proved any thing but "a bed of roses" to him. We have seen him buffeted by the storm of party; harassed by conflicting opinions; vexed and irritated at the unlooked-for and untoward turn matters in discussion have taken, both at Council and General Meetings. Indeed, the scenes we have witnessed have been calculated to excite no other feelings than those of pain and disgust, while they have left impressions upon the mind which, for our own part, we would fain banish for ever from our memory.

The cry with some among our body has all along been, and indeed is still heard in some quarters—"What has the charter done for us?"—"What are we the better for it?" Persons who make such unmeaning exclamations and complaints would seem as though they were in entire ignorance of the nature of a charter. Rightly considered, the charter is rather a *means to an end* than itself the accomplishment of an end. By virtue of our charter, we—who afore were unrecognised by the state—have become a body corporate and politic, governed by a Council, ruled over by a President, possessing certain privileges, either actually expressed in or else obtainable through it. Insomuch as an organised and well-regulated body is preferable in every way to a set of men who, though of the same calling, possess no common bond of fraternity or rights or laws among them, so far is a corporate body to be preferred to one having no such recognition; and if ours be not a well-governed and thriving corporation, the fault rests with ourselves, seeing the charter has placed all government and means of improvement in our own hands, and is on that account a Charter of other corporate bodies the envy. But do not let us lose sight of the fact that "the Charter is rather the means to an end than itself the accomplishment of ends;" while we stedfastly remember, that it must depend upon the *working* of the Charter how far such objects, whatever they may be, are carried into or towards execution.

PROCEEDINGS OF THE COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

Sitting of JANUARY 8, 1851.

QUARTERLY MEETING.

Present—Messrs. BRABY, CHERRY, A. CHERRY, ERNES, GODWIN (Birmingham), HENDERSON, WITHERS (Bristol), and the SECRETARY.

Mr. ARTHUR CHERRY, *Vice President*, in the Chair.

The minutes of the last meeting were read and signed.

The Secretary read a communication, tendering the resignation of THOMAS TURNER, Esq., the President, in consequence of his long-continued illness; and, amidst the universally expressed regret of the Meeting, it was moved by Mr. Gabriel, and seconded by Mr. Godwin, "That a special meeting be called to receive the resignation of the President, and to elect a successor." Carried.

After some general conversation, the meeting was fixed for the 29th, at five o'clock; and that at six the meeting for the decision on the bye-laws—which had been suspended the required period—should follow.

A cheque for the last meeting of the Board of Examiners having been ordered, the proceedings terminated.

The following Gentlemen obtained their Diplomas at the Meeting of the Board of Examiners of the Royal College of Veterinary Surgeons, held Dec. 18, 1850.

Frederick Joseph Mavor, London.
John Grogan, Belfast, Ireland.
Richard Parker.
Stephen Beeson, Chalfont, Bucks.
John Jenks, Ellesmere, Shropshire.

MISCELLANEA.

PEDIGREE OF ENGLISH HORSES.

THE Spanish horse, which was derived, probably, to a considerable extent, from eastern blood, and which was esteemed beyond all others for the saddle, and was yet so fleet as to be used for racing, may be considered as the progenitor of the

English saddle-horse. The Spanish breed was introduced very largely into this country; for we find that Edward III imported fifty Spanish horses, at a cost equal to £160 each of our present money. The Spanish horse was celebrated for his beauty and the grandeur of his action; and as he was used as a war horse, he must have been an animal of some strength. The effect of the humid pastures of England was, no doubt, to enlarge his size. Edward II imported thirty Lombardy war-horses and twelve heavy draught-horses, thus accounting very easily for the source of our heavy cart breeds. Extensive importations were also, from time to time, received from Flanders; indeed, during the last century it was customary for our wealthier gentry to travel to the metropolis behind six Flanders mares. Those of a grey colour were preferred, and hence the origin of the proverb, "The grey mare is the better horse." The Barb and the Arabian are separate varieties of the same original breed, modified by different climate, food, and treatment. The Barb is the origin of the English thoroughbred horse; for we find that when the Duke of Newcastle wrote, they were considered superior, in point of speed, to any other horses in England; the Arabian at that period not having been introduced. Good as the Barbs might have been, it is unquestionably the fact that the breed in this country was vastly improved by the introduction of the Darnley Arabian, towards the close of the seventeenth century. This horse, the sire of the celebrated Childers, and the great great grandfather of the still more celebrated Eclipse, was also the sire of the most celebrated horses of his time, and may be considered as one of the principal foundation stones of our noble breed of race-horses, which may thus be considered to inherit the peculiar excellence of the Barb, the Arabian, and the Turk, still farther improved and enlarged by English feeding and careful selection. In tracing the history of our race-horses, we may at once go back to Eclipse, on reference to whose pedigree we find that he was the fourth in descent from the Darnley Arabian, and the sixth from the Leeds Arabian, the seventh in descent from the Barb mare, the third from the Godolphin Arabian (supposed to be a Barb), the fifth from Hutton's grey Barb, and the sixth from the Sister Turk, in four several and different lines; also, the seventh from D'Arcey's White Turk, in no less than seven lines. Thus, it appears, that the Barb, the Turk, and the Arabian all contributed to the production of this peerless animal, alike extraordinary both for speed and endurance.

A CURIOUS "CASE."

To the Editor of "The Lancet."

SIR,—I have lately received a communication from Dr. White, of the 13th Bengal cavalry, which may prove interesting to the readers of *The Lancet*. He states, "that a fowl belonging to an officer stationed at Peshawer laid an egg, so singular in appearance, on account of its great length (four inches) and narrowness, that he determined to preserve the shell. For this purpose he punctured the ends, intending to remove the interior by breathing forcibly through it; he was surprised to find the needle strike against a hard substance, and on shaking the egg he felt the more assured that it must contain something abnormal. On breaking the shell, another perfect egg was found, with a hardened shell, containing yolk and albumen, as in the first.

We read of two eggs united at the ends by the membrana putaminis, and also of others containing a blasted ovum, double or triple yolks, &c.; but I believe this is the only authentic record of a perfect egg with hardened shell being found in the interior of one also normal; and it would seem to determine points on which some difference of opinion has existed among physiologists. Firstly, it proves that the shell of the egg is hardened without being exposed to the atmosphere, although it has been believed that the induration of the earthy deposit depends on the absorption of carbonic acid from atmospheric contact; as the exterior shell was perfect, this explanation can no longer be considered satisfactory. Secondly, that the membrana testæ with its earthy envelope are both products of the oviduct, and that it is not the case, as has been affirmed by one author, that the shell is only an uterine secretion.

Your's obediently,

W. H. ASHLEY, M.D.

Boyne-terrace, Notting-hill, Oc. 1850.

SNEEZING EXTRAORDINARY.

Mr. Editor,—I AM induced to trouble you with the relation of an extraordinary circumstance that occurred lately in our *manége*, and which, perhaps, will put to a hard test the credulity of some of your readers as well as yourself. The coachman was taking one of our ponies an airing a few mornings ago, and

just at mounting observed an unusual running from one of her nostrils. He had not proceeded half a mile when the animal stopped short, sneezed twice, and out fell from its nose *a live mouse!* Before the coachman could dismount, the little creature picked itself up and ran away into the hedge. How long it could have been in so singular a domicile, and, moreover, how it could have secured itself there, must be left to the decision of the natural historians, your general readers. I can vouch for the little incident being a positive fact.—*Delgany, Ireland, Nov.* 5, 1850.

THE VILLAGE BLACKSMITH.

Under a spreading chestnut tree
The village smithy stands;
The smith, a mighty man is he,
With large and sinewy hands,
And the muscles of his brawny arms
Are strong as iron bands.

His hair is crisp, and black, and long,
His face is like the tan;
His brow is wet with honest sweat,
He earns whate'er he can;
And looks the whole world in the face,
For he owes not any man.

Week in, week out, from morn till night
You can hear his bellows blow;
You can hear him swing his heavy sledge,
With measur'd beat and slow,
Like a sexton ringing the village bell
When the evening sun is low.

And children, coming home from school,
Look in at the open door;
They love to see the flaming forge,
And hear the bellows roar,
And catch the burning sparks that fly
Like chaff from a threshing floor.

He goes on Sunday to the church,
And sits among his boys;
He hears the parson pray and preach,
He hears his daughter's voice
Singing in the village choir,
And it makes his heart rejoice.

It sounds to him like her mother's voice,
Singing in Paradise;
He needs must think of her once more,
How in the grave she lies;
And with his hard, rough hand he wipes
A tear out of his eyes.

Toiling—rejoicing—sorrowing,
Onward through life he goes;
Each morning sees some task begin,
Each evening sees it close:
Something attempted, something done,
Has earn'd a night's repose.

Thanks, thanks to thee, my worthy friend,
For the lesson thou hast taught!
Thus at the flaming forge of life
Our fortunes must be wrought;
Thus on its rounding anvil shaped
Each burning deed and thought!

Professor Longfellow.

THE

VETERINARIAN.

VOL. XXIV, No. 279. MARCH 1851. Third Series, No. 39.

FRIGHTFUL FRACTURE OF THE HEAD,

WITH DESTRUCTION OF ONE SIDE OF THE FACE AND ORBIT.

THIS appalling accident occurred so long as two years ago, and would have been given to the veterinary public immediately after its occurrence, had it not been deemed advisable to await its issue; there appearing at the time no other fate impending over the unfortunate subject of it save that of death, either as the natural result of the severe lesions inflicted, or as forced at our hands from the improbability of restoration.

In the summer of the year 1849, an officer of the First Life Guards was riding his charger—a young and spirited horse—along Tylney-street, Park-lane; when in passing another officer of the corps in the same street, who, like himself, was taking his *promenade à cheval*, his horse received, in play, a flick from the whip of the latter. This excitation set the animal off beyond the power of control of his rider, when in galloping, or rather plunging—for the animal was very fresh at the time—through the windings of this narrow and dangerous street, he encountered, by the side of Lord Dinorben's house, a carriage in the act of turning into Tylney-street from South Audley-street; to avoid which he found himself compelled, in a hurry, to pull his horse upon the flag pavement bordering the house, which on this side happens to be flanked by iron rails. Upon the smooth pavement the horse suddenly slipped up, and fell with a tremendous crash against the spikes of the iron rails, coming to the ground with his rider's leg underneath him, hurting his master a good deal, though not seriously; while the near side of his own head became impaled upon the spikes, extensively lacerating the soft parts, and fracturing the bones as well.

From the scene of the accident the horse was led home—to Hyde-park barracks—and I was immediately sent for. This was about five o'clock P.M., on the 9th June, 1849. Beholding

the animal with one side of his head all but torn away, and the eye of the same side hanging almost out of its socket, my momentary impression was that a bullet was the only resource. Indeed, my assistant, who was present, holding the horse by the head, had in his other hand a loaded pistol, already prepared for the act of demolition; concluding in his own mind, as almost every one present had done, that, from the horrible aspect the animal's head presented, I could come to no other determination.

Concurring, however, after a more attentive inspection on my part, in the kind counsel of my friend, Mr. Tardrew—the assistant-surgeon of my regiment—who was present, I resolved to subject the animal to treatment, for a time at least, in order to learn how the system would bear such a shock, and at the same time ascertain how far Nature would employ her wonderful powers in the reparation of such serious and alarming injury; I therefore had the horse led into his stall in the stable in which he had been standing, and proceeded at once to a minute and careful examination of the lesion. I found the malar and lachrymal bones to be extensively fractured, and the upper portions of the superior maxillary bones to be literally smashed to pieces; indeed, what remained entire of the maxillary bone itself was retained in its place only by the muscles enveloping it, assisted by the support of the buccal membrane; the molar teeth being readily carried from side to side according as the loose branch of the jaw-bone was moved by the hand inward or outward, owing, as it appeared, to some fracture we were unable to discover. The wound had opened a terrific chasm in the side of the head, from the circumstance of its having exposed the caverns of the frontal and maxillary sinuses, added to the laying bare of a portion of the nasal fossa of that side. Owing to the floor of the orbit being broken, and having fallen downward, the eye-ball, suspended by its membrane and muscles, was hanging loosely *in situ*, lower than ordinary, and in this position admitted of the hand being introduced underneath it, in which way it could with ease be elevated into its proper place. Under these circumstances I had no hopes of saving the eye. The roof of the frontal sinus had fortunately guarded the brain from injury. Neither were there any blood-vessels of magnitude or nerves of importance found injured; although, of course, several small vessels and nervous fibrils must have been torn through, or sadly mutilated.

Fortunately, the supra-orbital foramen—which in the horse is so very low down—escaped. The fracture ran along the interspace between it and the orbit, being bounded inferiorly and outwardly by the superior maxillary spine, and inwardly

by the prominent convexity of the left nasal bone. At this time the wound measured upwards of 4 × 3 inches, whereas its present dimensions do not amount to above half that extent.

Two large loose portions of bone—belonging to the malar and lachrymal bones—were removed; there were also several loose pieces belonging to the maxillary bone, which were picked out, one by one, with the forceps; in which operation I found the superior bulbous termination of the superior turbinated bone exposed to view, covered by its membrane, but nowise injured.

Barring all the appalling circumstances of this extraordinary lesion, there was one which told much in favour, of the first step at all events, of reparation—and that was, the saving of the skin; for this, although extensively lacerated, had very fortunately neither been much contused nor torn away: there remained ample integument, and that in a sound condition, to cover in the yawning wound. After removing all the loose bone I could find at the moment, and cleansing the cavity of the wound, I lost no time in replacing the flap of skin hanging down over the face, and confining it, *in situ*, to the best of my ability: preferring for this purpose the *metallic* (zinc wire) suture to the common thread or silk; and great advantage in the course of the case I derived from this, since I could with ease untwist and twist up again my sutures, or withdraw them at pleasure, and without occasioning any disturbance or irritation to surrounding parts.

After the integuments had been drawn together as neatly as could be managed, it surprised even myself to behold how little blemish or sign remained of that gaping chasm of vital surface which but now had created upon the minds of the spectators so awful and indeed disgusting an impression. From the extent of the fracture, which could not be with any precision determined by inspection, though somewhat by the effects, it was evident the animal had no power to masticate on that side; and, indeed, I was apprehensive mastication might be put a stop to altogether. Such, however, luckily did not prove to be the case. He chewed his hay, though slowly, on the opposite side, and all along, through the soft food that was given to him, managed to carry on mastication and deglutition with sufficient effect to pretty well keep up his condition, and thus supersede any necessity for drenching with aliment, &c.; we managed, also, to administer a dose of physic, in ball, to him, immediately after the sewing-up of the wound.

To give any thing like a history in detail of the progress of this case through the two years and a half it has been running, would but occupy time and space to little purpose, while it

would tire the reader's patience, from not affording him information of any practical utility or interest: let it, therefore, suffice to say, that, all things considered, under the simplest treatment, the case has all along proceeded surprisingly well. There supervened upon the lesion but very moderate febrile commotion; and what proved most satisfactory was, that the eye, which had so narrow an escape of being dragged out of its socket, in being deprived of part of its osseous case as well as its soft supports, not only continued free from ophthalmia, but, indeed, never even became at all obscured: in fact, it only gave issue to more conjunctival and lachrymal secretions than usual.

As soon as it was evident that all dangerous consequences had passed over, and that the reparative process had on all sides set in, the important question suggested itself—Is it possible Nature can ever completely repair such a breach?—Can such a gaping and rugged chasm ever be filled up; ever covered in again with skin and hair?—What is likely to be the upshot of so much mischief and destruction of parts? With due reliance upon the vast and miraculous powers of the *vis medicatrix naturæ*, and attaching all but absolute impossibilities to the operations of such a power, especially in brute animals, I have been of opinion, myself, from the first, that, ultimately, the closing-in of the hollow wound would some time or other be effected; though the great obstacle in the way of such closure appeared to be the necessity for the skin to make its way across *vacant* space, a work, indeed, which even to Nature appears impossible! It was, in fact, self-evident that skin could not be formed but upon a *sub-stratum* of some sort; and here there existed nothing of the kind.

In order to shut in the wound, the skin had to stretch across the opened roofs of the maxillary and frontal sinuses. I thought at one time of making the experiment of performing the Taliacotian operation. I meditated dissecting a flap of skin off the cheek, and, after giving it a twist, turning it round over the void space. But a little reflection shewed that the adhesion of this was pretty well liable to the same objections as the growth of new skin. Still would a *sub-stratum* of some kind be wanting. Relinquishing this experiment, I saw no prospect but in the resources of Nature. Leaving the wound to itself seemed to me to afford hope that, at some remote period of time, through means of the *septa* crossing and inter-crossing the maxillary sinus, and dividing that from the frontal sinus, in conjunction with the contraction which has been perceptibly going on in the external breach, though of course very tardily, Nature would find out some way of accomplishing, ultimately,

the work of closure. And this has appeared more likely of late, from the growth which the skin has made from every point of the circumference of the chasm, inwardly, over the margins of the wound, creeping along from them upon the *septa* crossing the sinuses wherever their prominences admitted of it. In fact, it would now appear as though, some day or other, the skin will *line* such parts of the cavernous hollow as it cannot roof over, and in this manner, in the end, heal up and cicatrize every part of it; leaving an irregular depression or rather cavity in the place where formerly existed the frightful lesion. The skin, by clinging, as it is at present doing, to every proximate surface upon which it can spread itself, and so creeping onward from point to point, puts one very much in mind of the ivy in its progress of growth, with a firm adhesion, upon the gnarled trunk of some old oak tree; not only clothing its knobs and protuberances, but dipping everywhere into its cavities and hollows. No doubt, should ever such hopes be realized, the deformity of one side of the face will remain great and conspicuous. Still, this will be as nothing compared with the restoration of the animal to health and to serviceability. And as he is now in the possession of the narrator of his singular and interesting case, he may any day be seen by any veterinarian who will favour his owner with a call at the Regent Park Barracks. Supposing that the parts ever do perfectly heal up and cicatrize, it will become a question whether the animal's *wind* will not suffer more or less from the contraction, and probably partial obstruction as well, which is evidently taking place in the maxillary, if not in the frontal, sinus.

At the present time, the horse draws and expels his breath through the opening; wherefrom there also issues, occasionally, flakes of mucous discharge, which accounts, probably, for the air expired through it being sometimes tainted to the smell. He has not yet been put to any work beyond longeing, and being a few times ridden. In his walk and trot he is not heard to make any roaring noise, further than the occasional blowing sound the air makes in rustling through the sinuses and out of the wound. The membranous lining of the latter, which is very visible through the external opening, varies from time to time in its hue; sometimes, particularly at the time of exertion, being conspicuously red; at other times, when not excited either by exercise or heat of the stable, being comparatively pallid. A pad, by way of guard against foreign intruders, is constantly kept upon the aperture.

DESCRIPTION OF AN ENCHONDROMATOUS TUMOUR FOUND IN THE LUNG OF AN ASS.

By John Darcey Peach, Jun., Student at the Edinburgh Veterinary College.

The morbid specimen to which the following observations refer was taken from the left lung of an aged ass, while undergoing dissection. Regarding the animal's previous history nothing was known, and at the time of purchase no inquiries were instituted; neither when destroyed for dissection did it present any peculiarities of appearance, save and except the usual accompaniments and indications of great age.

Enchondroma affects both the hard and the soft tissues, but is more frequently found associated with the former than the latter. When the diseased product is found unattached to bone, it is most commonly developed in glandular structures, such as the mammæ, parotid glands, testicles, &c. Although, strictly speaking, the lungs cannot, perhaps, be considered glandular in structure, yet they present, anatomically as well as physiologically, many characteristics which glandular structures in common possess, and, we find, are occasionally the site of tumours to which also glands generally are liable. So far, however, as can be ascertained from the writings of authors on veterinary medicine, no mention has been made of the lungs being the occasional site of enchondromatous tumours.

The morbid specimen under notice was taken from the superior surface, about three inches posterior to the root of the left lung. Its upper part was invested by the pulmonary pleura, but below was completely imbedded in the lung; and was closely invested by condensed areolar tissue, disposed in layers so distinctly, that three separate folds were readily stripped off with the forceps. The tumour presented, after the removal of its investing tunics, an irregularly nodulated and oval shape. Its irregularities of surface consisted of four considerable eminences, between which were numerous smaller ones, separated more or less completely by depression taking a waving direction, containing areolar tissue and a few bloodvessels. Its colour is greyish white, approaching to that of ordinary cartilage when invested by perichondrium. Its anterior end was darker in hue and softer in consistence than other portions of the surface, and was perforated by a bloodvessel. It weighed eighty-four drachms avoirdupois. Its circumference on its short axis measured seven and a half inches, and its long circumference eight and a half: its transverse diameter, on being exposed by

section, was two and a quarter, and its diameter on its long axis three inches. This apparent want of correspondence in proportion between the diameters and circumference is due to its irregularity of surface. Internally it was composed of calcareous matter, white fibrous tissue, and of a substance presenting all the physical characteristics of soft cartilage, which latter is the predominating material. The fibrous tissue in connexion with the calcareous substance formed a kind of coarse net or frame work, within the meshes of which the cartilaginous substance was contained. In no part of the tumour did the calcareous matter assume any definite structure approaching that of true anatomical bone, but was coarsely granular, and easily divisible by the knife. In two places within the tumour the fibrous and calcareous substances are so arranged as to form cavities, irregular in outline, the larger of which would contain an ordinary-sized marble, and the other a pea; both of these were filled with clots of coagulated blood. The situation of these two cavities was about the centre of its long circumference, nearer to its external sarface than its central part internally. Several other portions of the tumour were also coloured by contained blood, in similar irregular cavities, but less in dimensions; the blood being diffused more equally causing a uniform pink hue to pervade a portion of its substance, having a circumferent line of about three inches, and about half an inch in depth.

Mr. Barlow, the talented lecturer and demonstrator of this school, has very kindly furnished me with the following account of the appearances which the tumour exhibits under the microscope; and I will here take the opportunity of acknowledging my obligation to Mr. Barlow for his kindness in supplying me with this description of its appearance when subjected to microscopical examination.

He describes it as follows:—"The tumour was carefully examined by making thin sections of the various tissues composing it, and, when viewed with a magnifying power of 300 linears, these exhibit the following appearances, which are those usually found in enchondromatous tumours:—

"The fibrous tissue which enters from without is disposed in webs or strands, the individual fibres of which are precisely the same in structure as those constituting ordinary areolar tissue: they are densely interlaced, and rarely run parallel in any considerable numbers.

"The calcareous material in some places is mixed with the fibrous tissue, and in other parts supplies its place by forming the frame-work of the tumour: it consists merely of a crystalline deposit of the ordinary inorganic constituents of bone. No traces of Haversian canals or *lacunæ* can be seen: the sub-

stance resembling cartilage consists of cells, and an amorphous intercellular material. The cells are large, mostly oval with compound nuclei, and vary in size from $\frac{1}{450}$ to $\frac{1}{300}$ of an inch in long diameter, which is about a third greater than their tranverse measurement; some of the cells are considerably larger than even the greatest of these dimensions, and contain smaller cells within, which latter possess single nuclei. In places where the tumour is soft the cells are fewer in number, and the intercellular substance contains numerous molecules and granules. The cell walls are more plainly defined, and the intercellular substance is softer in consistence than in any kind of ordinary cartilage. Acetic acid produces results on the cell walls and their nuclei precisely the same as those witnessed in any kind of healthy cartilage when similarly treated."

On examining the remaining thoracic viscera, the apex of the heart was found adherent to the pericardium, which was considerably thickened at their surfaces of attachment; one of the pulmonary semilunar valves was covered and corrugated by fibrous deposit; and the same membrane of the artery was encrusted by detached calcareous deposits about one-eighth of an inch in thickness and half-an-inch in circumference.

The occurrence of enchondromatous tumours in connexion with bone may frequently be traced to some mechanical injury, as blows, contusions, wounds, &c., and their development may be considered as, in part, due to a perversion of nutrition, which induces us to believe the tissue subsequently formed at the seat of injury to be a growth of degeneration, or approach to a stage of organization lower than that naturally belonging to the part they affect: this mode of explaining their probable origin, however, scarcely applies when these tumours are found developed in other tissues besides bone. What the originating cause is, and why they should be occasionally developed in the parotid and mammary glands, and, in the case under notice, within the lungs, we can but speculate at the best, and then our deductions are not so satisfactory as we would desire. Science, however, will still continue to investigate; and ere long, I doubt not, more light will be thrown on the origin of these products when associated with glandular structures.

I am, Sir, respectfully,

Your obedient servant.

CASES OF NEUROTOMY.

By T. D. Gregory, M.R.C.V.S., Bideford, Devon.

To the Editor of "The Veterinarian."

Sir,—The following cases of Neurotomy are offered to you with no expectation of placing the operation in a higher position in the category of veterinary surgery than at present, and for so long a time it has continued to hold; the principal inducement being to shew the result, during the year 1850, of many opportunities I had of testing its efficacy upon horses of different classes, used for various purposes, and having feet of varied characteristics. I have, on many occasions previous to the above date, been called to operate, and, I may add, with almost universal success.

I am, Sir,

Your's respectfully.

Case I.—Patient, a very large powerful black gelding, sixteen hands high, seven years old, feet proportionally large, with soles flat, the property of a clergyman residing near Stratton, Cornwall;—had been used for agricultural purposes. I first saw him in March 1849, when I was sent for. He was then lame in both fore feet, more particularly the near one; had been so for some time; was subjected to treatment; blistered and fired round the fetlock and coronet by the farrier, without producing any good effect. The owner determined to have the operation performed for his relief, if I thought it advisable. I confess I did not strongly recommend it, and pointed out some objections to him. I feared the effect it might subsequently have upon his flat feet, when throwing his great weight upon them, in carting heavy loads down hill; these, with some other objections I offered, induced him (the owner) to alter his views, and we determined to defer the operation for some time: after suggesting some palliative treatment, and his promising to inform me from time to time of his progress, I left. During the year I had some correspondence with him upon other subjects. In his letters, in speaking of the black horse, he said, he continued to get worse and worse; he fell off in condition; was almost always lying down when in the stable, and unable to perform his accustomed work without great pain to himself; and he thought it would be a great act of humanity towards the poor brute if I could relieve him by operation, implying that he would take all the responsibility upon himself if any ill effects attended it. Therefore, on the 23d of January 1850, he arrived

at my stables, after travelling with difficulty twenty-six miles. On the 25th I invited a professional friend to assist me. He was cast with the spring hobbles and secured in the ordinary way: one leg was loosened, and I proceeded to operate. It is not necessary to minutely describe every step of the operation: the incisions were made in the skin about an inch longitudinally; the nerves separated from their attachments with a scalpel, raised by passing under them an aneurismal needle armed with stout thread; the needle removed, leaving the thread, which was tied round the nerve: I then divided with a pair of sharp scissors, and about an inch was taken away; the cuticular incisions of the skin enveloping the near leg were brought together and retained by single suture. The one most deeply fired was much thickened and more vascular than the other. I thereby experienced more difficulty in exposing the nerves to view, more especially as I encountered on one side a pretty large bursa, into which I unintentionally slipped the point of my scalpel; it soon discharged its contents: the slip had the merit of doing me a little service, for I much more easily found the object of my search, without any ill effects afterwards following it. When the operation was completed and the patient allowed to rise, to our great satisfaction he first walked, and then trotted away, free from lameness. Cold water bandages were applied to the legs; the wounds suppurated kindly, and at the end of a fortnight he was sent home and put to work. Last month (January), just a year from the date of the operation, I received a correspondence from his owner: to use his own words, he said, "The Neurotomy has answered *well*."

Case II.—Fine bay gelding, fifteen hands and a-half high, five years old, the property of a surgeon of Bideford, used as a hack. First became lame in the early part of the summer of 1849, in the near fore-foot, which was then of a good broad and open character; the frog sound and prominent. He was then treated with rest, physic, bleeding from the foot, poultices, &c.; he got better, and went to work; but the lameness returned, so that in the winter he was again subjected to treatment. A frog seton was introduced, the coronet blistered, and he was afterwards turned into a soft marsh, where he remained until February 1850 (about three months), came up free from lameness, and apparently was likely to stand sound; but our hopes were delusive—a month's work brought about old symptoms. I then suggested the operation of neurotomy, and my client fell in with my suggestion. On the 30th of March I threw him, and operated, as in all my other cases, above the fetlock. On being released from his trammels, he got up, and, after going two or three hundred yards, he appeared the better for the operation, but not then

quite free from lameness. Cold water bandages were put upon the leg, and ordered to be kept wet, but this was neglected: when I saw him two days after, the leg was much swollen. I repeated warm baths, which soon reduced it to its normal size. The wounds suppurated, and at the end of about ten days I had him trotted out, when he went away bold and sound. He was put to work, and remains up to this time well.

CASE III.—Patient, a brown gelding, aged, the property of Messrs. P——d and Son, coach proprietors, Bideford; had been worked in the mail; from that he was taken, and put to grass, where I saw him excessively lame in both fore feet, which were very much contracted. He was considered by his owners to be of little value to them, and, I believe, was cast for sale at what he would make. With the exception of his feet, he appeared to be in all respects healthy, and his legs were as fine as a foal's.

On the 29th of July I operated on both fore legs: the result was most satisfactory; getting up and trotting out free and sound. He stood at my stables for three or four days; then got in condition; put to his former work in less than a month from the date of the operation, where he has remained with little or no interval of rest ever since, performing capitally.

CASE IV.—Patient, a black mare, aged, property of P—— and L——, coach proprietors; had been at coach work; afterwards worked on the farm; lame in both fore feet; it appeared as if from ring-bones, for which she had been treated with firing and blistering round the coronets. I operated on the 1st of August; the immediate result very satisfactory. She was soon put to work, drawing manure, &c.; afterwards, to assist in working a heavy omnibus from Bideford to Barnstaple and back, eighteen miles a-day. She continued at this for some little time, and was again put on the farm, where I was requested to see her, in January last. I found her at work, but limping a good deal in the near fore leg. The fetlock-joint was swollen; the pastern shewing some unusual degree of obliquity, as if the ligaments and tendons about the joint had partially given way. I have no doubt but this state of leg was brought about by the animal's powers being overtaxed, when working the heavy omnibus before alluded to—a duty which, from her size and strength, she was never calculated to fill.

CASE V.—Patient, a brown gelding, about six years old; coach-horse, same owners as the subject of Case III: was brought down from Exeter for my opinion. I saw him the day after his arrival; he was then in the stable lying down, and with great difficulty was induced to rise. When the poor brute was up, he could scarcely stand, he was so very lame in

his fore feet; they imparted almost a burning sensation to the hand, were very much contracted; and the hoofs were polished as if by the hand of art, and nailed to them was a pair of heavy bar-shoes. He walked or rather hobbled to my stables; when there, he very quickly lay down; his hay and water were placed within reach. I left him until the next morning. I felt, indeed, pity for the poor sufferer, his situation appearing so deplorable, but still I did not much fancy operating upon feet apparently so actively diseased. I ascertained he had been in this state for some time, and no relief could be afforded him, still getting worse, and he was now absolutely useless and valueless. I at length made up my mind to brave the chance of what might follow. On the 19th of August I operated. After it was completed he got up; first walked away, then trotted quite free from bungling or lameness, to the delight and astonishment of the owner, and to other parties who were present, to witness the operation. As for myself, I never felt so thoroughly pleased, or saw so marked an effect: it was a great source of satisfaction to relieve the poor animal of such excruciating torments. He returned to the stables, and commenced feeding. Bandages were put on, and he was well littered up. This was of no use; for during that night, nor I believe for many subsequent nights and days, did he lie down; he appeared like the poor tailor in the pit of the theatre, standing to rest himself. I observed the next day the temperature of his feet to be lowered considerably, so they continued up to the time he left my stables, they had reached the ordinary state: shewing satisfactorily, in this case, that not only did the part, being deprived of sensation, relieve pain, but also another symptom of inflammation—heat. The patient was turned into a marshy piece of land for two or three weeks; taken up, got into condition, sent to his former work well and sound; and is now, I am informed, doing better than he ever did before

Case VI.—Patient, bay gelding, six years old. Brought to me through the recommendation of the owner of Case I. Lame in both fore feet, which were of good form; had been lame nearly a year, and subjected to treatment by different farriers. I operated a few days after the last date; gave great satisfaction: no untoward symptoms followed; went to work in a fortnight; since lost sight of him.

Case VII.—Patient, a very powerful bay gelding, nearly sixteen hands high, seven years old, property of a farmer residing about twenty miles from here: was very lame in the off fore foot, which was contracted, and got very small and upright indeed, compared with the other: had been fired deeply; was now too lame to work at any thing. The owner would be

satisfied if the operation would render him in any way serviceable. Operated on the 27th August. The improvement was not at first very marked, but a few days made great alteration: he soon went to work, and now shews but a very slight limp, which will always continue, from so much deformity having been the result of the primary disease. In all probability, anchylosis of the small pastern or coffin-joint had taken place when I last saw him, about a week since, as I observed the diseased foot to be increased in size.

REMARKS ON THE PEDIGREES OF HORSES.

By Wm. Goodwin, M.R.C.S., Veterinary Surgeon to the Queen.

In the last number of The Veterinarian I find, among the "Miscellanea*," some observations upon the early history of the English thorough-bred horse, some of which are not quite correct. As the subject is an interesting one, I have made a few extracts, chiefly from the stud-book, to elucidate the circumstances; which, I hope, will be found to contain a more particular account than we have in your notice of the pedigrees of those horses whence may be traced the breed of all the horses of the present day.

The "Darley Arabian,"—and not the Darnley Arabian, as you have it—was brought over by a brother of Mr. Darley, of Yorkshire, who, being an agent in merchandize abroad, became a member of a hunting club, by which means he acquired interest to procure this horse. He was sire of Childers, and also got Almanzor, a very good horse; likewise, a white-legged horse of the Duke of Somerset's, full brother to Almanzor, and thought to be as good; though, from meeting with an accident, he never ran in public. Add Cupid and Brisk, both good horses; Dædalus, a very fleet horse; Dart, Skipjack, Maurice, and Calypso, good plate horses, though out of bad mares. He covered very few mares, except Mr. Darley's, who had but few well-bred besides Almanzor's dam.

The second source, from which has sprung a very numerous class of our best horses, may be said to be the "Byerly Turk." He was Captain Byerly's charger in Ireland, in King William's wars (1689). He did not cover many thorough-bred mares, but was the sire of the Duke of Kingston's Sprite, the Duke of

* The article was sent as an "Extract," but without authority attached to it.—Ed. Vet.

Rutland's Blackhearty and Archer, the Duke of Devonshire's Basto, Lord Bristol's Grasshopper, &c.

And the third and favourite origin of many, but whose progeny are certainly not so numerous as the other two in the production of racers, is the Godolphin Arabian. He was a brown bay, about fifteen hands, with some white on the off heel behind. There is a picture of him and his favourite cat in the library at Gog Magog, Cambridgeshire, where he died, in the possession of Lord Godolphin, in 1753, then supposed to be in his twenty-ninth year.

That he was a genuine Arabian, his excellence as a stallion is deemed sufficient proof. In 1831, then the property of Mr. Coke, he was teazer to Hobgoblin, who, refusing to cover Roxana, caused her to be put to the Arabian, and from that leap was produced "Lath," the first of his get.

Many years ago, I was struck with the originality of some genealogical tables that were designed by a Mr. Lounin, a Russian, which have since been published in the Russian Stud Book. Mr. Lounin, who is since dead, was not far wrong in taking the above horses as the three sources from which all our best animals have sprung. The plan adopted was to trace the paternal side, and enumerate only such horses as were grandsires of winners; by which means we have a collection from which, you will perceive, it is easy to derive the pedigrees of all our horses of the present day.

		About
1689 Byerly Turk	1724 Godolphin	1700 Darley's Ara-
Jig	Arabian	bian
1718 Partner	1734 Cade	1716 Bartlett's Chil-
1749 Tartar	1748 Matchem	ders
1758 Herod	1767 Conductor	1732 Squirt
1774 Highflyer	1782 Trumpeter	1750 Marok
1784 Sir Peter	1796 Sorcerer	1764 Eclipse
1799 Walton	1808 Soothsayer	1773 Pot-8-oos
1811 Partisan	1815 Welbeck	1790 Waxy
	1823 Bedlamite	1807 Whalebone
		1822 Camel.

Now, by only inserting such horses as were sires of stallions that got winners, we have the entire paternal line of every horse in the kingdom.

Take, for instance, Touchstone, the property of the Marquis of Westminster, and he would come into the above list, being the sire of Cotherstone, who is sire of Glauca, and of many other winners. Touchstone was got by Camel. A fashionable stallion is Melbourn: he was got by Humphrey Clinker; Humphrey Clinker was got by Comus, and Comus by

Sorcerer. Melbourn, a good horse, is the sire of Canegore, the best mare of her day : he is also sire of Prime Minister, second favourite for the ensuing Derby.

So is the stallion Epirus: he was got by Langar; Langar by Selim; and Selim by Buzzard—Woodpecker—Herod. Epirus is the sire of Pyrrhus the First, winner of the Derby; he is also sire of the first favourite for the Derby this year.

Bay Middleton, the property of Lord Clifden (sire of the Flying Dutchman), was a good horse; he won the Derby, and was never beaten; he was got by Sultan, and comes from the same paternal blood as Epirus.

And thus you will perceive that an easy reference is obtained to the blood of any horse of the present day, at least on the *paternal* side.

LACERATION OF THE ESOPHAGUS IN A COW.

By W. Sanders, Student, Royal Veterinary College.

To the Editor of "The Veterinarian."

Sir,—Should you deem a brief history of the following case worthy of insertion in your valuable periodical, it is at your service.

The subject is that of Laceration of the Esophagus, which took place under the following circumstances:—A young Alderney cow, the property of a coal-dealer near Redditch, in the county of Warwick, became choked, in March last, with a Swede turnip, which was found to be impacted about the termination of the third of the cervical portion of the esophagus. The owner immediately sent for a person whom he had been in the habit of employing but who, not having a proper probang, substituted a common ash stick. After some difficulty, the obstruction in this way was removed. In the course of a fortnight the neck was found much swollen, and the animal not only evinced a great deal of pain, but sometimes, as I was informed, appeared as though threatened with suffocation. It was supposed that the esophagus must be ruptured, in consequence of, as it appeared, a considerable portion of food having protruded between the muscles of the neck, just anterior to the sternum. A small orifice was made through the skin, and a portion of the food (for food it proved to be) removed. The cow continued to get worse for several days, and putrefaction had apparently commenced. The attendant now advised

the owner to have the cow slaughtered: but as her condition precluded the prospect of selling her advantageously, it was deemed expedient to risk the chances of recovery, especially as she was young and in calf. Under these circumstances, my brother, who resides in that locality, was consulted. On his arrival, he gave but little hopes of recovery, seeing she was to so great a degree debilitated. A stimulant was administered, and an incision, about seven inches in length, was made in the most depending part of the swelling, through which more than a quarter of a peck of food was removed from between the muscles. The wound being now held open, and a candle placed in front, the rupture of the esophagus became quite apparent. It proved full three inches in length. The wound was cleaned. A common side-saddle was placed upon her back, and fastened on with a girth in the usual manner; a small sized piece of ash-wood was shaved so as to render it pliable at one end. The large end was then tied to the crupper-loop of the saddle, and passed then between the pummels, which kept it in its place, and elevated it half way along the neck. The esophagus at this part being rather deep seated within the loose fleshy part of the dewlap, it was not convenient to pass sutures through the edges of the laceration. A pledget of tow dipped in some digestive was put into the wound, and pressed against the ruptured part. A pad of flannel was then placed over the outside, and a broad bandage, with some thin but flat pieces of wood sewn to it, to prevent its becoming too narrow. This was carried round and over the stick above the neck, which, being pliable, acted as a spring that kept a moderate but equal pressure as she moved the head up and down. She was mainly supported upon gruel, made of barley, and bean and wheat flour; but in addition occasionally was allowed a little green food. Tonics and stimulants were administered. Any food that accumulated in the wound was removed, and it was regularly dressed twice a-day. Three weeks after, she calved a live calf; but, from the weakness before parturition, she became so reduced as to require assistance to get up for a short time. I went home from College on the 6th of May. On the 8th I saw her myself. There was then a small circular opening leading into the esophagus, sufficiently large to admit the finger, which was prevented healing by the frequent escape of food. The edges of the wound were thickened, and apparently healed over. They were occasionally scarified, with the view of promoting cicatrization; for it was my opinion, that, should the wound heal, it would leave a stricture in that part of the tube, and consequently render the animal susceptible of becoming again choked. The food continued to pass more or less through the opening, until

the beginning of June, when the wound became entirely closed. Since then she has become again in calf, and from that has continued to go on well; nor has she ever, that I am aware, again shewn any symptoms of choking, although she has taken her chance as to the nature of her food. She is still in the same person's possession; consequently I know, from the information I have received, that she continues up to the present time apparently as well as ever she was; and it is now eight months since the wound healed over.

Believing that the facts above recorded offer sufficient material for reflection, without any comments on my part, I have but to remain,

Sir, your obedient servant.

Camden-town, Feb. 18, 1851.

*** An interesting and instructive case.—Ed. Vet.

CASE OF PURPURA HÆMORRHAGICA.

By J. Tombs, M.R.C.V.S., Stratford-on-Avon.

To the Editor of "The Veterinarian."

Dear Sir,—I am induced to publish the following case of "purpura hæmorrhagica," on account of its being rather a singular complaint, although I have met with several similar cases; but in none of which, besides this, were the bowels affected.

I am, dear Sir,

Your's respectfully.

Feb. 5th, 1851.—I was called in to see an aged grey horse, belonging to a postmaster in this town, which had been ill a week when I saw him. He was first taken with excessive relaxation of the bowels, when on a journey. Purging and languor continued for three days, when the proprietor gave him ℥iij of aloes, which, of course, very considerably increased purgation. I found him lying down, and looking back towards his flanks. He got up and walked round the box, and pawed the litter; very much tucked up; pulse 60, and weak; respiration accelerated; submaxillary gland of near side greatly enlarged, but loose and detached from the bone; a profuse mucous discharge from the nasal passage of same side; pituitary membrane injected; innumerable lumps on the skin all over the body, of a pustular character; constant rumbling of the bowels, accompanied with liquid evacuations. I ordered spts. nit. æther as a stimulant, after opiates had been given to assuage the abdominal pain.

6*th*, A.M.—Symptoms much the same; but, on the animal attempting to eat some slop food, I ascertained that he could not masticate it, in consequence of the near side of the face being swollen, as well as the buccal membrane and gums. In the evening, the swelling extended down to the lips, and all round the head, and was very painful; pulse 70, and weak; breathing quick, but not laboured; mucous discharge greater; the Schneiderian membrane is become scarlet, and studded with white irregular spots (petechiæ); has had no motion to-day. Gave an oleaginous draught and enemas: extremities bandaged.

7*th*.—Symptoms aggravated; pulse, 75, and weak; respiration quicker; head alarmingly swollen, which causes a sonorous sound when breathing; looks back, walks round the box, and then lies down; a mucous râle in the chest; bronchial tubes apparently plugged up. The most striking alteration in the symptoms from yesterday is, that the pituitary membrane is changed in colour to a perfect blue, with a bloody frothy mucous discharge from the nostrils. Animal fast sinking; was found dead on the morning of the 8th.

Sectio cadaveris.—The cellular membrane of head infiltrated with serum; Schneiderian membrane and septum nasi black, very much thickened, and bordering on putrescence; larynx, trachea, and bronchial tubes, filled with a bloody frothy mucus. The left lung of a pinky colour; its substance and covering membrane studded with petechiæ, similar to the lining membrane of the nose: right lung wholly black and congested. The whole of the mucous membrane of the bowels blackened and thickened, resembling the septum nasi. The disease evidently began here, its intensity being much aggravated by the exhibition of aloes. Other abdominal and pelvic viscera quite healthy.

CASE OF DISEASED JOINTS (WOOD EVIL) AND OPHTHALMIA.

[By the same.]

Nov. 18, 1850.—THE subject in question was a cart filly, just weaned. On the 13th inst. she galloped about, and perspired profusely. On the 14th walked stiff, which stiffness increased in severity until I saw her on the 18th. Her breathing quick and panting; pulse 70, and weak. It being night, I could not come to any conclusion as to the seat of lameness. Gave a laxative. The following morning, the 19th, respiration exceedingly quick, likewise the pulse; great swelling and lameness of right stifle joint: ordered febrifuges and fomentations. 20th, Pulse

and breathing quick, as heretofore. Inflammation and swelling disappeared from stifle, and attacked both hocks, particularly the right one. Continued fomentations, febrifuges, and laxatives. 21st, Excessive lameness and pain, and constitutional disturbance; lies down the greatest part of her time; bowels relaxed. Give tonics, and foment the joints as before. 22d, Great prostration of strength; total blindness; effusion into the aqueous humour since yesterday; deep-seated abscess in hock, which burst, and a fœtid discharge issued therefrom; loss of appetite; no hopes of her recovery. 23d, Died. I discovered effusion in the thorax and abdomen; serous effusion in the eyes; stifle joint healthy; hock joints completely mortified.

P.S.—Ophthalmia was a new feature in this disease.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

Bulletin de la Societe Centrale de Médecine Vétérinaire, publié par les Soins de son Bureau, et rédigé, par M. H. Bouley, *Secretaire Annual. Anées* 1844-45-46: Tom. Premier, Paris, Labé, 1827. Bulletin of the Central Society of Veterinary Medicine, published under the Direction of its Committee, and the Editorship of M. H. Bouley, *the Annual Secretary.* For the Years 1844-5-6. Vol. I. Paris, Labé. 1847.

Pursuing, in the pages of the work before us, viz., the "Bulletin"—the interesting subject we found ourselves engaged upon when we closed the "Review" in our number for last month, we find the members of the Central Society of Veterinary Medicine of Paris engaged in lengthy and important discussions, day after day, solving the knotty point, whether the practice of shoeing ought to be *hot* or *cold*, and if the former were attended with any drawbacks, or the latter possessed any advantages, and, if so, what these drawbacks and advantages respectively were. After sifting the matter in every possible way, both through historical research and the opinions of the most learned veterinary professors present, the Society ultimately came to the following conclusions:—

1. That hot shoeing, executed in conformity with the methods recommended and practised up to the present day, is incontestably superior to cold shoeing, inasmuch as it at all times affords the smith an opportunity of adjusting the shoe to the foot, which is the fundamental rule of shoeing with every good workman, and an immense advantage over cold shoeing.

2. That cold shoeing, practised according to the means at present in vogue, at the same time that it proves in a general way more difficult of execution, and longer of performance, and in consequence more expensive, is, generally speaking, less compact and less durable.

3. Yet, nevertheless, fitly put into practice by a skilful workman, cold shoeing is capable of being performed without danger, and even with advantage, under certain exceptional circumstances.

4. That the objections made against hot shoeing are equally applicable to cold shoeing, with the exception of *burning the sole.*

5. That this last accident, at all times a very rare one, hardly ever is attended with the tristful effects attributed to it.

6. That therefore there exists no reason at the present day, plausible or worth any thing, why cold shoeing should be substituted for hot shoeing.

7. Lastly, that the advantages ascribed to the practice of shoeing called *podometric*, especially that which enables us to prepare the shoes beforehand, in the absence of the horses, and to fit them away from the forge, have not been duly rated; but that were they, still would they not, in all cases, compensate for attendant inconveniences.

Continuing our search through this interesting veterinary miscellany, we come to a communication to the Society from M. Bouley, junior, on the subject of

Lameness arising from Rupture of the Flexor Metatarsi, or *Tibio-pre-metatarseus* Muscle.

Prefacing his observations with the remarks, that all the world unite in the opinion that nothing in clinical veterinary medicine presents so great difficulties as the diagnostic of lameness, and that, consequently, thereby the difficulty of prescribing becomes enhanced, he refers to a case of lameness reported by him ten years ago in the "*Recueil Veterinaire*," which simulated fracture of the tibia, the inductions from

which he has never until now had an opportunity of verifying. The first case of the lameness before us which occurred to him was conceived to be a *fracture of the tibia,* a misconception not confined to him alone. He found, however, circumstances attending the case which did not exactly tally with this diagnosis, and therefore gave it up for *rupture* of muscle, or ligament, or tendon, or aponeurosis. M. Delafond, however, whom M. Bouley consulted, demonstrated that the lesion was most probably in the flexor metatarsi, since division of that muscle, in any part of its course, produced a lameness closely simulating the one in question.

Still there was wanting—what could not readily be obtained —*post-mortem* proof, to clear the matter up. Accident at length furnished this proof. A mare standing in the Alfort College was cast, in order to unsole her; a very painful (and we might add cruel, and we submit uncalled for) operation, which at the time of the wrenching of the sole being performed, gave rise—as well such an operation might—to a violent struggle. When risen, in being led back to her stable, it was found that she went extremely lame in the off hind leg, and that her lameness presented all the characters of rupture of the flexor metatarsi. Three weeks afterwards the mare was destroyed, and on dissection it was discovered that the tendon of this very muscle was broken completely through, nearly opposite to the groove in the head of the tibia.

To this sketch we subjoin the following observations of the author of this alleged discovery.

I have heard it said that this lameness has been long known. I am aware that it has. Solleysel himself has described it; but without making any mention of its seat. Others have observed it as well. In spite of all this, however, it is a certain fact, that this lameness has been mistaken, up to the present time, both in its nature and seat; so much so, that the diagnostic errors to which this has given rise have been productive of the worst of consequences. In the face of facts such as these, it has appeared to me of some interest to call attention afresh to the subject.

I believe that it is M. Rossignol who has made the remark, that although the diagnosis of this lameness was of value as regarded prognosis, it mattered little as far as concerned

treatment, seeing that recovery was rather to be attributed to *time* than to any therapeutic measures.

This I do not deny. I know very well that "time" is the principal consideration where the reparation of ruptured tendon is the object; at the same time it appears to me that the application of a pitch plaster upon the fore part of the limb is attended with the double advantage of hastening the resolution of any effused matters, and placing the shafts of the bones in a certain degree of immobility. It has also the advantage of amounting to some treatment being employed, instead of the practitioner standing by, doing nothing.

The accident above described has been adverted to for some years by some English veterinary writers. Mr. Cartwright has given cases of it in THE VETERINARIAN; but, then, with us it has usually passed under the name of "sprain;" and it admits of question whether it in reality be a *sprain* or a "rupture" of the tendon. For our part, we incline to the side of "sprain," and for two reasons: one being, that manipulation furnishes us with no distinct or perceptible mark of rupture; the other, that recovery to us appears of too short duration, and too complete in that short time, to render it likely to have been an actual break of tendon.

The next paper we come to is one by M. Orger, consisting of

Synoptical Descriptions, with a Classification, of the Coats of Horses, and their Peculiarities.

The "descriptions" composing this article are in two parts: the first comprising the classification of the coats of horses; the second, their peculiarities.

In the first division the coats are arranged as follows:—

M. Orger divides them into simple and compound colours.

THE SIMPLE COLOURS form but one kind, comprising four varieties; viz. 1, white; 2, black; 3, bay; 4, cream-colour.

THE COMPOUND COLOURS are of four kinds:—

1st KIND. Colours of an uniform shade, with head and tail and extremities black or mule-coloured. The varieties are, 1, bay; 2, brown: 3, mouse-coloured.

2d KIND. Colours formed of two shades. The varieties are, 1, the grey; 2, the flea-bitten grey; 3, the chestnut; and 4, the dun.

3d KIND. Colours of various shades. One invariable, the white; the other unique, pie-bald.

4th KIND, Colours of three shades. One unique, *roan.* So that, on the whole, there are two classes, five kinds, and thirteen varieties. As to shades of varieties, they require no pointing out.

THE PARTICULARITIES of colour are arranged in eight principal divisions as follows:

1st DIVISION.—*Particularities* resulting from difference of shade of the same colour: such as *silvery*, *golden*, &c.

2d DIVISION.—*Particularities* resulting from the absence or presence of white hairs: these are either whole-coloured or speckled, with marks about the head, bald-faced, white-legged, &c.

3d DIVISION.—*Particularities* as regards black hairs: such as *black-headed, patches or spots*, &c.

4th DIVISION.—*Particularities* of bay hairs: *red-speckled, flesh-coloured spots, bay mule-striped*, &c.

5th DIVISION.—*Particularities* arising out of mingled hair of a different shade from that of the coat: such as the *dappled*, the *marbled*, &c.

6th DIVISION.—*Particularities* depending upon the direction of the hairs.

7th DIVISION.—*Particularities* dependent upon the colour of the skin.

8th DIVISION.—*Particularities*, natural or accidental marks: such as *wall-eyes*, chestnuts, tumours or lumps, warts, slit ears, tail long or docked, &c., blemishes, scars, &c.

Such constitutes a summary outline of M. Viger's description. Simple as the sketch is, it will enable us to at once understand the principle of co-ordination upon which his work has been composed, and the disposition and methodic arrangement of the numerous materials classified together in it.

The Committee appointed by the Society to examine this paper, report upon it as above. At the same time, they add, that its detail, so far, contains no more than has for years past been taught in the Alfort Veterinary School, in proof whereof they subjoin a summary of the Lectures given on the same subject, by M. Rigot; which, since it is a branch of knowledge paid but little attention to in our own country, we shall transcribe:—

The colours are divided into *simple* and *compound.*

THE SIMPLE COLOURS, which resolve themselves into four kinds, comprise within themselves several varieties. These

are—1, *the white;* 2, *the black;* 3, *the (bright) bay;* 4, *the cream-colour.*

The COMPOUND COLOURS comprise four great divisions:—

1*st division.*—Coats composed of two separate colours; such are *the (dark) bay, the brown,* and *the mouse-colour.*

2*d division.*—Coats composed of two colours mixed, either through hairs of different colour, or through difference in the same hair. These are—*the grey; the flea-bitten grey;* and *the dun.*

3*d division.*—Coats composed of three colours, unique in kind—*the roan.*

4*th division.*—Coats composed of several colours, one of them, the white, invariable. Unique in kind—*the piebald.*

THE PARTICULARITIES OF COLOURS form two categories: one, the particularity depending upon the colour of the hairs; the other, the particularity dependent upon their direction.

The first category presents several subdivisions:—

1. The absence of white hair: *entire coloured.*

2. Particularities of white hair: *diffuse* or *collected,* in patches or spots upon the head, upon the limbs, or over the entire body: *flea-bitten, stars* about the head, *while-legged, bald-faced,* incidental *marks,* &c.

3. Particularities of black hair: *black-headed, black-faced, mule-streaked,* &c.

4. Particularies of bay hair: *dappled, fired,* &c.

5. Particularities of parti-coloured hair: *dappled,* &c.

The second category contains only *the feather-coated.*

The above, say the Committee, is sufficient to establish the identity of the two accounts.

To take a cursory retrospect into history, to learn the state of the knowledge of our forefathers,

SOLLEYSEL enumerated fourteen colours of coats, adding to each its varieties. The colours are—1. Bay. 2. Black. 3. Grey. 4. Piebald. 5. Mouse-coloured. 6. Dun. 7. Roan. 8. Flea-bitten. 9. Flea-bitten Grey. 10. Chestnut. 11. Brown. 12. Fawn-colour. 13. White. 14. Porcelain.

BOURGELAT, whose account is but a re-edition of Solleysel's, nevertheless has displayed the spirit always so eminent in the founder of our veterinary schools. He divides the colours into *simple* and *compound.*

THE SIMPLE are: 1, bay; 2, white; 3, black; 4, chestnut.

THE COMPOUND are: 1, the grey, with all its varieties; 2, the bay, which he supposes always to be attended with black mane and tail, and legs; 3, he admits of black and bay roans, &c.

According to the military course of education, the coats of horses are divided into five principal classes:—

1st Division.—One colour: 1, black; 2, white; 3, chestnut.

2d Division.—One colour, black legs: 4, bay; 5, brown; 6, mouse-coloured.

3d Division.—Two colours: 7, grey; 8, flea-bitten; 9, dun.

4th Division.—Three colours, legs the same: 10, *roan.*

5th Division.—Mixed coloured: 11, piebald.

M. Henri Bouley published, in 1837, an "Exterieur des Animaux Domestiques," in which the coats are arranged under twelve colours, to which are appended about fifty varieties.

His whole colours are: 1, white; 2, black; 3, bay (without black legs); 4, cream-colour; 5, brown; 6, chestnut; 7, grey; 8, mouse-colour; 9, flea-bitten grey; 10, dun; 11, roan; 12, piebald.

M. LECOQ, Professor of the Veterinary School at Lyon, in his excellent treatise of the "Exterieur," admits, without restricting himself to any classification, ELEVEN principal groups, comprising in themselves all the varieties of coats: they are, 1, black; 2, white; 3, mouse-colour; 4, brown, with white legs; 5, bay; 6, flea-bitten grey; 7, brown, with black legs; chestnut; roan; piebald.

M. BRIVET has assumed a principle of classification which merits consideration, as comprising a happy view of the question.

1stly. He says, the divers colours the coats of animals assume have this relationship and affinity between them, that they run one into another by an infinity of shades, the same as the white is related to the black through a variety of intermediate greys.

2dly. The characters furnished by the fore-top, the mane, the tail, and the fetlocks, ought to hold the highest place in any scale constructed on the principle of colour, those being the only regions wherein the hair is permanent: in all other parts it is shed.

Such is the report of the Committee—to whom it was referred by the Society—of M. Orger's work "On the Coats of Domestic Animals;" to which some few pages are added, finding fault with the author for certain opinions and statements irreconcileable with the popular notions of the day. The subject of *coat*, or rather *colour of the coat*, is a very interesting one, and at first sight appears a facile one to sift. But engagement with it will soon shew that it is by no means so. Even the cardinal or simple colours are not agreed on by authors; and as for the shades and varieties and mixtures of them, the opinions are, on some points, as various as the hues themselves. Then,

again, the names by which we distinguish and particularise them are by no means defined and settled on the other side of the channel, no more than on our own. Nor are we sure that we have been at all times happy or correct in our renderings of the French names of the colours and varieties into English. Indeed, the French are not, no more than the English, agreed among themselves as to the precise meaning of their distinctive appellations.

We do not know therefore, altogether, that we can take much praise or credit to ourselves for having presented our readers with this translated sketch; any more than that it may serve to bring this much-slighted subject in our own veterinary dominions on the *tapis*, and so perhaps may prove the means of some pains being bestowed or observations made on it; seeing that we, as veterinarians, certainly may be said to possess a peculiar interest in it. In some of our regiments of cavalry, it falls to the duty of veterinary surgeons to take what is called *the description* of recruit horses; in which registry, comprising *age*, *height*, *sex*, &c., the *colour* and *marks* become the essential ingredients. The rendering of this (colour and marks) faithful and intelligible, will necessarily depend on the knowledge of such matters possessed by the describer; enhanced, as that knowledge becomes, by a keen and searching and experienced eye. For the reason of "description," therefore, of the correct and technical nature such "description," to be worth any thing, should undoubtedly be, it behoves us to make ourselves acquainted with the philosophy of colour as regards the coat; the variations and fluctuations it is liable to; the changes, under certain circumstances, it may undergo; the combinations it is found to be susceptible of; their results, &c. &c.: knowledge, not only called for in military service, but at times, and in certain situations, in private practice as well; and knowledge, at all times and in all situations, if not useful, at least creditable, to the veterinary possessor of it.

Home Extracts.

ON THE STATE OF THE BLOOD AND THE BLOOD-VESSELS IN INFLAMMATION,

ASCERTAINED BY EXPERIMENTS, INJECTIONS, AND OBSERVATIONS BY THE MICROSCOPE.

[The "Astley Cooper" Prize Essay for 1850.]

By T. Wharton Jones, F.R.S. Guy's Hospital Reports, 1850.

The triennial prize of 300 guineas, bequeathed by Sir Astley Cooper, was last year awarded to Mr. Wharton Jones. The subject chosen for the Essay was "On the State of the Blood and the Bloodvessels in Inflammation." It will be remembered that the first of the Astley Cooper prizes was obtained by Mr. Simon, for his Essay on the Thyroid Gland. The Anatomical Structure and Diseases of the Supra-renal Capsules was the subject of the second Prize Essay. As, by the tenor of the will, the money was obliged to be given to the author of the best essay sent in, it is reported that the trustees were unwillingly compelled to bestow it on a gentleman whose paper was considered to be very unworthy of the reward.

The subject for the Prize Essay for 1850 was most judiciously chosen, and richly has Mr. Wharton Jones deserved the prize he has gained. To our mind, the Astley Cooper Prize Essay for 1850 is a model of what such an Essay ought to be. Mr. Wharton Jones had previously contributed largely to our knowledge on the subject of inflammation, by his able reports on that process, published in the 17th and 18th vols. of *The British and Foreign Review.* His ability and large experience as an ophthalmic surgeon have enabled him to enrich his Essay with apt illustrations drawn from inflammation of that organ, in which, in the human subject, the phenomena of that process are best studied.

In the Introduction Mr. Wharton Jones states that he has, in the first place, attempted to determine, by observation and experiments on the living frog,

"1st. What the action of the vessels is, and what the manifestations of that action are;

"2d. What the effect of the action of the vessels is on the flow of blood;"

And "then the state of the blood and of the bloodvessels in inflammation as it occurs in that animal." Subsequently the knowledge thus obtained, supported by observations on the

human body, is applied to the elucidation of the state of the blood and of the bloodvessels in an inflamed part in man.

The First Chapter treats of the bloodvessels of the web of the frog in the healthy state. Speaking of the distribution of the bloodvessels, Mr. Wharton Jones remarks, that, "although the capillaries all communicate together, a given part of the capillary network receives its blood especially from the branches of a particular artery, and pours its blood especially into particular venous radicles."

Structure and Endowment of Arteries.—The walls of the arteries are formed of three coats,—the innermost continuous throughout the vascular system; the outermost cellular; the middle muscular. The alterations in the diameter of the arteries are effected by contraction or relaxation of the muscular coat alone.

1. Sulphate of atropia being applied, constriction slowly follows, the artery slowly regaining its normal width.

2. Moderate cold, mechanical and galvanic irritation, cause rapid constriction, soon succeeded by the normal width.

3. Solution of sulphate of copper (gr. xv to ℥j), with wine of opium (℥j) dropped on the web, generally causes primary dilatation of the arteries.

4. Concentrated solution of sulphate of copper causes sudden dilatation, which slowly yields to permanent constriction.

Structure and Endowments of Capillaries.—A single coat constitutes the wall of the capillaries. "I have not," Mr. Wharton Jones observes, "been able to perceive that, when capillaries are cut across, their mouths become constricted; much less their canal as a whole.

Structure and Endowment of Veins.—The smaller veins have only one coat, like the capillaries; the larger veins two coats. Mr. Jones thinks it must be admitted that the outer coat of the larger veins possesses a *very* slight contractile power. With reference to the nerves of the bloodvessels, arteries alone are constantly accompanied by nerves, and arteries alone have well-marked contractile walls. The ischiatic nerve being divided, Mr. Jones found that the arteries of the web retained their contractility, though they became more dilated than usual.

After section of a nerve accompanying an artery, constriction of the artery took place, but soon ceased. The supervening dilatation was greater below than above the injury.

CHAP. II treats *Of the Circulation of the Blood in the Web of the Frog in the Healthy State.*

Section 1.—*Blood of the Frog.*—The addition of white of egg to a drop of freshly-drawn frog's blood causes the red cor-

puscles to become more closely aggregated than in the normal liquor sanguinis. This greater agglomeration of the red corpuscles Mr. Jones attributes to the greater viscidity of the plasma thus produced.

Section 2.—*Phenomena of the Flow of the Blood in the Vessels of the Web.*

(a) *In the Vessels generally.*—The red corpuscles move rapidly along the middle of the stream; the colourless corpuscles roll sluggishly along, or actually stagnate next the walls of the vessels. The latter phenomena are said, by Mr. Jones, to be due to a strong tendency on the part of the colourless corpuscles to adhere to the walls. The force of the stream is in general sufficient to counteract this tendency; but when the flow of blood is retarded, then accumulation of large numbers of colourless corpuscles takes place.

The tendency of the red corpuscles to adhere to each other (they having no tendency in the natural state to adhere to the walls of the vessels) is overcome by the normal force with which the blood is propelled. If any impediment occurs to the free passage of the blood, then the red corpuscles "become applied to each other by their flat surfaces." There is no tendency to adhesion between the red and colourless corpuscles, either within or without the body.

(b) *In the Arteries.*—At each pulsation the artery is seen under the microscope to become slightly dilated. The pulsations of an artery are observed to be less and less evident, down to the capillaries. When an artery has been cut across, pulsation continues above but ceases below the wound.

In cases in which arteries were seen dilated at one spot while elsewhere they were of usual width, Mr. Jones states that retardation of the stream of blood in passing into the wide channel was, in his observations, well marked, the stream becoming again accelerated on entering the narrow channel.

Speaking of the flow of blood through arteries in a state of general dilatation, our author affirms, that it—*i. e.*, the flow of blood—is more rapid in them than in arteries of the usual width; "the resistance to its motion from friction being diminished in the dilated vessels."

(c) *In the Capillaries*, the flow of blood is continuous, and, in general, slow enough to allow of the individual corpuscles being distinctly seen. "When any impediment," to use Mr. Jones's own words, "to the flow of blood from the capillaries into the veins occurs, the red corpuscles may be seen to accumulate, and to become applied to each other by their flat surfaces, with their diameters more or less nearly at right angles to the axis of the vessel."

(d) "*In the Veins*, the flow of blood is continuous, more rapid than in the capillaries, but less rapid than in the arteries."

Section III.—Influence of the Arteries on the Capillary Circulation.—The rapidity of the flow of blood in capillaries is accelerated or retarded by acceleration or retardation of the flow in the arteries, the latter being determined by variations in the width of the arteries themselves.

Four degrees of width may be presented by those vessels, with corresponding degrees of rapidity of the flow of blood:—

1st. Artery so much constricted, that there is no room for the passage of the blood corpuscles.

2d. Artery just wide enough to permit the blood to flow, though with difficulty.

3d. Artery nearly normal in width, with the blood flowing freely.

4th. Artery much dilated, and the flow of blood stronger and more rapid than in the third degree.

In the first degree of constriction, *vis à tergo* is no longer transmitted, and the direct flow of blood is arrested in the still pervious terminal part, and in the capillaries to which it leads: the constriction continuing, the blood regurgitates from the anastomosing arteries and from the veins, through the capillaries, into the terminal part of the affected artery. "The red corpuscles of the regurgitating and slowly-moving blood aggregate together, and in some places become stagnant." If the artery resume its normal width, the flow of blood resumes its natural onward course, and the stagnation, if it exists, is dissipated.

When the width of an artery is in the second degree, the stream may continue direct, but the circulation in the capillaries supplied by that artery is sluggish; in some, perhaps, stagnant.

CHAPTER III.—*Of the State of the Blood and the Blood-vessels in Inflammation of the Web of the Frog, from an incised Wound.*

In both *congestion* and *stagnation*, Mr. Jones says, "it is to be understood that there is an *unusual accumulation of red corpuscles in the blood* of the affected vessels." So long as the blood flows, however tardily, we have *congestion*. When the blood ceases to flow, we have *stagnation*. In order to ascertain how the congestion and stagnation of blood which are occasioned by an incised wound are brought about, Mr. Jones instituted experiments and observations to determine:—

1st. *The Effect of Section of an Artery of the Web of the Frog on the Flow of Blood in the Part.*

When an artery is cut across, its caliber is immediately

obliterated by constriction, both above and below the point of section; and, as a direct consequence, there is an exsanguine state of the part to which the artery leads. In a minute or so, dilatation of the artery, both above and below the wound, ensues. In the upper part of the artery the flow of blood is re-established, as far down as the first considerable branch above the place of section. Into the part of the artery below the wound blood enters only in a retrograde direction, and that very slowly by regurgitation from the capillaries and veins, and in some cases from an anastomosing artery. This tardy flow of the blood is congestion; eventually stagnation takes place in the greater number of capillaries and venous radicles. "The effect of section of an artery of the web of the frog on the flow of blood in the part to which the artery leads is thus congestion and stagnation, the manifestation of which to the naked eye is a reddish spot." If the artery be divided at some distance from the capillaries, then the congestion and stagnation are at some distance from the wound. The retardation and ultimate cessation of the current is due to the removal of *vis à tergo.*

2*d.*—*The Effect of Section of a Vein or Veins of the Web of the Frog on the Flow of Blood in the Part.*—After the section of a vein, there is no further flow of blood in the upper segment from the wound up to the first considerable branch which enters the vessel; below the section the flow of blood becomes retrograde to another vein, if there be an anastomosis with such. When the latter was also cut, the vein received blood in the natural direction by one set of radicles, whilst by another set it sent the blood away in a retrograde direction to capillaries, from which the blood passed into the radicles of another vein. Having thus to pass through two sets of capillaries, congestion took place in the capillaries and venous radicles—stagnation in a few only. The less disposition to congestion in the capillaries after division of a vein than an artery is due to *vis à tergo* being cut off much more completely in the latter than in the former case.

4*th.*—*The Effect of Section of the Ischiatic Nerve on the Flow of Blood in the Web.*—After section of this nerve, the arteries are rather dilated, and, as a consequence, the flow of blood is, on the whole, more rapid, and there is less disposition than in the natural state to congestion and stagnation from the action of external agents.

6th. The effect of section of arteries, veins, capillaries, and nerves, altogether, on the flow of blood in the part, is a combination of the effects above described.

Exudation in the case of inflammation from wound of the web,

is evidenced by opacity of the affected part, by thickening of the margins of the wound, and in the process of granulation.

CHAPTER IV.—*Of the State of the Blood and the Blood-vessels in Inflammation, from the Application of a strong Solution of common Salt to the Web.*

Section 1.—*Description of the Mode in which Congestion and Stagnation take place.*—" A solution of common salt applied to the web causes dilatation of the arteries and acceleration of the flow of blood in them, and, of course, in the capillaries and veins also. If the solution of salt, however, be strong, the acceleration of the circulation soon gives place to retardation from congestion and commencing stagnation of the blood corpuscles. Eventually the circulation is altogether arrested in the part, the blood having become stagnant in a greater or less number of vessels, according to the intensity and extent of the action of the salt.

" Stagnation commences in the capillaries, and extends from them to the veins on the one hand, and to the arteries on the other. The mode in which it is seen to take place is by red corpuscles, more collapsed and darker-looking than natural, first adhering to the walls of the vessels, and then other red corpuscles adhering to them. The first adhesion of red corpuscles to the wall of a vessel usually takes place at a bifurcation."

The portion of artery between the capillaries in which stagnation has taken place, and the first large branch above, contains but few blood corpuscles, and these are seen collected to one side of the vessel, and oscillating up and down.

" Not many colourless corpuscles are seen in the vessels in which the blood is stagnant; but they are seen in considerable numbers in those veins in the neighbourhood in which the flow of blood is still free, though, perhaps, retarded." The appearance of an uniform red mass within the vessels is produced by the close agglomeration of the red corpuscles.

Section 2.—*Explanation of the Mode in which Congestion and Stagnation take place.*—Mr. Jones having ably and effectually disproved the notion that the dilatation of the arteries, and the coincident change in the rapidity of the flow of blood through them, have any effect in inducing stagnation in the capillaries, advances the opinion, " that the adhesion of the red corpuscles to the walls of the vessels, and to each other, on which the stagnation depends, can be attributed only to a change in the state of the blood itself, produced by the action of the salt,—a change consisting in inspissation of the plasma, as regards its albuminous and fibrinous constituents." The salt, Mr. Jones further thinks, acts principally by withdrawing water

from the blood by endosmosis, and so producing inspissation of the plasma.

In the Fifth Chapter, the *State of the Blood and Bloodvessels of a Part of the Web of a Frog, cauterized with Bluestone*, is briefly considered.

Chapter VI.—*Of the State of the Blood and the Bloodvessels during the Healing Process, as observed in the Web of the Frog.*

Section 1.—*Of the State of the Blood and the Bloodvessels during the Healing of a Wound of the Web.*

(a) *When an artery is cut across*, in a day or two the circulation is re-established. In two cases observed by Mr. Jones, the cut ends of the artery became re-united, and the current re-established. Ordinarily, the circulation is restored by an anastomosing branch between a neighbouring artery and the lower portion of the divided artery.

(b) *When capillaries are cut across*, they shrink and disappear; those around the margin of the wound enlarge.

(c) *When a vein only is cut across*, usually the capillary anastomosis between the first considerable radicle above and that below the wound becomes enlarged.

(d) *When arteries, capillaries, and veins are cut across.*—At the extreme margin of the wound, the process of granulation, including the development of new capillaries, which constitute the terminal loops of the marginal network, goes on. Subsequently, some of the capillaries shrink and disappear, the circulation becoming freer in the remainder. Most of the red corpuscles in these capillaries are distended, and of a rounded form.

Section 2.—*State of the Blood and the Bloodvessels during the Process of Resolution of Inflammation of the Frog's Web excited by the Application of a strong Solution of Salt.*—The agglomerated mass of red corpuscles oscillates, yielding at each stroke of the heart, and again recoiling. The mass is pushed by *vis a tergo* onward, till it projects slightly into a vessel in which the flow of blood is free; here the stream detaches and carries away the corpuscles composing the protruding part. In this way, Mr. Jones observes, one vessel after another is cleared, until the circulation is fully re-established.

This process may be promoted by the application of agents possessing the property of causing dilatation of the arteries and acceleration of the flow of blood, *even a solution of salt*.

"The promotion of the process by the applications referred to is an interesting illustration of the *modus operandi* of stimu-

lating collyria, applied to the eye, for the cure of inflammation of the conjunctiva."

Section 4.—*State of the Blood and the Bloodvessels when Resolution of the Inflammation of the Frog's Web, excited by the application of a strong Solution of Salt, does not take place, but when a part of the Web mortifies.*—In the mortified part there is no appearance of blood and bloodvessels, while the bloodvessels in the web generally are in the same state as when a piece is cut away, instead of being destroyed by mortification.

After the separation of the slough, during the process of granulation and cicatrization, the blood in the vessels at the extreme edge of the capillary network is found to continue stagnant.

CHAPTER VII.—*An Attempt to apply what we have learned from Observations and Experiments on the Frog, respecting the State of the Blood and the Bloodvessels in an inflamed Part, to the Elucidation of the State of the Blood and the Bloodvessels in an inflamed Part in Man.*

Section 1.—*Of the State of the Blood and the Bloodvessels in Inflammation in Man.*—Direct observation leads to the conclusion, that the distribution of the smallest arteries of the capillaries, and of the smallest veins in man, is essentially similar to their distribution in the web of the frog; that these same vessels are identical in structure and function in the two; and, moreover, that there is also a close resemblance in the comportment of the blood corpuscles to each other, and to the vessels in man and the frog.

"The vascular injection of the inflamed conjunctiva," says Mr. Jones, "as observed with the naked eye, or by means of a magnifying glass, presents the same characters as the vascular injection in inflammation of the web of the frog as observed by the same means. Seeing this, and also that the plan of distribution of the small vessels is similar, and knowing that the red corpuscles of the blood of man aggregate together much more readily than those of the frog, Mr. Jones argues that we may fairly conclude, that, in the vessels of an inflamed part in man, the red corpuscles of the blood are accumulated and aggregated together in a similar manner, though to a greater degree, to what we can directly observe in the frog. With reference to inflammatory injection in man, the result of the operation of cold, Mr. Jones observes, that the direct action of cold produces constriction of the small arteries of a part, and, as a consequence, congestion, or a sluggish flow of blood in the capillaries and veins, with here and there stagnation. "The bluish redness

of the affected part indicates great accumulation of blood in the venous radicles," due to diminution of *vis à tergo.*

Dilatation of the small arteries cannot, under any circumstances, be considered the first step to inflammatory congestion. The effect of the dilatation would only be acceleration of the flow of blood; and therefore dilatation of the small arteries must, Mr. Jones goes on to say, be viewed as the first step to reaction and resolution. As to the mode in which cold applied to one part of the body excites inflammation of a distant part, our author observes that the organ so affected is *the weak organ* of the body; that, consequently, its small arteries are more irritable and susceptible to impressions through the nervous system; being constricted, the flow of blood in the capillaries and venous radicles to which they lead, becomes sluggish, and there is accumulation in them of red corpuscles.

Constriction of the small arteries exists only at the commencement of the inflammatory process. When relaxation and dilatation of the arteries take place, the acceleration of the flow of blood in them may overcome the stagnation in the capillaries and venous radicles; but this failing to be accomplished, the greater quantity of blood poured into the vessels of the part must aggravate the inflammation.

Briefly, in the vessels of an inflamed part in the frog, and highly probably in man, the quantity of red corpuscles of the blood is augmented and that of the plasma is diminished, at the same time that the latter is inspissated; the increase in the quantity of red corpuscles in the vessels of an inflamed part, and the diminution in the quantity of plasma, are owing to the red corpuscles being retained in the vessels while the plasma passes on. The inspissation of the plasma is owing to the abstraction of water from the blood of the part, and may be merely local.

The cause of the increased accumulation of the white corpuscles in the vessels of an inflamed part appears to be simply due, Mr. Jones thinks, to the fact, that they are in inflammation more disposed to adhere to the walls of the vessels, owing to the retardation in that process of the flow of blood, and the inspissation of the plasma.

Section 2.—*Exudation in Inflammation of a Part of the Human Body.*—As, in the frog, exudation follows, and does not precede congestion and stagnation; after exudation, the red corpuscles become more closely aggregated, and the re-establishment of the circulation, therefore, does not take place so readily as before.

Section 3.—*State of the Blood and the Bloodvessels during the Healing Process in Man.*—The edges of a wound, even

after it is healed, continue injected for some time. The cause of this appears to be, that the anatomising vessels are not yet large enough to compensate for loss of those divided in the injury. The redness may be in part due to a greater quantity of blood than usual arriving at the part in consequence of dilatation of the arteries. "These two conditions," adds Mr. Jones, "appear to me, most probably, to be those in which the blood and bloodvessels are in chronic inflammation."

CHAPTER VIII.—*Of the State of the Blood of the Body generally in Inflammation.*

In this chapter, the author's remarks are chiefly founded on, or borrowed with acknowledgment from, the chemical researches of Lecanu, Andral, and Gavarret, Simon, Popp, Becquerel and Rodier, and Zimmerman. With reference to the microscopical characters of the blood of the body generally, in inflammation of any organ, Mr. Jones appears to admit that the number of the white corpuscles is increased.

CHAPTER IX.—*Of the Relation between the State of the Blood generally in Inflammation, and the Inflammation itself.*

Inflammation, it has been proved, may exist without increase in the quantity of fibrin in the blood; it may also exist without fever; both often supervene on inflammation. The sudden increase in the quantity of the fibrin, Mr. Jones regards as the cause of the inflammatory fever; when the increase occurs gradually, as in pregnancy, &c., no fever is present. Mr. Jones concludes, that, "although inflammation may be independent of an increase in the quantity of the fibrin, still, when this has taken place, the spread and intensity of the inflammation may be promoted by it."

Our high appreciation of Mr. Jones's labours is shewn by the fulness of our analysis of his Essay. Apart, however, from its intrinsic merits, we regard this contribution to our knowledge of inflammation as possessing, at the present time, a special value, as an antidote to the vague and profitless views of those who would have pathologists regard inflammation as a mere modification of nutrition, instead of, as it really is, a process *sui generis*. The essential phenomena of inflammation are *bonâ fide* anormal, *i. e.* pathological, as distinguished from physiological, and as such must they be studied.

Medical Times.

WATER, AND ITS IMPURITIES.

[From "The Lancet."]

☞ This constitutes one of the articles now furnishing by "The Analytical Sanitary Commission" to *The Lancet*, whose researches promise to afford so much useful and important information, not to medical men alone, but to the community at large. Nor is the veterinary world likely to go wholly unbenefitted by it in their management and treatment of the domesticated portion of the brute creation; since we all know how very large a proportion water constitutes of the *ingesta*, in particular of horses. A horse will drink two pailsful of water daily, each pail holding three gallons. This will amount to forty-two gallons a week, and to the enormous quantity of 2184 gallons annually. Surely, it must make a difference whether this water be "good" or "bad!" Water has, indeed, frequently produced disease, and now and then has occasioned the death of animals.—Ed. Vet.

The Impurities of Water.

The various contaminations to which water is liable may all be arranged under two heads, and are either *organic* or *inorganic.*

Organic Impurities.

The organic impurities again naturally resolve themselves into the *dead* and the *living.*

Dead Organic Impurities.—Inasmuch as the dead organic substances present in impure waters form the material or food upon which the living impurities are sustained, it is proper to allude first to them.

The dead organic contaminations again admit of still further division into those derived from the vegetable kingdom, or *dead vegetable impurities*, and those from the animal kingdom, or *dead animal impurities.*

Dead Vegetable Impurities.—The dead vegetable substances very frequently present in impure water are water-plants, leaves and other fragments of land plants, which find their way into it in a variety of ways, and at certain seasons, particularly at the period of the fall of the leaf.

These dead vegetables tissues are in a state of continual decay and change: deprived of life, they become subject to the action of the laws of chemical affinity, by which their structure is

speedily destroyed, and the whole fabric resolved into substances of more simple forms and constitution, as *carbonic acid, carburetted hydrogen,* a little *ammonia,* sometimes *sulphuretted hydrogen,* as well as probably, in some cases, other bodies of more subtle nature, the characters of which have not hitherto been determined.

Dead Animal Impurities.—The dead animal organic impurities present are the bodies of infusoria, annelidæ, insects, fish, and animals, as well as the soluble proteine compounds, as albumen, gelatine, mucus, &c., derived from and dissolved out of these by the water.

These several animal substances and compounds are likewise in a state of constant change; their elements, obedient to the laws of chemical action, become re-arranged, and form combinations more simple, as *ammonia, nitric acid, cyanogen, sulphuretted hydrogen, phosphuretted hydrogen,* water, and many other bodies, some of which, like certain of those just enumerated, are probably of a highly deleterious nature. These changes, decompositions, and re-combinations, are greatly facilitated and hastened by increased temperature, and therefore are effected more rapidly in summer.

Living Organic Impurities.—The living organic impurities are in direct dependence, as already remarked, upon the dead, from which they derive their nourishment and support, and, like them, are either vegetable or animal.

Living Vegetable Impurities.—The living vegetable productions contained in impure water are algæ, which are the fresh-water types of the plants commonly known as sea-weeds and water-plants.

Living Animal Impurities.—The principal animal productions contained in water are, fish, zoophytes, worms, larvæ of insects, mollusca, and animalculæ or infusoria.

Circumstances which favour the Growth and determine the Kinds of Organic Life present in Water.

Analysis has shewn that *every vegetable* is composed of oxygen, hydrogen, and carbon, with a variable but usually a small quantity of nitrogen.

For the growth, therefore, of vegetables, it results as essential conditions that they should be supplied with material containing the whole of these substances.

Now, as one vegetable resembles in its general constitution another, it follows that decaying vegetable matters contain the whole of the materials necessary to the life of a plant, and thus

one generation of plants affords the food requisite for the growth and sustenance of a second.

But certain inorganic substances also favour greatly the growth of plants, as the phosphates and ammonia; the latter, probably, on account of the nitrogen it contains; and hence the value of animal manures, which contain these compounds largely, in promoting the growth of vegetation.

Again, analysis has shewn that *every animal* contains precisely the same elements as the vegetable; with this important difference, however, that the proportion of nitrogen is much greater in the former.

It thus appears that, while vegetable substances in a state of decay are best adapted to the maintenance of vegetation, animal matter, in a similar state, is the best suited to sustain a large amount of animal life.

These particulars are capable of important practical application, inasmuch as they declare to us that every water which abounds in living animal forms, especially infusoria, must also contain dead animal matter in abundance.

The true interpretation to be placed on the presence of infusoria in water was not well understood until Dr. Hassall called particular attention to the condition of animalcular life in Thames water near to London.

The relation of dead to living organic matter is well shewn by simply diffusing a little albumen through a wine-glass of distilled water: in a few days, and especially if the weather be warm, the infusion will be found literally to swarm with animalculæ.

But there are some other circumstances, independent of the amount of dead organic matter contained in water, which determine the kind of living productions present in it.

One of these, and a very important one, is the condition of the water as to alkalinity or acidity. If the water have a decided acid re-action, and contain a large amount of animal matter in solution, there will be an abundant development of fungi in the course of a few days; but if, on the other hand, it exhibits an alkaline re-action, then, instead of fungi, animalculæ will be developed.

These curious and important facts may be readily shewn by experiment. Let two solutions of albumen in water be prepared, the one being rendered alkaline, the other acid; in the first, in the course of a short time, infusoria will appear, while in the second, in an equally short period, a scum of fungi will become visible to the naked eye.

Now fungi are usually regarded by the naturalist as vegetable productions, having, however, a resemblance to animals

in the amount of nitrogen which they contain, and in their subsistence on decomposing animal matter.

But other differences may be observed between acid and alkaline animal solutions: while the animal matter contained in the alkaline fluids quickly undergoes putrefactive changes, and begins to smell disagreeably, that in the acid fluid scarcely alters at all, and emits no unpleasant odour.

From these facts, it may be fairly concluded that these two waters stand in very different relations to each other in a sanitary point of view, and from them important practical applications may be deduced.

But there are occasionally found in nature, waters which, although largely impregnated with dead organic matter, yet contain neither animal nor vegetable productions in a living state; these are generally well waters, contaminated by sewage or the contents of cesspools. The reason of the absence of life in these cases it is not difficult to divine: from the water in the deep and covered well, air, light, and warmth are excluded, conditions essential to development.

The *kinds of vegetable and animal life* present in water vary much, according to their nature and chemical composition.

In the *still waters* of ponds, cisterns, and reservoirs, which contain dead vegetable matter, in the spring and summer, which is the great season of the development of vegetation, we encounter living vegetable forms, especially confervæ.

In the same waters, holding in solution much animal matter, we meet with living animal productions, particularly infusoria and entomostraceæ.

The forms of life inhabiting the *running waters* of springs and rivers are usually very different from those which dwell in still waters; they belong to different species and genera, and are provided with an organization by which they are adapted to the very different life they are destined to lead.

The *quantity of animal and vegetable life* contained in water also varies according to its nature and composition.

Thus pure *distilled water* contains no organic matter, either dead or alive.

Rain water, caught at a distance from houses, towns, or other sources of contamination, contains none.

Uncontaminated well water contains no organic matter.

Neither does pure *spring water* contain any form or trace of organic matter.

In *river water* there is present, usually, a considerable but variable amount of organic matter; this amount varies according to certain well determined circumstances: thus, at the source of

the river, where the stream is comparatively pure and unpolluted, the quantity of organic matter, either dead or living, is but small.

As the stream flows along, however, it becomes exposed to numberless sources of contamination; it receives the contents of still smaller streams, and the impurities of innumerable ditches, the refuse of the dwellings of persons who live near its banks, the contents of drains, and very frequently the sewage of whole and populous towns, so that at last, when it reaches its outlet into the sea, great and manifold are the corruptions and large is the amount of dead and living organic matter pervading its waters.

Were it not that for the continually increasing impurities of river water there is a daily means of escape by the ocean, that description of water would be the most contaminated of all.

The *water of ponds* usually contains a large quantity of organic matter, because these also are exposed to many sources of contamination; the leaves of trees which grow near fall each year into them, and successive crops of aquatic vegetation are developed and pass to decay in their waters.

The *water of reservoirs*, likewise, usually contains much organic matter; into these, water which is itself very impure is poured from time to time; on each occasion a portion of the contained organic matter subsides to the bottom, and thus at last a great accumulation of organic impurities occurs, sufficient, in the course of a very short time, to spoil and render unfit for use even the very best water.

Lastly, the *water of cisterns* generally contains much organic matter. A cistern may be compared to a reservoir; it is, in fact, a reservoir on a small scale, and in it also organic impurities increase from day to day, both by accumulation and growth.

It should be remembered, that the actual quantity of organic matter present in a large body of water, or even in a river, cannot be estimated from an examination of samples of water obtained by merely dipping a jar or bottle into it, because by far the greatest portion of the organic matter is contained in the mud or other deposit at the bottom of the reservoir or river. This fact has very generally been overlooked, and hence the proportion of organic matter given by chemists in many cases as present in certain waters is by far too low.

The effect of the presence of organic matter in the sediment of a reservoir or river on the entire body of the water contained in it is shewn by placing a little of such sediment in distllled water in a bottle; in a short time, especially if the weather be warm, the water will begin to smell offensively.

But there are certain circumstances which are closely connected with the *kinds* as well as the *quantity* of organic life present in water, beyond those already noticed; these are, free exposure to air, light, and warmth, which all greatly favour development, and so assist in determining the kind and amount actually present.

For the purpose of shewing clearly the influence of these agents, we instituted a considerable variety of experiments; as, however, the powerful operation of the causes referred to are well known and undisputed, it is unnecessary to detail their nature.

Now rivers, reservoirs, and other large bodies of water are exposed to the influences alluded to, whereby the water contained in them is generally deteriorated.

We have dwelt thus long and fully on the *organic impurities* of water, because of their extreme and primary importance, for it is on these that the deleterious properties of impure water for the most part depend.

Until very recently, chemists did not in general attach sufficient importance to these organic contaminations, and in most of their analyses we find the different kinds of organic matter, vegetable and animal, living and dead, all lumped together, and included under the word "Traces."

Indeed chemistry is but ill-adapted to investigate the nature of these organic matters; it gives but a very rough estimate only of their gross amount, and does not discriminate, as we have said, the animal from the vegetable, the dead from the living, and tells nothing about the families, genera, and species, to which the numerous living productions contained in impure waters severally belong, or of their habits and modes of life, &c.

This inquiry belongs to the naturalist, the physiologist, and the microscopist, and to Dr. Hassall is due the honour of having first applied the resources of these extensively, and in a practical as well as a scientific manner, to an examination of the actual condition of water in general, and particularly the state of that now in use in the metropolis.*

Uses of Vegetables and Animals in Impure Water.

In the existence in impure water of different kinds of organic productions, we recognise the fulfilment of wise and beneficial purposes.

* Results of a Microscopical Examination of the Water supplied to the Metropolis and the Surburban Districts.—THE LANCET, March 1850.

A Microscopical Examination of the Water supplied to the Inhabitants of London and the Suburban Districts, Illustrated with coloured plates. Samuel Highley, Fleet-street.

Evidence before the General Board of Health. Report, Appendix III.

If all the organic matter present in some waters were to be removed by the ordinary processes of putrefaction, decomposition, and the formation of offensive and deleterious gases and compounds, incalculable mischief would constantly ensue. To obviate this, nature has ordained that some of the organic matter of impure water, in place of undergoing decomposition, should be imbibed by other and living forms, and, these dying, that other generations should take their place, and fulfil a similar important office.

In the deep well, where the conditions necessary to animal life do not exist, the same end is accomplished by the formation, out of the nitrogen of the organic matter, of nitrates, to which we have already referred.

The purposes fulfilled by living vegetable and animal productions in water are, then, of an eminently useful and preservative character; and this observation is true particularly of the vegetable productions contained in it, including both the lower forms, as the confervæ and other algæ, and the higher plants, as the flowering; for these not only remove the organic matter dissolved in water, by absorbing it into their own tissues for appropriation, but they still further purify water by the effect of their respiration.

Animals, during respiration, exhale a large amount of carbonic acid; vegetables absorb this, fix the carbon in their own tissues, and restore the oxygen to the air, if the plant be aërial, and to the water, if it be submerged and aquatic.

Inorganic Impurities.

Water is a substance formed by the chemical combination of two gases, oxygen, and hydrogen, in certain proportions: these alone being necessary to its constitution, all other inorganic matters contained in it are to be regarded as unnecessary, extraneous, and frequently injurious additions.

Under the head "Inorganic Impurities," therefore, we include, first, all those inorganic substances which are merely suspended in the water, as sand and grit; and, second, those substances which are in a state of actual solution, as the saline, earthy, and metallic salts, present in most waters, and the gases.

Inorganic Impurities in Suspension.

The inorganic impurities which are merely suspended in the water are the least important of all, since they do not impart any deleterious properties; they consist chiefly of particles of a stony nature, which are therefore heavier than water, and are readily separated, either by subsidence or filtration.

The quantity of grit or sand in suspension in water varies with the condition of the water and the state of the weather.

If the water be kept in continual agitation, as by the passage of boats, barges, and steam-vessels, it will always contain a very large quantity of earthy matter diffused through it, sufficient, indeed, to impart an opaque appearance and an earthy colour. The water of the Thames near to London is usually in the state described, and a sample of it is generally opaque and discoloured, by reason of the immense quantity of earth suspended in it.

Again, water kept in a state of motion by storms, wind, and rain, will be affected in a similar way, and will be laden with earthy matter.

The water just poured into a dirty reservoir or cistern remains in the state described for some hours after, in consequence of its stirring up the accumulated sediment contained in it.

Inorganic Impurities in Solution.

The salts contained in water may be divided into the *earthy*, *alkaline*, and *metallic;* and it is to their presence that many of the sensible properties of water are due, as its softness, hardness, alkalinity, and acidity.

Softness is a property common to all the purer waters, as distilled, rain-water, &c., and is possessed in greatest proportion by those waters which contain the least amount of earthy salts.

The alkalies or alkaline salts, however, possess the property of imparting softness, and hence their employment in soap and washing powders.

The degree of *hardness* of water depends upon the amount of earthy salts dissolved in it, that is, of sulphates and bicarbonates of lime and magnesia, but particularly of the bicarbonates.

The *alkalinity* of water is dependent upon the amount of alkalies present in solution, the principal of these being the carbonates of soda and potash.

The *acidity* arises, of course, either from the presence of acid salts, or some free acid, as the carbonic.

When we come to consider "the different kinds of water," we shall have again to refer to the sensible qualities we have thus briefly alluded to.

The two great metallic impurities or contaminations of water are those by lead and iron, each of which, but especially the first, we shall consider in detail.

On the Action of Water on Lead.

Notwithstanding that lead has now been employed for ages in the storage and conveyance of water, the principles of its action on that substance have been, in general, but ill understood and defined. Much uncertainty and contradiction have prevailed, even amongst scientific men, as to what waters act most on lead and what least; some asserting that soft waters do so, and others, that hard waters affect lead most.

These principles will be found to be in strict accordance with the laws of chemical combination.

In speaking of lead in connexion with water, we commonly make use of the phrase, "the action of water on lead:" this phrase, unless clearly explained, is liable to be associated in the mind with error.

Water, as we before observed, consists of oxygen and hydrogen: the only combination, therefore, which could by possibility result from the decomposition of water and the union of its elements with lead, consists in the formation of the hydrated oxide of that metal—an almost insoluble compound.

But the waters in general use contain several gases and salts; these act on lead in a variety of ways, or, in other and more definite words, form various combinations with lead.

Lastly, water imbibes air and other gases, the oxygen of the former combining with the lead, and forming the oxide.

When, therefore, we speak of the action of water on lead, in general terms, water in the condition in which it is commonly met with is implied; but in our scientific inquiries we must carefully discriminate between the effects of the action of pure water on lead and those effects which result from the presence of the salts and gases so commonly contained in water.

The effect of the action of pure water, then, on lead, supposing it to be really decomposed, is to give rise to the formation of a hydrated oxide, the same body likewise being formed as the result of the presence in water of free oxygen derived from the atmosphere.

But in some cases lead does not only exist in water as a slightly soluble oxide, but is in a state of chemical solution; and we have now to inquire in what condition it may be supposed to be in such cases. The most common soluble salt of lead detected in water is the carbonate, which consists of carbonic acid in union with the oxide of lead.

Now an oxide is a body or base in combination with oxygen, which readily unites with any free acid with which it may come in contact: in a water, therefore, acid from the presence of free or uncombined carbonic acid, stored in a leaden vessel,

and exposed to the air, all the chemical conditions necessary for the formation of a soluble and dangerous salt of lead exist. The cistern is the metal; the water itself, or the air contained in it, supplies the oxygen by which a portion of that metal is oxidized; and with the oxide thus formed the free acid also present readily combines.

ON ARNICINA,

A NEW ORGANIC BASE FROM ARNICA MONTANA*;

WITH SOME REMARKS ON THE GENERAL METHODS OF ISOLATING ALKALOIDS.

By Mr. William Bastick.

THERE is, perhaps, no inquiry more interesting and important to the physician and the pharmaceutist than that which has for its object the discovery of organic bases, especially when directed to those substances of the materia medica which stand in high and deserved repute.

The reason of this importance and interest is manifest, when we consider how extensively the salts of quinine have displaced the use of bark, and the salts of morphia that of opium; and that it may be laid down as a law in pharmaceutical chemistry, that, when a plant contains an organic base, then that organic base is the active principle of the plant.

The time is probably not long distant when the salts of conia, hyoscyamia, and atropine, will be found in the Pharmacopœia, to the exclusion of those necessarily uncertain preparations, tinctures and extracts of conium, hyoscyamus, and belladonna, as recommended by Liebig and other distinguished authorities.

The number of vegetable bodies containing alkaloids is, I believe, much more extensive than is generally expected, judging from the investigations already published, and the light which analogy sheds on the chemical constitution of plants.

The importance of the discovery of morphia by Sertürner, in 1804, is scarcely possible to be over-estimated; for he was the pioneer who led the way in a department of pharmaceutical research which has enriched the materia medica with that valuable class of bodies the alkaloids, and promises still more numerous, if not more remarkable, acquisitions to it.

No sooner had Sertürner announced the method by which he had succeeded in eliminating morphia from opium, than the continental pharmaceutists, with a worthy rivalry, commenced

* The tincture of arnica has been used with advantage in veterinary medicine.—Ed. Vet.

investigations in every direction, hoping thereby to obtain similar results from other bodies whose activity on the animal economy had been clearly ascertained. After a time, richly rewarded were their foresight and zeal; for Gomes discovered cinchonine in 1811; Pelletier and Caventou isolated emetine in 1817, and quinine in 1820; Meissner obtained veratrine in 1818; and Pelletier and Caventou discovered strychnine in the same year. Several other organic bases were discovered by these and other pharmaceutists about and during the same periods.

After this time the progress of the discovery of the alkaloids comparatively ceased,—for the simple reason, that the methods by which the above bases were eliminated failed when applied to the extraction of similar bodies from such plants as conium, tobacco, hyoscyamus, &c. Pharmaceutists then properly turned their attention to devising new methods for the separation of organic bases, reasoning correctly that the plants from which they failed to obtain them might, nevertheless, contain them; but that the alkaloids sought for might possess such different properties from those already known as to render their elimination by the usual methods impossible.

They succeeded in devising new methods, and these new methods were eminently prolific in important results; for we are indebted to them for a number of alkaloids possessing such active powers on the animal economy as to be unsurpassed by any substances before known, either of organic or inorganic origin.

It is customary with the authors of works on systematic chemistry to divide the alkaloids into two classes, the non-volatile and the volatile, and, in pursuance of this arrangement, to give two general methods for extracting them. The first consists in treating the substance containing an organic base with a dilute mineral acid, for the purpose of dissolving it thereout; the base is then precipitated from this solution by a caustic alkali. This process is suitable when the base is not decomposable by alkalies or not very soluble in water, and is best adapted for those which are non-volatile. The second method directs the substance to be distilled with a weak solution of a caustic alkali, and is available when the base is volatile and not readily decomposable by caustic alkalies.

In confining themselves to this limited classification, these writers have left unprovided for a great number of alkaloids, which admit, and are perhaps not unworthy, of forming a class, and consequently a method indicated by which they may be, in general, recognized and eliminated.

The alkaloids alluded to are those which are destroyed by the

action of caustic alkalies, and are, consequently, not to be obtained by either of the above methods; as for example—hyoscyamia, daturina, atropina, aconitina, and lobelina. Some of these are volatile and others non-volatile, and they also vary considerably with respect to the degree of their solubility in water. But they all agree in one important point, viz. that they can be extracted from their sources by the process which I have previously described for obtaining lobelina.

My object in endeavouring, however imperfectly, to give a concise account of the discovery of organic bases, and the methods for their extraction, is to invite the attention of British pharmaceutists to an extensive and important field of inquiry, and to the precautionary measures required in searching for alkaloids amongst the numerous potent members of the vegetable kingdom, although not altogether to discard the old methods for their detection; yet when they fail to prosecute their researches by the more recent ones, and even when both are ineffective to devise methods for themselves. It may be mentioned to shew the facility of the process to which I have endeavoured to call attention, as well as the no doubt extensive results which may be secured by it, that, in addition to the isolation of lobelina, I have obtained strong indications by it of organic bases in Spigelia anthelmintica, Aristolochia serpentaria, besides the organic base arnicina, from Arnica montana, which the chief object of the present paper is to describe.

Arnica montana, although not extensively used in this country, is held in high estimation by the medical profession in Germany as an effective remedial agent. It is known to exercise a powerful and defined action on the animal economy. The flowers and other parts of this plant have several times been chemically examined, and their virtues have been generally ascribed to an acrid resin which they contain. But there has been much doubt expressed as to whether this resin was really the active principle; for Professor Pfaff, of Kiel, observes, "Arnica flowers is one of those agents whose chemical composition and therapeutic powers, which depend on the former, are enveloped in obscurity."

Dr. A. T. Thomson has recorded his belief that he had detected igasurate of strychnine in the flowers. This statement induced Versmann, at the suggestion of Pfaff, to institute an inquiry by direct experiment as to its correctness. The result was that he has proved the absence of any compound of strychnine in them. My experiments bear testimony to the truth of his conclusion in this matter, while I differ entirely from him in another one, that in which he denies the existence of any alkaloid in this plant. But it is not altogether surprising that he should have overlooked the presence of an organic base in

it, for he proceeded in his research upon the assumption that, if arnica contained an alkaloid, it would be precipitated from its solution by ammonia. This failure of Versmann to eliminate the organic base of arnica is an evidence as to the necessity of, as I have previously remarked, pharmaceutists using the improved methods in their investigations.

The flowers of the arnica montana being that part of the plant in which its medical qualities are said to be most predominant, were selected for examination.

They were subjected precisely to a similar process to that by which lobelina was extracted from lobelia inflata, the result of which was the elimination of an organic base, arnicina. This substance has a strong alkaline reaction. It combines with acids, forming a series of salts. When exposed to a high temperature it suffers decomposition, and leaves a carbonaceous residuum, consequently it is not volatile. I have not yet been able to ascertain whether it is crystallizable, in consequence of the smallness of the product which the flowers yielded; but, as far as can be judged from its condition when obtained by evaporation from the ethereal solution, it has a disposition to assume that form. To the taste it is slightly bitter, but not acrid, and has the odour of castor. From the aqueous solutions of its salts it is precipitated by tincture of galls in somewhat dense flocks. It is slightly soluble in water, but much more so in alcohol and ether. When subjected to the action of caustic alkalies, it is decomposed.

The hydrochlorate of arnicina, after being freed from its colouring matter by animal charcoal, forms stellated acicular transparent crystals.

What are its peculiar therapeutic properties is a question that must remain for the skill of the physiologist to determine. This base, doubtless, deserves a more complete examination than it has received; but this task can only be accomplished by operating on a large quantity of the flowers, as, independently of the small per centage of arnicina which the flowers primarily contain, much of it is unavoidably lost in each step of the process for its eduction.

In conclusion, whilst again presuming to impress on the attention of pharmaceutists the necessary advantage of a thorough re-examination of those vegetable substances of remarkable character which have been pronounced to be destitute of alkaloids, as well as those which have received no examination at all worthy of being so called, let me observe in the words of Kopp, the author of a valuable memoir on the artificial formation of alkaloids, that "such a work would be within the domain of the pharmaceutist who, being perfectly familiar with the

ordinary modes of their extraction, could, without any great difficulty, isolate pure and frequently crystallizable principles. If their elementary analysis and their exact description were beyond the ordinary means at his disposal, any chemist would willingly carry on the examination of the substance thus isolated, and in this manner contribute his share to the advancement of his own science."

Pharmaceutical Journal, Feb. 1851.

Foreign Extracts.

RACING CONSIDERED AS A MEANS OF IMPROVING BREEDS OF HORSES FOR GENERAL USE, AND FOR MILITARY SERVICE.

[Concluded from page 100.]

By well-directed procedures such as these, always selecting the breed uniting in their conformation and temperament the best qualities of speed, and coupling them together without mixture, have the English succeeded in framing their race-horse. Whenever any end was to be achieved, they have never failed to accomplish it, regardless of the time, the expense, natural or incidental obstacles, and any struggles they might have to make against circumstances often directly opposed to their work of animal improvement. We have no such perseverance as this in France. We lack the pertinacity indispensable to the perfection of breed in the manner in which it has been brought about in England. With the exception of Merinos, we possess no kinds of animals other than are indigenous to our soil. Nevertheless, we have made attempts to follow the example of the English, not to produce a race-horse like theirs, but to preserve such as we have bought from them. But the race-horse has proved to be an artificial genus, perfectly distinct from every other, and one which in France we have not been able either to produce or maintain, save in the hands of a very limited number of proprietors equal to the task in point of fortune and skill in management.

The production of the cavalry horse must differ considerably from that of the race-horse, in being more easy, more simple, and especially more economical. A racer must be of a nervous temperament, highly irritable and vigorous, and should be able to call forth all his power and impetuosity in the short space of time in which he is engaged in the race, supposing even that he

is fit for nothing after the trial is over. The race is his only sphere; he is not required to serve any other purpose. No matter how useless or helpless he is in other respects, so long as he wins his race he is highly prized. But no longer. For, whenever he falls lame or is crippled, which is but too often the case, he becomes of no value, being fit for nothing. Whereas the really serviceable horse in point of breed is to the end fit for some purpose or another.

In order to preserve the purity of the blood of the race-horse, or even to benefit by crossing it, like must be coupled with like, or there must be some approach of breed or propinquity of blood to insure success. Crossing without reference to this fails in producing any thing but bastard nondescripts, neither one thing nor the other. Nor does one kind of animal thrive and do well in a country the same as another. One might just as well expect vegetables of all kinds to live and thrive in all parts of the globe as animals. Neither is unity of blood nor climate the only thing to be considered; for the produce of such artificial stock as racers are are found to be delicate and difficult to rear, requiring, like their parents, more than ordinary care, and incurring expenses which are not found to repay their breeders, save in the case of the pure indigenous blood for the especial purpose of racing.

Having submitted our thoughts on the principles we have deduced from extensive observation, let us look back and see how far they have, in past events, been realised.

For twenty years ALSACE possessed a stallion of pure blood, purchased in England He was got by Orville, and was called FULFORD. He was taken into the province of the Bas-Rhin, a part of the country where he was expected to propagate his blood with the happiest results. His produce, which we have observed in various localities, possessed generally plenty of courage, but were difficult to break in. Almost all of them were irritable, and often proved vicious. Fulford, who himself was tricky and dangerous, transmitted his vices, hereditarily, to most of his progeny. We ourselves had one of his get, who, like all his brothers, lacked regularity and harmony in his form, and was very troublesome either to dress or to mount. Furthermore, he possessed none of the characters of a cavalry horse, though admittedly one of Fulford's best get. We sold him for the moderate sum of 300 francs (£12..10*s*.). And, notwithstanding the great character he bore, Fulford, who died in 1831, at the age of nineteen, left behind no traces of amelioration in the light portion of his owner's stud, as might indeed have been easily foreseen.

Breeders of race-horses for the purpose of the turf are far

from acting in the matter with discretion. Influenced with the consideration of their produce running for stakes, they bring them up in a manner which hastens their development. They force their growth by every means their art suggests; in which respect they resemble skilful gardeners, who force the growth of vegetables upon hot-beds and under frames. Training is well regulated; and a tonic regimen is exhibited, causing the development of the muscular system, which becomes so vigorous that it grows disproportionately to the osseous, tendinous, and ligamentous systems, whose vital action is more tardy than that of the other tissues. The result of this in these young subjects is, ruptures, distentions of the bursal structures connected with the tendons and ligaments, diseases of the bones, whose solidity and epiphyses are not as yet perfected. And how can it be otherwise? These organs are expected to offer resistance, notwithstanding their defective solidity, to the efforts of the muscles called forth during the race.

In England it is customary to run horses at two years of age. In order to prepare them, they are forced to be mounted at the age of eighteen months, a period when the tissues are so wanting in consistence. And since we have been imitators of the English in this vicious practice, we bring our racers to the post at three years old, and consequently are obliged to put them into training at thirty months. One might think that this training being so gradual, was not injurious. But such practice, although somewhat later in life, is no less forced. And it is a pity that the state encourages such hurtful practices by the prizes they award to racers. They are contrary to the most elementary laws of the perfectionment of animals. Added to which, it may be remarked, that blood horses are more tardy in their development than half or mongrelbred horses. This drawback on the production of good horses did not escape the observation and genius of Napoleon. When he, by his decree, instituted racing, he forbid the trials of any horses prior to their fifth year. And this principle still held good in the regulations concerning races made 27th of March, 1820.

In conclusion, it is our opinion, that,

1. Racing may be made to serve as a test of the worth of stallions, and may conduce to the improvement of breed; but to this end it should be honestly conducted, well studied, and adapted to the capabilities of the kinds of animals employed in it.

2. The mode of racing practised at the present day does not conduce to the end proposed by Napoleon, according to his establishment of it in 1805. It is impossible that horses reared in the artificial manner racers are for this especial pur-

pose, can improve our breeds for general and military service. Science explains why; experience has demonstrated it.

3. The breed of horses of which agriculture exclusively has directed the production, is the only one that has maintained its purity and has prospered. Such as have mingled with racing blood have degenerated, and have alone become mongrels.

4. The question of the improvement of animals is a question of the study of the laws of nature, and of their influence over the vital functions of organised bodies. It will continue an unsolved problem so long as the natural sciences are not made the basis of rational principles, alone capable of elucidating the abstract practice of the crossing of breeds.

5. The enormous expenditure made by the State (of France) for upwards of three centuries, towards the improvement of the breeds of cavalry horses has always failed of its objects. It has ever served to throw impediments in the way, by the want of the requisite knowledge on the part of those who had the conducting of it, both before and after the French revolution.

6. The Republic must set these matters to rights. They must no longer suffer the monies of the tax-payers to be wasted through ignorance and cupidity.

THE VETERINARIAN, MARCH 1, 1851.

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

OUR last number contains an article—continued in the present one—translated from the French Journal, *Recueil de Médecine Vétérinaire*, on "Racing considered as a Means of improving the Breeds of Horses." The writer of this, after reminding us of a principle ever to be kept in view by those who study animal mechanics, viz. that, in spite of every perfection of form, yet may a horse turn out comparatively worthless from the lack of *blood*, "the soul which animates the machine;" an animal, aptly enough by the French author, compared to a locomotive engine whose construction is perfect, "but which is deficient in the required steam to force it onward;"—after this, we repeat the writer goes on to say—"If racing has shewn itself to be the best means of improving our breeds of light and speedy horses, experience has also shewn that, as practised in England, it has operated to a greater extent than might be imagined in destroy-

ing the breeds of saddle horses, in times past so much in request for commercial and military purposes." This is a remark applicable out of the country in which it was made. We are afraid our own land has rendered itself amenable to the reflection. We no longer see in it, or at least nothing like in the same ratio, horses of that useful character for general purposes which it once could abundantly boast of. On the turf, our King's plate horses have given place to high-flyers. The hunting field is beset with the same stamp of horse in lieu of the old, weight-carrying, enduring hunter; our heavy dragoons are under-mounted; our artillery weakly horsed to what they were wont to be; and all because we, in our eagerness to gain possession of blood of horses, have lost sight of the really useful and serviceable breed.

Such being, beyond contradiction, the condition of our breeds of horses of the present day, it becomes a duty imperative on us, as it has seemed to be on the French writer, to inquire into the causes of these sad fallings-off in our equine stock; for "fallings-off," and grievous ones, they most unquestionably are. In the translated article, from which we have been quoting, it is stated, that the introduction of English blood for the alleged purpose of "regenerating" their "old stock" has worked unfavourable changes among the horses in France. Crossing, says the writer of it, can only be practised with advantage so long as we attend to the laws which, according both to nature and reason, govern the process. "The study of the most elementary principles for the improvement of animals teaches us, that, in order to improve the breed of a country, it becomes requisite to cross it with other breeds which possess at least *some analogy of structure with it, providing that be of a superior order.* So far, concerning the blood. But to be added to this, there is another consideration, which is, that we must not only take care to produce a fitting progeny, but to rear such progeny profitably, when once we have produced it; i. e. we must feed it, house it well, &c. &c. To the neglect or disregard of one or both of these considerations it is that the French writer ascribes the failure in his own country of breeding to advantage by crossing their indigenous stock with British thorough-breds.

That racing has, up at least to a certain point, been productive of the happiest effects in improving most of the breeds of

horses in our own country, is too manifest to admit of a question. To racing, in fact, for our blood stock we owe every thing. Our racers are unrivalled. Arabia herself, although their acknowledged parent, can no longer send competitors that can run with them for the prize of speed and bottom. But, in our fondness for, and eagerness to excel in, so beautiful a breed of horse as the English racer is all over the world acknowledged to be, it becomes a question whether we have not outrun our object, or, in other words, carried what we have all along viewed as "perfections" rather too far?—sought it at the cost of utility and serviceability? Have we not at the present time more blood-horses in the country than we have ever been known to possess at any former period? And are not the really serviceable hackney, hunter, troop-horse, and harness-horse, in proportion on the decrease? These are vital questions—questions to which we would fain give other answers than such as observation and experiment and truth dictate to us.

As we have already hinted, we believe the main cause of this decrease in our more useful classes of horses to be owing to an over-fondness on the part of our breeders for *blood*, to the sacrifice or exclusion of that property which is so necessary to be combined with it, viz. *bone*. There can be no doubt but that the modification of the conditions on which the Queen's plates are run for—allowing horses to run races of two miles instead of compelling them to run heats of four, and to carry less weight than formerly—have had some influence in bringing about this unwholesome change; but what has had greater and more extensive influence is, the total revolution in the practice of racing—bringing two-year olds to the starting post, and running them half or whole miles with feather weights upon their backs, in order to test their powers. This has not only been creative of a progeny light and airy, and with little bone, to suit the purpose of the day; but it has likewise had a tendency to ruin such youthful aspirants as possessed, or rather promised to inherit, great powers, by crippling such powers ere they have had time to develop themselves. Add to these causes, the universal outcry there has of late years been among us for blood! blood! blood! for purposes either of riding up to hounds trained after the manner of racers, or of steeple-chacing, or of going under saddle or in

harness so many miles in so many minutes, and we shall have a category of the causes which have gradually been bringing about this deterioration—for so we must call it—in certain of our breeds of horses. Breeders must necessarily conform their stock to the demands of the market. Whatever description of horse is most required, or fetches the highest price, that kind they will breed. We therefore cannot lay the blame of our degenerated stock of horse-flesh so much upon them as upon "the manners of the times." People now-a-days do not leave their soft couches before the sun is up to ride to cover and find Reynard through his "drag;" but must have their *dejeuner à la fourchette* at their accustomed hour, and meet the hounds after the advance of day has rendered it necessary for sport, either that the game should be served up ready for the start, or else pounced upon in some home and well-preserved copse. And then *racing*, not hunting, commences.

PROCEEDINGS OF THE COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

Wednesday, January 29, 1851.

Present,—Messrs. BRABY, BURLEY, (Leicester), CHERRY, A. CHERRY, ERNES, HENDERSON, KENT, (Bristol), M'KENNA, (Belfast), Prof. MORTON, PEACH, (Wentworth), PRITCHARD, (Wolverhampton), Prof. SIMONDS, SILVESTER, (St. Albans), J. TURNER, WITHERS, (Bristol), and the SECRETARY.

Mr. KENT, of Bristol, Vice-President, in the Chair.

THE minutes of the previous meeting were read and signed.

The Secretary read a letter of resignation, on account of illness, from the President, Mr. Thomas Turner.

On the motion of *Mr. A. Cherry*, seconded by *Mr. Pritchard*, Mr. Turner's resignation, under the circumstances, was accepted.

Mr. Ernes moved "That the Council, deeply sympathizing with the cause that has led to the regretted resignation of Thomas Turner, Esq., from the office of President, resolved, "That a vote of thanks be tendered to him for the zealous and able manner in which he has discharged the arduous duties of that office."

Mr. Pritchard seconded the motion.

The Secretary could not allow the motion to pass without expressing his warmest and deepest feeling on the unfortunate circumstance. No one belonging to the veterinary profession had ever felt so deeply, so intensely, and so continuously for the honour, dignity, and welfare of that profession as the late highly respected President, Thomas Turner, Esq. No one individual had ever shewn such total negation of self on every occasion; time, trouble, or inconvenience, were to him perfectly immaterial, as long as any one grand object could be obtained. He it was who, when their body had contracted debts which they could not liquidate, generously offered a loan, by which the liabilities could be met; he thought, therefore, that the vote of sympathy and thanks was eminently due to him.

The resolution passed unanimously.

Mr. James Turner acknowledged the vote of thanks on behalf of his brother; he also proposed as the future President Mr. Robinson, of Tamworth.

Mr. Burleigh seconded the motion. A more highly respectable, pains-taking, and industrious man than Mr. Robinson he did not know in the profession. He stood exceedingly high in the locality in which he resided, and was well known by his attendance at the Council meetings. He had been always ready to devote his time, when called upon as one of the Board of Examiners; and if elected President, he doubted not that he would cheerfully bestow his time and labour to the best interests of the Council and the profession.

Mr. Ernes had not the slightest objection to Mr. Robinson; but there was another member of the profession who he thought merited the compliment of being elected President, in consideration of the services he had rendered the veterinary profession. He begged to propose Mr. Sewell as the future President.

Professor Morton seconded the proposal. Few men (he said) had taken deeper interest in the profession than Mr. Sewell; and although he had not been with them personally, he was certainly with them in mind and sentiment. Having known him for twenty-five years, he could speak confidently respecting him; and he was convinced that, should he be elected President, he would give them all the support and assistance in his power.

A ballot was taken by the Chairman, when there appeared

For Mr. Robinson	11
,, Mr. Sewell	3
Majority in favour of Mr. Robinson .	8

The Chairman declared the election to have fallen on Mr. Robinson.

The meeting was then dissolved.

By-Laws.

A meeting was then held to consider the By-laws, as suspended in October.—Mr. Kent in the chair.

The Secretary stated, that the By-laws had been suspended the required length of time, and were now brought forward for the approbation of the Council. The only amendment was one by Mr. Braby, to the effect, that the Secretary should keep the financial accounts of the College.

The By-laws were then read *seriatim*, and were passed with a few verbal amendments.

In reference to law 13,

Professor Simonds objected to the charge of ten guineas as an examination fee. He thought a fee of five guineas for examination, and one guinea for registration, would be ample. The fee of ten guineas he considered as an injustice to the pupil.

Mr. Ernes was of the like opinion.

The Secretary thought the fee necessary to exclude uneducated persons, and to keep up the respectability of the profession.

Professor Morton denied that the fee would prevent the introduction of uneducated persons, but rather excluded educated men with limited means.

Mr. Henderson would cheerfully pay ten guineas to maintain the respectability of the profession.

Mr. A. Cherry advocated the raising of the College fees from twenty to fifty guineas.

Mr. Sylvester would be happy to see the examination fee doubled.

The law passed unaltered.

In reference to the law requiring the signature of the Examiners to the diploma,

Mr. Ernes said he thought such signatures altogether needless on the diploma, which, he contended, should be signed only by the President and two members of the Council.

The majority of the meeting were of a contrary opinion, and the law was consequently retained.

On law 52 being read,

Mr. Braby moved an amendment, requiring the Secretary to keep the financial accounts of the College.

Mr. M'Kenna thought it advisable that there should be some check on the Treasurer, who, otherwise, might have an opportunity of appropriating the College funds to his own purposes. He suggested that all cheques should be countersigned by two members of the Council.

The Secretary said that Bankers objected to cash cheques with many signatures.

Professor Morton said such was not the case with regard to the Royal Veterinary College.

Mr. Ernes said that railway companies trusted their treasurers, who alone signed the cheques.

The Secretary stated, their cheques had remained uncashed for three months, because the Bankers were not satisfied with the signatures.

It was agreed that the Treasurer alone should sign the cheques.

Law 52 (relating to the Secretary) passed unanimously, with the addition of the words "and shall keep the financial accounts of the College."

The proceedings terminated with a vote of thanks to the Chairman.

SPECIAL MEETING.

February 12*th*, 1851.

Present,—The PRESIDENT, Messrs. CHERRY Sen., ARTHUR CHERRY, ERNES, GODWIN, HENDERSON, KING, Professors SIMONDS and SPOONER, J. TURNER, and the SECRETARY.

The PRESIDENT in the Chair.

Before the proceedings commenced,

Mr. Robinson took the opportunity of acknowledging the honour that had been conferred on him by his election to the office of President: he would only briefly allude to passing events—he had but one object ever in view, and it was still, and would always be, his study to further the interests of the profession, and begged to tender his thanks for the feeling which had actuated the Council in electing him.

The meeting of that evening was called, for the purpose of confirming the By-laws passed at the previous meeting; they had then undergone a most careful investigation as well as having been the subject of amendment and consideration at many previous ones. These laws were for the purpose of carrying out the intentions of the Charter: he hoped there would now be no demurrer to their confirmation.

Mr. A. Cherry moved, and *Mr. Turner* seconded, "That the By-laws, as passed at the last meeting, be now confirmed."

Professor Simonds objected to law 27, relating to the fee for examination; but subsequently withdrew the opposition, substituting a notice of motion for the alteration of that law, to be suspended for the prescribed time of three months.

The laws were then unanimously passed, and officially sealed by the President.

Mr. A. Cherry moved, and *Mr. Gabriel* seconded, "That the old code be now annulled."—Carried.

A protest was then handed in against law 27 in the new code, signed by Professors Spooner, Simonds, and Morton.

Mr. Henderson moved, and *Mr. A. Cherry* seconded, "That the By-laws and a copy of the Charter be printed."—Carried.

Mr. A. Cherry drew the attention of the President to a point of error relating to an inaccuracy in the report of the meeting for July 17th, 1850, in which it was stated that the section of the Board of Examiners acting for Scotland was "*dissolved.*" This error had led to much misconstruction; and to correct it he would suggest that the motion referred to should be appended to the next report. It was agreed to.

Motion put and carried July 17th, 1850, "That the portion of the Board of Examiners acting for Scotland be *re-organised.*"

The same gentlemen having been named as the Committee of supervision of the Report as at the last Council, the meeting terminated.

MISCELLANEA.

STATISTICS OF CARRIAGE TRAFFIC IN PARIS.

A RETURN has just been drawn up, with all possible exactitude, of the number of carriages of every kind, including the number of horses, now circulating in Paris. The results of this return are as follow:—Ordinary and supplementary hackney carriages, 1828, viz., ordinary cabs 733, supplementary ditto 61; ordinary chariots 62, supplementary ditto 31; ordinary hackney coaches 847, supplementary ditto 94; job carriages 3000; omnibuses 400; carriages called *concons* 28; stage carriages to the environs of Paris, and special carriages in connexion with railway stations 2000; private cabs on two wheels 4000; private carriages on four wheels 13,000; total of carriages circulating in Paris, 24,256. Carts, tumbrils, drays, market carts, vans, trucks, &c., 25,000; water-carriers' carts 1000. The number of horses employed in Paris for all purposes is 24,000. The distance performed by each omnibus averages 16 leagues (40 miles) per day. They carry each 150 passengers in the course of the day. The number of these omnibuses is 400; consequently the total number of persons conveyed in one day is 60,000, 1,800,000 in a month, and in a whole year 21,600,000. In London there are 3000 omnibuses, each running a distance of 60 miles, and carrying 300 passengers per day, or altogether 300,000,000 in the year.

THE

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REMARKS ON THE PEDIGREES OF HORSES.

By Wm. Goodwin, M.R.C.S., Veterinary Surgeon to the Queen.

[Continued from page 139].

Many years ago, I was struck with the originality of some genealogical tables that were designed by a Mr. Lounin, a Russian, which have since been published in the Russian Stud Book. Mr. Lounin, who is since dead, was not far wrong in taking the following horses as the three sources from which all our best animals have sprung. The plan adopted was to trace the paternal side, and enumerate only such horses as were grandsires of winners; by which means we have a collection from which, you will perceive, it is easy to derive the pedigrees of all our horses of the present day*.

1689	Byerly Turk	1724	Godolphin Arabian	About 1700	Darley's Arabian
1718	Jig Partner	1734	Cade	1716	Bartlett's Childers
1749	Tartar	1748	Matchem	1732	Squirt
1758	Herod	1767	Conductor	1750	Marske
1774	Highflyer	1782	Trumpator	1764	Eclipse
1784	Sir Peter	1796	Sorcerer	1773	Pot-8-os
1799	Walton	1808	Soothsayer	1790	Waxy
1811	Partisan	1815	Welbeck	1807	Whalebone
		1823	Bedlamite	1822	Camel.

Having thus far traced the pedigrees down to horses of no distant period, it is easy to derive the blood of almost every horse of note from one of these sources: let us, for example, take four stallions of the greatest celebrity of the present day, as

* We have deemed it necessary to reprint this paragraph of Mr. Goodwin's paper for two reasons:—first, that the present article may run on intelligibly; and, secondly, because some of the names of the horses in the former list were incorrectly given.—Ed. Vet.

Touchstone, Melbourn, Bay Middleton, and Epirus. Touchstone would already come into the foregoing list, he being the sire of Cotherstone, who is already the sire of many winners. Touchstone is by Camel; Melbourn by Humphrey Clinker; Comus by Sorcerer, Bay Middleton by Sultan, Selim by Buzzard—Woodpecker—Herod. Epirus—Langar—Selim, &c.

It will, of course, in deriving the maternal side of a pedigree, be perceived, that the circumstances are very dissimilar—the influence of a sire being much greater than that of a dam. The former may get fifty foals in one year, and for several years together; whereas, we know that the mare produces but one foal in the year, and may be very uncertain in either producing or rearing this single produce.

But, to elucidate the derivation of the maternal side from the same sources, the Barb and the Arab, I will take three of our most celebrated mares of the present day, viz. Barbelle, Crucifix, and Emma, respectively the dams of the Flying Dutchman, Surplice, and Cotherstone.

Dam of the Two True Blues	Burton, barb m.	D'Arcy, blk. legged royal m.
Byerly mare	Dicky Pierson, m.	Dun Arabian, m.
Honeywood's Arabian mare	Brimmer, m.	Miss Slammerkin
Bartlett's Childers mare	Makeless	Mr. Fenwick's Duchess
Miss Belsea	Croft, bay barb m.	Pyrrha
Elfrida	Woodcock, m.	Beatrice
Editha	Old Partner, m.	Vicissitude
Pot-8-os mare	Miss Makeless	Gibside Fairy
Selima	Old Traveller, m.	Emma
Darioletta	Lass of the Mill	
Barbelle	Atalanta	
	Flora	
	Zara	
	Shuttle, m.	
	Octaviana	
	Crucifix	

The tracing of pedigrees to their original source is more a matter of curiosity than utility; although I have heard it remarked, that the Flying Dutchman derives his good qualities from the Two True Blues. But in these days, so far distant, surely it can lead to no practical results; convinced as we must be, that the produce of our day is an animal in every way greatly superior to the class of animals whence he is derived.

I have always contended that we are much, if not wholly, indebted to racing in this country for the superiority of our breed. It is the *trial* that in the first instance indicates the worth of the horse, and proves to us qualifications which are not

to be discerned by the eye alone. Then, again, we test the worth of their produce in our studs, where, if a stallion should fail to get winners or a mare to produce them, their value is again estimated by this second criterion.

Had we not these criteria to guide us, we should make as many mistakes as our continental brethren do: for, where is the man who can descry the goodness of an animal by looking to his outward conformation?—which, even with a knowledge and good judgment of action, would often lead him astray in attempting to form an opinion as to goodness, or powers of endurance and speed, &c.—The race alone is the unerring test.

Some writers have gone so far as to recommend that the money given for Queen's Plates, which our forefathers in their wisdom voted for the amelioration of the breed, should be appropriated for this object in other ways, such as establishing studs for stronger and heavier, and therefore, as *they* would infer, stouter, thorough-bred horses: but I hope the day will never arrive when our Government may be induced to entertain any such erroneous notions, and which can only in ignorance have been promulgated.

ON THE CÆSAREAN OPERATION.

By W. A. Cartwright, M.R.C.V.S., Whitchurch, Salop.

In the human subject, malformation of the pelvis is by no means rare; yet the Cæsarean operation is not very often had recourse to, and the consequence is, the child is frequently obliged to be sacrificed to save the patient's life; but in our patients we seldom meet with such malformations, except from accidents fracturing some parts of the pelvis.

The causes that may call for the performance of this operation in our patients may be the enormous size of the head or hips, or, indeed, of the whole body, and when we are unable to remove the fœtus by embryotomy; or a tumour in, or stricture of, the vagina, or ossification, degeneracy, or scirrhosity of the os uteri. Sometimes, it will be necessary to do so in cases of extra-uterine fœtation, or retention of the fœtus in the uterus, when the animal is becoming debilitated, and sinking in consequence. Now and then, though very rarely, torsion or twisting of the neck of the uterus occurs, when the operation may become necessary.

Dr. Ramsbottom has observed, that out of forty cases wherein

the operation had been performed in this country, only *three* cases have been successful, and one was by an ignorant midwife. In France they have been more successful, in consequence of the operation being performed more early, at a period before the patient became exhausted, and was better able to bear the shock.

At a confirmation held in Manchester in 1841, two sisters were presented for that ordinance to the Bishop of Chester, of the names of Betty and Ellen Welcock, who were both brought into the world by the Cæsarean operation. We believe a similar instance cannot be found on record. They were sixteen years old on the 1st July, 1841.

Although the operation, as subject to disputation, ought not to be hastily or lightly thought of, yet I do think that there are times, under particular circumstances, when it ought more frequently to be performed than it is at the present age. Is there not, I would ask, far less danger (although I grant but few recover from it) in performing this operation than in applying the protracted and monstrous force that is sometimes used, and which is disgraceful to human nature? As far as my own experience has gone, which has not been very limited, I most highly deprecate the force that is too frequently adopted. If by moderate force, or by embryotomy, the fœtus cannot be removed, I think it by far more advisable, rather than produce inflammation and extravasation in the parts, and debility and exhaustion in the system, to perform this operation at once. With some, if they can but get sufficient attachment to affix ropes to pull at, they are satisfied, no matter what size or shape the fœtus may be: they conclude that it will and *must* come away rather than be left behind.

The author of the work on "Cattle," in the year 1834, has said "that he has twice attempted the operation; but in neither case did he save either the mother or the calf, nor is he aware of any English veterinarian who has succeeded;" and he mentions only one successful case out of foreign journals; but since that time many successful cases have been recorded by English veterinarians, and very much to their credit. To reason by analogy, we should be led to expect a tolerable proportion of fortunate cases, when we look at the number of those where the abdomen has either accidentally or purposely been laid open in various animals, especially in the cow, that have recovered, which ought to encourage us in the performance of such an operation.

It would seem that nature, in many instances, has almost set us the example to operate, when we find her actually getting rid of the dead offending matter by a process of absorption of the

coats of the uterus and muscles of the abdomen and other parts of the body, as I have seen and recorded.

I will now give an account of the cases wherein the operation has been performed. The first on record that I can find in English journals, which was an unsuccessful one, was on a valuable heifer, the property of the Rev. H. Berry. It was one of extra-uterine fœtation; for on introducing the hand into the womb no fœtus could be felt, and every part requisite for the performance of parturition was distended. The operation was performed by his medical attendant, (vide THE VETERINARIAN, vol. vii, pp. 60-6).

The following case (see THE VETERINARIAN, vol. xii, p. 709) was communicated by Mr. John Ellis, V.S., Liverpool. He says, "I met with a strange collection of monsters the other day. Six sows, belonging to a gentleman whose stock I attend, all produced young ones blind. The greater part of them were without any semblance of an eye. The orbit was quite empty. Some of them had four ears each. Only four of the whole lot lived. They were either brought forth dead, or they died immediately after birth. One sow could not farrow any of her young ones. They were three times the proper size, and in a state of decomposition.

As there was no prospect of otherwise saving the sow, I determined on performing the Cæsarean operation, one I had successfully performed twice on the bitch. I did not find any difficulty in the operation; but I had delayed it too long, and in consequence she lived but three hours afterwards. I wish I had operated the day before, for I am persuaded that the result then would have been different. These pigs were all got by the same boar, but the sows were of different breeds. There was no previous circumstance to account for these strange freaks of Nature."

The next case (see THE VETERINARIAN, vol. xiii, p. 121) is by Mr. J. B. Carlisle, of Wigton, who operated on a sow that had been in labour six days, and was ten days over her time in pigging. The operation was performed on the 11th of July, 1839, and in a very short time she recovered. The pigs, seven in number, were dead.

Mr. Carlisle observes, "This case, however, does not stand unrivalled, even in my county, Cumberland. About sixteen years ago, a farrier of the name of Walker, residing at Brumpton, near Carlisle, performed the operation on a mare with success. The particulars of the case I cannot now relate, being at that time quite young; but I recollect that the poor animal was sadly mutilated."

Mr. Youatt, then Editor of THE VETERINARIAN, observes

on this case of Mr. Carlisle's, "We are not aware of any other recorded case of the Cæsarean operation, successful or unsuccessful, by one English veterinary surgeon;" but on referring to a quotation of his in a previous page, taken from his work on "Cattle," it will be seen that he himself had, in the year 1834, related two unsuccessful cases. Another was also unsuccessful in the Rev. H. Berry's case, as above mentioned. Also Mr. Ellis's.

In THE VETERINARIAN, vol. xiii, p 123, Mr. Youatt has translated several cases from Hurtrel D'Arboval's Dictionary, by M. Morange; and the first case was, I would say, a successful one in a cow; but owing to the improvidence of the owner in giving her a quantity of lucerne on the sixteenth day after the operation, at a time when every thing was going on well, she died of "hoove." In this instance, the cow had gone thirty-seven days over her time, and the cause of the operation was a permanent closure of the os uteri.

The next is an unsuccessful one, by M. Gohier, veterinary professor at Lyons. An ewe, four years old, was brought to him on account of protracted parturition. The animal had endured the extremest suffering during twelve hours. There were very slight efforts to expel the fœtus—excessive debility—very great inflammation and swelling of the lips of the vulva; added to the evident death of the little one, and the appearance of about three inches of the anterior extremities, without that of the head, which was bent backwards over the withers. These were the principal symptoms that presented themselves, the laborious parturition appearing to be attributable to the narrow diameter of the pelvis. Many prolonged efforts were uselessly practised to effect the extraction of the lamb; and perhaps they contributed, even more than the subsequent operation, to hasten a fatal termination of the case. The operation was performed; but she died the following day. On making a post-mortem examination, the pelvic cavity was found to be small, as the consequence of a fracture of the ileum. The sacral bones formed a considerable obliquity in the cavity of the pelvis, and a slight exostosis had grown there, and the head of the fœtus was arrested by it. The vagina and uterus were sadly bruised.

Another case was by M. Chretin. A cow, nine years old, and in poor condition, had exceeded the period of pregnancy about twenty days. She was exceedingly irritable, and was making continual efforts to expel the fœtus. The vulva was much inflamed, and on introducing the hand into the vagina, the neck of the uterus was found so swollen that the insinuation of the finger through it was scarcely possible. The suffering of the beast, and the imminent danger of the case, decided

him to have immediate recourse to the Cæsarean operation as the only means of saving her and the calf. The operation was performed, and the calf was extracted alive; but the cow died eight or nine days after, in consequence, it was supposed, of the non-absorption of five or six pounds of blood which had escaped into the abdomen.

Another case is related, by M. Gohier, of a cow that could not calve in consequence of there being an ossific tumour occupying one-third of the pelvic cavity, produced by a fracture of the ileum, near the hip-joint. The operation was performed, and the cow did well.

M. Charlot also practised this operation on a cow that for three days had been cruelly suffering, and was unable to expel the fœtus in consequence of a vaginal cystocele, which presented itself in the form of a round tumour, tense and fluctuating. There was, in fact, a laceration of the inferior portion of the vagina, through which the bladder had protruded itself. This was discovered after death, for the cow died soon after her delivery. The calf survived.

Mr. Praddal also operated on a cow that had passed her usual period of gestation, and was continually making those efforts that accompany parturition. The calf lived, and was put on a nurse-cow. She liked it, and permitted it to suck as readily as though it had been her own offspring. The cow was then destroyed by the butcher. This was, on every account, a great pity. Dissection of the uterus exhibited a scirrhous degeneracy of the neck of that organ, and so dense that it offered as much resistance to the scalpel as the cartilages of the larynx would have done.

We now return to our own country.

In the same volume of THE VETERINARIAN there are some excellent cases and observations by Mr. J. Hayes, V.S., Rochdale, Lancashire, who says, "I have performed and assisted in the operation in nine cases, five of which were successful, and four terminated unsuccessfully."

The first case, which was in May, 1824, was an experimental one on a bitch that was at her full time of gestation. From her he extracted six puppies from the uterus, all alive, but one died next day; the others were suckled by the bitch, and grew up. The mother recovered in six weeks.

In March, 1825, he operated on a cow belonging to Mr. John Clarke, of Ashley Dairy House, Cheshire, that had been in labour several days; and which had been attended by three or four persons considered well versed in such matters. Owing, however, to the head lying behind, they were not able to remove it. Mr. H. removed the fore extremities, but found the head so

large that it was quite impossible for it to pass throught he pelvis; and under such circumstances thought himself perfectly justified in performing the operation. The cow appeared to be going on well until the twelfth day, when she died rather suddenly. On examination after death, the diaphragm was found to be ruptured, and in a gangrenous state; and the vagina was of a very dark colour, seeming as if contused. The incision in the side and uterus had a healthy appearance.

His next case occurred in a very old worn-out cow that had exceeded the usual period of gestation about seventeen days. He was quite unable to remove the fœtus, even by performing embryotomy, and he believed it was in consequence of the pelvic arch being unusually small. In nine weeks after the operation the wound had healed, and the cow was perfectly well, and had improved in condition.

He further observes, "that since this time I have operated on two cows and one sow. Three other cows on which I operated terminated fatally, in three, six, and eight days afterwards. After death, two of these were found to be affected with peritonitis, evidently the effects of the operation."

In page 405 of the same volume there is another case of a cow, by Mr. Carlisle, of Wigton. The operation was performed in consequence of her having tumbled over a brake into a ditch, by which she had completely twisted the uterus, and ruptured the lateral ligaments. There is little doubt but that the operation would have been favourable had there not have been strangulation and sphacelation of the intestines, the consequences of their being forced into the pelvis.

This operation is sometimes had recourse to when the animal cannot be delivered, for no other purpose than that of saving a valuable progeny; for which object the animal is knocked on the head, and the fœtus removed as quickly as possible. A case in point will be found in the "Proceedings of the Veterinary Medical Association," London, during the scholastic session of 1839-40, in an Essay by Mr. J. Bowles, of Cambridge; but I think he might as well have operated on her when alive, and so given her a chance of life.

I shall, most probably, enter upon the mode of operating in my next.

AN EXTRAORDINARY CASE OF LUSUS NATURÆ IN A CALF.

By Brand Garner, M.R.C.V.S., St. Ives.

To the Editor of "The Veterinarian."

March 1st, 1851.

My dear Sir,—Should you consider the following account worthy a place in The Veterinarian, please to give it insertion.

On the 8th of February I was requested by Mr. Roberson, of St. Ives' Hill Farm, to attend a cow of his which shewed symptoms of parturition. When I arrived, I was informed by Mr. R. that he believed from five to six pailfuls of fluid had come from the uterus, prior to which her abdomen appeared very large, and that they were of opinion she would have two calves. She was six years old, and this was her third calf. She was rather low in flesh. I made an examination, *per vaginam*, and found that it was a hind foot presentation. I therefore fixed cords round the hind legs, in introducing my hand to do which I ascertained, by a careful manipulation, that I had the two hind legs and one fore leg, and the head, to encounter. I found, after repeated attempts, aided by an assistant, that it was impossible to get the fœtus' head and fore legs back, or to turn it, or bring the hind legs out as far as the hocks, even with the further help of four men; neither could we push the fœtus into the uterus again, or bring it out any further, so that I might dissect it from the cow a limb at a time. All our attempts proved in vain; I therefore proposed the Cæsarean operation. But, as the cow was a favourite, and there appeared not much chance of saving her life after she had been pulled about so much in our attempts to extract the fœtus, it was advisable she should be slaughtered at once, which was done, and the fœtus taken from her. It was found to have two heads, and two distinct necks, four fore legs, and two hind ones, and two tails: in fact, it had two distinct spinal columns from head to tail. One of the heads and necks was turned to the right side, the other head and neck turned to the left side. Two fore legs were placed between the two necks; the other two fore legs were laid along the sides of the calf, as in the case of a naturally formed one. The fore legs were deformed, and one of the heads was larger than the other. It was very broad across the shoulders, which you might expect, as it had two sets of ribs. On laying open the thorax, I found that it was double, and that each cavity contained a heart and lungs; so that it was likewise double in

its functions of respiration and circulation. The hearts and lungs proved of natural formation. The hearts were about sixteen inches apart. The viscera of the abdomen were single. The liver was very large, and extended from one diaphragm to the other; a space, I believe, of at least ten inches. The kidneys and uterus were natural. The rectum and vagina terminated in one blind sac, and there was neither anus nor vulva. The fœtus was alive when I first examined it *per vaginam*. For when I put my finger in its mouth it slavered and shuts its mouth, and bit me, which made me soon take my finger away. But it was dead some time before the cow was slaughtered.

DEEP-SEATED ABSCESSES IN A FOAL.

By J. Tombs, M.R.C.V.S., Stratford-on-Avon.

This case is similar to the one I recorded last month.

June 9th.—I was summoned to attend a foal about three weeks old, of the cart breed. He was observed to be lame in the field on the 5th inst. To-day he has lameness in the off hind limb and near fore one: a swelling extends from the knee to the elbow. There is great tumefaction around the acetabulum and sacrum. The breathing is much embarrassed—pulse exceedingly quick. Ordered aperients, febrifuges, and fomentations.

12*th.*—Opened abscesses on the sacrum, from which a pint of pus escaped, leaving the bone bare; after the operation, I perceived the foal straining violently to void his urine. I passed a probang up the urethra. This caused more intense straining, and blood was voided. On re-examining the urethra, I found a long clot of blood completely blocking up the urinary passage in the penis: I laid hold of its end and pulled it away; it was six inches in length, and coagulated. The colt immediately afterwards evacuated a large quantity of urine with comparative ease. Let him take gum acacia in large quantities of linseed tea, and febrifuges.

13*th.*—Voids his urine freely—symptoms, however, unfavourable—pulse 150—respiration 40—sucks with great difficulty—can hardly move about. Opened a deep-seated abscess communicating with the head of the femur. Opened abscess on fore leg, a little above the knee joint; two quarts of pus were liberated from elbow downwards.

14*th.*—Died. No post-mortem examination. The singularity of this case is, the accumulation of coagulated blood in the

urinary passage. It was certainly connected with the disease, as the colt was not known to have been hurt. In every other respect it is similar to diseased joints and abscesses, to which sucking colts are peculiarly susceptible.

The dam of the colt died on the 10th December, with acute farcy and glanders; evidently demonstrating that the impurities in the blood of the colt were hereditary.

Dec. 6th.—I was called in to see her; she was lying down, groaning, looking back, blowing highly, and perspiring profusely, with loss of appetite. A swelling was observed coming on the off fore leg a week ago. Now, the leg and arm are considerably swollen and ulcerated. There is also a discharge from the nostril of the same side, and abrasions upon the pituitary membrane.

8th.—Symptoms increased in violence. Extensive sloughing of the integuments and cellular membrane, accompanied with profuse hemorrhage. A discharge from both nostrils. The stench from the putrefying sores is intolerable.

10th.—Limb mortified: died.

No post-mortem examination. This was a constitutional affection. No doubt the lungs were diseased, and that this was coupled with the death of the colt. Altogether it was a remarkable case, and one highly instructive to the humoral pathologist.

P.S.—The mare did not contract this disease, as she was never from home.

CERTIFICATES FOR SHOEING.

By "A Member of the London College."

To the Editor of "The Veterinarian."

Dear Sir,—Perusing the pages of your valuable Journal, now rendered doubly so by the discontinuance of the "*Record*" —a circumstance every member of the profession must regret— I have felt considerably interested upon the subject of hot and cold shoeing, so well discussed before the Central Society of Veterinary Medicine. And now that the public mind is still fresh upon the past, permit me, through the medium of your work, to draw attention to a point of the greatest importance to every member of the Veterinary College, but particularly so to those who have still to present themselves before that honourable

Board appointed by the Council of the Royal College of Veterinary Surgeons.

Antecedent to a young man presenting himself for an examination, he must have attended his two sessional courses at College, during which time, if he has employed himself properly, and carefully laid to heart the instructions given by his able preceptors, he must have stored up a goodly amount of knowledge. Still, there is one point upon which nine-tenths of the students are as ignorant as they were the day of entrance, viz. "shoeing;" notwithstanding there is, within the College, a forge and two smiths, who are fully employed. Now, to whom or to what can we attribute this neglect? for neglect it is, and a most important one to the student. Can it be that the foot is not dwelt upon at the lecture table, or that that beautiful and complicated part of the animal frame, with the diseases appertaining thereto, is not fully investigated? No; for whoever has attended the talented lectures and demonstrations delivered upon this subject must bear witness against any such ideas.

Can it, then, be the student's fault? I can boldly answer, No. And whilst I briefly shew the position in which the student is placed, I will leave others to point out the means by which so great a defect can be repaired.

The student, having paid his fee for entrance, has commenced his regular rotation of College studies. Feeling pleased and interested in the profession he aspires to become a member of, he takes every opportunity of improving himself, and cultivating that mind which in after life should shine forth with credit. He enters the forge for the purpose of taking off a shoe, or, may be, to pare out a foot. Here his ardour is at once damped, and his aspiring hopes crushed; and where he, at least, expects civility, he is treated coolly, and looked upon as an intruder. Perhaps he retires with disgust; but should he be bold enough still to continue his operations, it must be at his pocket's loss. Things continue in this state until his studies are ended, and he is qualified for an examination. He obtains his certificates from each of the professors, and one of his age from the vicar or curate of the parish in which he was registered. Thus armed, he presents himself at Fetter Lane. Here he is again crushed by the question—"Where is your certificate for shoeing?—you must get one, Sir, before I can enter you in the books." What is he now to do? Previous to his entering College he never had, perhaps, an opportunity of paring a foot or adjusting a shoe. And he is now demanded to produce a certificate for having learned that which the College does not profess to teach! But, we will place him in another light. During his apprenticeship—if he has served one—or during his

summer vacations, he has bestowed some time upon this branch of his studies, and learned, at some country smith's, sufficient to enable him to take off a shoe, and carefully replace it upon the foot. But his certificate is still of no avail, as it comes from a man who is not a member of the College. He is puzzled to know in what way to act, and begins to retrace his steps to Camden Town. On his way he meets with a fellow-student, to whom he at once opens his grief. His companion, who, to use a common expression, is "up to the dodge," immediately consoles him, takes him to his rooms, coolly sits down and writes out a certificate, forging the name of some veterinary surgeon. This certificate is next day presented and accepted, and the young man goes up for his examination*. "Can this be true?" Yes; it is too true: it is practised yearly; it will be practised this year; and it must be practised so long as certificates of shoeing are demanded, or the student is not afforded a means of obtaining them genuine.

And at a time when this branch of the profession is advancing with such rapid strides in the sister country, shall it be said that this important subject is neglected at the English College? I trust not. As a well-wisher to the profession, and also to the student, sincerely do I hope that, ere long, some measure will be proposed whereby this serious difficulty will be overcome.

I am, Sir, your's truly.

THE ADVANCED AGE AT WHICH STRANGLES MAY APPEAR.

To the Editor of "The Veterinarian."

Sir,—In answer to an application to Correspondents on the wrapper of this month's VETERINARIAN, I beg to observe, that I had a case of genuine strangles in July 1847, in a chestnut gelding, *aged sixteen*, under the advantage of the horse having been in his owner's possession for about twelve years previous, and of never having been known to have had the strangles before. He was unwell for two or three days, when my attendance was requested to him. He exhibited the usual symptoms of strangle fever, with sore throat, and an enlargement of the submaxillary, sublingual, and parotid glands, which enlargements continued down the whole extent of the inferior part of the neck, and ultimately pointed at about six inches anterior to the point of the shoulder. I opened the abscess, and afterwards treated it in the usual manner. The case ultimately did well; but the

* For which abominable imposition, the candidate subjects himself to "suspension" and "disqualification."—ED. VET.

horse lost a great deal of flesh, and was some time before he regained his former strength and vigour. The abscess was immense, and I should say discharged at least a gallon, from first to last, of well-concocted matter. The swelling had the appearance of a pillow stuffed under the skin. I ought to have remarked, that strangles was very severe and prevalent that season among young stock in the neighbourhood. The horse in question died last summer.

This is the latest period of life I ever met with a case of strangles.

I am,

Your's respectfully,

JOHN COUCH QUICK.

St. Ives, Cornwall, 12th March, 1851.

*** We are truly obliged to Mr. Quick for his prompt and satisfactory communication in answer to our query. Although the envelope inclosing it was headed "private," we feel sure he will excuse our publishing it, containing, as it does, a piece of information bearing so importantly on the true nature and production of strangles.—ED. VET.

CASES OF CANKER AND TENOTOMY.

By THOS. WELLS, M. R. C. V. S., Norwich.

1. CANKER.

THE subject was a large dray-horse, about ten years of age, which the messenger who came for me stated to be excessively lame, in consequence of having a large frush, which had been gradually spreading for the last six or eight months, and that the animal had been attended by a farrier in the neighbourhood during that period. I was at a loss to imagine what could be wrong, for if the man had said the animal was lame from having a contracted foot, I could have formed a pretty shrewd guess of the nature of the disease. On proceeding to the stable and examining the horse, I soon ascertained that the "enlarged" foot was caused by a neglected case of canker; and on a more minute inspection, I found that the entire crust, sole, bars and frog were completely separated from the parts which in a state of health secrete them, but which of late appeared to have taken on quite a different action; for on removing the horn, I found the entire foot so completely studded with a kind of fungous granulation, resembling cartilage, and partaking of something in nature between cartilage and horny matter, that it was with difficulty a

view of the sensitive parts of the foot could be obtained. From between the interstices of the granulation the peculiar fœtid curd-like discharge of canker was issuing. The owner told me that, if I saw no chance of recovery, the animal was to be destroyed; but I recommended that he should be put under treatment.

Having cast the horse, I removed every portion of horn from all parts of the foot, quite up to the hair on each side, and having washed it thoroughly with a solution of chloride of lime, I removed the whole of the fungous granulations with a knife, having hot irons ready to stop the hemorrhage, which was excessive; for I found these excrescences exceedingly vascular, so that I should think, during the operation, not less than from twelve to fourteen pints of blood were lost! I found it almost impossible to stop the bleeding with the cautery; for as soon as I arrested it in one place, it burst out in another. Having got the animal upon his legs, with a view to stanch the hemorrhage, I applied large pledgets of tow all over the foot and bound them up with a long linen bandage pretty tight, and over the whole drew on a leather boot which I had prepared for the purpose. A strong dose of physic was given, and the animal remained perfectly quiet until the fourth day, when I removed the boot and dressing. The foot presented a very extraordinary appearance, in consequence of the partial separation of the extensive sloughs caused by the cautery. The fœtor being very great, I had the foot again well washed with the chloride of lime; and, after being wiped dry, dressed all over with the submuriate of antimony, dry pledgets of tow being applied as before to the foot, and upon them some pieces of the old tow which had adapted themselves to the shape of the foot. Again, a moderately tight linen bandage was applied, and over all the leathern boot, as on the former occasion. It is needless to follow out the daily treatment of this troublesome case. In the treatment of canker, two things seem to me to be essentially necessary; first, after the dressing, to be careful that you have an uniform and steady pressure; and, secondly, that the remedies be occasionally changed, perhaps frequently, it being injudicious indeed to persist more than a week or ten days in one uniform remedy, even though improvement be taking place.

I am quite sure that the cure is expedited by a judicious change of remedies. In the majority of cases the butter of antimony will effect wonders, and in slight cases it is a sufficiently active remedy; but in severe cases, like the above, the remedies must be changed. My treatment varies. Sometimes I use the actual cautery; at others, the muriate of antimony, or nitric acid, or solution of sulphate of copper, with an occasional

addition of the tar ointment for the newly-formed horn, *never losing sight of pressure.* For the first few weeks I apply the dressings every alternate day, after which not so often; and, ultimately, only twice a week. At the expiration of seven months I found that I had not a perfect foot, but a sufficiently useful one for most purposes; and the horse remained sound, performing his regular work for upwards of four years, when he met with an accident, and was destroyed. This enabled me to obtain the foot, which is now in my possession.

When canker is confined to the sole of the foot, pressure can be readily applied by means of pledgets of tow and the use of a shoe so constructed that it admits of the foot being dressed at any time, while it protects the sensitive parts from all risk of injury. I beg to send two shoes of this description, both of which I have found extremely convenient. The shoe marked No. 1, I consider more useful in cases which require to be dressed daily. That marked No. 2 is better adapted for a case which only requires to be dressed occasionally, and will allow of the horse doing some work with it.

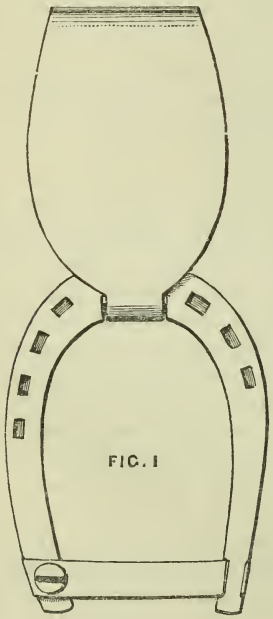


FIG. 1

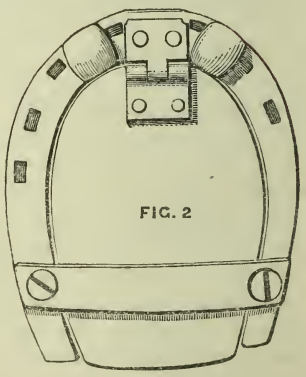


FIG. 2

These two shoes are of similar construction; i. e., they are both what are called *box shoes.* Each is furnished with an

iron plate, as a cover for the sole of the foot, which is made to open and shut at pleasure through a hinge at the toe of the shoe. The plate fits exactly into the hollow of the shoe, and when shut down upon the dressings applied to the foot—as it is intended to be—is confined down (not by nails, as is usual) by an iron cross-bar extending from heel to heel; the difference between the cross-bars of the two shoes being, that, in the case of No. 1 shoe, the bar is ingeniously let into a mortise cut through the inner heel of the shoe, while a screw fixes it down upon the outer heel; whereas, in No. 2 shoe, the bar is placed *upon* the heels of the shoe, and by screws firmly fixed to them. No. 1 is so constructed that great facility is afforded to renew or replace the dressings, only one screw having to be removed, and the bar at the other end slipped out of the mortise to get at them. But No. 2, being intended to bear "some work," is not made with a mortise, but has, in lieu thereof, an additional screw, its bar being laid flat upon the heels. There is also, as will be perceived, a difference in the construction of the hinges of the two shoes; one being a hinge of ordinary and strong make, to resist blows, and being likewise defended from contusion from the ground by a prominent nut placed either side of it; the other being a sort of swivel hinge neatly let into the inner border of the web of the shoe. Altogether, they are two shoes evincing not only mechanical ingenuity, but considerable forecast of experience on the part of the inventor—be he Mr. Wells or not; and shoes which we earnestly recommend to the attention of every practitioner who has to treat cankered feet in that state of disease of the sole of the foot which demands protection and pressure.—ED. VET.

CASE II.—TENOTOMY.

Division of the Flexor Tendons, Perforatus, and Perforans.

The subject was a well-shaped bay cart-horse, about ten years old, belonging to Messrs. George Hogg & Co. of Sitch Brewery, near Lynn. He had been turned off about two years, and appeared to be in perfect health and condition, with the exception of the near fore leg, the fetlock joint of which was so completely doubled forward, and the flexor tendons so much contracted, that he went entirely on his toe, going so lame that it was with great difficulty he could be made to move at all.

The disease and lameness had been gradually increasing since the horse had been turned off work; and I was told, that if I considered there was no chance of recovery, he was to be forthwith destroyed. Thinking it a favourable opportunity to try the effect of the operation of dividing the flexor tendons, I recommended it to the proprietors, who immediately acceded to the proposal, and on the following morning I performed it. I commenced by materially altering the shape of the foot, by lowering the heels, and removing a large portion of sole and frog which had been growing greatly in height, in consequence of the animal not being able to bear any weight upon the heels. I then cast the horse, and, after he was properly secured, made an incision longitudinally, about three inches in length, between the flexor tendons and metacarpal bones, on the inner side of the leg, midway between the knee and fetlock. By a little dissection, laying bare the nerve, artery, and vein, I passed a ligature under them, by means of which they were drawn forward by an assistant, while I, with the handle of a scalpel, separated the cellular tissue forming an adhesion between the tendon and suspensory ligament, until I could plainly feel the handle on the opposite side. I there introduced my knife, and by a gentle sawing motion carefully divided the tendons, taking care not to wound the skin at the back part of the leg, or to leave any other opening than that made by the first incision. The ends of the divided tendons immediately receded from each other to the extent of about two inches, and the limb, with very little difficulty, was made to assume a straight position.

The hopples were now taken off, and the horse allowed to rise. At first he bore very little weight upon the leg. He was put into a loose box, and an elastic bandage applied to the leg, and a dose of physic administered. No constitutional irritation followed this formidable operation, and the recovery was gradual. In two months the wound made by the incision was perfectly healed, and the tendons were again united. In four months the horse walked free from lameness, and, after a run of three months, was put to work, at which he continued quite sound until I lost sight of him. And so complete was his restoration, that a stranger would be puzzled to know which leg had been operated on.

RESPECTABILITY OF THE VETERINARY PROFESSION.

SIR,—I HAVE been waiting for a considerable time in the hope that some one of the heads of our profession would reply to the letter which lately appeared in THE VETERINARIAN, signed "A Sporting Surgeon." Mr. Pritchard, it is true, did so; but, as his letter contained no refutation of the arguments there laid down, I am induced to trouble you with a few lines, first premising, that they are not intended to appear in the pages of THE VETERINARIAN. No; I have too much regard for that periodical to wish to make it the vehicle of anonymous communications; and for many reasons I am compelled to withhold my name; but I think, Mr. Editor, you may, out of justice to the profession, make the state of it the subject of another "Leader," your former one being calculated both to give the public a lower idea of the profession than they have, and to discourage young members entering upon it. In the first place, I have to learn that country surgeons occupy the very autocratic and influential position your correspondent seems to assign them; that they are on such "free and easy" terms with gentlemen, and have such access to their houses. I have seen them, Mr. Editor, much more frequently in the position assigned to the poor veterinarian, viz. in the servants' hall; nor is this difficult to be accounted for. Families of rank usually employ a physician, and leave the medical attendance of their domestics to the country surgeon or apothecary; no such grand position truly! And yet your correspondent gives us his *pity* and *advice: γνωθι σεαυτον*, says the Greek poet: your correspondent would do well to profit by his advice. I do not deny the truth of some of his assertions; others I deny *in toto*. It is true, there are men of ability and education who are, no doubt, content to be put in the back ground, and treated superciliously; but such instances are, I hope, rare; and could we not produce parallel ones from the medical profession? It does not follow, because a man becomes a surgeon he instantly becomes a gentleman, let his manners and habits be what they may. It does not follow, because a man becomes a veterinarian, that he immediately sinks down to the level of the groom. That our profession is in itself degrading (as you seem to imply) I indignantly deny. Are not the operations and practice of the human surgeon, which he is daily called upon to perform, infinitely more disgusting than those belonging to our own art? I think, upon comparison, they will be found to be so, and but ill counterbalanced by the fancied social superiority of their position in society. Improve the character of the profession, enforce the apprenticeship laws,

make the examinations more stringent, and, above all, cultivate a spirit of unity, and our profession will soon regain its lost ground, and, in the long run, be not far behind our elder sister the medical.

Trusting these few remarks may suggest a subject for your next leader, rather more encouraging than your former one,

I remain,

Yours most truly.

W. Percivall, Esq.

*** The letter of our anonymous correspondent, albeit he himself in his present character is irrecognisable by us, is too argumentative on the subject on which it treats to be withheld.—Ed. Vet.

LAXITY OF CONTRIBUTORS.

By Non Vet.

To the Editor of "The Veterinarian."

Sir,—Although not a member of the veterinary profession, I have been for many years in the habit of reading the journal which represents that body, and from the perusal of which I have derived both pleasure and information. Latterly, however, I regret to say that I have looked in vain for communications from some of its early contributors—men who not only possessed great knowledge, but who had also the happy art of communicating it to others—a course eminently calculated to ensure respect to themselves and to advance the interests of the profession of which they are most worthy representatives. Where are now such writers as Baker, of Reigate—Brown, Melton Mowbray—Cupiss, Diss—Daws, London—Dick, Edinburgh—Dickens, Kimbolton—Friend, Walsall—Karkeek, Truro—King, Stanmore—Spooner, Southampton—Turner, London—&c. &c.? Surely, they cannot be justly charged with neglecting to aid the advance of veterinary science, because, perhaps, the current of veterinary politics has not trickled smoothly down in the course they would have marked out for it? They must well know that, as the collision of flint and steel brings forth the vivifying spark, so in the collision of opinions error is detected, truth elicited, and good greatly promoted; and they will, doubtless, readily admit that the young practitioner can in no way do more justice to himself or greater honor to his senior than in seeking encouragement and instruction from veterans in the profession, who can bring a large amount of knowledge and experience to the consideration of any subject that may be brought before them. In vol. ii, p. 207, Mr. Spooner, of

Southampton, says, " It appears to me to be extremely desirable, that, when any writer in THE VETERINARAN takes up an important subject, for other writers to communicate their opinions and experience on that subject, before it is suffered to die away or cease to be impressed on public attention." In the truth of this all must concur: if every one would faithfully put his experience upon record, a collation of facts, a concentration of knowledge, might be gained, the advantage of which would outweigh all other considerations in advancing the claims of the profession, the interests of employers, and the cause of humanity.

Should these hasty remarks be thought worthy of a place in your Journal, and have the happy effect of rousing but one of those who have long " slumbered and slept," I shall be exceedingly gratified, and remain

Your obedient servant.

*** " NON VET." has sent us his name.—ED. VET.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

BULLETIN DE LA SOCIETE CENTRALE DE MÉDECINE VÉTÉRINAIRE, publié par les Soins de son Bureau, et rédigé, par M. H. BOULEY, *Secretaire Annual. Années* 1844-45-46: Tom. Premier, Paris, Labé, 1827. Bulletin of the Central Society of Veterinary Medicine, published under the Direction of its Committee, and the Editorship of M. H. BOULEY, *the Annual Secretary.* For the Years 1844-5-6. Vol. I. Paris, Labé. 1847.

THE next paper, not in order, but to us in interest, we find in the volume before us, is one on what the French call LA GOURME DES CHEVAUX; a disease, or rather family of diseases, to distinguish which we in our language possess no single word answering altogether so well to the French name *gourme*, as *distemper.* It is true that, in our character as men of science, *distemper* is a word we have long ago banished from our nomenclature; at the same time it must be admitted to be one which, like the French *gourme*, includes several cognate disorders having a sort of common origin and purpose, which we are unable otherwise to distinguish than by

using the names for the diseases of which it is severally and collectively compounded, such as *catarrh, strangles, laryngitis, bronchitis, &c.* Many will be ready to remind us—and truly enough—that these disorders are called commonly now-a-days, *influenza;* and so they are when—which very often is the case—numbers of horses are attacked about the same time. Were this not the case, however, the disease might still be distemper, though it would, perhaps, not be said to be "influenza." Altogether, therefore, we prefer, as an anglicism for *gourme,* distemper; and so shall head our translation.

On the Distemper (Gourme) in Horses.

The paper, which is by M. Charlier, was, as is customary, on its presentation to the society, submitted to a committee, from whose report it is we make the extracts we are about to lay before our readers:—

M. Charlier defines *gourme* or distemper to be "a catarrhal inflammation, more or less intense and more or less complicated, affecting the mucous lining of the nose, the sinuses of the head, the pharynx, the guttural pouches, the larynx, and sometimes even that of the trachea and bronchial tubes, attended with anormal secretion from this membrane, tumefaction, ordinarily painful, of the glands of the throat, and frequently as well of the cellular, tissue by which they are surrounded. According as the distemper *(gourme)* affects one or other of these organs in particular, it has received from pathologists, says M. Charlier, the name of *rhinitis* (catarrh) simple or complicated *angina,* simple or plastic, *coryza, bronchitis, &c. &c.,* distinctions, he remarks, more fit to harass the intellect and confound the understanding than to cast any light on the subject.

"All these affections," continues the author, "have one uniform character, viz. INFLAMMATION; because engendered under the influence of similar causes, call for the same treatment, and consequently ought to be designated under one generic name.

"Distemper is not a disease confined to colts. It attacks likewise horses transported suddenly out of their native country, and is liable to happen in all horses without distinction of age or temperament; uniformly of the same identical nature, differing only in the general expression of its symptoms.

"Distemper and glanders," adds M. Charlier, "are liable to be confounded on account of the striking resemblance of their external symptoms, although in every particular essentially different."

These preliminary observations, M. Charlier follows up with a description of the symptoms, in the course of which he takes care to establish a distinction between the *benignant* and the *malignant* forms of the disease, according as it varies in intensity, and the facility it affords by the nasal discharges for characterization.

From this we pass to a rapid analysis of the paper. Under the chapter treating of the divers complications, M. Charlier with much accuracy describes the leaden pallor *(augéioleucite)* of the surface of the nasal membrane, and the vesicular eruption upon it, so often to be seen in the course of the disease when the inflammation is—to use such an expression—in its *apogee*, and admits of so easily being confounded with farcy of the surface or even with acute glanders.

M. Charlier recognises four terminations to distemper:—

1st. Resolution.

2d. Asphyxia.

3d. Gangrene of the lungs.

4th. Passage into the chronic state; and, lastly, possible transformation of distemper into glanders.

M. Charlier, after having adverted to the sympathetic relationship existing between the skin and the mucous membranes, by which it is continued throughout the interior of the body, comes to the conclusion, that cold air, or air charged with moisture, acting upon the skin, is frequently a cause of inflammation of the mucous surfaces. And besides, those impure gaseous matters and miasms respired; the acrid dust arising from powdered aliments, as well as that from the roads; the direct action upon the respiratory membrane of thick fogs and odours with which the atmosphere is charged at certain seasons of the year; irritating matters arising from the lungs of horses labouring under coryza or *gourmous* catarrh; cold water given to satiety at a time when the animal is covered with perspiration: such are the causes which to him appear to act as so many *direct* causes of the disease.

"To these causes may be added some which to M. Charlier appear *indirect*, viz., premature work at young age, and overfatigue at adult age; sudden change of food, such as from green to dry; the abuse of stimulating aliment, such as new forage

given too liberally after the sparing diet of winter; the difficulty of mastication young horses experience; the irritation of dentition; lastly, change of situation, which to him appears most influential.

"M. Charlier is no believer in the *specific* nature of distemper. He, on the contrary, regards it as a simple inflammation, prevalent at certain seasons of the year during youthhood, on account of influences then preponderating, but which may manifest their agency in all seasons and at all ages, and are liable to return whenever the causes determining them at first should come to exert like influence over like subjects. And yet, in the face of this opinion, M. Charlier does not hesitate to acknowledge that distemper of the simple kind, freely discharged forth, is a crisis favourable to the health of the horse. But distemper, in M. Charlier's estimation, is not a disease peculiar to horses. He has seen it, on one farm, raging at one and the same time, among the (adult) horses, the colts, the oxen, and the cows, and even assume among the horses and oxen a gangrenous type, placed together, as they were, in a stable badly ventilated and dirty; whereas, among cows better provided for, the same complication (of disease) did not ensue.

"The distemper, according to M. Charlier, is a malady *eminently contagious*. And to support this opinion, he invokes authorities of the most weighty description on record, viz., Solleysel, De Garsault, Bourgelat, Paulet, Brugnone and Gilbert; to which we may add, Gohier and Toggia, who have essayed to demonstrate its truth by experiments which to M. Charlier have appeared conclusive.

"Nevertheless, this is an opinion which is far from having the concurrence of modern veterinarians. Many of these latter are opposed to it, at the head of which we may place Delafond and Hurtrel D'Arboval. According to these two authors, the circumstance of distemper breaking out simultaneously among a number of horses living together, admits always of explanation from general causes.

"This opinion is combatted by M. Charlier. Without denying the influence of general causes in the production of the same disease among a great number of animals, M. Charlier contends that there exist circumstances under which distemper propagates itself without the presence of any such causes. "In this way, a young horse arriving from the country where he has been reared, contracts distemper as the consequence of change in all his habitudes. The same horse is put to sojourn with the working horses of a farm, and suddenly distemper breaks out among the latter, without any modification whatever having been introduced into either their work or their regimen.

The appearance of the malady under such circumstances is evidently referrible to the presence of the fresh-comer. Repeat this experiment," he says, "a thousand times, and a thousand times you will obtain the same result."

"Make the reverse experiment: isolate the fresh-comer as soon as he arrives; and, supposing that distemper should make its appearance, he alone will prove the subject of it.

"Again, let a team of horses," he says, "perform a forced journey, and through it, or through extreme wet weather, catch cold, and breed the distemper; and let them cohabit with other teams, and the last will contract the disorder, notwithstanding they have not been subjected to any of the determining causes of it.

"The communicated distemper will assume different forms in the different animals it falls upon, notwithstanding the identity of the source whence it has arisen; but this is a character which is common, as far as it goes, to every enzootic and epizootic disease. In one horse it will shew itself only in a discharge from the nose. In another, it will manifest itself in abscess under the jaw. In a third, these two forms will be combined. In a fourth, the disease will display all its forms with a *cortege* of symptoms of malignant distemper, either confined to the head or extending down to the lungs. Lastly, in another subject, the distemper will from the first assume the characters of chronic catarrh or nasal gleet.

"These several varieties of one and the same affection are dependent upon conditions peculiar to individuals at the moment of their infection. The mode of transmission of distemper is through contact, mediate or immediate, as well as through the medium of the surrounding air. The contagion of distemper consists, according to M. Charlier, in a virus fixed or volatile; and the propagation of this last will, at all times, depend upon certain influences: during cold weather, for example, it will be less manifest than during warm.

"A horse in a sweat, exposed to the influence of air charged with contagious miasms, will be more disposed to take the disease than were he subjected to the same influence at a time when the functions of his skin were not aroused into action."

[To be continued.]

Home Extracts.

CASE OF GLANDERS IN THE HUMAN SUBJECT.

ANOTHER remarkable fact here has been a fatal case, at one time somewhat resembling erysipelas and attended with very typhoid fever, but which I have no doubt was an example of Glanders in the human subject—closely resembling those described by Dr. Elliotson in the "Medico-Chirurgical Transactions," (vol. xvi.) This was John Turnbull, æt. 41, admitted evening of 18th November, having been complaining for a fortnight of febrile symptoms and pains of joints, and almost entirely disabled for work. When I saw this man on the evening of admission, finding he had been so long ill and was of intemperate habits, with a pustular eruption on the face, and had delirium, spectral illusions, and subsultus tendinum, with a pulse at 120, small and feeble, his tongue furred and dry, his breathing hurried, with cough, bronchial râles, and frequent vomiting, I thought it a bad case of bronchitis and rheumatic pains, complicated with delirium tremens, and gave directions for his reception, if necessary, into the ward appropriated for deranged patients; ordering likewise a blister, repeated small doses of aloes, calomel and opium, and a little wine. Next day we found that he had not become violent, as expected, but had fallen into deep sleep with copious sweating, and although he could be roused to answer questions, and his bowels had been moved, was nearly comatose. The eruption on his face was now perceived to be attended with an erythematic flush on the forehead, and closing of the left eye. His aspect immediately brought to my recollection the only other decided case of glanders in the human subject I had ever seen, which was traced to infection from the horse; and one of the gentlemen acting as assistants in the ward, who had seen a case in England last year, made the same remark; and then, finding on inquiry that he was a cab-driver, I had little doubt of the nature of the case. We now found that the same kind of eruption which we saw on the face, consisting of small hard pustules (or tubercles, for they were almost solid), each surrounded with a patch of erythematic inflammation, existed on different parts of the body, chiefly at the wrists and knee-joints, which had previously been the seat of the pains. There was no running from the nostrils, although the left side of the nose was much swollen, as in erysipelas. The vomiting had abated, but the cough and hurried breathing and bronchial râles continued; his pulse was more

frequent, and very feeble, and his tongue dry. After this, we attempted nothing more than the stimulating treatment, by increased doses of wine, carbonate of ammonia, and two doses of quinine, which had no obvious effect, and he died at four o'clock next morning, having been only thirty-six hours in the house.

If there could be any doubt as to the nature of this case during life, I think there could be none when it was found, on examination of the body, that within the larynx there was a pustule, similar to those on the skin, a little above the chordæ vocales on the right side, and several smaller pustules of the same kind in the trachea: the bronchi contained muco-purulent matter of little tenacity, these membranes being moderately injected; the lungs presented several ecchymosed circular patches, scattered through various parts of their substance, each of which contained a central yellow granular deposit, gradually breaking down into pus. These, when near the surface, had the appearance of circular pustules, surrounded by a border of ecchymosis, very similar to those on the skin. On opening the nasal cavities, a line of small circular ulcerations was observed between the inferior and middle turbinated bone on the left side, which were infiltrated with pus. There was no such appearances on the opposite side; nor was any disease found in the liver, nor in any of the veins or lymphatics which were examined.

We could not ascertain anything farther as to the history of this patient, than that he had been employed, up to the time of his illness, in a stable, in which a veterinary surgeon, who attended the examination of the body, said he knew there had been several cases of glanders. I learnt from Mr. Dick, Professor of Veterinary Surgery, that he was aware of there having been cases of glanders recently in some of the stables for hackney coach horses, although he had not himself seen any.

I can say with certainty, that the appearances on the face, nose, and eye, here were exactly similar to those I saw in the one case, likewise fatal, some years ago in the hospital, which was traced to infection from a stable some miles from town (where there were, undoubtedly, glandered horses), excepting only in this, that in that case the inflammation on the face went to gangrene, which I never saw in erysipelas of that part. In this case, likewise, from the state of the general system, it is very likely that gangrene would have ensued, if the typhoid fever had not been so early fatal. The appearances on the skin were manifestly similar to those of the *pustule maligne* of the French authors, and of the glanders in human subjects, described by Dr. Elliotson, in their early stage.

What is most deserving of notice here, is the confirmation thus given of the principle, which former observations seem in-

deed sufficient to establish,—that this morbific poison is not only capable of being communicated from the lower animals to man, but acts (as we have reason to believe the variolous poison does) as a more virulent poison on the human body. For although the same poison in the horse, where it is diffused over the body, in the form to which the name of "Button Farcy" is given, producing numerous hard pustules which may go to ulceration, is often much more acute in its progress than when confined to the nostrils and having the name of Glanders, yet by far the greater number of cases of disease in the horse, resulting from this poison, are chronic, and many of them, at least for long, seem quite local;—whereas, in the human body, bad typhoid symptoms seem always to attend the first stage of the disease thus excited, and even when they are got over, as in one of the cases given by Dr. Elliotson, the pustules soon degenerate into intractable ulcers, and the general health has appeared to be irretrievably broken.

Monthly Journal of Medical Science, January 1851.

WOLVES.

BY THE AUTHOR OF "LORD BACON IN ADVERSITY," &c.

[Abridged from Bentley's Miscellany for March, 1851.]

"A PECULIAR interest attaches to the wolf, from the close analogy which in all its essential features it presents to the faithful companion of man. So close indeed is the analogy, that some of the ablest zoologists, the celebrated John Hunter included, have entertained the opinion that dogs, in all their varieties, and wolves, have descended from a common stock. With the exception of an obliquity in the position of the eyes, there is no appreciable anatomical difference between these animals. The question is one of difficulty; but we believe we are correct in stating, that the majority of the highest authorities agree in the belief that these animals are not derived from a common parent, but were originally distinct, and will ever so continue. There are several species of wild dogs known, quite distinct from the wolf; and although the opportunities have been numerous for dogs resuming their pristine form by long continuance in a savage state, no instance has ever occurred of their becoming wolves, however much they might degenerate from the domestic breed. The honest and intelligent shepherd dog was regarded by Buffon as the "*fons et origo*," from which all other

dogs, great and small, have sprung; and he drew up a kind of genealogical table, shewing how climate, food, education, and intermixture of breeds, gave rise to the varieties. At Katamandoo there are many plants found in a wild state, which man has carried with him in his migrations, and wild animals, which may present the typical forms whence some of our domestic races have been derived; among these is a wild dog, which Mr. Hodgson considers to be the primitive species of the whole canine race. By Professor Kretchner, the jackal was regarded as the type of the dogs of ancient Egypt, an idea supported by the representations on the walls of the temples. This question, however, of the origin of the canine race, is so thoroughly obscured by the mists of countless ages, as to be incapable of direct proof. Philosophers may indulge themselves with speculations; but in the absence of that keystone, proof, the matter must rest on the basis of theory alone.

"The following are some of the chief differences between wolves, wild dogs, and domestic dogs:—The ears of the wild animals are always pricked, the lop or drooping ear being essentially a mark of civilization; with very rare exceptions, their tails hang more or less and are bushy, the honest cock of the tail, so characteristic of a respectable dog, being wanting. This is certainly the rule; but, curious enough, the Zoological Gardens contain at the present moment a Portuguese female wolf which carries her tail as erect and with as bold an air as any dog. Wolves and wild dogs growl, howl, yelp, and cry most discordantly, but, with one exception, do not bark; that exception being the wild hunting-dog of South Africa, which, according to Mr. Cumming, has three distinct cries; one is peculiarly soft and melodious, but distinguishable at a great distance: this is analogous to the trumpet-call, "halt and rally," of cavalry, serving to collect the scattered pack when broken in hot chase. A second cry, which has been compared to the chattering of monkeys, is emitted at night when the dogs are excited; and the third note is described as a sharp angry bark, usually uttered when they behold an object they cannot make out, but which differs from the true, well-known bark of the domestic dog.

"The common or European wolf is found from Egypt to Lapland, and is most probably the variety that formerly haunted these islands. The wolves of Russia are large and fierce, and have a peculiarly savage aspect. The Swedish and Norwegian are similar to the Russian in form, but are lighter in colour, and in winter totally white. Those of France are browner and smaller than either of these, and the Alpine wolves are smaller still. Wolves are very numerous in the northern regions of America; 'their foot-marks,' says Sir John Richardson, 'may

be seen by the side of every stream, and a traveller can rarely pass the night in these wilds without hearing them howling around him.' These wolves burrow, and bring forth their young in earths with several outlets, like those of the fox. Sir John saw none with the gaunt appearance, the long jaw and tapering nose, long legs and slender feet, of the Pyrenean wolves.

"India, too, is infested with wolves, which are smaller than the European. There is a remarkably fine animal at the Zoological Gardens, born of a European father and Indian mother, which, in size and other respects, so closely partakes of the characteristics of his sire, that he might well pass for pure blood."

"Our English word *wolf* is derived from the Saxon *wulf*, and from the same root the German *wolf*, the Swedish *ulf*, and Danish *ulv*, are probably derived. Wolves were at one time a great scourge to this country, the dense forests which formerly covered the land favouring their safety and their increase. Edgar applied himself seriously to rid his subjects of this pest, by commuting the punishment of certain crimes into the acceptance of a number of wolves' tongues from each criminal; and in Wales by commuting a tax of gold and silver imposed on the Princes of Cambria by Ethelstan, into an annual tribute of three hundred wolves' heads, which Jenaf, Prince of North Wales, paid so punctually, that by the fourth year the breed was extinct. Not so, however in England, for, like ill weeds, they increased and multiplied here, rendering necessary the appointment, in the reign of the first Edward, of a *wolf-hunter* general, in the person of one Peter Corbet; and his Majesty thought it not beneath his dignity to issue a mandamus, bearing date May 14th, 1281, to all Bailiffs &c., to aid and assist the said Peter in the destruction of wolves in the counties of Gloucester, Worcester, Hereford, Shropshire, and Stafford; and Camden informs us that, in Derby, lands were held at Wormhill by the duty of hunting and taking the wolves that infested that county. In the reign of Athelstan, these pests had so abounded in Yorkshire, that a retreat was built at Flixton in that county, 'to defend passengers from the wolves, that they should not be devoured by them.' Our Saxon ancestors also called January, when wolves pair, *wolf-moneth;* and an outlaw was termed *wolfshed*, being out of the protection of the law, and as liable to be killed as that destructive beast.

"A curious notice of the existence of wolves and foxes in Scotland is afforded in Bellenden's translation of Bœtius. 'The wolffis are right noisome to tame beastial in all parts of Scotland, except one part thereof, named Glenmorris, in which the tame beastial gets little damage of wild beastial, especially of

tods (foxes); for each house nurses a young tod certain days, and mengis (mixes) the flesh thereof, after it be slain, with such meat as they give to their fowls or other small beasts, and so many as eat of this meat are preserved two months after from any damage of tods; for tods will eat no flesh that gusts of their own kind.' The last wolf killed in Scotland is said to have fallen by the hand of Sir Ewen Cameron, about 1680; and, singular to say, the skin of this venerable quadruped may yet be in existence: in a catalogue of Mr. Donovan's sale of the London Museum, in April, 1818, there occurs the following item:—'Lot 832. Wolf, a noble animal in a large glass case. The last wolf killed in Scotland, by Sir E. Cameron.' It would be interesting to know what became of this lot.

"The pairing time is January, when, after many battles with rivals, the strongest males attach themselves to the females. The female wolf prepares a warm nest for her young, of soft moss and her own hair, carefully blended together. The cubs are watched by the parents with tender solicitude, and gradually accustomed to flesh, and when sufficiently strong their education begins, and they are taken to join in the chase. Not the least curious part is the discipline by which they are inured to suffering and taught to bear pain without complaint: their parents are said to bite, maltreat, and drag them by the tail, punishing them if they utter a cry, until they have learned to be mute. To this quality Macaulay alludes when speaking of a wolf in his 'Prophecy of Capys:'

> 'When all the pack, loud baying,
> Her bloody lair surrounds,
> She dies in silence, biting hard,
> Amidst the dying hounds.'

"It is curious to observe the cunning acquired by wolves in well inhabited districts, where they are eagerly sought for destruction; they then never quit cover to windward: they trot along just within the edges of the wood until they meet the wind from the open country, and are assured by their keen scent that no danger awaits them in that quarter—then they advance, keeping under cover of hedgerows as much as possible, moving in single file and treading in each other's track; narrow roads they bound across, without leaving a footprint. When a wolf contemplates a visit to a farm yard, he first carefully reconnoitres the ground, listening, snuffing up the air, and smelling the earth; he then springs over the threshold without touching it, and seizes on his prey. In retreat his head is low, turned obliquely, with one ear forward the other back, and the eyes glaring. He trots crouching, his brush obliterating the track of his feet till at some distance from the scene of his depredation; then, feeling

himself secure, he waves his tail erect in triumph, and boldly pushes on to cover."

"Hearne, in his journey to the Northern Ocean, says, that the wolves always burrow under ground at the breeding season; and though it is natural to suppose them very fierce at those times, yet he has frequently seen the Indians go to their dens, take out the cubs and play with them. These they never hurt, and always scrupulously put them in the den again, although they occasionally painted their faces with vermilion and red ochre, in strange and grotesque patterns.

"This statement is supported by incidents which have occurred in the metropolis. There was a bitch wolf in the Tower Menagerie, which, though excessively fond of her cubs, suffered the keepers to handle them, and even remove them from the den without evincing the slightest symptom either of anger or alarm; and a still more remarkable instance is related from observation by Mr. Bell:—'There was a wolf at the Zoological Gardens (says that able naturalist) which would always come to the front bars of the den as soon as I or any other person whom she knew approached: she had pups, too; and so eager, in fact, was she that her little ones should share with her in the notice of her friends, that she killed all of them in succession by rubbing them against the bars of her den as she brought them forward to be fondled.'"

"The wolf will breed with the dog; the first instance in this country took place in 1766, when a litter, the offspring of a wolf and Pomeranian bitch, was born at Mr. Brooke's, a dealer in animals in the New-road: one of these pups was presented to the celebrated John Hunter, who says, 'its actions were not truly those of a dog, having more quickness of attention to what passed, being more easily startled, as if particularly apprehensive of danger; quicker in transition from one action to another, being not so ready to the call, and less docile. From these peculiarities it lost its life, having been stoned to death in the streets for a mad dog.' Another of these puppies subsequently bred with other dogs, and it is a decendant of her's which lies buried in the gardens of Wilton House, and is commemorated by the following inscription on the stone which covers her:—

Here lies Lupa,
Whose grandmother was a wolf,
Whose father and grandfather were dogs, and whose
Mother was half wolf and half dog. She died
On the 16th of October, 1782,
Aged 12 years.

"In another instance where a bitch-wolf bred with a dog, two of the puppies had large black spots on a white ground;

another was black, and the fourth a kind of dun. In reference to this subject it has been well remarked by Professor Owen :— 'From the known disposition of varieties to revert to the original, it might have been expected, on the supposition that the wolf is the original of the dog, that the produce of the wolf and dog ought rather to have resembled the supposed original than the variety. In a litter lately obtained at the Royal Menagerie at Berlin, from a white pointer and a wolf, two of the cubs resembled the common wolf-dog, but the third was like a pointer with hanging ears.'"

"Like dogs, wolves are capable of strong attachment; but such instances are comparatively rare: the most striking, perhaps, was that recorded by M. F. Cuvier, as having come under his notice at the Ménagerie du Roi, at Paris. The wolf in question was brought up as a young dog, became familiar with persons he was in the habit of seeing, and in particular followed his master everywhere, evincing chagrin at his absence, obeying his voice, and shewing a degree of submission scarcely differing in any respect from that of the most thoroughly domesticated dog. His master, being obliged to be absent for a time, presented his pet to the menagerie, where he was confined in a den. Here he became disconsolate, pined, and would scarcely take food; at length he was reconciled to his new situation, recovered his health, became attached to his keepers, and appeared to have forgotten 'auld lang syne,' when, after a lapse of eighteen months, his old master returned. At the first sound of his voice—the well-known, much-loved voice—the wolf, which had not perceived him in a crowd of persons, exhibited the most lively joy, and, being set at liberty, lavished upon him the most affectionate caresses, just as the most attached dog would have done. With some difficulty he was enticed to his den. But a second separation was followed by similar demonstrations of sorrow to the former, which, however, again yielded to time. Three years passed away, and the wolf was living happily with a dog which had been placed with him, when his master again appeared, and again the long-lost but well remembered voice was instantly replied to by the most impatient cries, redoubled as soon as the poor fellow was at liberty : rushing to his master, he placed his fore-feet on his shoulders, licking his face with every mark of the most lively joy, and menacing the keepers who offered to remove him. A third separation, however, took place, but it was too much for the poor creature's temper: he became gloomy, refused his food, and for some time it was feared he would die. Time, however, which blunts the grief of all wolves as well as of men, brought comfort to his wounded heart, and his health gradually returned; but, looking upon mankind as false deceivers, he no longer per-

mitted the caresses of any one but his keepers, manifesting to all strangers the savageness and moroseness of his species."

"Between the dog and the wolf there is a natural enmity, and those animals seldom encounter each other on at all equal terms without a combat taking place. Should the wolf prove victorious, he devours his adversary; but if the contrary be the case, the dog leaves untouched the carcass of his antagonist.

"The wolf feeds on the rat, hare, fox, badger, roebuck, stag, reindeer, and elk; likewise on blackcock and carpercali. He is possessed of great strength, especially in the muscles of the neck and jaws; is said always to seize his prey by the throat, and when it happens to be a large animal, as the elk, he is often dragged for a considerable distance."

"Closely resembling in many respects the wolf, the jackal is widely spread over India, Asia, and Africa. These animals hunt in packs, and there are few sounds more startling to the unaccustomed ear than a chorus of their cries. 'We hardly know,' says Captain Beechy, 'a sound which partakes less of harmony than that which is at present in question; and indeed the sudden burst of the answering long protracted scream, succeeding immediately to the opening note, is scarcely less impressive than the roll of the thunder clap immediately after a flash of lightning. The effect of this music is very much increased when the first note is heard in the distance, a circumstance which often occurs; and the answering yell bursts out from several points at once, within a few yards or feet of the place where the auditors are sleeping.'

"Poultry and the smaller animals, together with dead bodies, are the ordinary food of jackals, but, when rendered bold by hunger, they will occasionally attack the larger quadrupeds, and even man."

"The wolf and jackal tribes are by no means without their use in the economy of nature, though from their predatory habits they are justly regarded as pests in the countries they infest: that they will disturb the dead and rifle the graves is true, but they also clear away offal, and, with vultures, are the scavengers of hot countries: they follow on the track of herds, and put a speedy end to the weak, the wounded, and the dying; they are the most useful, though most disgusting, of camp followers; and after a battle, when thousands of corpses of men and horses are collected within a limited space, they are of essential service:

'I stood in a swampy field of battle;
With bones and skulls I made a rattle,
To frighten the wolf and carrion crow,
And the homeless dog—but they would not go;
So off I flew—for how could I bear
To see them gorge their dainty fare?'

COLERIDGE.

"Revolting and heart-sickening though such scenes may be, the evil is less than would result from the undisturbed decay of the dead: were that to take place, the air would hang heavy with pestilence, and the winds of Heaven, laden with noisome exhalations, would carry death and desolation far and near, rendering still more terrible the horrors and calamities of war."

EXPERIMENTS MADE ON SHEEP WITH THE INSECT, THE ICHOR, THE SCURF AND BLOOD OF SHEEP AFFECTED WITH THE SCAB.

By Herhwig.

[Continued from p. 114.]

An Attempt by Experiment to produce the Disease by Transfusion of Blood.

Although on many grounds it seems very unlikely that infection of the scab should be retained in the blood of the sheep, yet I was desirous to put this beyond possibility of doubt, and for this purpose I made the two following experiments by transfusion of the blood.

Experiment No. 14.

I undertook this, the first attempt, on the 10th of Feb., 1828, between the venous blood of a very scabby sheep and another sheep which had already been employed in Experiment No. 4, but at this time perfectly free from disease. To prevent the accidental communication of the disease by contact, each sheep was placed on a separate table, standing a little distance from each other; and, moreover, between the two tables a door was placed so as to prevent the possibility of the animals touching each other. Each sheep had a different person to manage it, and different instruments were used for each, and the operation, so far as was required for each animal, was performed by different persons. After the sound sheep had had six ounces of blood taken from it, for the purpose of preventing the overloading of the vessels by transfusion, the jugular vein of this sheep was carefully laid bare, and into its upper end a pipe, formed of a quill, was passed into it towards the heart, and there fastened. In the same way, the jugular vein of the scabby sheep being laid bare, a pipe of the same description was introduced into it, but, instead of being passed towards the heart,

it was introduced upwards towards the head. To ascertain now the quantity of blood which would pass from one animal to another in a given time, I allowed it to pass through the tube last-mentioned during half a minute, and found by weighing it that it amounted to nine drachms. I then placed between the two sheep a flexible tube about three feet long (which was formed of the two carotids of a horse), and fastened the two ends of the pipes which had been already fitted into the veins. The blood flowed now evidently from the diseased sheep into the sound during a little more than two minutes of time, so that the sound sheep received four ounces and a half of blood from the diseased one. The bloodvessels were now tied up; no particular change appeared either during or after the operation. After continued observation and daily examination of the sound sheep, not the slightest trace of disease of the hide shewed itself up to the 14th of March, 1828, i. e., during thirty-three days.

Experiment No. 15.

On the same day an experiment was undertaken of transfusing arterial blood from the carotid of another scabby sheep into the carotid of the wether sheep used in the third and fourth experiments. By observing the same caution and following the same method as in the former experiment, the flexible tube was fastened in one sheep towards the head, and in the diseased sheep towards the heart. Ten drachms of blood were found to flow through the tube in half a minute from the last-mentioned sheep; therefore the sound sheep received by the transfusion continued through two minutes about five ounces of blood. In this experiment also nothing particular happened. After observing the healthy sheep up to the 15th of March, not the slightest change could be discovered in any part of its hide.

Experiment No. 16.

An experiment was repeated on a third sheep which had already been used in Experiment No. 12, which had remained up to this time perfectly healthy. In this instance, however, three ounces of arterial blood taken from a scabby sheep were on the 15th February, 1828, injected into the arteries by means of a squirt. In this case also not the least mark of disease was to be found up to the 15th of March.

From the foregoing experiments the following conclusions may be drawn:—1st, That the scab can be with certainty communicated from one sheep to another only by means of an insect (sarcoptes).—2dly, That the inoculation with the discharges

which are produced by the eruption is very uncertain, an effect having been produced only in one instance, and that probably arising from the existence of one or more insects in the matter used.—3dly, That the scurf free from all admixture is incapable of producing the disease; it may be applied dry, moist, or dissolved, to the hide of a healthy sheep without any effect following.—4thly, That no effect follows the introduction of the blood of a scabby sheep into one that is healthy.—5thly, That if sound sheep are mixed for some days with scabby sheep, they will almost to a certainty become infected; nevertheless, a single healthy sheep may continue for two hours in the midst of scabby sheep without receiving the infection (this result, however, may depend on peculiar circumstances).—6thly, That the infection will discover itself evidently, most probably, between the tenth and sixteenth day after it has been communicated, whether by the application of the insect intentionally, or in the common way, the sound and diseased animals herding together.—7thly, That the scab in sheep of itself is only a local disease, and may continue such for a long time without disturbing the general health of the affected animal; and that when the health is disturbed it may be regarded as a secondary effect arising from the spreading of the disease, the disturbance of the functions of the skin, or from the constant itching caused by the insects, the exhaustion produced by the discharges, or the absorption of such discharges into the system of the animal.

Lynn Advertiser.

THE NECESSITY FOR GOOD PASTURE AND WHOLESOME WATER FOR CATTLE.

[THE following observations come in as a fitting sequel to an extracted article in our last number, "Water and its Impurities," and singularly confirms what we have given as a reason for the introduction of the former into THE VETERINARIAN. Our American friend will accept our best thanks for them.—ED. VET.]

THE State of Maine is only just emerging from agricultural infancy; yet her farmers have given evidence of their ability to produce as good stock, and as good a crop of potatoes, as the farmers of her more favoured sister States. What you lack in capital and numerical strength you make up for in perseverance and industry. As pioneer husbandmen in a section of country where some of your most valuable lands were studded with forest trees, you have a laborious and difficult task to perform, and, in reference to present pecuniary returns, I might add, un-

profitable. Yet you have the satisfaction of knowing, that, in tilling the soil, you are operating in mines equal to California, for the produce of that soil can all be turned into gold. As a community of farmers, you will find it to your advantage to cultivate none but the best kind of grass; the whole pasture lands will then be filled with valuable grass seeds. The number of grasses worth cultivating are but few, and these should be sown separately. It is bad policy to sow different kinds of grass together—just as bad as to sow wheat, oats, and turnips promiscuously,

The reason why the farmers, as a community, will be benefitted by sowing none but the best seed is, because grass seeds are distributed through neighbouring pastures by the winds, and there take root. Now, if the neighbouring pastures abound in inferior grasses, the fields will soon be filled with useless plants, which are very difficult to get rid of.

Another object of great importance to you is, to furnish your stock with pure water. There is not one of you within the sound of my voice but who considers wholesome water necessary for the preservation of your own health and that of your families. Cattle have often been known to turn away from the filthy stuff found in some troughs, and, indeed, in some pastures; the common stagnated pond water I allude to, that is found in low situations, sometimes the result of drainage without spring or outlet. Such water has, in former years, proved itself to be a serious cause of disease; and, at the present day, death is running riot among the stock of our western and also our northern farmers, when, to my certain knowledge, the cause exists, in some cases, under their very noses. They ofttimes see the very best stock sicken and die without any apparent cause; and the cattle-doctors are running rough-shod through the materia medica, pouring down the throats of your poor brutes salts by the pound, castor-oil by the pint, converting the stomach into an apothecary's shop. Setons are inserted in the dewlap, the horns are bored, and finally sawn off; and, as a last resort, the animal is physicked, blistered, and bled. They sometimes recover, but dear-bought experience has taught many of you that it would be more convenient, as well as profitable, to prevent disease, instead of undertaking the unsatisfactory task of curing it.

My attention was first called to this important subject by reading an article in an English work a few years ago; the facts were these:—A number of working oxen were put into a pasture, in which was a pond considered to abound in good water. Soon after putting them there they were attacked with scouring, upon which they were removed to another field. The

scouring continued—they still however drank at the same pond; they were shifted to a piece of very sweet pasture without arresting the disease. The farmer thought it evident that the pastures were not the cause of the disease; and, contrary to the advice of his friends, who affirmed that the spring was always noticed for the excellency of its water, fenced his pond round, so that the cattle could not drink; they were then driven to a distance and watered: the scouring gradually disappeared. The farmer now proceeded to examine the suspected pool, and on stirring the water he found it all alive with small creatures. He now stirred into the water a quantity of lime, and soon after an immense number of reptiles were seen dead on the surface. In a short time the cattle drank of this water without any injurious effects.

There is no doubt but that some kinds of water produce derangement of the digestive organs of both man and animals: hence the worms that infest the alimentary canal of each.

All decayed animal and vegetable matter tends to corrupt water. Hence, if you have the best spring, and the water shall flow from it through whole fields of dike or gutter, abounding in decayed matter, it will materially affect the health of your stock. I have dwelt on this subject longer than I intended, merely to shew you the importance of ascertaining the direct causes of disease, that, when they are once discovered and removed, the restoration to health generally follows.

Maine Farmer.

Foreign Extracts.

EXPERIMENTS ON THE IMMEDIATE EFFECTS OF SPAYING COWS.

By M. Roche Lubin.

The following experiments will shew that certain laws of nature resist the caprices of man, and that if they become altered they do not *at all times and in all situations* exhibit like benefits therefrom.

First Experiment.—An Auvergne cow, four years old, gave on an average six quarts of milk a-day, even while heavy in calf. She calved favourably, a second calf, the 23d Aug. 1838. On the 27th Sept. following she was spayed, according to the plan recommended by M. Levrat, of Lausanne.

Altogether new in the practice of the operation, I was too long about it; the consequence was a most intense peritonitis,

which, however, yielded to methodical treatment, so that thirty-five hours after the cow gave nearly seven quarts of milk. And this quantity varied little for eight consecutive months, excepting during eight days while she was at sowing work, which was excessive. For the first fortnight of the ninth month there was noticed, notwithstanding she preserved the best health and condition, a slight diminution. This diminution becoming more and more apparent, reached its minimum at the end of the tenth month. Five weeks afterwards the cow was sold to the butcher, nearly fat. The quality of her milk had never undergone any important diminution, nor had the cow ever had any *return of bulling*.

SECOND EXPERIMENT.—An Auvergne cow, six years of age, a good milker and hardy worker, calved 20th Sept. 1838, and was spayed 26th Oct. following. In the course of the day she had some slight colliquative pains. Four days after the cow gave the same quantity of milk as before the operation; a quantity which experienced no variation for ten months and seven days: forty days after this, however, her milk sensibly diminished, and in sixty days more, being in fat condition, she was handed over to the butcher. It was remarked that the slightest work fatigued her; that her milk yielded little butter; and that she shewed some desire for the male.

THIRD EXPERIMENT.—A cow of Aubrae, six years old, in full vigour, calved prosperously 12th April, 1839, and three days after yielded nearly seven quarts of milk. The 20th May following she was spayed, and on the fifth day afterwards died. Autopsy unreported.

FOURTH EXPERIMENT.—A cow of Auvergne, three years of age, had calved for the first time 2d April, 1840, and on the eighth day following had given about seven quarts of milk. On the 24th April she was spayed. For four days there was no rumination,—anorexia; but three quarts of milk, of a serous character, could be drawn from her. She took antiphlogistic medicine, and on the 6th May had recovered her wonted health, and gave eleven quarts of milk daily. This quantity was maintained with little variation up to the 1st Oct. following. On the second day of seed-time she was forced to be returned to the stable on account of shortness of breath. From that time she grew imperceptibly dry, and was subsequently sold in very good full condition. The quantity of milk she gave called for no remark. She experienced no return of the œstrum.

FIFTH EXPERIMENT.—Cow of Auvergne, ten years old, giving on an average four gallons of milk daily. The work she did was but little, and she had calved for the sixth time on the 20th May, 1842. The 29th June following she was spayed,

and a few days after gave upwards of thirteen quarts of milk, which quantity she continued to give for sixty-three days; falling off to half that amount during an interval of twenty-eight days, in spite of every possible precaution. This last quantity she kept up for six months and eleven days, from which time she grew insensibly dry, and was sold to the butcher fat. The quantity (quality?) of her milk never varied; she evinced some signs of bulling.

SIXTH EXPERIMENT.—A cow, five years old, very irritable, calved the 18th June, 1842, and was spayed 24th July. In the course of the same day she was affected with lumbago. The medicine prescribed not affording any relief by the next day, I recommended her being sent to the butcher.

SEVENTH EXPERIMENT.—A cow of the Suisse breed, four years of age, calved a second time the 1st March, 1843, and had a laborious parturition. Nevertheless, fifteen days afterwards she gave two gallons of milk. During this interval she became affected with internal ophthalmia, which terminated by the total loss of the eye. This accident caused her owner to make up his mind to have her spayed; an operation I performed on the 30th of the same month. On the 5th April the cow gave nearly two gallons of milk, a quantity which did not vary to the 3d of September following. Afterwards, becoming fat, she insensibly grew dry, and was sold to the butcher. She never experienced any return of the œstrum; nor did the quality of her milk vary.

EIGHTH EXPERIMENT.—A cow of Aubrae, five years old, gave even during her being in calf nearly two gallons of milk. She had produced her second calf 20th March, 1843, and was spayed 26th April; an operation by which we thought to cure her of her viciousness, a result which followed. The 10th of May this cow gave six quarts, and this quantity, which in the course of a few days increased to upwards of four gallons, was regularly maintained for eight months and nine days. Arriving, however, in a state of fatness, she commenced drying from day to day; and in January 1844 was delivered up for slaughter. This cow shewed signs of bulling, and, from the account of her owner, her milk became less buttery than that of other cows; and the slightest work tired her.

From these facts, and I forbear to add to them, there results evidently to me—1st, That the spaying of cows is not always attended with a more abundant and constant secretion of milk. 2dly, That this milk does not acquire qualities superior to that of cows not operated on. 3dly, That the only advantage derived from the operation is a very great disposition to grow fat, and this renders the meat more juicy. 4thly, That this obesity,

as soon as it has reached a certain point, causes the spayed cow to become dry. 5thly, That the risk of spaying exceeds that of calving. 6thly, That it is more advantageous to farmers in several parts of the country to breed calves. 7thly, That opulent farmers and graziers in large towns had better give up all thoughts of spaying.

Récueil de Méd. Vét., May 1850.

ON THE CUTANEOUS DISEASES OF THE HORSE.

By Mons. H. Bouley.

Amongst these there is one, interesting alike as regards its cause, its mode of manifestation, and its treatment, which has been confounded with general itch or mange; to which, indeed, it bears some resemblance, in consisting, as it does, of the existence of a parasitic animal, and which must be destroyed ere the disease will disappear. To this variety of *phthyriasis* M. Bouley has given the name of the

Poultry Lousiness (phthyriasis des oiseaux),

on account of the unique cause giving origin to it, as well as by way of distinguishing it from the pedicular disease peculiar to horses.

Its commencement is instantaneous. All at once the horse is seized with a violent continued general itching. So sudden and irresistible is the desire the animal possesses to scratch himself, that he is not easy for a single moment. He rubs his skin against every resisting body near him, stamps the ground continually, strikes his belly, bites every place he can reach with his mouth; manifesting, by his continual movements, the burning itching by which he is devoured. At night his torments increase; so much so, that should the animal be abandoned to himself, he rubs and bites himself to that degree, that he tears his skin, and carries portions away in his mouth, denuding himself extensively of his scarf skin; nor does he relax until smarting pains succeed the insupportable torments of the itching.

At the time these symptoms of prurience are making their appearance, the skin is the seat of an eruption of very small vesicles; some solitary—others, in greater number, congregate, occupying more or less extent of surface. These vesicles contain, at the period of their maturity, scarcely serosity enough to raise the epidermis, which becomes detached, dragging the hairs with it that run across, leaving behind it a small bare surface, perfectly circular, of the diameter of a lentil, or the smallest silver

coin. This bare part becomes covered with a crust of dried serosity, which soon exfoliates, and is replaced by a new epidermis, perfectly smooth.

This primary stage of the disease is difficult to meet with, because, ordinarily, horses are not submitted to examination before depilation has commenced, the sequel of the desiccation of the vesicles.

At the second stage of the poultry lousiness, the most pathognomonic lesion is the depilation consecutive on the vesicular eruption; and this is so characteristic, that, once the disease observed in its true form, and traced to its cause, a simple *coup d'œil* is all that is necessary to recognise and distinguish it from all other cutaneous affections.

The depilation is of that remarkable character that it reflects exactly, in the general impression it makes upon the skin, the form of the vesicular eruption, solitary or confluent, of which it is the latest vestige. In fact, the surface is marked by regular circular patches, of the diameter of a lentil, giving it the aspect of tiger spots. In places where the eruption has been the most confluent, the depilation spreads between the vesicles, and so extends over a considerable patch of surface; but, even in these places, the circular disposition of the denuded patches, the primary expression of the original vesicular eruption, is still maintained in the smooth condition of the epidermis.

This depilation spreads, like the vesicular eruption of which it is the consequence, with very great rapidity. In two or three days the horse with the most shining coat may have it spotted over with circular patches bare of hair, and in the course of a week will the hair and epidermis be destroyed over a large extent corresponding to the parts where the eruption has been the most confluent. Such is the rapidity of the depilation that we are but too apt to date the disease back to a long period when it is, in truth, but of a few days' duration.

It is only at this stage of the *phthyriasis* that horses ordinarily come under observation; and therefore does it become difficult at such a time to assign to the disease any specific character: the vesicular kind of eruption serving to distinguish and classify it having left no trace upon the skin save circulatory depilation. Sometimes, at this stage of the disease, sorts of solid papulæ form within the substance of the skin, which become crowned with secondary vesicles, whose progress is identical with that of those we have already pointed out, disappearing after the formation and detachment of the crust succeeding the secretion.

During the whole of this stage, as at the first breaking out of the disease, the patients are tormented with continual burning

itching, causing them to rub themselves incessantly and without relaxation; so that we observe upon the skin, in those places the most rubbed, lesions, which we may call *traumatic*, consequent on the violent action occasioned by the bodies against which the animal rubs himself. These epidermic excoriations appear either in series of lines or in broad patches, or in places irregularly circumscribed, according to the regions in which they are found, and the nature of the bodies against which the friction has taken place. They are principally remarkable upon the lateral parts of the head and neck, upon the back and croup, upon the sides and flanks, and upon the internal parts of the limbs. They look either very angry or bloody when observed immediately after the rubbing, or they are covered with red incrustations more or less adherent, according to the length of time they have existed; or else they appear in a state of granulation and suppuration, whenever the skin has become sufficiently deeply injured. But these superficial lesions of the skin do not by right belong more properly to poultry lousiness than to any other pruriginous disease; and, so far from being considered as one of their peculiar features, we ought to look upon them as simulating those affections to which they in truth belong, and which they stand in the place of.

This disease in no way interferes with the integrity of the general functions. Apart from the violent excitement the animal may experience, and the consecutive irregularity of his respiration and circulation it may occasion, he presents all the aspect of the most perfect health. When, however, the disease becomes of long duration, the subject of it will be apt to fall off his appetite, to grow thin, and to lose his condition for work from the gradual wasting of his powers. Indeed, there occur cases in which this privation of rest (from continual excitement) brings on complete marasm, and such inability for work, that the proprietor feels himself compelled to get rid of his horse at any price.

What is the nature of this singular affection, whose most striking characters are, the suddenness of its appearance and the rapidity with which it spreads over the entire surface of the skin, leaving everywhere uniform marks, vestiges of its presence, viz. depilation in circular patches of the skin, and a terrible sense of itchiness, without intermission and with evening exacerbation?

But that we may be furnished with the elements of complete solution of this question, let us first establish by well-authenticated facts the circumstances under which the disease ordinarily makes its appearance.

First Observation.

In 1842, an old iron-dealer brought a pony to the Alfort College for treatment for a disease of the skin, whose coat was spotted all over with circular bare patches, confluent in some parts, particularly about the head and neck and back, and whose itching caused by the disorder was such that the animal could get no rest. The owner said that he had but lately bought the pony, that the itching and depilation had taken place a few days after it came into his possession, and that when first he had him his coat was perfect and blooming, without the slightest trace of what now appeared.

At the time, the disease was regarded as general mange, and treated by baths, alkaline and sulphurous lotions, and mercurial frictions. In a few days the itching was allayed and the pony sent home.

Scarcely, however, had twenty-four hours elapsed when the itching returned more violently than ever, and the pony was in consequence brought for treatment again; and, in order that this time such treatment might prove permanently curable, it was left at the Veterinary College for a fortnight. All expression of itchiness having subsided, the pony departed a second time; but two days had not elapsed, when the itching returned, and the animal manifested the same disposition to tear himself with his teeth as he did before. It now became more desirable to know how it was these relapses always accompanied his return to Paris. Inquiry shewed that the animal was lodged in a narrow, obscure, low stall, *under a hen-roost*, from which it was partitioned by some loose planking, through the crevices of which the dust from the roost fell upon the pony.

This led to a supposition that what we had considered to be mange, might be occasioned by the proximity of the hen-roost. It was recommended either that the pony be removed, or its stall thoroughly cleaned out, and the roost got rid of. The latter recommendation was attended to, and no return of the affection has since been reported.

We might relate many other similar cases occurring in times back; but shall rest content on the present occasion with giving such as have happened within these last two years.

Second Observation.

A mare was brought to the College in December 1849, on account of general itchings which had for some length of time tormented her so, that she could not in peace eat her feeds.

Her owner informed us, in answer to our inquiries, that she stood in a stall under an open pigeon-house. He was recommended to have the mare clipped, and then brought back again to the College for treatment.

The hair being clipped from the upper parts of her body, discovered to view a great number of circular patches, some solitary others confluent, and all perfectly hairless, covered with epidermic scales, giving them a greyish aspect. In some places the bare spots present in their centres little adherent crusts, which by scratching become detached, and leave exposed underneath little superficial rose-tinted sores, issuing an inclined-to sanguinolent serosity; and, in addition, there is to be perceived in the substance of the skin little papulæ still covered with hair, whose epidermic coverings are readily detached with the finger-nail, and come off, dragging the hair along with them, leaving a bare, bloody, circular spot.

These different lesions were apparent upon the head and neck, the back, the sides, the breast, the flank, towards the fold of the groin, and the croup and dock. Everywhere there is burning itching, and whenever any body touches the skin, the animal leans that way, and by the curling of his upper lip manifests the pleasure he experiences in being scratched.

It was clear enough this was a case of phthyriasis, arising from cohabitation with pigeons.

Third Observation.

An entire horse was admitted on the 23d July, 1850. For two months he has been a martyr to an insupportable itching, causing him to bite and rub himself wherever he could. His stable is all day long occupied by fowls lodging in the neighbourhood.

Although possessing every external mark of health, his head and neck are covered with cracked red incrustations, concealing excoriations in a state of suppuration, &c. &c. Even in the parts covered with horse-hair, such as the mane, tail, &c., the hair is moist from an abundant issue of serosity, as though the skin underneath were the seat of vesication.

In this case the disease had existed for two months. Nevertheless, in comparing some of the lesions not as yet disfigured, from being in situations little likely to be rubbed, with the impressions still in our mind, we had great reason to attribute the present disease to the cohabitation of the fowls.

Fourth Observation.

The disease produced by the stabling of the horse being underneath a poulterer's shop.

Fifth Observation.

The case of a harness mare who had been losing her coat for three weeks past, and was continually rubbing herself in her stall. She was stabled next to a poulterer's, whose shop communicated by means of cage-work with her habitation.

Sixth Observation.

An entire grey cart-horse, living in a stable with fourteen other horses. A neighbouring yard is filled with fowls, who are continually in the stable in search of food. The hen-house is far enough off; and this is the only lousy horse in the stable. A confluent vesicular eruption is visible upon the head and neck, sides, flanks, and haunches, from whose surface the epidermis is destroyed, while it is issuing an albuminous demi-concrete serosity. Wiping away this serosity, we discover an agglomeration of little sub-epidermic sores, of a circular form, whose assemblage constitutes an ulcer analogous to what used to be called acute *dartres;* but which, in the present case, we interpret to be the pedicular disease caused through the insects coming from the poultry.

Were it not that we should multiply observations uselessly, we might add to the foregoing; instead of which it is our intention to submit some cases which M. Demilly has related in the REPORTS *of the Transactions of the Veterinary Society of Marne.*

After giving some striking cases which led to the discovery of the cause—for M. Demilly disclaims any knowledge of the disease having been pointed out before he discovered it—he (M. Demilly) concludes in these words:—

"In the presence of facts like these, it is impossible to deny the hurtful influence of hen-roosts or pigeon-houses proximate to or within stables where horses stand, and perhaps close to cow-houses and sheep-folds. This appears incontestable."

The foregoing collection of observations (continues M. Bouley) will, without doubt, appear sufficient to establish, irrefutably, that the cohabitation of horses with fowls is likely to produce in the former a disease of a vesicular nature, characterized by a loss of hair and a most insupportable itching.

For the purposes of practice, this etiological fact by itself, such as it comes to us from the bare comparison of the circumstances related, becomes an essential one; but, are we not permitted to extend our inquiries beyond such comparison, and seize, if we can, upon the material cause which proceeds from the habitations of fowls, and produces upon the skin of the horse the pruriginous affection we have been endeavouring to

describe? The name of *poultry phthyriasis*, proposed by us to designate it, in itself shews in what pathological light we view it. In fact, we believe that it is the *ova* of the lice with which fowls are infested in such multitudes that, hatching by myriads upon the horse's skin, occasion the especial irritation of which it becomes the locality, producing the eruption of confluent vesicles upon its surface, with consecutive depilation. Every thing conspires to strengthen this our belief. The sudden appearance of the ailment; its instantaneous propagation over the entire tegumental surface; the annoying, even tormenting itching, with the evening exacerbation accompanying the irritation; and, above all, the occurrence of all this at a time alone when horses are living in the same locality with fowls, from which they contract it; and that it is sufficient, to make the disease disappear, to remove out of the influence of the ostensible cause.

No doubt, the demonstration of this etiological fact will not receive satisfactory testimony until one or other of the varieties of lice known to harbour about fowls comes to be seized upon the skin of the horse, a proof which we must avow is as yet wanting, though the lack of it, no doubt, is owing to the insufficiency of our means of exploration, as well, perhaps, to the too remote period at which the majority of subjects infested from lice are brought to us. Mayhap, when we come to make observations on subjects the moment they shew symptoms of infection, having a good microscope to examine the epidermic dirt collected upon the surface of the skin supposed to be lousy, we shall discover, not the insect at its full development, in the form it is seen by the naked eye upon the fowl's feathers, but the microscopic insect, such as it appears at its exit from its ovum, already possessing great vivacity, with all its organs complete. For lice constitute an order of the insect tribe which are not subject, properly speaking, to metamorphosis. They quit their eggs with every external attribute belonging to the older animal; the only difference being in their comparative development. So that it is possible the disease may declare itself at the very moment of the hatching of the ova, and that it may become perpetuated by successive hatchings; since it is still questionable whether insects from either fowls or pigeons can live and propagate upon the horse's skin. At this moment we are engaged in experimenting on this interesting question.

The treatment of *poultry phthyriasis*, or lousiness, is very simple. The first indication is to remove the subject away out of the influence of the ostensible cause. The hair should then be clipped off, especially if the coat be long and thick; which done, some alkaline lotion may be brushed into the skin; or an infusion of tobacco—one ℔. to six or eight pints of either

water or vinegar. Should these applications not prove successful, frictions of mercurial ointment, alternated with alkaline lotions, will speedily effect a cure. Camphorated preparations—spirituous or oily—are very useful in allaying burning itching.

Recueil de Méd. Vét., Oct. 1850.

*** This is a disease which is either in itself novel to us, or else, if known before, which has not, that we remember, yet been made the subject of essay or description. From our earliest boyhood we can remember that a visit to the hen-roost, particularly when made by females, was apt to be followed by a complaint that the fowls' lice had got about the persons of the visitors; but we have no recollection of any such occurrence having been made the subject either of complaint or suspicion as regarded horses; although we can bring to mind cases in which, through chance or necessity, the stable happened to be situated close to the hen-roost, or even the hens were roosting in the stable. It would be idle and useless for us to pretend to enter into the discussion of a question ere we have ascertained, for a truth, that its merits are grounded in fact. For our own part, we have no experience to adduce in favour of its verity. Some one or more of our subscribers, however, may have something to say on the subject; and if he or they should have, we earnestly request that, on the present occasion, such intelligence will not be withheld from our pages, since it is no less called for on the side of the channel on which the subject has been broached than it is now in our own domain. M. Bouley, the author of the paper on the disease in question, with whom we have had the honour of some friendly professional correspondence—informs his readers, that three years ago M. Demilly gave an account of the transmission in the "*Comptes Rendus de la Société Vétérinaire de la Marne*," though by himself it was noticed so long ago as some *ten* years back. Nevertheless, he tells us, at the foot of his account, that his paper amounts but to an "imperfect sketch" *(esquisse imparfaite)* of a disease as yet but *mal observée*, and he solicits any observations the readers of his Journal *("Le Recueil")* may have collected on the subject. So that, after all, the French veterinarians themselves are by no means sure of their mark.

It is notorious among horse-men, that horses who have been running out at grass or strawyard all the winter, and come to be taken up at the spring of the year with long, dirty, old coats upon their backs, and particularly when they are low or starved in condition, not infrequently are found lousy. They seem to have engendered the lice amid the dirt accumulated upon their skins, which somehow or other would appear to be associated with the depressed condition and poorness of blood the animal exhibits. There is no evidence to shew they are caught from any other animal. Indeed, were they the fruit of transmission they would not survive, since it is now pretty well ascertained that each species of animal can support but its own peculiar louse. And this is a fact which would appear to operate against the transmission of the fowls' lice to horses; though M. Bouley does not pretend to think that such lice sojourn with the horse, but only deposit and hatch their eggs upon his coat. And if it be true, as is calculated to be the case, that one louse will lay "nine thousand eggs in a couple of months," we can readily account for their numbers, even though it appears certain that they cannot for any long time exist in their transplanted condition.

We again solicit attention to this novel and rather curious addition to our pathological catalogue, as offered to our notice by our French brethren. Through our Journals and occasional communications on paper, we seem as though we had now become, in a measure, identified in scientific interests with the continental veterinary world, and in particular with the French veterinarians; and we therefore feel it behoves us—and we dare vouch for such feeling being reciprocal—to do all in our power towards the augmentation of that knoweledge whereby we both may be said to "live and move and have our being."

ED. VET.

THE VETERINARIAN, APRIL 1, 1851.

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

In our Journal for this month will be found the By-laws of the Royal College of Veterinary Surgeons, as passed by the Council at their sitting on the 29th January, and ratified and "officially sealed" at their subsequent meeting, on the 12th February, 1851. This makes the third edition of the By-laws. The first by-laws were published "at the suggestion of a respected friend," in the eighteenth volume of The Veterinarian; the second, or "revised" code of them, in the twentieth volume. The second proved an amendment on the first set of laws. But to the third code we must award more praise. It is not simply an amendment or improvement, but really amounts to an entire re-modelling of the laws, and upon a plan not more comprehensive only, but which in its detail bears upon its surface the more evident impress of being worked out by an artist.

By-laws to public institutions are what wheels are to carriages: they not only enable them to move, but direct the course their motions must take. A carriage is able to move forwards or backwards, or to turn round either to the right or left; but if an attempt be made to drag it sidewise or crosswise, it will meet with resistance, and if persisted in, will end in upset. So the corporate machine cannot work in opposition to its laws; if these be not respected, but, on the contrary, be violated and disregarded, the College will not remain long upon its foundations. This fundamental use of them it is that renders by-laws of the very first importance, and makes it a matter of such vital consequence that they be framed and concocted with wisdom and deliberation, so that, through their harmonious operation, the corporate machine may roll on smoothly and safely, and avoid or overcome such impediments and obstacles as it will be sure to meet with in its onward march towards perfection or completion.

The by-laws before us may be said to be referrible to, or to

range themselves under, three headings; viz. the *Council*, the *Examinations*, and the *Corporation* or *College*.

The Council, as appointed at the General Meeting by the members at large, may be said to be, under the direction of the president, the governing body of the profession. It is therefore a matter of no small importance that both caution and judgment be exercised in the selection of members as councillors. The by-laws have regard to this. They have provided for the *admission* and *election* of members into council, have regulated their *meetings* and *proceedings*, and have so directed the latter that they may work in that channel which past experience has pointed out as most conducive to the welfare and prosperity of the veterinary community.

But it is the *examinations* that we regard with most critical eye, as constituting that division of the concerns of the college upon which we must look—*in futuro* at least—for the amelioration of a profession we have been long regarding as "improving;" but which, in our eye, has undergone little or no real improvement since the time Coleman sat as our Professor. It is the duty of the College to see well into this matter; and to lay down in respect to it such laws as shall in their judgment tend the best to promote it. Let those who frame by-laws, and sit in the chairs of examiners, remember, that they are legislating and awarding for those who are to come after them; and that if in future days it turn out that the college is not worthily represented, they, and they principally, are to blame. Let the schools do their utmost to improve their classes, and let the court of examiners conscientiously do their duty, and persist in the determination to "pass" nobody save him who is in their deliberate judgment found "duly qualified to practise the veterinary art." The charter has conferred on the council the right of electing examiners; and the council, through their by-laws, have specified the conditions on which the candidate will be received for examination;—given an outline of the nature of such examination;—prescribed the form of examination;—directed the manner of conferring the diploma, &c.

In respect to the qualifications for examination required of the candidate, it will be remembered by some, that, in the first

code of by-laws, indentures of "an apprenticeship of not less than three years to some member of the College," were called for; but that in the subsequent, or "revised" code, framed a couple of years after, this law, though it still stood in its place, was permitted to be set aside, providing the candidate could, "in lieu of the apprenticeship," produce a certificate "of having attended for *four* sessional years the practice and lectures (named in law 3) at one of the recognised colleges;" whereas, in the present by-laws, all that is required of the candidate for examination is, that he "leave with the Secretary a certificate, or such other legal proof as may be required, of the candidate's having been educated at some one of the recognised colleges or schools." This is certainly setting the requirement of qualification at the lowest possible amount: in fact, it is asking for no more than the Charter has already provided, as will appear from the following extract from it:—"And we do hereby further will, &c. that the Council shall make any orders for fixing and determining the times and places and manner of examining students *who shall have been educated at the Royal Veterinary College of London, or the Veterinary College of Edinburgh, or such other Veterinary College as now is or may hereafter be established.*"

The policy or utility of the apprenticeship, as enforced by the original by-laws, and—what has been since questioned—the *legality* of it, or right exercised by the Council in prescribing it as a condition of examination for admission into the College, are questions which have, in times and on occasions heretofore, undergone so much discussion, and fallen and risen under such a variety of conflicting opinions, that we have no mind here to bring them again on the *tapis*. Our own opinion has always been, that the examination is the proper test of proficiency, and if it be not adequate to or effectual for such a purpose, that it ought to be made so. That it is not so, as at present necessarily conducted, we are quite ready to admit. Nay, more; we do not imagine that, in the Freemasons' Tavern, it is ever possible to make it so. At the same time, we believe there are places, and seasons, and circumstances, when and where the examinations might be made *practical*, and *probing*, and *proof-ful*; nor

shall we, for our part, regard them as efficient until such available means be obtained and made use of.

The fee paid by the candidate for examination has been doubled. In both the former codes of laws it stood at five guineas; in the present one it is made ten guineas. Some strong objections have been urged in council to the passing of this law. Nevertheless, it has maintained its ground. Whether the enlarged fee will, as has been stated, operate beneficially or not as regards the education, character, and station in life of the pupil, it will assuredly have the effect of "bringing grist to the mill;" and without something of the kind we do not see how the machinery of the College can be kept at work. The examiners must be paid, the officers of the College must be paid, and the rooms in taverns or other places where the examiners and Council hold their meetings, must also be paid for; and, since the subscription has now ceased, where the money is to come from to do all this, if not out of the examination fees, we are at a loss to know. There exist, we are afraid, some serious obstacles, in the present disjointed condition of professional affairs, in the way of the realization of a Royal College of Veterinary Surgeons; but certainly not one of the least of them is the *want of funds*. And whence the supplies are likely to be derived we profess to have at present no knowledge. A good deal more might be said on the leading points, to the settlement of which the by-laws are principally directed; but, for the present, we find we must "hold hard."

THE BY-LAWS OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

1. THAT all gentlemen shall be proposed for election in Council previous to being balloted for.

2. Such Members of the College as may be desirous of having the names of any persons they may propose as Members of the Council included in the list after-mentioned, must give notice thereof, in writing, to the Secretary on or before the 14th

day of April in each year; but any Member may be proposed at the Annual Meeting, notwithstanding his name may not be on such list.

3. Ten days prior to the Annual General Meeting, held on the first Monday in the month of May, the Secretary shall prepare a list, stating the names and residences of the persons proposed, and also of the Members of Council who remain in office, as well as those who retire by rotation, with any vacancies arising from deaths, resignations, or other causes; and that such list shall be presented to any Member of the body corporate making application to the Secretary after it has been prepared.

4. Previous to the commencement of voting for Members of Council, the Members of the body corporate assembled at the General Meeting shall choose from among themselves two persons to act as scrutineers.

5. That the day for the Meeting of the Council, required by the Charter to be held within one calendar month after the Annual General Meeting for the election of the President, six Vice-Presidents, and Secretary, shall be fixed by the President as early as convenient.

6. In addition to such meeting, four meetings, at the least, of the Council shall be holden during each year in the months of July, October, January, and April; and on such days and times in those months as the President shall appoint.

7. At each Meeting of the Council, prior to entering on the general business, the minutes of the preceding meeting shall be read.

8. After the minutes have been read and signed, any accounts or business connected with the property of the body corporate shall be considered; aud then any reports from committees, officers, or correspondents, shall be received.

9. Any Member of the Council, who shall be desirous of introducing any subject for discussion, shall give notice thereof in writing to the Chairman at some previous meeting, or to the Secretary, in time for its announcement in the notice of Meeting.

10. All motions to be considered in the order in which the notices are given, and the issue of the notices to be in accordance with such order.

11. No motion to be discussed before it has been seconded; nor shall any Member speak more than once on any question, save in explanation or reply.

12. All resolutions carried at the Meetings of the Council, except such as relate to the By-laws, shall be acted upon without further confirmation.

13. The Council shall elect from its Members a Committee

of Finance, with such other committees as may be deemed necessary; and shall also annually elect two Auditors.

14. The Council shall also annually elect some one of the body to act as Registrar of the College.

15. The Council shall prepare an abstract of their proceedings up to the first day of April in each year, together with a statement of the funds and property of the College, which shall be read at the Annual General Meeting, and printed and supplied gratis to such Members of the body corporate as shall apply for the same.

16. The President, upon receiving a requisition signed by ten Members of the Council, or by twenty Members of the College, requiring him to call a Special General Meeting of the Members of the College, and stating the object for which such meeting is required, shall call such meeting within twenty-one days after the receipt of such requisition.

17. Notices of Meetings shall be issued by the Secretary at least four days previous to Council and other meetings, exclusive both of the day on which they are issued and of the day on which the Meeting shall take place.

18. The Common Seal of the ROYAL COLLEGE OF VETERINARY SURGEONS shall be the Armorial Bearings, Crest, and Motto, registered in Her Majesty's College of Arms; and it shall be in the custody of the President.

19. The Council shall appoint twenty persons to constitute the Court of Examiners, and shall from time to time fill up any vacancies which may occur.

20. Twelve of the Examiners shall be selected from the Members of the College, and eight from non-members eminent for their knowledge of medical science or chemistry; a moiety of each shall act as a sectional Court of Examiners for England, and the other moiety for Scotland.

21. Each Court of Examiners shall select a Chairman and Secretary from amongst their body.

22. Every Member of the Court attending during the entire period of each meeting shall be entitled to the fee of Two Guineas.

23. The Professors and appointed Lecturers of any veterinary school sanctioned by the Charter shall be, *ex officio*, Members of the Board of Examiners.

24. The Principal Veterinary Surgeon to the Army shall be an *ex officio* Member of the Examining Board.

25. The Court of Examiners shall meet twice at least in every year; namely, at the termination of the session of either school, and in the month of December.

26. The President, or in his absence the senior Vice-Pre-

sident, may direct a Special Court of Examiners to be holden on any emergency.

27. Each candidate, fourteen days prior to his examination, must leave with the Secretary the fee of £10..10s; and a certificate, or such other legal proof as may be required, of the candidate's having been educated at some one of the recognised colleges or schools.

28. The nature of the examination which the Council will require the student to undergo, will comprehend the Anatomy, Physiology, and Pathology of the Horse, Ox, Sheep, Pig, Dog, and other domesticated Animals; Veterinary Medicine and Surgery; Chemistry, Materia Medica, and Pharmacy; with the principles of Shoeing and the practical duties of the profession.

29. The Court shall form themselves into four divisions: one on Chemistry, Materia Medica, and Pharmacy; one on the Anatomy and Physiology of the Horse; one on the Pathology and Treatment of the Horse; and one on the Anatomy, Physiology, and Pathology of the Ox and other Domesticated Animals.

30. Every Student shall be examined by each division; and at the conclusion of the examinations the Court of Examiners shall re-unite, each division to report the result of the examinations to the Chairman, and the sense of the Court be taken as to the qualification of the Student.

31. Should the result of the examination of any candidate appear doubtful, such candidate shall be re-called, and examined before the whole Court.

32. Any Student not appearing to the Examiners to be qualified to receive the Diploma of the College, shall be rejected for any period at the discretion of the Court.

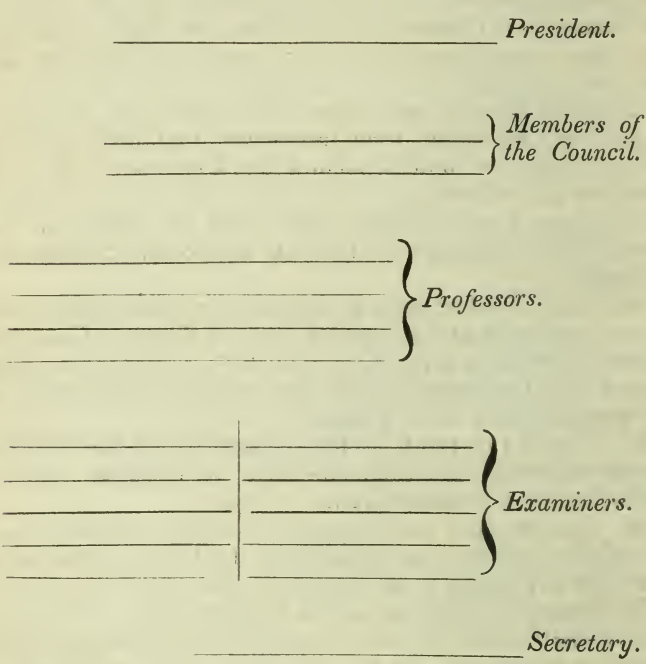
33. Should a Candidate for the Diploma of the College conduct himself disrespectfully, or otherwise improperly, at any Court of Examiners, the Chairman is empowered to stay the examination of such Candidate, and report the transaction to the Council.

34. Every Member shall, on his admission, subscribe his name to a copy of the Rules and By-laws for the time being, which shall be entered in a book kept for that purpose.

35. A List of the successful candidates, signed by the Chairman, shall be transmitted to the President, who shall, on the receipt thereof, grant the Diploma of the College to each individual.

36. The signatures of the Examiners, and of the Professors of the school in which the Student has graduated, shall be affixed to the Diploma, which shall be stamped with the Seal of the College, and shall be in the following form:—

"*Know all men by these presents, that the Board of Examiners appointed under the Royal Charter of Incorporation, having examined M , and having found him fully qualified to practise the art and science of Veterinary Surgery and Medicine, he is hereby declared a Member of the Royal College of Veterinary Surgeons. By Order of the Council.*



37. Any Candidate for Membership, who shall by false certificates or other stratagem impose upon the College to obtain its Diploma, shall be suspended by the Court of Examiners; and, on the fact being proved to the satisfaction of the Council, be declared disqualified for examination for as long as the Council shall decide.

38. If a Member shall be guilty of any fraud in any matter required by the College, after full investigation, his Diploma shall be cancelled and declared void.

39. That the President and two other Members shall be the Trustees of the College.

40. All payments of Money due from the Royal College of

Veterinary Surgeons, and exceeding Two Guineas, shall be made by order of the Council on the Treasurer, signed by the President or Chairman, and one other Member of the Council then present, and a proper receipt shall be taken by any Treasurer, Officer, Servant, or other person, on account of the College.

41. All Monies belonging to the Royal College of Veterinary Surgeons, except such sum as the Council shall from time to time deem necessary for current expenses, shall be vested in the three per cent. consolidated annuities of Great Britain, or other Government securities, in the names of the Trustees of the College.

42. The President may grant leave of absence to or may suspend any servant of the College; but every instance of suspension shall be reported to the next ensuing meeting of the Members of the Council.

43. Every Board and Committee shall be open to the President, who shall receive due notice of the time appointed for holding the same.

44. The President, upon an exigence, may direct any Special Meeting of the Council to be held, and any Board or Committee to be convened; and any other measure to be taken which may appear to him necessary for the security or benefit of the College.

45. The Treasurer shall receive and pay monies; but all accounts above Two Guineas shall be paid by cheques only, such cheques to be signed by the Treasurer.

46. He shall keep correct accounts of his receipts and payments, which shall be presented by him to the Council quarterly, or oftener if required; and shall prepare a balance-sheet to be audited previous to the Annual General Meeting.

47. This Committee shall consist of at least five Members of the Council, three of whom shall constitute a quorum; whose duty it shall be to examine and regulate the accounts of the College, to check the receipts of all monies, to examine bills previous to payment, and also to furnish a statement of the property of the College once every quarter, or when required to do so by the Council.

48. The Auditors shall be summoned by the Secretary, previous to the Annual General Meeting, to inspect the accounts of the College prepared by the Treasurer and examined by the Finance Committee.

49. All accounts must be signed by the Auditors, and laid before the Council, previous to the Annual General Meeting.

50. The Secretary shall be present at the Meetings of the Members of the College and of the Council, issue all notices,

take minutes of meetings for business, and make a report to the Council of all matters concerning the College that may come under his cognizance.

51. He shall consult the President, or in his absence one of the Vice-Presidents, on any business requiring immediate attention; and shall be responsible for the safe custody of all the documents and property belonging to the College which are under his controul.

52. He shall receive all fees and donations, and give receipts for the same; and be allowed such a sum in advance for petty cash and servants' wages as the Council may order, but shall not be allowed to pay any account exceeding Two Guineas, and shall keep the financial accounts of the College.

53. The books in the use and care of the Secretary shall be kept according to the directions of the Council.

54. If by sickness or any other cause the Secretary be at any time rendered unable to attend to his duties, he shall report the same to the President, or, in his absence, to one of the Vice-Presidents, who shall thereupon give such directions as may be judged proper until the sense of the Council can be taken.

55. Should the office of Secretary at any time become vacant, the President, or one of the Vice-Presidents, shall act in his stead until a Council can be summoned and the appointment filled up.

56. The Registrar shall prepare a list of all Members of the Royal College of Veterinary Surgeons, and shall therein enter the christian and surname of each individual, his place of residence, date of diploma, and any honorary distinction, specifically communicated, he may be entitled to.

57. At each Quarterly Meeting of the Council the Registrar shall read the names of the Members who have been admitted, or whose deaths have been authenticated during the quarter.

58. A printed List of Members shall be published by direction of the Council as often as they may deem requisite, which list shall be had on application to the Secretary, on payment of such sum as the Council may direct.

59. Every vacancy in the place of any officer or servant of the College shall be announced at the next meeting of the Council; and no election of any officer or servant shall take place without previous notice thereof having been given to each Member to attend the meeting of the Council at which such election shall be proposed to be made.

60. All elections shall be by ballot.

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LAMENESS IN HORSES.

By William Percivall, M.R.C.S. and V.S.

[Continued from page 70.]

Canker.

CANKER, in the sense in which we make use of the word in veterinary medicine, may be said to be synonymous with *cancer* in human medicine: the latter being the Latin name for a crab, an ill-favoured animal the disease in certain forms was supposed to represent. For the same reason, cancer is sometimes called *lupus* or wolf. The French have named what we express by canker, *crapaud* or toad, seemingly from some such fanciful comparison*.

Definition.—Canker is a disease of the secreting tissues of the foot, affecting in particular the sensitive frog and sole, and essentially consisting in the production of a peculiar morbid substance called *fungus*.

The History of Canker, in our own country, while it affords most satisfactory results in regard to the contrasted prevalence and destructiveness of the disease in times past and in times present, opens to us a book of instruction out of which we may learn both how to prevent and to cure it. In former days it was no unusual thing for canker to prevail in large establishments of horses in an epidemic and even a malignant form. In the army the disease was known to create year after year sad defalcations; nor were these remedied until the introduction of veterinary surgeons into the several regiments and public departments. I have heard both the late Professor Coleman and my father (who was the senior veterinary surgeon of the Artillery) say, that, towards the close of the last century and

* Might not canker derive its application to this *fungous* disease from the meaning attached to the word in Gloucestershire, viz. its signifying "a poisonous *fungus* resembling a mushroom"?

the beginning of the present one, the annual losses to the cavalry and ordnance services through canker and grease and glanders and periodic ophthalmia, were truly awful. Whereas, at the present day, army veterinary surgeons have it in their power proudly to boast, that such diseases are exceedingly rare; some indeed all but unknown to them: so unusual is it to meet even with a case of grease, and so much more uncommon—and not very creditable—is it to encounter one of canker. Nothing can set in a stronger or more demonstrable light than this the utility of veterinary surgeons in large horse-establishments; shewing, as the fact does, that their art is available no less in the cure than in the *prevention* of disease.

HORSES OF COARSE AND HEAVY BREED, and particularly those that have much hair upon their heels, and have broad and flat feet, are said to be most obnoxious to canker, and I believe not without reason; at the same time I think it will appear, as we proceed in our inquiry, that, in situations where it is prevalent among them, the habits of such horses have much influence in the production of this disease.

THE HIND FEET ARE OFTENER AFFECTED than the fore. This, no doubt, arises from the situation they occupy, as compared with those of the fore feet, in the stall or stable. While the hind feet are all day long, or a great part of the day, exposed to wet, and that of a stimulant character, from the lodgments of dung and urine, and from that cause alone are apt to engender frush, something may be said of their increased liability to diseases in general, such as frush and canker and grease; in consequence of the greater distance they are situate from the centre of circulation.

THE SEAT OF CANKER, ordinarily, is the *frog* of the foot, and, as has been remarked already, of the *hind* frog in particular. If allowed, however, to progress, the disease is not long before it spreads from the frog to the sole of the foot. But frog and sole may both be in a state of disease, and yet the horse, while standing before us, shew no sign of ailment until his foot be lifted off the ground. From the sole, the disease, continuing to spread, extends around the circumference of the toe and quarters, at the place of junction of the laminæ with the sensitive sole; and here it is that the fungous growths appear to flourish with a peculiar luxuriance, which we shall find, as we proceed, arises out of the nature of the tissues existing at this particular part. The fore feet are not often cankered without one or both of the hind participating in the disease. Nay, it not, then, unfrequently happens that all four feet turn out affected; and, when this is the case, it proves extremely difficult and tiresome to get rid of the

disease, the healing of one being so often followed by fresh eruption in another.

THE SYMPTOMS OF CANKER, in other words, the appearances presented by a foot in a state of canker, are at once peculiar and striking. The diseased foot has that strange loathsome aspect which may suggest a fanciful comparison of it to a crab or a toad, or any other unsightly or anomalous thing. It looks as though it hardly belonged to the leg; as though, in fact, it never could have been included within the confines of the hoof. With its fungous growth sprouting from it, wherever it happens to be bare of hoof, it conveys to our mind a notion that it is in a state of luxuriance or *hypertrophy*. This is supposing we do not see the foot until canker is fully developed in it. Had we happened to have seen it at the beginning, or could we obtain the history of the case, we should almost invariably find that the germs of the disease were first discoverable within the cleft of the frog. This cavity becomes the *fomes* of corruption and decay. At its bottom and around its sides are visible, shreds of dark-coloured, dead and partly loosened portions of horn, which have become detached from the living surfaces beneath by an acrid serous exudation from the latter, which is everywhere oozing through the crevices of the dead and semi-detached horn, the partial solution of which by it has in places rendered the fluid black, and from its becoming at the same time putrescent, intolerably offensive to the smell.

When we come to remove this discoloured and decayed horn, and expose the sensitive surfaces, we find the latter covered with an opaque whitish caseous matter, supplying the place of what naturally should be fresh-secreted horn; but which is evidently in important respects different from it, as well in its aspect as from its property of continuing softness, and consequent unfitness for the purpose of cover or protection to the living surfaces. No sooner, however, is the resistance or pressure afforded to the secreting parts (so long as it remains) by the old horn removed than *fungus* sprouts from the bare and exposed surfaces.

FUNGUS, which may be said to constitute the *essence* of canker, is a white, soft, consistent substance, of fibrous composition, growing in such exuberance from the diseased surfaces that it not only occupies the place of the horny covering, but swells to a bulk much beyond the ordinary boundaries of the hoof, having its surfaces covered with layers of the fœtid caseous matter but now mentioned, while its fibres and crevices are bedewed with the nasty ichorous secretion which, from solution of any old horn remaining, turns black around the roots of the fungus. From the granulary aspect the fungus ordinarily assumes, some have regarded it as a sort of exuberance of granu-

lations issuing out of the *keratogeneous* or secretory tissue; while others, from its extreme vascularity and liability to bleed when maimed or cut, have viewed it of some such nature as *fungus hæmatodes*. Neither of these hypotheses will, however, bear examination. In an interesting paper written by M. H. Bouley on the subject of *crapaud* (canker) in the *Recueil de Med. Vet.* for January 1851, he has given as his opinion that the fibres of the fungus are nothing more than prolongations of the villosities of the sensitive tissue of the foot *in a state of hypertrophy*, bundles of which matted in close union together constitute the masses of fungus. And in confirmation of this opinion, he adduces the fact of fungus proving to be longest and most fibrous and luxuriant in situations where the *villosities* of the foot (which are the organs of touch) are known to be the most developed, such being the circumferent border of the coffin bone and the inflexions of the bars at the heels; whereas, in places, such as the body of the frog and the sole, where the same development of villosity is not met with, the fungus is comparatively short and close in texture, and indistinctly fibrous. And M. Bouley adds, that, as in the normal state the villosities never exceed certain dimensions in consequence of the wholesome restraint they meet with in their growth from the hoof covering them, so is this hypertrophic development or morbid growth of them to be attributed to the loss of this wholesome or normal restraint. The same thing happens, under other circumstances, in cases in which we are desirous to promote the formation of healthy horn. Without *pressure* we well know how difficult this often is to accomplish, and at the same time maintain the growth within proper bounds. And what further favours this view of the matter is, that fungus is never seen in situations where *villi* or villosities are indemonstrable, such as upon the surfaces of the laminæ.

It might be expected, that, since the fibres of the fungous growth consist, in point of fact, of hypertrophic *villi*, the fungus itself would prove a highly sensitive substance; whereas, so far from this being the case—though it be so vascular that it bleeds freely from slight injury—every practitioner well knows that it possesses no, or but extremely little, sensibility. Indeed, the animal himself shews this by the manner in which he steps upon it, and the extent to which he can (through the dressings) endure pressure upon it. This loss or want of sensibility M. Bouley accounts for, by the thick coating of fibro-plastic matter in which the villi are included in the course of their increased development, and which really, as it were, isolates the nerves from all surrounding impressions.

CANKER IS TARDY IN ITS PROGRESS in general. Though,

sometimes, so strong is the reproductive *secretory* process that we can hardly repress the growth of fungus; this, however, does not evince actual spread of the disease from part to part, but only the excited condition of such parts as are already in a state of disease. Still, this is only the case at certain times and in certain places; for every now and then it happens that the disease assumes a chronic, indolent, inactive form altogether, neither spreading nor healing. As might be anticipated from what has been said

LAMENESS IS BY NO MEANS REMARKABLE IN CANKER. So far from it, indeed, looking at the condition of the foot, we are apt to feel surprised to find how firmly the horse steps upon it, and, after the diseased parts have been compactly bound up —providing no very sharp dressings have been used—how well he is able to do his work with it. When, however, the fungous growths have been cut or burnt off, and caustic dressings have been applied to the sensitive tissues, intense pain, and in most cases inflammatory action as well, follows the dressing, and for some time continues; indeed, in some instances, so great is the suffering for a time that the animal is entirely taken off his feed by it.

THE CAUSES OF CANKER may be conveniently considered under the headings of *predisposing* and *exciting*.

Predisposition to the disease is said to lurk in "the heavy breed of cart horses;" and certainly the disease has appeared oftener in such horses than in others; but whether this originates in any "constitutional predisposition," or whether it be simply referrible to the fact that such horses, from their habits, are more likely than others to contract canker, appears questionable. From the army, wherein canker once was so great a pest, it has, by attention to shoeing and stable management, been entirely banished; and there seems no good reason why the same end by the same means should not be put to the disease in cart and dray and wagon horse establishments. Farmers, whose horses in general are worse shod and looked after than those of other people, in some parts of the country, were at one time known to be, in too many instances, sad sufferers from losses by canker; now-a-days, however, since reform has found its way into the farm-yard, and improvement into the country shoeing-forge, but little complaint is heard in general about the disease. In fact, in the epidemic and malignant forms in which canker formerly prevailed, the eruption and character of the disease was clearly owing to neglect and mismanagement.

EXCITING CAUSES.—Supposing canker, since its primary seat is ordinarily the cleft of the frog, originates in, or is but a sequel of, frush, the same causes which occasion one may be

said, by intensity or continuance, to give rise to the other. This is the usual notion of the production of canker; but it is one which, for my own part, I cannot altogether reconcile with the results of experience. We know that horses will have frushes, and very bad frushes, for years together, to which no medical attention is paid, and yet canker never supervenes. On the other hand, we learn from observation that horses in certain situations can hardly have frush without canker speedily ensuing, unless prompt and efficient means be taken to prevent it. In hot, foul, ill-ventilated stables this is found to be the case. Let horses stand with their feet in the filth and muck of uncleansed stables until they contract frushes, and let their frushes go on unattended to, and canker will be the pretty certain result. This is the reason why the hind feet are more subject to canker than the fore. Or, let horses remain during the winter at straw-yard or in wet pasture, and while their hoofs are becoming frushy, abandon them altogether to "take their chance," and canker will be sure to be the consequence. All this would seem to shew that the secretory apparatus of the foot may from such influences as heated and foul and impure stabling affords, or simply from continued exposure to wet and dirt, lose their power of producing sound horn, or indeed horny matter at all, and in lieu thereof pour forth the matter peculiar to canker, we call *fungus*.

Although frush is the ordinary forerunner of canker, still may and does the latter issue out of other local causes. Grease, from the matter trickling down over the heel into the cleft of the frog, may give rise to disordered action of that part, which, sooner or later, may end in the production of canker. Quittor likewise, it is said, may produce it; though this is an effect I have had no evidence of myself. In a foot disposed to take on cankerous action, there can be no doubt but that any lesion of frog or sole may be followed by the disease. By far, however, the most common origin of the disease is said to be in frush.

Pathology of Canker.—Close observation during life has shewn, while post-mortem examination has confirmed the fact, that the horn-producing—the *keratogeneous*—organ is the part specifically diseased in canker, and to this delicate tissue and its soft *substrata*, the cellular coverings of the frog and sole, the disease is confined: neither bone, nor tendon, nor cartilage being found implicated in its spread. On this part of my subject I rejoice to have an opportunity of deriving information from a very interesting report obligingly made of a cankered foot, which had been submitted to him by M. Bouley, by M. Robin, Professor of the Faculty of Medicine at Paris, who, with the aid of the microscope, found "that the anatomical

lesions in the tissue forming the horn bore, to appearance, no relation to the great and remarkable changes apparent in the horn itself. And yet, this disparity, great as it is, ceases to excite surprise when we come to reflect that the extraordinary change is not in a constituent tissue of the body, but only in a product of secretion. In a word, the lesions of the *matrix* and of the papillæ, *although anatomically inconsiderable*, are indicative of a chronic inflammation; while, on the other hand, the softness and thickness of the horny matter not yet become true horn seems to indicate a secretion so rapid that, in its progress, time has not been allowed for its due conversion into compact horny tissue."

To this quotation M. Bouley adds—"Thus is microscopic observation perfectly in accord with ordinary observation, since both show that, in canker, not only is there no scirrhous or cancerous change of the morbid tissues; but, further, that the lesions of these tissues are, anatomically, very inconsiderable, consisting, after all, in no more than chronic inflammation. And besides, resulting from this double demonstration, comes the telling fact, that the horny secretion, so far from being interrupted, is, on the contrary, more abundant under the influence of canker, though the secreted product does not possess all the actual properties requisite 'for its due conversion into compact, horny tissue.'"*

[To be continued.]

CHLOROFORM IN TETANUS.

By George T. Brown, M.R.C.V.S., Royal Agricultural College.

The discovery of a powerful anæsthetic, and its application to all diseases possessing the elements, excessive irritability and sensibility, are so intimately connected, that we experienced no sensation of astonishment on hearing that chloroform was, early in the hands of scientific experimenters, employed for such affections as obstinate intestinal spasm and tetanus.

Applied to the last disease, I must confess it was the object of my most sanguine expectations, which I am fain to admit have not been strengthened by a review of the results attending its use during the last two or three years. I am yet loath to condemn an agent which I still think is a most important at the same time startling powerful therapeutic. I propose, there-

* Recueil de Médecine Vétérinaire, de Janvier 1851.

fore, to afford a fair statement of all the effects I can glean in connexion with my own experiment, and leave it to others to determine whether the fault is in the agent or in our application of it.

From all I have seen, heard, and read upon the effects of the inhalation of chloroform in the horse, one point is proved, viz. that its primary action is excitant; all concur in the statement that spasmodic muscular action is almost synchronous with the application of the sponge: perseverance with the vapour, however, is attended by a removal of these symptoms before anæsthesia is complete. The primary excitement, though undoubtedly an evil, was not looked upon as grave. How far this property militates against its employment in tetanus we proceed to inquire. The first recorded case I can discover is from the pen of Mr. W. Field, in THE VETERINARIAN for 1848, page 134. Speaking of the action of chloroform, he remarks, in conclusion, that he tried it upon a hopeless case of tetanus with doubtful result: "its inhalation roused the patient and threw him for the space of a minute or two into a state of frantic excitement; then he fell, became insensible, exhibiting relaxation of his spasmodic limb, collapse of his nostrils, dilatation of his pupils, &c., and in this state of relaxation from spasm and total unconsciousness, he breathed his last." I was reading this case on the afternoon of Wednesday, Feb. 21, 1849. A case of tetanus, by no means extreme or hopeless, was in the infirmary. The temptation was too strong; and, whether in obedience to the suggestions of my good or evil genius I know not, I rushed out of the room, with the bottle in one hand and sponge in the other. To apply it to the animal's nostrils was the work of a moment. I have no words with which to convey an idea of the result. To say, with Mr. Field, that the inhalation threw the patient into a state of frantic excitement, is all I can attempt—the imagination that can conceive such a picture of tremendous agony must be vivid. He shortly fell; the inhalation was perseveringly continued, but water would have been equally energetic in its action: after three hours unsuccessfully occupied in attempts to relieve the animal's suffering, humanity dictated the necessity of destroying him. I spoke to Professor Spooner upon the subject a day or two subsequently, and was by him informed, that the use of chloroform in tetanus had been abandoned by him from the observance of the effect I have described.

It is scarcely a subject of wonder, that, under invariable failures, I felt little inclined to proceed further; but a circumstance occurred that revived my blunted expectations. On the 31st August 1849, two valuable puppies, six weeks old, were

attacked with colic. Aware of the inability of young animals to bear continuous severe pain, and conscious of the uniform fatality of the disease in them, I became reckless. To place them both under the influence of chloroform was my first proceeding, and to keep them there the next. A small piece of sponge, with a few drops of chloroform, was applied to the nostrils as often as a low whine indicated a return to consciousness, from ten o'clock A. M. till six P. M., a period of nine hours. The animals, on regaining consciousness, were free from pain, and subsequently recovered. I thus demonstrated to my own satisfaction, what has since been frequently observed and publicly asserted, that the vapour of chloroform mixed with atmospheric air is a supporter of respiration. The end is attained by the appliance of the sponge a little distance from the nostrils, and the absence of any means of confining the vapour. How long an animal might be kept in this condition remained to be proved; but enough for my purpose had already been done. Closely following upon these experiments came a case of tetanus, from Mr. Lord, of Tavistock. The inhalation of chloroform was employed, with what result Mr. Lord shall state: turn to page 667 of THE VETERINARIAN for 1849. The mere act of applying a *clean* sponge, says Mr. Lord, produced a spasm, and he fell. The subsequent use of chloroform produced no further effect. To be brief, the animal was destroyed.

At page 679 of the same volume occur cases by "Caustic." In one instance the internal employment of chloroform produced anæsthesia, which was kept up for twelve hours by occasional appliance of the sponge. The case recovered.

The end in view was obviously the production of insensibility—its continuance was divested of all difficulty—inhalation had proved itself synonymous with destruction. Internal administration, where the jaws are firmly closed, is a feat of no mean character: injection at once into the circulation offered itself. In conjunction with my friend, Mr. Gowing, I determined to test the efficacy of this. Accordingly, at the beginning of the year 1850, we commenced by selecting a healthy animal that was about ten years old. The jugular vein was opened, about a pint of blood abstracted, and half a drachm of chloroform injected; but from the inefficient nature of the instrument used, I think very little entered the vein. No result following, in ten minutes the syringe was charged with two drachms, and more carefully introduced. Before I could fairly withdraw the tube, the animal fell as though shot: no prior excitement, no spasmodic action, but rapid and complete unconsciousness; he never moved a muscle for seven or eight minutes,

and then slowly recovered. My friend left with the intention of exercising his well-known mechanical genius in the conception of an appropriate instrument; but owing to my leaving London immediately after, the experiments were never repeated. I had now all the materials for action, and only wanted an appropriate object, which has but lately been afforded me.

March 1, 1851.—A bay hunter, fourteen years of age, was admitted into the College Infirmary, suffering under traumatic tetanus, traceable to a puncture received in the frog a fortnight since. The spasms were general but not extreme; it therefore occurred to me to postpone injection into the veins until I had tested the milder course of exhibition by enemata. Chloroform ℥ss was thrown up every six hours. After the first dose a state of partial coma was induced, which continuous application perpetuated. The agent was continued till twenty ounces by measure had been consumed. In two days after admission, the patient could masticate freely, gradually progressed towards recovery, and, beyond a little general stiffness, is now convalescent. By no means relying on chloroform as a curative agent, I employed aloës sol., ext. belladonnæ, and subsequently tonics, mineral and vegetable.

The conclusions obviously deducible from this revew are :—That the application of chloroform to the disease of tetanus excludes altogether inhalation of the vapour, so incapable of producing anæsthesia;—that an animal may be safely and advantageously kept in an unconscious state, after anæsthesia has once resulted, for the extraordinary space of ten hours;—that the production of insensibility may follow internal administration by the mouth;—that marked sedative effects characterise its introduction into the rectum, while the injection at once into the vascular system is followed by immediate coma, indicating the propriety of resorting to this mode of appliance in cases where exhibition by the mouth is impossible, and introduction into the rectum inefficient;—lastly, that it is necessary to view chloroform as a powerful sedative and valuable relaxant to tetanic spasm, but to oppose exclusive reliance on its curative properties.

Royal Agricultural College,
April 14, 1851.

POULTRY LOUSINESS.

By Alexander Henderson, M.R.V.C.S., Park Lane, London.

To the Editor of "The Veterinarian."

Dear Sir,—In the last number of The Veterinarian, you have a most interesting paper by Mons. H. Bouley, on "Poultry Lousiness," as affecting horses; and it appears, from your own observations, that this disease has not been recorded in this country, or, at least, not in your recollection.

It is very many years ago—I think about five-and-thirty—that my attention was first drawn to this disease. Notwithstanding this elapse of time, however, from its being a remarkable occurrence, I have all the circumstances so strongly impressed on my memory that I shall, without hesitation, comply with your request, by relating to you the simple facts as they then, in my recollection, occurred.

My attention was first drawn to the subject through being called to see eight horses that were used in a pair-horse stage-coach, which at that time ran from Kensington to Leadenhall-street. These horses occupied an eight-stall stable, built expressly for their use, and totally unconnected with any other stable in the yard. The stable-man told me that two or three of the horses which stood at one end of the building had been rubbing and gnawing themselves for some days past, which increasing until it became serious, it was thought requisite to apply to me about it. On examining them, I confess that I was somewhat puzzled to determine the nature of the malady. It was unlike both mange and surfeit in any form I had ever before seen them. Still, I commenced at once to treat them the same as I had been accustomed to do cases of mange, by giving them a good mercurial dressing. This appeared to have the desired effect for a time. But we found that the other horses, one after another, became similarly affected; and that even those which we considered as cured relapsed as bad as ever again. One day, as I was standing watching the operation of dressing, an old coachman drove into the yard, and soon began to ask "what was the matter." I confess I felt myself somewhat puzzled, by way of answer to his question, to give the disease a name, when the old boy followed up his inquiry by asking "Where's your hen-house?" The place being pointed out, the door was no sooner opened than a spectacle was disclosed to us which I shall not readily forget. The accumulation of filth in the place, which had not to all appearance been cleaned out for years, was only to be compared in aspect and consistence to

lumps of decayed cheese, swarming with mites. (I trust this observation may not prejudice the table, or prevent any gentleman indulging in his fondness for cheese in that state: it has not at all interfered with my partiality for mitey cheese.) This secret being discovered, the nuisance was immediately removed, the stable being well cleaned out, and the horses thus freed from their annoying companions. The man who looked after the horses now told us that *he* had been frequently annoyed by the insect which he supposed to be "a louse," and that the apprehension of being called "lousy" made him unwilling to disclose the fact before. Since the above, I have not met with more than two or three cases of the kind; but be assured, my first inquiry in each was, "where is your hen-house?" At the remote period in which the above cases occurred, I was a very young man in practice, and had very little time (however I might have been inclined) to dip deeply into philosophical investigations. Had these cases occurred in the present age of advanced scientific research, the affair would have received a much more strict inquiry, and would, probably, have revealed facts highly beneficial to our science. In closing this narrative, let me whisper one word to my young friends,—"Never turn a deaf ear to the observations of *old age*." Had I done so, or considered it beneath me to attend to what may at the time have been thought the impertinence of a stupid old coachman, I might to this day have enjoyed my ignorance, and would consequently have been unable to avail myself of this opportunity of adding my testimony in support (if I may presume so much) of the exceedingly clear and well-written account of Mons. H. Bouley.

While on the subject, I shall trespass further on your pages, and relate a somewhat similar result arising from a different cause.

A short time after the above occurred, a Persian goat was sent over from India, as a present to the late Marquis of Stafford. The ship, an East Indiaman of a large class, was wrecked on our own coast, and but very few of the passengers escaped with life. By some means or other this goat, however, was saved, and sent to the Marquis's mansion in London. The family being in Scotland at the time, there was only a porter left in town. I was sent for to examine the state of the animal on his arrival, and found him with a staring unhealthy coat, in a very attenuated state of condition. I desired the man to keep it in one of the coach-houses, and to take care that it had a good supply of nutritious food. It soon appearing to improve, I took no further notice of it. The family came to town about two months after. In a few days I was again sent for, and found that all the horses, about fourteen or fifteen in number, were in a state

bordering on frenzy, rubbing and tearing themselves in a dreadful manner. My first inquiry was for the goat, which I found in a very bad state, it having lost nearly all its hair, and the hoofs being found rotting off at the coronets. I ordered it to be destroyed immediately; also, that the horses be removed into fresh stables, and be put under treatment without delay; the clothing to be sent to the scourers; and the stable, and everything that belonged to the horses, to be likewise thoroughly cleaned.

The horses were moved back again into the stable according as each of them was considered well and safe. But the worst part of the affair was, that not one of the stablemen escaped the affection. All suffered more or less; indeed, four or five of them baffled the skill of the medical gentleman in attendance on them. At last, I ventured to recommend them to use the "Edinboro' ointment." This speedily had the desired effect. The disease, as far as concerned the men, was determined by the medical gentleman who attended to be *the Persian* or *Russian mange.*

I found upon further inquiry that, after I had left off visiting the goat, the man in charge had totally neglected it, and had allowed it to have the full range of the stables. The abraded surfaces upon the horses were covered with numerous small red pimples; the men had the same; and if they were scratched in the slightest degree on either, they would instantly bleed. No insect was discovered in either man or horse; but as the eruptions were not very closely examined, it is not at all improbable that some minute parasite might have existed.

I had a slight impression that I had, many years ago, inserted an account of this in one of the earliest numbers of THE VETERINARIAN. I have looked into several volumes without being able to find that I have done so*; and even if I had, I feel myself called upon to bring it again before the public.

Many practitioners have an idea that these diseases are not communicable to animals of the *same* species, and will scarcely admit at all that any danger exists in the contact of animals of a *different* class. My opinion is, that you cannot be too careful in these matters; and I would recommend to all, and to my country friends in particular, not to lose sight of the *hen-house!*

I remain, your's truly.

8 A, Park-lane, April 11, 1851.

* We have no recollection of such a paper; neither has our search been more successful than Mr. Henderson's.—ED. VET.

REMARKS ON POULTRY LOUSINESS.

By J. Woodger, V.S., Market-street, Paddington.

In The Veterinarian for the last month appears some observations, by Mons. H. Bouley, on a cutaneous disease to which he has given the name of Poultry Lousiness *(phthyriasis des oiseaux);* from the circumstance of its being produced by the existence of lice caught from fowls, through the proximity of a hen-roost, which, by keeping up a constant supply of those troublesome little animals, in many instances produce an excessive degree of itching and uneasiness.

Prior to making a few remarks upon the above subject, I must confess I have never seen the affection in so severe a form as that noticed in Mons. F. Bouley's observations.

I clearly remember, however, on one occasion, some six or seven years since, I was called to attend a horse suffering from an affection of the bowels, belonging to Mr. T—, of the White Hart Inn, Fulham; and, finding it necessary to stay some time with him, I was constantly much annoyed by an acute itching on the neck, but more especially about the arms, which were for some time necessarily uncovered, and upon which I could plainly see a great number of light-coloured small and very disagreeable insects; and, upon making a remark on the subject to the man in attendance upon the horses, he replied, that he was frequently annoyed in a similar manner to a very unpleasant degree, but could not tell the cause. In fact, several of the horses had been for a considerable period similarly affected; so much so, that they were constantly scratching and rubbing against whatever happened to be within their reach, to such an extent that, at times, he was led to suppose they had got the mange.

My opinion was asked respecting it, and I attributed it to the proximity of a hen-roost which was situated in one corner of the stable, yet not immediately over either of the horses.

I advised the removal of it; which being done, and the place cleaned, a rapid cessation of the annoyance followed, without the aid of medical treatment.

The second case I shall refer to, occurred at an omnibus stable in Hammersmith. Its features, however, are so analogous to that before mentioned, that it will not be necessary to enter farther into it, than merely to state, that the annoyance had been in existence for a long time before my attention was directed to it, and that in this instance, the hen-roost (a large one) was separated from the stable by a brick-wall partition; there

were, however, some eight or ten large holes through the partition to ventilate the roost, which afforded a ready means of exit for the unpleasant visitors in question. In this case the fowls were removed, and the horses soon ceased, as in the other case, to exhibit any signs of itching, without the aid of treatment.

Several similar cases have since come under my notice, yet, in every instance, the removal of the hen-roost has been followed by a disappearance of the affection.

I remain, your humble servant.

To Mr. Percivall.

CONTRIBUTIONS TO VETERINARY PATHOLOGY.

By Wm. Smith, M.R.C.V.S., Veterinary Establishment, Norwich.

[Fifth Contribution.]

Encysted Serous Abscess, with Cartilago-osseous Sac—Laceration of the Jugular Vein and Vena Cava; with Remarks, &c.

On the 27th of March last I visited a cart mare, for the purpose of examining a swelling of some size on the left thigh, the consequence of a kick. The tumour is situate a little below the stifle joint, on the outside, extending in a line towards the hock; being about ten inches in length, and in breadth something like five inches. It is circumscribed, soft, elastic, and fluctuating to the touch, occasioning no perceptible pain on pressure, and little lameness.

The injury which produced this tumour occurred some two or three months since. Fomentations were used at first, and afterwards slight stimulants were resorted to. In the interval between the accident and the period at which I saw her, as she was not very lame, she was soon put to her work again, and continued at it until my visit. Exercise was producing a temporary diminution in its size, rest having a contrary effect.

Upon examining the tumour, I detected the presence of fluid, and felt also a hard and apparently cartilaginous plate immediately beneath the skin, of the size of the palm of the hand, and of an oval form. I was solicited to put a seton through the abscess; but, as it presented some unusual features, I determined upon exposing its interior to view by means of the scalpel. For this purpose I made an incision, first, through the skin, directly over this cartilaginous body, and then through it, making the opening large enough to admit two fingers. From

three to four pints of a transparent brownish straw-coloured serum escaped, the tumour with its evacuation entirely disappearing. I now had an opportunity of examining its walls. The cartilaginous character of the outer was proved beyond doubt, by the passage of the scalpel through it. The inner or posterior appeared to me to consist of osseous plates, of various sizes, connected by condensed cellular membrane to each other, and to the fascia on the surface of the contiguous muscles, the largest of the plates being of the size and thickness of a crown piece.

I now proceeded to remove every portion of the diseased cyst, by extending the incision to the top and bottom of the tumour, dissecting carefully the abnormal deposit from its attachments to the skin and muscles. The osseous plates were so firmly attached to the superficies of the muscles underneath as to render this a somewhat lengthened operation; I succeeded, however, in taking away all the diseased structure. If this had not been effected, a troublesome and protracted case would, I apprehend, have resulted. The edges of the wound were brought together by means of three ligatures; a dose of physic given; and fomentations directed to be occasionally used.

March 30.—The wound seems to be doing well. Dark purple-coloured patches are observed on the surface of the muscles, these being the places from which the ossific plates had been removed. There is no unusual swelling or other unfavourable appearance. The treatment consists principally in attending to cleanliness.

April 3.—The patches are less distinct; healthy pus is secreted; the wound is doing well. Diuretic medicine is administered, the mare being slightly swollen in her legs from standing.

I have seen her two or three times since. No wound can be doing better. She is making flesh too fast; I therefore, on my last visit, directed her to be kept on bran diet. A mild purge was also given.

Remarks.—The adoption of the usual treatment for abscesses of this kind, viz., opening, setoning, injecting or blistering, I submit, would not have been attended with success in this case. The quickest and most certain mode of cure was, in my opinion, to remove by excision the diseased tissues.

I have found the knife to be the most useful instrument at the disposal of the veterinary surgeon, far superior, in a large number of cases, to the *caustic* or *escharotic* applications in use; as it does its work at once, saving much pain to the animal, and restoring him to his work sooner than when we excite sloughing action as a substitute for it, to effect which in large wounds

is a work of time. In fistula, quittor, sinuous wounds, unhealthy abscesses, &c. I have had repeated proofs of the superiority of the *knife* over other means.

We meet with another description of abscess in the horse, strongly resembling the serous in character, unattended with pain, which, when situated in the neighbourhood of the joints, rarely produces lameness. It is also the result of a blow or other injury; it exists for a long time stationary, and frequently will not yield to repeated blistering. A seton passed through it generally cures it, or a simple puncture made in the lower or depending part sometimes removes it.

These tumours differ from the *true* serous in the colour and consistence of their contents. They have a dark red fluid, like a mixture of blood and water, found in them, thinner and less viscid than serum. I am inclined to think these are produced often by the rupture of a small bloodvessel.

I remember being called upon, about two years ago, to attend a horse that had been breasted against a toll-gate. He was going at the time at a good pace, and consequently the collision was violent. It occurred on a dark night, and possibly a convivial one. I found him early on the following morning exhibiting anxiety, with symptoms of suffering and fever; pulse accelerated, staring coat, and cold extremities. There was no diffuse swelling or much tenderness of the chest; but I observed a *tumour*, about the size of a hen's egg, containing fluid, seated on the front of the breast, just above the top of the *cariniform* cartilage, opposite the space between the two first ribs.

I at once reported my fears to the owner, that a bloodvessel was ruptured, and probably an important one. A cool box was selected for the animal; rest and perfect quiet were enjoined; laxatives, febrifuges, anodynes, &c. given. Weeks passed away and no improvement took place; on the contrary, he lost flesh, and began to be emaciated. The tumour remained of the same size, but pointed a little more. It was blistered and reblistered. No benefit followed any of the means adopted. The owner urged me to lance it. I represented the danger of doing this; but, after a lapse of some weeks, the horse becoming more emaciated, I consented, there being no prospect of recovery under any course of treatment. An opening was therefore made into the tumour, large enough to admit the fore finger. A small clot of coagulated blood was let out, and as far as I could reach with my finger it was surrounded with coagulum. Upon his eating some hay, blood issued from the incision in a copious stream; and it continued to flow every time mastication was performed; so much so, that a man was obliged to be con-

stantly with him, thrusting tow into the opening, to arrest the hæmorrhage. At last he was left alone, and was soon afterwards found dead.

The autopsy disclosed an extensive laceration of the lower part of the left jugular vein, extending into the anterior vena cava, at the point of the termination of the former into the latter vessel. A cavity containing a large mass of partially decomposed coagulum existed, connecting the external tumour with the ruptured vessels. Quantities of coagulated blood were found between the interstices of the subjacent muscles.

Abortion in a Mare succeeded by acute Laminitis.

(Sixth Contribution.)

The subject of this case is an aged mare, the property of a carter living in Heigham. I was passing his house on the evening of the 27th of March last, and was called in to see her. She had been working in the morning, though found shewing some symptoms of uneasiness towards noon. It was supposed to be colic. She was taken to the stable, and soon lay down in her stall, and, whilst her owner was gone to fetch her some water, passed a dead foal, apparently about six weeks before its proper time. When I saw her, there did not seem to be much amiss. The pulse was hard, and about 50; she was inclined to eat, and appeared as comfortable as, under existing circumstances, could be expected. Aloës ʒvj were administered. She fed well during the evening, and was left at midnight in a satisfactory condition.

As a similar case has recently been published in your January number, by my friend Mr. Gloag, I shall not enter into the details of this, but will merely observe that, on the following morning, acute laminitis had set in, accompanied by the most distressing symptoms. The pulse was varying between 90 and 100, scarcely to be counted, a quivering at her flanks, inability to move at all, appearing as though paralysed. The heat in all her feet was intense, and her respiration was much accelerated. I had on my first visit made inquiry regarding the fœtal membranes, and was informed they came away with the fœtus. This morning another small portion, however, was passed. I examined her *per vaginam*, but could detect nothing wrong save great distention of bladder. She appeared unable to discharge her urine, and this increased her uneasiness. I introduced the catheter, and a very large quantity of water came away, which evidently gave her ease.

Her bowels were remarkably torpid: they were never acted upon so as to produce softened fæces, although she had taken at

least 3xvj of aloes, and two pints of ol. lini, besides having several injections during the first four days I attended her.

She persisted in standing for several days, a fact her owner could scarcely reconcile with the notion of inflamed feet. She at last lay down, and is now almost always lying.

A sheep-skin was applied to the loins; hot poultices to the feet; a combination of febrifuge and anodyne medicine was given; and her shoes were removed, and soles thinned as soon as it could be accomplished without distressing her too much.

Under this treatment she is recovering, but is still very tender in her feet, though daily improving.

In considering the *cause* in the foregoing case, two circumstances are most prominent, viz., the morning's work, which was probably continued after her efforts to abort had occurred, and which, to a certain extent, interfered with or restrained them; and the retention of the small portion of the fœtal membranes.

*** Mr. Smith has kindly sent us, with these cases, the morbid sac of the serous abscess. From being originally cellular tissue, it has become converted into plates of cartilage, which are thickly studded with nodules and masses of ossific deposit; shewing that, had the time been afforded, the entire sac would have become osseous. His plan of treatment was the only radically efficacious one.—Ed. Vet.

BLACK QUARTER IN CALVES.

By Robert Cook, M.R.C.V.S., Erith, Kent.

Sir,—Never having read in your columns any account of the disease in cattle known by the name of "black quarter," or, more properly, inflammatory fever, I am induced to send a description of the following cases that occurred in my practice some few months since.

The disease attacked several calves ten months old, and in rather poor condition. When called to see the animals, I observed the following symptoms:—head extended; respiration short and quick; pulse accelerated and scarcely perceptible; staring coat; warty excrescences on the skin in different parts of the body; bowels constipated, &c. The progress of the disease was extremely rapid. Five of them had died in the space of a week. I commenced treating those that were still suffer-

ing, by bleeding, febrifuge and aperient medicine, blisters, &c.; but all proved ineffectual. Subsequently, others were attacked, and I repeated the treatment; but with the same effect.

Post-mortem examination disclosed the appearances accurately described, I think, by Youatt, viz. the peculiar venous congestion, with intense inflammation of the heart, &c. As I considered there was a probability of the remainder becoming attacked, I prevailed on the owner to have them placed under treatment; to which he consented, though not without expressing his doubts as to its utility. I put setons in the dewlaps of each of them; gave repeated doses of medicine, &c., and I am happy to say none of them, up to the present time, have been amiss, though they are kept in the same situation, and fed with the same kind of food as the others. I think, therefore, I may safely say I succeeded in arresting this fatal malady; for so fatal has it proved that not any kind of treatment has been of service, when once it has commenced. Should this hasty sketch be the means of eliciting some further remarks, and should you deem it worth insertion, it is at your service.

I am, Sir, your's, &c.

14th April, 1851.

SINGULAR CASE OF LUSUS NATURÆ IN TWIN CALVES.

By S. Meginnis, V.S., Horsham.

I was sent for by Mr. G. Lendall, butcher and farmer, of this town, to attend a cow of his that had shewn symptoms of calving yesterday evening. The pains had gone off, and come on again this morning. His cowman found two feet, and with a little assistance he thought it would be all right. About nine o'clock, as the calf made no progress, they came for me. On introducing my hand I could feel two feet. Finding the head in a natural position, I immediately attached a line to the fore feet, and pulled gently. The calf not coming, I again introduced my hand, and could feel three legs, which I found to belong to two calves, and all the three legs proved fore ones, and the odd leg belonged to what I could distinctly feel was a deformed calf, it having a curiously-formed head. But I was not able to examine it farther than the neck. I then, after attempting in vain to return, as I thought, the natural calf, and extract the deformed one first, had recourse to embryotomy. I

cut off the large calf's head, with a portion of one fore leg, so as to enable me to turn it. I then forced it back, and attached a line to the deformed calf's fore leg, an assistant pulling hard all the while. I soon found I could not get away one calf without the other; and as the cow was in good condition, I sent to Mr. Lendall, that he had better have her killed. This was done; and upon taking out the uterus, the reason I could not extract the calf appeared very evident, it being a double one (like the Siamese twins) joined to each other by the cartilages of the ribs, and clasping each other round the body with their fore legs. Altogether, it is a most curious-looking prodigy, the largest twin being of average size, and a well-formed and perfect calf, to all outward appearances, excepting being joined and growing to the other the full length of the chest.

DESCRIPTION, EXTERNALLY.—This creature has eight legs, seven of which are in a natural position. The off fore leg of the small calf is twisted half round at the shoulder joint; the outside of the leg being now inside; the foot bending towards the head instead of from it. The large one is a bull calf, and has a tail; the small one has not the least trace of a tail, neither has it any anus, nor is it of any sex. The body is short, the hip-bone nearly touching the scapula on the near side. The head has some resemblance to a monkey's head; the upper jaw being very short, the lower one slightly projecting, and the incisor teeth rather wide apart. The frontal bone rises about an inch and a half above the orbital process, all round above which is a collection of fluid, nearly as large as a gallon measure. On the near side there are eyelids which may be opened far enough to admit a pea. The off-side will not take more than a pin's head. It has but one set of umbilical vessels. The skeleton of the large calf is perfect. It has thirteen ribs on each side. The small one has twelve ribs on the off-side and two only on the near; the hind one being about as large as three ribs, and the fore is three inches wide at the cartilages. These cartilages are united on each side to those of the other calf, forming one large cavity, which contained one heart and one lung. There were two stomachs and sets of intestines; one very large liver, and four kidneys, two to each calf. It has but one dorsal vertebra, with a very large spinous process, which is curved. The neck is also curved to the off side. The head has more the shape of a monkey's than a calf's head, having a very short upper jaw; and the frontal bone projects over where the orbit of the eye should be, of which there is a slight trace on the near side. The bone then terminates abruptly all round. There was but very little brain. The skin

I have had stuffed, and intend to preserve it, as well as the skeleton.

About a month since, a lamb was extracted by a shepherd near this town with two distinct heads, one spine, and two tips to its tail. Both esophagus and trachea united, and formed one canal down the neck.

10th March, 1851.

*** We should feel gratified at seeing the drawing Mr. M. has had made of this prodigy.—ED. VET.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—HOR.

ON the STUDY of SURGERY; an Address introductory to the Course of SURGERY delivered at University College, London, at the opening of the Session 1850-51, by Mr. ERICHSEN, Professor of Surgery in University College, and Surgeon to University College Hospital. London: Taylor, Walton and Maberly.

DELIVERED, as the address before us was, to a numerous assembly of distinguished men of science and zealous students, in one of the most celebrated medical schools of Europe, it might, *à priori*, be presumed, and will on attentive perusal be found, to convey important truths and instructive maxims of the highest order. Yet at first sight, it might be supposed that our readers could be little concerned with the sentiments expressed, *ex cathedrâ*, at the opening of a *medical* session in University College; even though it be an institution pre-eminently renowned for the learning of its professors, and for the liberality of its constitution, which, spurning the uncharitable custom of too many of our great educational establishments, offers to all, whether Jews or Gentiles, Mahommedans or Greeks, the means of acquiring a profound knowledge in the greatest of all sciences. When, however, we pause for one instant to reflect on the uniformity of the laws which govern animated nature, the conviction is forced upon us, that the precepts imparted in

an introductory address in a medical school, must be as applicable to those whose vocation is the alleviation of the sufferings of domesticated animals, as they are to those who purpose devoting their lives to the relief of diseased man. Inspired with this conviction, we purpose communicating to our readers the substance of Mr. Erichsen's address, with such reflections as its attentive study has suggested to us.

After commenting on the inseparable relation between medicine and surgery, the learned Lecturer proceeds in the following terms, to the consideration of the causes that have immediately and directly tended to raise surgery to its present high position.

"The first great and direct cause of the advance of surgery of late years is, in my opinion, to be found in the rapid march of physiology, in its more general cultivation by the profession, and in the immediate application of the results of physiological investigations, and of the laws that have flowed from them in the science and practice of surgery. Indeed, physiology may be looked upon as the basis of all sound surgery, without which no rational pathology or practice can exist; and it is only in proportion as we widen and strengthen this basis, that a durable superstructure can be raised.

"It may almost appear superfluous to argue, and it may sound very like a truism to state, that a knowledge of those actions that constitute disease, or that are necessary for the repair of injury, can only correctly be entertained by those who are acquainted with the acts of the system in a healthy state; that the only way in which pathological signs can be interpreted is by a knowledge of physiological ones; that, as disease is merely an aberration of the functions of a part or of the system from health, a proper appreciation of the nature and extent of this departure from a normal standard cannot be formed except by those who are previously acquainted with the operations of the economy in health, and with the mutual dependence on and relation to one or other of those processes that are necessary to its maintenance. A correct and enlightened view of the living organism, as afforded by a comprehensive acquaintance with physiology, teaches the surgeon to appreciate at a glance that concatenation and sequence of changes that are the result of a diseased action, and to distinguish those disturbances that have resulted from the progress of disease, and that are consequently secondary, from those that constitute the primary and essential elements of the morbid condition. But it is not only in this

manner that physiology will be found to be of use to the surgeon; the study of this branch of medical philosophy constitutes the best training that the mind of the young surgeon can undergo preparatory to his entering upon the more special duties of his calling. An acquaintance with the laws of physiology leads at once to a knowledge of the principles of surgery, to which there is but one step. It prevents, more effectually than any other course of study, that empiricism which springs from superficial knowledge, from an acquaintance with facts and details, without a sufficient insight into those great laws by which they are linked together, and to the operation of which they are subservient. There are many cases of doubt and difficulty constantly occurring, in which, from the rarity of their occurrence, or the number of modifying circumstances by which they are surrounded, there may be an impossibility, from experience alone, in laying down a definite line of practice. When a *surgeon* who merely trusts to his memory of facts and details, comes unexpectedly upon a difficulty such as this, through which his experience or memory affords no precedent to guide him, he is lost and embarrassed, knowing not how to escape; but let him be versed in those laws that regulate the action of the body in health, and he will at once be able to seize the clue that will surely and safely guide him out of his entanglement."

In proof of the proposition, that the rapid march of physiology has been the first great and direct cause of the advance of surgery of late years, Mr. Erischen points to the fact, that the host of men who have raised surgery in England to its present high position, have all been pre-eminently distinguished for their physiological, as well as for their surgical investigations; he directs attention to the discovery of the theory of inflammation and of the healing process, of the mode of repair of injuries, and the effects of the application of the ligature to bloodvessels, in testimony of the benefit conferred on the science of surgery by physiological inquirers.

These propositions and arguments answer, in our mind, the inquiry, Is veterinary surgery, likewise, mainly indebted to physiology for its advance? Inasmuch as veterinary science must be regarded as the offspring of human medicine and surgery, it is obvious that whatever has tended to advance the latter must, *pro tanto*, have influenced the progress of the former; but, in addition to this, physiology has directly contributed to the advance of veterinary surgery. Whoever reflects dispas-

sionately on the history of our profession since its revival in the latter part of the eighteenth century, must admit that to the master-mind of Coleman, England is indebted for having raised the practitioners of our art to the rank which they now hold. Those amongst us who enjoyed the privilege of Mr. Coleman's teaching, well know how ardent was his zeal in the promulgation of knowledge, and how forcibly, by physiological arguments, he contended for the introduction of an improved system of ventilation in our military and civil horse establishments. Coleman's mind was naturally bent to physiological pursuit, and to this must be attributed, in great part, the success which attended his endeavours as sole teacher at the St. Pancras School, during the greater part of the present century. While, however, we exhibit Coleman to our readers as an example to prove what physiology *may do*, we also adduce him as an instance of what physiology *cannot do*. Many of his theories of lameness and shoeing, of the effects of breathing cold air in pneumonia, and of the action of certain medicines and articles of diet, were founded on *à priori* physiological hypotheses, and, as these proved to be fallacious, the former necessarily fell to the ground. True it is, that from his ingenious mind hypotheses always soared nightly aloft like rockets, but (being unsupported by experience) to fall, not unfrequently "darkly like their sticks."

There can be no doubt that, while physiology is of incalculable advantage as a beacon to the persevering inquirer in the maze of pathological investigation, as an aid in explaining many otherwise unintelligible facts, and in suggesting subjects and modes of inquiry, it must be productive of evil "if used for the *pre-determination* of the conditions and laws of pathology." In other terms we could convey this idea by observing, that, while a *surgeon* or a *physician* without physiology is inconceivable, a physiological surgeon or physician, viz. he who founded his notions of disease on physiology alone, would, according to our notions, be worth little more than the motley host of hydropathists, mesmerists, and homœopathists, who infest society with the creatures of their pampered and perverted fancies.

Convinced that exaggerated advocacy often endangers the issue of a good cause, we have impartially judged the import-

ance of physiology as a branch of medical science. Great as is its *real* importance, how indispensable it is that it should occupy a most important position in the educational courses of veterinary schools! We are far from being desirous of entering upon angry polemics; for, with Bishop Hall, we are prepared to exclaim that "We never loved those salamanders who are never well but when they are in the fire of contention." Nevertheless, when we know that at our own veterinary school the anatomy, physiology, and pathology of the horse (medicine, surgery, and pathological anatomy included), are professedly taught in a single winter course, we cannot refrain from expressing a hope that, at an early period, it will be seen fit to devote to each of these important branches of science a much wider share of attention than a single professor in a single course, however talented and industrious, can possibly devote to them collectively.

That our sentiments accord with those of the author of the pamphlet under review may partly have been learned from the preceding extract; and that he, with ourselves, regards observation as indispensable to the successful study of disease, may be inferred from the following quotation :—

"The increased attention that has of late years been devoted to clinical observation has, in a special manner, tended to advance the study of surgical pathology. Surgery, more than any other department of the healing art, is of a practical and positive character. The more careful and extended manner, therefore, in which bed-side observation has been conducted, the number of facts that have thus been accumulated, and the careful deductions that have been made from them, have been found of inestimable advantage to the progress of surgical science, and may certainly be looked upon as one great cause of its advance."

Our object being to glean from Mr. Erichsen's address only those truths which, from their general character, are applicable to veterinary as to human surgery, we avoid commenting upon many passages contained in it, even though they be replete with sound advice, and afford undoubted evidence of being the products of a superior mind, determined to promote the interests of the noble profession of surgery, and to maintain the repute of the Surgical Chair of University College, as established by its late occupants, Charles Bell, Samuel Cooper, Liston, Lyne, and

Arnott. The ensuing passages being precisely such as are of general application, we make extracts of them.

"Thus then, Gentlemen, you have heard that surgery has been raised to its present state of high cultivation by being studied as a part of medicine generally; by a close attention to physiology, to anatomy, to bed-side observation and research; and by a firmer trust in, and closer adaptation to, the simple operations and processes of nature. In order to become sound and accomplished surgeons, you must study your department of medical science with constant reference to, and in connexion with, those other branches of the healing art with which it is so intimately allied, and you must found your practice on the attentive observation of the actual phenomena of disease.

"But you must study and observe with unswerving diligence and untiring perseverance. There is no royal road, no short cut, to a knowledge of surgery. An acquaintance with the principles and practice of our science can only be obtained by years of severe and self-denying labours. Some amongst you, doubtless, possess higher intellectual attainments, quicker perception, stronger judgment, more mental vigour, and may accomplish more within a given time than others: but let not those who are less gifted despair; let them bear in mind that all may command industry and perseverance; and that these qualities, aided by a firm determination to succeed in whatever they undertake, will, to a certainty, lead to eventual success. It may be true that, in the imitative, the plastic arts—in those matters that appeal simply to the imagination, and that are worked out by its aid alone—nature may do as much, or even more, than education or will; and that a man may be born, but cannot be made, a sculptor or a poet. But this is not the case in a profession that deals with facts and their legitimate deductions. What is wanted for success in the study of medicine is industry in collecting, truthfulness in observing, and perseverance in studying, the phenomena presented by the living body in health and in disease. If you will employ these means (and every man, by the exercise of a little self-denial, by a determination to allow nothing to divert him from his course, may do so), and if you will fix your gaze steadily on the point you wish to attain, your success in life, though it may be retarded or accelerated by circumstances beyond your control, will at last be secured; and when attained, you will have the proud satisfaction of feeling that you have won your spurs in the great battle of life without favour from any one, but solely by your own exertions and self-reliance, and determination to bear down and conquer opposing difficulties. . . . . .

"In your intercourse with the public, conduct yourselves in a manner that is not only worthy of you as gentlemen, but in such a way as should characterise the members of a learned and dignified profession. Let no man say that it can signify little to the body to which he belongs how he may individually act. From the very first day of your career as students you constitute a part of the profession, and owe a duty to it as well as to yourselves, and may, according as you act therein, exercise an influence for good or for evil upon it. The profession to which you belong will be judged of in a great measure in your own circle, by the friends who immediately surround you, from your behaviour. Let that, therefore, always be marked by liberality, by courtesy, by truthfulness, by the cultivation of the amenities of polished life; in a word, by all that should constitute the character and deportment of a gentleman. Let these be the guides of your conduct, not only as students, but in after life, when you will be called upon to take your part in questions affecting the interests and welfare of the body to which you belong: endeavour, then, to act, not merely for your own interests, nor for the interests of your own class or section of the profession alone, nor for the advantage of this institution or that college; but act to the best of your judgment in an enlarged and catholic spirit of liberality, with a hearty desire to do what seems best to you for the profession as a whole, and for the general welfare of its members."

The greater part of these passages refer particularly to the duties of students; but even by many senior members of our profession some of the advice contained in them is greatly needed. So momentous is the import of the following sentences, and so incalculable would be the benefit if all members of the veterinary profession would act in accordance with them, that, at the risk of being accused of tautological error, we reiterate them.—"Endeavour then to act, not merely for your own interests, nor for the interests of your own class or section of the profession alone, nor for the interests of this institution or that college; but act to the best of your judgment in an enlarged and catholic spirit of liberality, with a hearty desire to do what seems best to you for the profession as a whole, and for the general welfare of its members."

Unfortunately, we have hitherto had much reason to deplore the absence of the "enlarged and catholic spirit of liberality." Our Charter, which it was hoped would prove the link of

brotherhood, has, alas! in too many instances proved the apple of discord. And enough of discord have we heard in the days of Coleman, Blaine and Youatt, and in the earlier life of our distinguished veteran, Bracy Clark; enough has been attempted to stifle the development of our liberal constitution when scarcely it has commenced to breathe in an atmosphere of freedom.

We have reviewed Mr. Erichsen's Introductory Lecture, not for the purpose of spreading wider his fame, as one of the most distinguished British surgeons of our day, but in the hope that the few extracts we have made from it may be perused without prejudice by veterinary teachers; with zeal, and a determination to follow the precepts contained in them, by veterinary students; and with profit by all members of our profession; the senior among whom may, in reflecting on our comments on the production of a human surgeon, remember the day when the lecture-rooms of the most celebrated medical men in London were open to veterinary students. Now, in the proud (may it not be vain!) belief, that the education within the walls of our only veterinary school south of the Tweed is sufficiently extended, the great majority of students (with very rare exceptions) never think of searching for knowledge beyond the walls of the St. Pancras school, apparently confiding in the learning there imparted being sufficient to obtain a diploma. We stated in our last Number, that, as hitherto conducted, the examinations of the Royal College of Veterinary Surgeons have not been so satisfactory as could be desired; though, consistently with justice to the student, they cannot be materially altered until the system of education is extended.

For this reform means are not wanting, and surely the scope and aim are not. The objects of the veterinary surgeon's cares are, it is true, beings whose all begins and ends with time on earth. He, unlike the practitioner of human medicine and surgery, aims at saving animal life for economical purposes alone. But surely, if England be, as it assuredly is, the greatest nation in the world for the purity of its breeds and increase of value of its domesticated animals, it should be distinguished above all

other countries as the seat of veterinary learning. Is it so? We merely suggest the inquiry, for a deep sense of patriotism makes us recoil when we attempt to reply.

Anxiously and hopefully looking forward to an era of peace and progress, we must yet avow, that, as the past has been tempestuous, so the future is gloomy: for our part, holding the balance of justice and the olive-branch of peace, and waving the sceptre of independence, we shall ever endeavour to allay discord, to invoke energy in the good cause, and to call on all around us—and especially on those on whom devolves the serious responsibility of educating our future counsellors—to leave nothing undone that can contribute to the prosperity of the veterinary profession, as an aggregate of honourable citizens and men of learning.

VETERINARY JURISPRUDENCE.

In causa Messrs. NIGLET *and* SCOTT, *merchants, Leith, pursuers; against* ALEXANDER HENDERSON, *stabler, Edinburgh, defender.*

THIS was a case in which the defender sold to the pursuers a black gelding, warranted sound and nine years old, for the sum of £21; receiving at the same time a horse, the property of the pursuers, valued at £4. 2s. The pursuers, after retaining the horse for about a week in their possession, found that he was affected with stringhalt, and of greater age than specified in their bargain, and hence the present action.

The first witness called for the pursuers was *James Smith*, who, being sworn, deposed, I am a farrier in Leith; I recollect the defender and a person of the name of Pollock coming to my forge in May last, 1848, in a dog-cart drawn by a black gelding. After some general conversation regarding the horse, which I said would suit a customer of mine, I asked the defender if the horse was sound, and what his age was. The defender said he had bought the horse as a nine-year old, and that he had been passed as sound by Mr. Dick in the previous week. I accord-

ingly called on the pursuers, who, after they had seen the horse, and had driven him, ultimately bought him, giving their old horse as part payment. During our conversation, the pursuers asked what was the age of the horse, and was answered by the defender, "nine years old." The horse, previous to being purchased by the pursuers, was tried in their van, in which was put six barrels of herrings, which was considered to be a sufficient load. Mr. Wight having noticed a slight swelling on his hock, found fault with it, saying he was afraid the horse would fall lame; upon which the defender said that the horse was perfectly sound, and passed by Professor Dick; but he here brought forward Mr. Pollock, and said he was a veterinary surgeon, who would also give his certificate of soundness, which was accepted.

The next witness called was *James Hutcheson*, carter to the pursuers, who corroborated the preceding witness's evidence, and who, by the desire of the pursuers, took the horse to Professor Dick for examination within a week of the time of purchase.

Alexander Watt, veterinary surgeon, sworn:—I examined the horse on the request of Mr. Worthington, Mr. Dick's assistant, and found that he was affected with stringhalt in the near hind leg, and which I considered as a disease in the nerves, and indicated by involuntary action of the muscles of the leg, drawing the leg nearer to the abdomen than is natural; that the disease in question causes a horse to be unsound; that it comes on very slowly; and that, in the case in question, it must have existed for three months previous to my examination of him. I also examined the horse's mouth, and found his age to be from eighteen to twenty years: the difference of age between a horse nine and twenty years of age, as a professional man, I have no difficulty in determining: the elongated and altered position of the teeth is quite sufficient for that purpose.

William Dick, professor of veterinary medicine, sworn, deponed:—I have examined the black gelding in question twice: on the first occasion it was at the request of Messrs. Robertson, music-sellers, Edinburgh, and which was some days previous to my last examination of him, which was on the 27th May, 1848. I found that the horse was affected in a slight degree with stringhalt, and, that being a disease, I considered him unsound. The disease, in my opinion, was of very long standing. As to his age, I considered that he was at least eighteen years old, and that I have no difficulty in determining a horse's age between nine years and twenty. I gave a certificate to that effect, and which contains a correct statement of my opinion. I consider the disease called stringhalt to arise from a tumour of

greater or less size in the choroid plexus in the brain, or in some part of the spinal cord, and manifests itself by a spasmodic jerk of the hind legs, according as the disease affects one or both. The horse in question being in perfect health, the disease must have been of slow and gradual progress. Had he been free from stringhalt, the hind foot would have cleared the ground about five inches in stepping, but the effect of stringhalt would raise the leg about a third more. The disease is, in my opinion, incurable.

William Worthington, assistant to William Dick, professor of veterinary medicine, corroborated the preceding witness's evidence, but did not inquire and does not know by whose instructions Alexander Watt examined the horse in question :— he deposed that he is forty-four years of age, and holds his diploma from the Veterinary College of Edinburgh.

This was the case for the pursuers.

On the part of the defenders, appeared *John Kinnaird*, servant to Messrs. Robertson, music-sellers, who, being sworn, deposed :—I remember, at the request of Messrs. Robertson, music-sellers, Edinburgh, taking a black gelding to Mr. Dick, in Clyde-street, for examination. After a few short turns in the street, and shewing the horse, Mr. Dick said he thought he was sound, and he told me to tell my master this. The above happened in the month of May last.

Peter Denholm, hostler to the defender, being sworn, deposed and concurred with the preceding witness as regards the examination by Mr. Dick, and what Mr. Dick gave as his opinion after he looked at the horse. Being present along with Kinnard on the occasion, depones that he had looked after and fed the horse for five months; that it was neither sick nor lame, nor was any thing the matter with it all the time he had charge of it. He had driven the horse in a brougham, and never saw the animal affected with stringhalt, which he considers to be a kind of lameness behind, as far as he knew; but he was not much acquainted with it.

Thomas Pollock, veterinary surgeon, Edinburgh, who, being sworn, deponed, I am twenty-eight years of age, and hold my diploma from Mr. Dick. I recollect the defender and myself driving in a dog-cart with the horse in question on the 28th of May, 1848. I recollect, on the Monday following, again driving the same horse, in company with the defender, to Leith, when he was sold to the pursuers, after a sufficient trial in their van. I remember, before the bargain was ultimately concluded, that the defender said that, ten days previous, Mr. Dick had passed the horse sound for Messrs. Robertson, music-sellers; I also said, that I had known the horse all the time the defender

had had him, and that I believed the horse to be sound, and that I did not believe a sounder horse to be in the city. One of the pursuers asked if I could give a line to that effect, and I said I could; I therefore gave a certificate to the following effect:—" I certify I have this day examined a black or dark chestnut gelding, bought from Alexander Henderson, and find said gelding sound." I was present when the bargain was completed. I have held my diploma as a veterinary surgeon for about seven years, and know the nature of the disease called stringhalt. It is a spasmodic affection of the hind leg, arising from irregular nervous energy, and does not, in my opinion, constitute unsoundness; and I rest my opinion upon what I have read, that stringhalt is considered more a blemish than unsoundness; and I have never heard it considered unsoundness by any veterinary surgeon, The works I have read, and to which I refer are, first, The Treatise on the Horse, published under the superintendence of the Society for the Diffusion of Useful Knowledge, and Dick's Manual on the Diseases of the Horse, the author of which is Professor Dick; but I do not know who is the author of the first-mentioned work.

On being interrogated for the pursuers, deponed, — My father is a farrier, and I have been brought up to the profession of a veterinary surgeon. I have had a good deal of experience in the profession, and have seen the work called Percivall's " Hippopathology," and have read parts of it here and there: I have also read Blaine, Hind, Ridges, and Peel; but I have never read Richard Laurence's Enquiry into the Structure and Animal Economy of the Horse, nor John Laurence's Veterinary Surgery; nor Osmer's Treatise on the Lameness and Diseases of Horses; nor Boardman's Dictionary; nor Bartlett's Farriery, as I believe them to be too much of the old school; and I have not been requested by the defender to examine the publication of "The Horse" before appearing in this case as a witness. If I was made aware that stringhalt arises from a tumour of greater or less size in the choroid plexus in the brain, or in some part of the spinal cord, it would alter my opinion, and I would consider it as a disease, and would, in consequence, render a horse unsound so affected. I consider stringhalt to be incurable.

James Horsburgh, veterinary surgeon, Dalkeith, sworn.— I hold a diploma from the Edinburgh Veterinary College. I examined the animal in question on the 7th of June, 1848. I considered that he was sound; that stringhalt did not exist; that he was eleven years of age, and not exceeding twelve. I do not consider stringhalt to constitute unsoundness. The profession cannot explain what is the real cause of the affection, but

suppose it to be some irritation of the nerve in passing from the spinal cord to the leg. I would consider it perfectly impossible that stringhalt could arise from a tumour on the choroid plexus of the brain, because, if it did so, then not the muscles of one leg only, but of the whole body, would have spasmodic affection; and I would certainly consider a horse so affected unsound. I know of no cure for stringhalt. I have had no horses under my charge for treatment because of stringhalt, except one; and, in all cases where I have seen the origin of the disease, it has come on suddenly, and I have never seen a horse get worse of stringhalt than what he was at first.

William Rae deposed:—I bought the black horse in question at a public sale in Leith, under warrant of the sheriff, in June 1848. I bought the horse upon a Saturday, and I disposed of him on the following Monday, to a man of the name of Lawson, who afterwards drove him for three months in a hackney brougham every day in Edinburgh, and who afterwards sold him for the sum of £26; all of which time William Lawson depones, upon oath, the horse was healthy and sound, and had no stringhalt.

Thomas Mather, veterinary surgeon, aged twenty-nine, sworn:—I have held a diploma from the Edinburgh school for about nine years. I know the disease called stringhalt, and have dissected horses purposely to discover, by examination of the nervous system, what was the cause of this affection, but could not discover it. I do not consider it possible that the affection can arise from a tumour on the choroid plexus of the brain or on the spinal cord. Not knowing the cause of stringhalt, I could not, and never did, treat a horse for that disease or affection. If a horse had a tumour on the spinal cord, it would, nearly in all cases, cause not stringhalt, but palsy, in which case I would consider the horse unsound. In all cases I have seen, the affection has come on suddenly.

The Sheriff and Sheriff Substitute and the Lord Ordinary, having heard parties' procurators, and made * * and considered the closed record and proof adduced, having gone over the same more than once, descern and find upon all points against the defender; noting, at the same time, that the above case is not altogether free from difficulty; that there is conflicting evidence cannot be disputed, and particularly as regards stringhalt constituting unsoundness or not. Upon the whole, however, Lord Hood thinks that upon that point the Sheriff Substitute and Sheriff arrived at the sound conclusion, and cannot satisfy himself that there is any clear or satisfactory ground on which to disturb their interlocutors.

It is much to be regretted, that the proposed arrangement

which was, at one time, agreed to for a settlement in this case, was not ultimately acceded to by the defender, and the large expense thereby avoided, which has been incurred by the consequent necessity of resorting to a court of law in order to determine the rights of parties.

Home Extracts.

ON ALOIN, THE CATHARTIC PRINCIPLE OF THE ALOES.

By Messrs. H. & T. Smith, Chemists, Edinburgh.

During last summer, having occasion to prepare a quantity of the aqueous extract of aloes—a preparation in repute with many medical men—we made use of cold rather than hot water as the solvent, from an impression that a more perfect, though less bulky, result would be obtained, by leaving in the marc a large proportion of resinous matter, which must necessarily be contained in the extract prepared from a hot solution. Further, with the view of rendering the preparation as perfect as possible, the filtered liquid was evaporated *in vacuo*,—thereby avoiding an excess of heat, under the influence of which, and exposure to the air, recent researches shew the cathartic property of the aloes is seriously impaired.

After the syrupy liquid had cooled, certain appearances arrested our attention, and seemed of sufficient importance to induce a departure from the original intention of forming it into a dry extract. The vessel containing the thin extract was now, therefore, set aside for a few days; and when again examined, the contents were found to have lost their original liquid state, and to have become loaded with a mass of granular crystalline matter. The whole was at once put into a cloth, and freed from the liquid portion by strong pressure. The crude solid substance left in the cloth being very impure, required further treatment before an opinion as to its nature could be formed, and was therefore dissolved in hot water, and filtered while still hot, out of contact with the air. On the cooling of the liquid, the substance separated in a crystalline state, and of a deep yellow colour. After a second pressure, it was subjected to another treatment, exactly like the last. The solid cake resulting from the third pressure, after being completely dried, pre-

sented the appearance of an opaque straw-yellow mass, breaking short and of a dull fracture. Its taste was intensely bitter, and distinctly aloetic, but entirely without smell. It was found to be quite combustible, and to leave no ash on being burned on platinum foil. Its solution acted on test paper neither as an acid nor an alkali; it was, therefore, a neutral body. It dissolved in very small quantity in cold water—not above a grain to the ounce—but very readily when heated. It is very soluble in acetic ether, and also in acetic acid, of about twenty-five per cent., even in the cold; four grains may be easily dissolved in a fluid drachm of either of these liquids. In lime water it is considerably more soluble than it is in cold distilled water. Oil of turpentine and chloroform do not appear to have any solvent action on it. It is very readily dissolved by aqua potassæ, and other alkaline liquids. In rectified spirit, with the assistance of heat, it dissolves in large quantity; and on very slowly cooling, out of contact with the air, it crystallizes in beautiful yellow satiny tufts of rhombic plates. The spirituous solution, however, refuses to give crystals unless above forty grains to the fluid ounce of spirit be used. It is, therefore, very soluble in this menstruum—twelve parts by measure being capable of holding one part in solution. Weak spirit is also a good solvent; for on adding water to a strong alcoholic tincture, there is no separation. Sulphuric ether dissolves it very sparingly.

From a consideration of all these characters, we became satisfied that the substance which had been separated by us from the commercial Barbadoes aloes had never been made known before, and therefore was a new substance; but whether the interest attached to it should terminate here remained to be seen. Of course, the first and most important question which suggested itself to the mind, and which remained to be solved, was—Whether the crystalline substance, which we had now convinced ourselves was an educt, and not a product, from the aloes, had any of the virtues of aloes as a medicine, or whether the virtues of aloes were concentrated in it, and depended on its presence for their action on the living body.

The first trial, with the view of ascertaining its action on the body, was made with half a grain, and it acted twelve hours after being taken, in the manner that so characteristically distinguishes the action of aloes. The same quantity was again given to two healthy young men, with a similar result, except that in one about twenty-four hours elapsed before its operation. In the next two cases, one grain failed to act; but in one of these, the dose having been increased to two grains, a very strong operation was the consequence. In a case where four grains were given, the person, a patient of Dr. Robertson, phy-

sician to the Edinburgh Royal Infirmary, had been getting one-quarter grain doses of elaterium with little effect. The operation in this case was rather violent. In numerous other cases in which it was tried, it invariably operated in doses of from one to two grains. The result of these trials was the removal from our minds of every doubt of the crystalline body yielded by the aloes being that on which its cathartic action depended, being, in fact, the active principle of the drug.

To the new crystalline substance we have given the name of aloin. It was obtained, as already stated, from Barbadoes aloes; and it became a question, both interesting and important, to ascertain whether it could be procured from other kinds, such as the Socotrine and Cape. With this view, we, therefore, put these two kinds of aloes under treatment, operating in the very same way as with the Barbadoes, but without success. That the aloin is present in both of these sorts there cannot be a doubt. In fact, we have no hesitation in stating our belief, that we shall yet obtain it from these, the result of what little we have done convincing us of its existence in them as well as in the Barbadoes sort, but by the presence of impurities, chiefly, we suspect, of a resinous nature, the aloin is probably so entangled that it cannot get freedom for that arrangement which seems necessary for ready crystallisation. That a crystalline body may be present, and yet may not crystallise, will, we believe, be readily admitted by any one much occupied with the process of crystallisation. Another cause may perhaps be found in changes and decomposition, originating in faulty processes of preparation, the result of ignorance, carelessness, or fraud. That faulty methods of preparing the aloes may be one cause of certain kinds of the drug not giving aloin, is rendered probable by the following circumstance which came under our observation. If aloin be crystallised, either from water or rectified spirit, and the crystals left in contact with the mother liquid, in the course of a few weeks, but more quickly in the latter than in the former case, the crystals will have then entirely disappeared, thus shewing the readiness with which the aloin loses its crystallisable character. Keeping these considerations in view, and taking advantage of what little we now knew of the properties of the aloin, the following steps were taken:—

The watery solution of Cape aloes having been mixed with a very little sulphuric acid, to separate a quantity of colouring matter along with a fatty acid and chlorophyle, was filtered and then evaporated in vacuo to a thin extract. The extract was shaken with a quantity of ether, which was then poured off, and allowed to evaporate very slowly. Aloin at length crystallised, but, of course, from its slight solubility in ether, the quantity

was very small; but the thick liquid which had been washed with the ether, after standing undisturbed for a week or two, was found to have yielded a crystalline crop of aloin considerably more abundant.

The nature of the process by which the presence of aloin in the Socotorine aloes was tested by us was somewhat different from the preceding. A strong alcoholic tincture of the aloes having been prepared, sulphuric ether was added as long as any precipitate was produced. A dark-coloured compound of lime being thus taken out of the way, the ethero-spirituous solution, after becoming quite clear, was mixed with a small quantity of water. The result was a separation of the mixed liquids into two distinct portions: the one heavier, composed of most of the water and spirit and a little ether, forming the under portion; and the lighter, consisting principally of ether, but containing a little spirit and water, floating above it. The heavy liquid, having been separated, was exposed to a heat of about 130° Fahr. till the spirit and ether had completely evaporated. The watery solution now left on cooling gave crystals having the characteristic appearance of aloin, and a trial strengthened this belief of their nature. The lighter liquid, on slow evaporation, likewise produced similar crystals.

The solutions of aloin are wonderfully altered by the action of the air. One striking experiment made by us will perhaps place this character of aloin in as strong a light as any that could be stated. Two grains of aloin having been dissolved in two ounces of distilled water, the solution, which was of a very pale yellow colour, was corked up in a phial that was nearly filled with it, and then set aside in a heat of about 120° Fahr. The colour of the solution gradually passed into a fine red, deepening continually in intensity, till in a few weeks the colour had become so deep as almost entirely to obstruct the passage of light.

It may not, also, be without some interest to mention here, the singularly striking effect of nitric acid upon the aloin. Half a drachm of strong commercial nitric acid being put into a test tube, and fifteen grains of aloin gradually added, great heat and violent action are produced, with the escape of red fumes, and a perfect solution is the result. The syrupy liquid being now added to cold water, a yellow precipitate is formed, which, however, dissolves on adding more water; and, on neutralizing the liquid with aqua potassæ, a liquid of a splendid red colour is produced. The intensity of the colour is so great that, on comparing it with a liquid of equal bulk, and containing the colouring matter of two ounces of cochineal, that coloured by the aloin is of a deeper red, and even in the richness of its shade

rivals the other. When the liquid is slowly evaporated, tufts of long needle-shaped crystals of chrysammate of potash are produced.

For an account of the chemical characters of aloin, we beg to refer to an article by our friend, Dr. Stenhouse, in the "London, Edinburgh, and Dublin Philosophical Magazine" for December last, from a consideration of which it will be quite obvious, that the substance we have obtained from the aloes is quite different from that described by Mr. Edmund Robiquet.

Monthly Journal of Medical Science, Feb. 1851.

ON ALOINE, THE CRYSTALLINE CATHARTIC PRINCIPLE OF BARBADOES ALOES*.

By John Stenhouse, LL.D., F.R.S.L. and E.

About two months ago I received from my friend, Mr. Thomas Smith. apothecary, Edinburgh, a quantity of a brownish-yellow crystalline substance which he had obtained from Barbadoes aloes. Mr. Smith's process consisted in pounding the previously dried aloes with a quantity of sand, so as to prevent its agglutinating, macerating the mass repeatedly with cold water, and then concentrating the liquors *in vacuo* to the consistence of a syrup. On remaining at rest in a cool place for two or three days, the concentrated extract became filled with a mass of small granular crystals of a brownish-yellow colour. This is the crude substance to which Mr. Smith has given the name of aloine, and which appears to constitute the cathartic principle of aloes. The brownish-yellow crystals obtained in this way are contaminated with a greenish-brown substance, which changes to brownish-black on exposure to the air, and still more rapidly when it is boiled. In order to purify the crystals of aloine, therefore, they must first be dried by pressure between folds of blotting-paper, and then repeatedly crystallized out of hot water till they have only a pale sulphur-yellow colour. The aqueous solutions of aloine must on no account be boiled, but simply heated to about 150° F., as at 212° F. aloine is rapidly oxidized and decomposed. By dissolving the purified crystals of aloine in hot spirits of wine, they are deposited, on the cooling of the solution, in small prismatic needles arranged in stars. When these crystals have

* This is the article above referred to.—Ed. Vet.

a pale yellow colour, which does not change when they are dried in the air, they may be regarded as pure aloine.

Aloine is quite neutral to test-paper. Its taste is at first sweetish, but soon becomes intensely bitter. Aloine is not very soluble either in cold water or in cold spirits of wine; but if the water or the spirits of wine are even slightly warmed, the solubility of the aloine is exceedingly increased: the colour of these solutions is pale yellow. Aloine is also very readily dissolved by the carbonated and caustic fixed alkalies in the cold, forming a deep orange-yellow solution, which rapidly grows darker, owing to the oxidation which ensues. The effects of ammonia and its carbonate are precisely similar. When aloine is boiled either with alkalies or strong acids, it is rapidly changed into dark brown resins. A solution of bleaching-powder likewise gives aloine a deep orange colour, which soon changes to dark brown. Aloine produces no precipitate in solutions either of corrosive sublimate, nitrate of silver, or neutral acetate of lead. It also yields no precipitate with a dilute solution of subacetate of lead; but in a concentrated solution it throws down a deep yellow precipitate, which is pretty soluble in cold water, and is therefore difficult to wash. This precipitate is by no means very stable; and when it is exposed even for a short time to the air, it becomes brown.

When powdered aloine is thrown, in small quantities at a time, into cold fuming nitric acid, it dissolves without evolving any nitrious fumes, and forms a brownish-red solution. On adding a large quantity of sulphuric acid, a yellow precipitate falls, which. when it is washed with water to remove all adhering acid and then dried, explodes when it is heated. It plainly, therefore, contains combined nitric acid. I could not, however, succeed in obtaining this compound in a crystalline state, as when it was dissolved in spirits it appeared to be decomposed. When aloine is digested for some time with strong nitric acid, much nitrous gas is evolved, and it is converted into chrysammic acid, but without the formation of any nitropicric acid, as is always the case when crude aloes is subjected to a similar treatment. A quantity of aloine was boiled with a mixture of chlorate of potash and muriatic acid. The acid solution was evaporated to dryness, and digested with strong spirits of wine. The greater portion of the spirits was removed by distillation; and the remainder, when left to spontaneous evaporation, yielded a syrup which could not be made to crystallize. Not a trace of chloranil was produced.

When aloine is destructively distilled, it yields a volatile oil of a somewhat aromatic odour, and also a good deal of resinous

matter. When aloine is heated on platinum foil it melts, and then catches fire, burning with a bright yellow flame, and emitting much smoke. It leaves a somewhat difficultly combustible charcoal, which, when strongly heated, entirely disappears, not a trace of ashes being left.

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It has long been known to medical practitioners, that the aqueous extract of aloes is by far the most active preparation of that drug. The reason of this is now very plain, as the concentrated extract of aloes obtained by exhausting aloes with cold water consists chiefly of aloine, by much the larger portion of the resin being left undissolved. Mr. Smith informs me, that, from a series of pretty extensive trials, from 2 to 4 grs. of aloine have been found more effective than from 10 to 15 grs. of ordinary aloes. Aloine is, I should think, therefore likely ere long to supersede, at least to a considerable extent, the administration of crude aloes.

I endeavoured to obtain aloine by operating on considerable quantities of Barbadoes, Cape, and Socotrine aloes. These were macerated in cold water, and the aqueous solutions obtained were concentrated to the state of thin extracts on the water-bath. I was quite unsuccessful in every instance. The impurities contained in the extracts in these different kinds of aloes appear, when in contact with the oxygen of the air, to act upon the aloine so as effectually to prevent it from crystallizing. Aloine can only, therefore, be obtained in a crystalline state by concentrating the cold aqueous solution of aloes *in vacuo;* though, after the aloine has once been crystallized, and it is freed from the presence of those impurities which appear to act so injuriously upon it, the aloine may be quite readily crystallized out of its aqueous solutions in the open air.

Though aloine has as yet only been obtained from Barbadoes aloes, I have scarcely any doubt that it also exists both in Cape and Socotrine aloes. The amount of aloine in Cape aloes is, however, in all probability, much smaller than in either of the other two species; for Cape aloes is well known to be a much feebler cathartic, and to contain a mass of impurities. In corroboration of this opinion, I would refer to the fact already mentioned in a previous part of this paper, viz. that when aloine is digested with nitric acid, it is converted into Dr. Schunck's chrysammic acid. Now, it has been satisfactorily ascertained that all the three species of aloes yield chrysammic acid, of which, in fact, they are the only known sources. Cape aloes, as might have been expected, yields by far the smallest amount of chrysammic acid, together with much oxalic and some nitro-

picric acids. There appears, therefore, great reason to believe that all the three kinds of aloes contain aloine.

Since the above was written, I have learned from Mr. Smith that he has not succeeded in obtaining crystallized aloine from either Cape or Socotrine aloes. Mr. Smith does not doubt that both of these species of aloes also contain aloine, though most probably contaminated with so much resin, or some other substances, as prevents it from crystallyzing. What tends to confirm Mr. Smith in this opinion is, the observation he has made, that, when the crude crystals of aloine are allowed to remain in contact with the mother-liquor of the Barbadoes aloes, they disappear and become uncrystallizable. I have also observed a similar occurrence in the mother-liquors of tolerably pure aloine. These become always darker and darker; so that if we continue to dissolve new quantities of aloine in them, at length scarcely any of it crystallizes out, and the whole becomes changed into a dark-coloured magma.

In the year 1846, M. E. Robiquet published an account of an examination he had made of Socotrine aloes. By treating the concentrated aqueous solution of this species of aloes with basic acetate of lead, he obtained a brownish yellow precipitate, which was collected on a filter and washed with hot water. On decomposing this lead compound with sulphretted hydrogen and evaporating the solution to dryness, he obtained an almost colourless varnish, consisting of a scaly mass, which was not in the least degree crystalline. M. Robiquet subjected this substance, which he called aloetine, to analysis, and obtained the following result:—

	per cent.
8 C	= 27·7
14 H	= 10·8
10 O	= 61·5
	100·0

It is plain, therefore, that M. E. Robiquet's aloetine, if it really is a definite organic principle, which I very much question, is certainly a very different substance from the aloine which has formed the subject of the present notice.

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LIONS.

BY THE AUTHOR OF "LORD BACON IN ADVERSITY," &c.

[Abridged from Bentley's Miscellany, Vol. xxviii, p. 481.]

"Thou makest darkness and it is night, when all the beasts of the earth do creep forth. The young lions roar after their prey, and seek their meat from God.

"The sun ariseth, they gather themselves together, and lay them down in their dens."—PSALM civ.

"IT would be difficult to find language which more simply and elegantly describes the habits of the Monarch of the Forest than these words of the Psalmist, and they are strictly in accordance with truth. During the day, the lion lies concealed beneath the shade of some thick stunted tree, or buries himself in a covert of lofty reeds or thick grass; but when the sun goes down, and the shades of evening fall, he sallies forth to prowl during the hours of night. The tawny colour of his hide is admirably adapted for his concealment. Mr. Cumming (whose recently published work contains the best information on the habits of the South African wild animals), states that he has often heard lions lapping water at a less distance from him than twenty yards, and, although blessed with the keenest vision, he was unable to make out even the outline of their forms. Their eyes, however, glow like balls of fire, which may be thus explained. In many animals, the inner surface of the back of the eye presents a membrane called *tapetum lucidum*, which, in the lion and cat tribe, is of a yellow colour, and brilliant metallic lustre like a concave mirror; it is the reflection from this which causes the "glare" of their eyes. Thus are they peculiarly fitted for nocturnal habits, but ill-adapted to bear strong sunlight. Some travellers have described what would certainly appear, at first sight, to have been cowardly retreats on the part of lions; but, doubtless, in the majority of instances where they have turned tail on inferior antagonists, they were conscious of the disadvantage under which they laboured from their eyes being dazzled by the intense glare of an African sun reflected from the burning sands of the desert."

"'One of the most striking things,' says Mr. Cumming, 'connected with the lion is his voice, which is extremely grand and peculiarly striking. It consists at times of a low deep moaning, repeated five or six times, ending in faintly audible sighs. At other times he startles the forest with loud, deep-toned, solemn roars, repeated five or six times in quick succession, each increasing in loudness to the third or fourth, when his voice dies away in five or six low muffled sounds, very much resembling

distant thunder. At times, and not unfrequently, a troop may be heard roaring in concert, one assuming the lead, and two, three, or four more, regularly taking up their parts, like persons singing a catch. Like our Scottish stags at the rutting-season, they roar loudest in cold frosty nights; but on no occasion are their voices to be heard in such perfection, or so intensely powerful, as when two or three strange troops of lions approach a fountain to drink at the same time. When this occurs every member of each troop sounds a bold roar of defiance at the opposite parties, and when one roars all roar together, and each seems to vie with his comrades in the intensity and power of his voice.' The following powerfully drawn picture conveys a most accurate idea of the fearful banquets held in the primæval forests of Africa, and, at the same time, is full of interest, from the light it throws on the habits of the carnivora. Mr. Cumming had shot three rhinoceroses near a fountain, and soon after twilight had died away he came down to the water to watch for lions. With him was a Hottentot named Kleinboy. 'On reaching the water, I looked towards the carcass of the rhinoceros, and, to my astonishment, I beheld the ground alive with large creatures, as though a troop of zebras were approaching the water to drink. Kleinboy remarked to me that a troop of zebras were standing on the height: I answered 'yes;' but I knew very well that zebras would not be capering around the carcass of a rhinoceros. I quickly arranged my blankets, pillow, and guns in the hole, and then lay down to feast my eyes on the interesting sight before me: it was bright moonlight, as clear as I need wish. There were six large lions, about twelve or fifteen hyænas, and from twenty to thirty jackals, feasting on and around the carcases of the three rhinoceroses. The lions feasted peacefully, but the hyænas and jackals fought over every mouthful, and chased one another round and round the carcasses, growling, laughing, screeching, chattering, and howling, without any intermission. The hyænas did not seem afraid of the lions, although they always gave way before them; for I observed that they followed them in the most disrespectful manner, and stood laughing, one or two on either side, when any lions came after their comrades to examine pieces of skin or bones which they were dragging away."

"The veterinary art must have been rather low among the Romans, if we may judge from the following ludicrous prescription for a sick lion, given us by Pliny. 'The lion is never sicke but of the pevishnesse of his stomacke, loathing all meat; and then the way to cure him, is to ty unto him certaine shee apes, which, with their wanton mocking and making mowes at him, may move his patience, and drive him from the very

indignitie of their malapert saucinesse into a fit of madnesse, and then, so soon as he hath tasted their bloud, he is perfectly wel againe; and this is the only help.'

"To be licked by the tongue of a dog is a mark of affection; but such a demonstration from a lion would be productive of unpleasant consequences. The tongues of the lion and tiger tribes are covered with a thicket of strong horny papillæ, the points directed backward, fitting it rather for sweeping off fragments of meat from bones, for which it is especially employed, than for gustatory enjoyment or expression of endearment. The sense of taste is very low in all the felinæ, of which an example is presented in that favourite amusement of cats, called 'dressing their fur.' When changing their coats the hairs are swept off in hundreds by the rough tongue without causing the slightest annoyance, whereas the presence of even a single hair in the human mouth is notoriously unpleasant—simply from the greater perfection of the nervous influence.

"The younger Pliny, whose work on natural history is full of information mixed up with the quaintest stories, remarks, that the test of a lion's temper is his tail. 'At first,' says this writer 'when he entreth into his choler, he beateth the ground with his taile; when he groweth into greater heats he flappeth and jerketh his flanks and sides withall, as it were to quicken himselfe, and stir up his angry humour.' Pliny, however, does not appear to have been aware of the existence of a peculiarity in the lion's tail, which was known to Didymus Alexandrinus, was subsequently denied, and re-discovered by Mr. Bennett in 1832. This is a claw at the tip of the tail, which, although not always present, undoubtedly exists in the majority of lions. Whether it has any effect in raising the 'choler' of the lion it is difficult to say, but the ancient Assyrians were well acquainted with this claw, as is proved by the sculptures on the Nineveh marbles, where it is distinctly represented."

"The instinct which renders the protection of the young paramount to every other consideration is strongly evinced in the lion tribe, and of this an interesting example is narrated by Mr. Cumming. One day, when out elephant-hunting, accompanied by two hundred and fifty men, he was astonished suddenly to behold a majestic lion slowly and steadily advancing towards the party with a dignified step and undaunted bearing, the most noble and imposing that can be conceived; lashing his tail from side to side and growling haughtily, his eyes glaring, and his teeth displayed, as he approached; the two hundred and fifty valiant men immediately took to their heels in headlong flight, and, in the confusion, four couples of dogs which they had been leading for the sportsman were allowed to escape

in their couples. These instantly faced the lion, who, finding that by his bold bearing he had succeeded in putting his enemies to flight, now became solicitous for the safety of his little family, with which the lioness was retreating in the background. Facing about, he followed after them with a haughty and independent step, growling fiercely at the dogs, which trotted along on either side of him. Having elephants in view, the sportsman, with 'heartfelt reluctance,' reserved his fire; and we think that most of our readers will rejoice with us that this gallant and devoted lion was permitted to escape scot free. It would be a subject not unworthy of Landseer, this 'retreat of the Leonidæ.' The mother leading away the young, the noble father covering the rear, and the bold two hundred and fifty warriors in hot flight, dotting the ground in the distance. Another instance of the magnanimous conduct of the lion is related in the case of a Boer, who might well have exclaimed, 'Heaven defend me from my friends!' A party of Boers were out lion-hunting, when one of them, who had dismounted from his horse to get a steady shot at the lion, was dashed to the ground by him before he could regain his saddle; the lion, however, did not attempt to injure him further, but stood quietly over him lashing his tail and growling at the rest of the party, who had galloped to a distance in violent consternation. These fine fellows, instead of coming to the rescue of their comrade, opened their fire at an immense distance, the consequence of which was, that they missed the lion, and shot the man dead on the spot! The lion presently retreated, and none daring to follow him, he made good his escape."

"Though the lion is considerably under four feet in height, he has no difficulty in overcoming the most lofty and powerful giraffe, whose head towers above the trees, and whose skin is nearly an inch in thickness. He also, when his teeth are unbroken, generally proves a match for an old bull buffalo, which in size, strength, and fierceness far surpasses the largest European cattle. A lion having carried off a heifer of two years old, was tracked for full five hours by a party on horseback, and throughout the whole distance the carcass of the heifer was only discovered to have touched the ground twice.

"The lion of South Africa is, in all respects, more formidable than the lion of India; in colour it is darker, and of greater strength; the mane, the characteristic of the male, appears about the third year; at first it is of a yellowish colour, in the prime of life nearly black, then, as he becomes aged and decrepid, it assumes a yellowish grey, or pepper-and-salt colour. The manes and coats of lions frequenting plains are richer and more bushy than those of their brethren of the forest. If the lion is

thirsty he stretches out his massive arms, lies down on his breast, and in drinking makes a loud lapping noise, pausing occasionally for breath; the tongue curls the contrary way to that of the dog during drinking."

"When the Zoological Gardens were first established, it was considered that those animals which were natives of the tropics required warmth, and they were, therefore, kept in close and heated rooms. The mortality was excessive, as must always be the case with animals and human beings, when densely packed in ill-ventilated dwellings; on just grounds, therefore, it was decided to try the effect of abundance of fresh air. This has answered beyond expectation, the carnivora and monkeys (among whom was the greatest mortality), having since enjoyed excellent health, and being perfectly indifferent to cold. In their roomy dens there are large branches of trees, which, by inducing the animals to take exercise, have been found very beneficial. The daily allowance of food for the larger carnivora is about seven pounds of meat and bone, but the young lions are fed on rabbits: when at Cairo, fowls constituted their chief food. A good supply of water, perfect cleanliness, thorough ventilation, and careful drainage, are points especially attended to, and it would be difficult to find animals in confinement more healthy, or apparently more happy, than those which constitute the interesting collection in the Regent's Park."

ON VETERINARY EDUCATION.

[Extracted from the "Maine Farmer," 21 Nov. 1850.]

"In order to form a definite idea of the benefits the American people will derive from veterinary institutions, let us look for a moment on what this science has accomplished in England. We will take a single department. I refer to that of shoeing horses. Mr. Percivall tells us 'that previous to the establishment of a veterinary college, great numbers of horses became prematurely unserviceable: the natural consequence of which was, heavy and continual national expenditure. In the course of a long experience, it has been ascertained that by a skilful performance of shoeing, many of the most formidable diseases of the foot may be prevented, and others so improved as to enable the horse to go with ease to himself and safety to his rider; and also preserve the animal for use to a much longer period. On the other hand, look at the melancholy effects re-

sulting from shoeing in the hands of unscientific men. Thousands of the East India Company's horses were yearly cast for death because their feet were incurably diseased. Thrush, and its sequel, canker, corns, grease, and all those various disorganizations induced by mal-treated diseases of parts within the hoof, consigned thousands of them to the knife; whereas, since the eye of science has guided the hand of the smith, not a single horse has been lost to that company through the diseases I have just named, and many of them are entirely unknown.'

"Just look at the ignorance that is often displayed in this country, in the management of the foot, and tell me, is there no need of reform! How often do we see the base totally cut away, the frog or sole pared so thin that the animal is liable to be injured by the first hard substance he treads on. I have seen the foot mangled and cut to fit the shoe, and, what is still worse, the latter applied red hot. This destructive system dries up the natural moisture of the hoof and sole, prevents the egress of morbific matter, and finally producing disorganization, incurable contraction, and lameness. Some men suppose that a horse's hoof is an insensible piece of mechanism, and when they see the smith cutting off large slices, and applying red hot plates of iron, it would seem to justify such a conclusion. I grant that the horny covering is void of sensibility; but we must recollect that it serves principally as a defence to the sensitive parts within, and that it is endowed with elasticity, which enables it, in some degree, to yield to the impulse of those sensitive parts in the various motions of the animal. Hence the direct tendency of the hot shoe is to contract the horny covering, and, of course, the sensitive parts will be more or less compressed. You will find, on an examination of the foot, that it is a wonderful and delicate piece of mechanism. The inside of the hoof is lined with a beautiful set of laminæ; these receive a similar set, situated on the external portion of the coffin-bone. The number of laminæ on these two surfaces have been computed at one thousand; each lamina has two sides and an edge—making three thousand articulatory surfaces,—giving to each foot a surface of four square feet. Hence it follows that a horse stands on sixteen square feet of surface, within the four hoofs. So wisely, however, is every part of the foot contrived by the Divine Artist, that when it is properly managed, judiciously pared, and the shoe properly adapted to it, and when employed only by a humane man, the foot may be preserved as long as the animal is worth using. Hence, if the veterinary art be estimated as beneficial and important, in exact ratio to the value of the noble animals to whose well-being all its objects are directed, then

your efforts should be turned towards educating our young men, and making them acquainted with the fundamental principles of this art.

"The object of this art is not only congenial with human medicine, but the very same paths which lead to a knowledge of the diseases of man lead also 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, use, connexion and relation of these parts, and of the laws by which they are intended to act; as also of the nature and properties 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 be the subject of our consideration.

"Our domestic animals deserve consideration at our hands. We have tried all manner of experiments on them for the benefit of science; and science and scientific men should do something to repay the debt, by alleviating their sufferings and improving their condition. We know that physicians of all ages have applied themselves to the dissection of animals, and that it was by analogy that those of Greece and Rome judged of the structure of the human body. For example, the Greeks and Arabians confined themselves to the dissection of apes and quadrupeds. Galen has given us the anatomy of the ape for that of man; and it is clear that his dissections were restricted to brutes, when he says 'that if learned physicians have been guilty of gross errors, it was because they neglected animals.' I will enumerate a few organs of the human body that were first discovered in kids; viz. the œsophagus, Fallopian tubes, and organs of sound and respiration. Galen demonstrated by experiments on living animals, that it was possible to restore suspended animation by inflating the lungs; this has saved the lives of many thousands of the human race. The salivary glands were first discovered in an ox, and the thoracic duct in a horse. A hundred years afterwards the latter canal was first discovered in man. The immortal Harvey, assisted by experiments on living animals, discovered the circulation of the blood. The lacrymal glands, the organs of taste, the excretory duct of the pancreas, the peristaltic motion of the intestines, were first discovered in animals. In a word, the greater part of the functions of man were first made known by the general analogy subsisting between the functions of animal organization.

"I advocate the establishment of veterinary schools, and the cultivation of veterinary medicine on the broad ground of humanity. These poor animals are as susceptible to pain and

suffering as we are; they furnish our support and promote our pleasure. Has not the Creator cast them upon our care and placed them under our protection? Have we done our duty by them? Can we render a good account of our stewardship?

THE VETERINARIAN, MAY 1, 1851.

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

THE return of spring has, as usual, brought with it "Influenza" among our horses, and, as it has proved to us, earlier in the present than in former years in general. Indeed, in situations where young horses have been standing, the winter months have been by no means free from cases of the sort, though the more general outbreak of the distemper, calling for the appellation of *influenza*, has not come on until March and April. To us, the influenza at present prevailing has not assumed any fresh features, nor has it proved, in general, by any means fatal in its character; though the knackers' carts have been of late more busy than for some previous months past, as they commonly are "spring and fall," and no doubt, in a great measure, from casualties resulting from influenza. As far as our own practice has extended, we might, if we attempted any symptomatology of the disease, apply the same account to it as that we gave in THE VETERINARIAN in July last of the more alarming epidemic then prevailing, viz. that "the throat is the seat of soreness and suffering; the disease thence, in some instances, creeping down into the bronchial tubes and alighting upon the thoracic membranes; while in others it vents its violence chiefly in the head, either through continuous profuse discharges from the nose, or a critical outburst of an abscess in the throat. Now and then (in young horses) strangles come on, and in some (few) instances a tedious and troublesome nasal gleet remains; cough being the usual attendant all through the complaint."

In conducting a young horse through this—his *ordeal*, as we may regard it, or passport into public life—considerations such as his fitness or condition to undergo the trial, the circumstances under which he is to undergo it, and the chances there may be of his safely surmounting it or succumbing to it, will naturally occupy the mind of the veterinarian having a charge of this description. To persons well acquainted with such matters it will not appear a supererogatory or trifling business so to place and feed and manage young horses coming out of the country into town stables, that, whenever influenza or distemper shall—as it surely some day or other will—attack them, they may in constitution be found less disposed to take harm from the attack than if no such precautionary measures had been adopted. Change of air, of food, of water, of habits of life, are all for a time operative against the young and growing animal; and if to those alterations its system can be inured before that change—which is worse than all—*disease*, supervenes, so much the more likely is the animal frame to withstand the latter with impunity, or, in other words, resist its incursions. This is what—to borrow a phrase from the French—is called *acclimatizing* the animal; and a practice it is, in our opinion, replete with manifold advantage.

By this process of acclimatization, the several functions of the system will be taken less by surprise when the day of trial shall arrive, and be less liable to succumb under the attack of disease, whatever form, under the guise of *influenza* or distemper, it may happen to assume. In fact, having surmounted all such minor derangements as altered air, altered food, and altered water, may give rise to, the system, already rid, by suitable diet and regimen, of any inflammatory diathesis to which it might have a tendency, is reduced to the most favourable condition it can be, to undergo the ordeal or "passport," as we may call it, into working or public life.

Before we conclude these observations, we would say a word or two about treatment. On the occasion, and in the article before referred to, we set our face against blood-letting in influenza. We said then, and we would say now, "that more horses, with this disease, have been killed than were ever saved

by it (blood-letting). Indeed, we question its utility or admissibility in any case partaking of the nature of what we all understand by *influenza*."

Now, by way of rider to this, with some months' additional experience to guide us the more surely through the labyrinths of this intricate vital matter, although we feel confirmed in still adhering to our *general* non-bleeding practice, we would simply add, that we are not prepared to cast out altogether our phleams from the influenza stable; since we have in a very few cases—and only in a very few—ventured to make cautious use of them at a time when our patient was suffering from disease of chest which had refused to give way to other measures. We have not bled *early* by way of meeting or fore-running the inflammatory action. We do not hold with the medical maxim of *venienti occurrite morbo*. In fact, we have not let blood until, as we said before, other measures—counter-irritants especially—have failed to arrest the morbid action, nor until the moment when life itself was in imminent peril from unchecked and destructive inflammation. We are great advocates for *early* counter-irritation; nor do we in our own mind feel satisfied on that head until *decided and wholesome impression has been made*. This failing, and the symptoms running on to an alarming extent, our patient being still in possession of his strength, we have ventured—seeing no other prospect of relief—at such a juncture to draw (from a young horse) three or at most four quarts of blood; and we feel no little satisfaction in saying that, in such cases, the operation has not disappointed our expectations; on the contrary, it has been attended with the happiest results. Still, we repeat, in our general practice we refrain from letting blood.

A few more diurnal revolutions of the wheel of time will bring "the first Monday in the month of May" before us; a day which, in conformity with the directions of our Royal Charter, will find the members of the Veterinary Profession assembled in their representative college, the Freemasons' Tavern, to hear read the "Annual Report" of the proceedings of the College for the past year, and to elect six members of Council to

occupy the places of those going out by rotation. "Within one calendar month" after which "Annual General Meeting," as directed by the Charter, and "as early as convenient," as ordered by the by-laws, a day shall be fixed for convening the Council for the purpose of electing a President, six Vice-Presidents, and a Secretary. On a former occasion*, in adverting to this subject, we expressed our lack of interest in the matter further than that the post of presidentship, being one denotive of the highest honorary pretensions in our College, "should, in our opinion, be conferred upon some one or other of the respected elders of the profession, &c." We need not tell our reader that one of our "respected elders" has been nominated; since in the person of Mr. Robinson, the present President, not only is found fifty years' standing as a member of the veterinary profession, but a respectability and integrity of character which, in his sphere of practice, and wherever he is known, yields to that of no man either in or out of the profession; to say nothing here of the obligations those who petitioned for the Charter were at the time under to that gentleman for his very effective and successful advocacy of their cause. For our own part, had we been present at his election, there is but one man we should have presumed to have placed in competition with him, and that man is Professor Sewell. Which gentleman may be the older of the two, as registered members of our profession, we are not informed either by the old or the new "list of members;" nor, perhaps, would that consideration have had more weight with us than their respective ages. At the same time, we must confess—and we feel quite certain Mr. Robinson will not feel displeased with us for recording our avowal—that, looking at the station Professor Sewell occupies as head master of our veterinary school, and considering how long and how extensively he has been known in that eminent position—taking, we say, all this into consideration, we cannot but own we felt a *penchant* for elevating him to the chair of President of the Royal College of Veterinary Surgeons. In the forthcoming election, however, we are not sure that we should pursue the same course of politics; since it must be evident, we think, to everybody, that Mr. Robinson,

* In The Veterinarian for February, 1851.

having served the broken period of presidentship already, has strong pretensions—a sort of claim, indeed—to re-election; nor do we see how, in strict justice, Professor Sewell, or anybody else, can be preferred to Mr. Robinson, unless he himself chooses to waive his own presumptive claim in favour of another candidate. Supposing, therefore, that our present excellent President be re-elected—which we sincerely hope and trust, if he desire it, may and will be the case—perhaps another year may find our venerable Professor on the road to occupy the same honorary chair. Meanwhile, we promise him, in 1852, he may reckon on our feeble support.

PROCEEDINGS OF THE COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

Sitting of March 26, 1851.

Quarterly Meeting.

Present—The President; Messrs. Cherry, A. Cherry, Godwin, Henderson, J. Turner, Wilkinson, Professors Morton, Simonds, Spooner, and the Secretary.

The President in the Chair.

The Secretary read the minutes of the previous meeting, which were then signed.

Mr. Wilkinson asked whether any alterations were made in the By-laws at the last meeting affecting their spirit; the Charter requiring that no such alterations should be made without a suspension thereof for three months.

It was explained that the alterations were only verbal, with the exception of the incorporation of a part of Mr. Braby's amendment relating to finance, and which had been suspended the required period.

The Secretary said that he had written, in accordance with the instructions he had received at a previous meeting, to several gentlemen, asking their consent to be nominated as members of the Board of Examiners acting for Scotland; and he stated that Prof. Lizars, Dr. Easton, of Glasgow, and Mr. Robb, veterinary surgeon, of the same place, had acceded thereto.

Mr. A. Cherry suggested that the Scotch Board should be dissolved, and that the Council should ballot for new members.

The Chairman could see no use in pulling down, and then building up with the same materials.

The Secretary proposed that the Board should be constituted of the following members :—Prof. Lizars, Dr. Easton, and Dr. Macgregor (being three out of the four medical gentlemen required); Messrs. Tindall, Williamson, Robb, Thompson, and the veterinary surgeon of the regiment stationed at Edinburgh.

Mr. A. Cherry objected to the veterinary surgeon of the regiment, whoever he might happen to be, being a member of the Board, and instanced the case of an individual acting as an examiner who was not gazetted to the regiment.

Mr. Cherry said that was an abuse of the arrangement, and constituted no argument against it.

The Chairman hoped the proposition would be adopted.

Professor Spooner saw no reason for such a course, unless there was a lack of competent veterinary surgeons in the country. A young man might be admitted who had only just received his commission.

After some discussion relative to the merits of the proposed members of the Board,

Prof. Simonds moved, as an amendment, that the name of Mr. Thompson should be omitted from the list proposed by the Secretary.

Mr. Godwin seconded the motion.

The Secretary thought it advisable to retain Mr. Thompson, as he was a valuable aid to the Board as an examiner on cattle pathology.

Mr. James Turner said, as Mr. Thompson had for many sessions contributed his services to their satisfaction, it would be unjust to omit him. After some further discussion, in which several members took part, Prof. Simonds's amendment was put, when there appeared

For the amendment . . .	4
Against it	4

thus leaving the decision with the Chairman.

The Chairman said he thought it right to give his casting vote in favour of Mr. Thompson, inasmuch as he had been a member of the Board for many years, and his efficiency had been reported by the Secretary.

The amendment was thereupon declared to be lost. The original motion was then put, and carried.

The Secretary alluded to the resignation of Mr. Field as a member of the Board of Examiners, which took place some time since, and stated that the vacancy ought now to be filled up.

He bore testimony to the able manner Mr. Field had performed the duties of the office.

Prof. Morton proposed Mr. Wilkinson, who, he trusted, would prove as efficient an Examiner as Mr. Field.

Prof. Spooner seconded the motion.

Mr. Wilkinson did not think himself qualified for the office; and he had the same objection to urge which partly induced Mr. Field to withdraw, viz. that the opportunities afforded were not sufficient to enable him to give a correct opinion upon the capabilities of a pupil; but still he would not object to place his services at the disposal of the Council.

Prof. Spooner observed that this arose chiefly from the division of the Board into four parts.

Mr. Cherry said that Mr. Wilkinson had afforded him very efficient assistance in the examination of candidates for the Queen's service, in which examination he, Mr. Cherry, frequently found himself compelled to reject those who had been passed by the General Board of Examiners. He put it to Mr. Wilkinson, whether he would like being placed in the anomalous position of declaring a candidate qualified at one Board, and rejecting him at another.

Prof. Simonds said it was quite possible that an individual might be qualified for general practice, and yet not be so for a particular service.

Mr. Wilkinson would regret accepting office, if it was likely to interfere with his arrangements with Mr. Cherry.

After a brief conversation on the subject, Mr. Wilkinson consented to act, and was unanimously elected to the vacant seat.

The Secretary next laid on the table a proof of the new Diploma, together with a copy of the Charter and the new code of By-laws.

It was resolved, on the motion of *Mr. Cherry*, seconded by Mr. Henderson, that the old diplomas should be destroyed under proper authority.

After the transaction of some routine business, and the nomination by the President of Professor Simonds, Mr. Henderson, and the Secretary, as the Committee to prepare an abstract of the proceedings of the Council for the ensuing General Meeting of the profession, and the report of the evening, the Council separated.

Sitting of April 9, 1851.

Special Meeting.

Present—The President; Messrs. Braby, Cherry, A. Cherry, Ernes, Henderson, King, Wilkinson; Professors Morton, Simonds, Spooner; and the Secretary.

The President in the Chair.

The minutes of the previous meeting were read and signed.

The Secretary stated, that he had communicated to the gentlemen named on the Scotch Board their respective nominations as Examiners, and had received replies from Professor Lizars and Mr. George Robb, but had not yet heard from Dr. Easton.

Professor Simonds asked whether this was not the proper time to fill up the vacancies which still existed in the Scotch Board.

The Secretary observed, that such could not be done now, as no notice had been given.

Professor Morton, under these circumstances, gave notice that he should propose Mr. Gowie to fill one of the vacancies. That gentleman, he said, had lately read a paper before one of the agricultural societies of Scotland on veterinary medicine, and stood very high in the profession.

Mr. A. Cherry (Registrar) handed in the following Report to Council for their approval.

Report from the Registrar to the Council of the Royal College of Veterinary Surgeons.

In accordance with the directions of the Council, an advertisement was inserted in The Veterinarian, calling the attention of the members of the body corporate to the by-law relating to the appending of honorary distinctions in the Registry to the names of those entitled thereto. Such advertisement has, however, been but little responded to, as only six communications have been received. Some of these contain a claim to which the Registrar begs leave to direct the attention of the Council, viz., to be recognised as "Members of the Veterinary Medical Association," a distinction which he considers inadmissible, because such association is under the control and direction of the London School, instituted for the purpose of aiding in the education of the pupils, and over this the Council has no direct power or influence. It has also come to the knowledge of the Registrar, that the term or title of "Member of the Veterinary Medical Association" has been, and still is, made use of as a cover for the assumption of the name of, and the practising as, a "veterinary surgeon."

The recognition of such a distinction could only give additional support to flagrant assumption and false pretension, a course at all times to be carefully avoided.

The Registrar would suggest that the honorary distinctions be confined to those granted by some recognised authorities, such as Her Majesty's and the Honourable East India Company's services, civil veterinary appointments held under government, appointments in the yeomanry, veterinary professors, and teachers, and honorary fellows and associates of the Veterinary Medical Association. The new list, in accordance with these views, is in course of preparation, so as to be ready for issue at the general meeting on the 5th May.

There have been during the year forty-one new members admitted, thirty-three by the section of the Board of Examiners acting for England, and eight by the section acting for Scotland.

There have been but three *deaths* announced, and the Registrar must complain of the apathy on the part of the body corporate generally on so important a point as the registration of its members. It is impossible to give such information as is most desirable from this carelessness or indifference to the appeals repeatedly made by the Registrar. It is, therefore, suggested to the members of the body corporate, as being very important, to give direct and immediate notice of either death or removal; in the former case by the nearest resident member, in the latter, by the party himself.

ARTHUR CHERRY, *Registrar.*

April 9, 1851.

This, on the motion of Mr. Gabriel, seconded by Mr. Henderson, was adopted by the Council.

The Secretary laid before the meeting bills to the amount of £21..11*s.*, for which an order for payment was given to the Treasurer.

The question being raised, as to how these payments should be made, it was decided that the funds should remain in the bankers' hands, in the name of the College; authority being given from time to time by the Council to the Treasurer to draw cheques in his own name for the respective amounts.

The Secretary next read the Treasurer's annual statement, shewing a balance in favour of the College of £220..6*s*..3*d.* It was signed by Messrs. Dunsford and Gowing, auditors.

It was moved by *Mr. Ernes*, and seconded by *Mr. A. Cherry*, that the balance-sheet be adopted, which passed unanimously.

The Secretary then laid an abstract of the proceedings of the Council during the past year before the meeting. After a few verbal alterations, it was unanimously adopted, and ordered

to be printed and read before the annual general meeting in May.

The Secretary called attention to the by-laws of the College relative to the election of members of the Council. He stated that the following six members, namely, Messrs. Gabriel, Godwin, Goodwin, Dick, Sylvester, and Braby, went out by rotation, but that they were eligible for re-election.

The following gentlemen were then proposed for election as members of the Council at the annual meeting:—Mr. Gabriel, by Mr. Robinson; Mr. Braby, by Mr. A. Cherry; Professor Dick, by Mr. Gabriel; Mr. Arthur Cherry, by Mr. Pritchard; Mr. Godwin, by Mr. Henderson; Mr. Varnell, by Professor Spooner; Mr. Gowing, by Professor Morton; Mr. Dickens (Kimbolton), by Professor Simonds; Mr. W. Mavor, jun., by Mr. Braby; and Mr. Wells (Norwich), by Professor Simonds.

Professor Simonds applied to the Council to grant an examination before the 14th May. The consent of the Council was accordingly given to the holding of a meeting of the Board of Examiners on the 30th April.

The President named Messrs. Henderson and Braby to sign the diplomas, on behalf of the Council, at the forthcoming examination.

Mr. Wilkinson asked whether the clause in one of the by-laws, which stated that all candidates should furnish a certificate, or such legal proof as may be required, of their having been educated at one of the recognised schools or colleges, meant, that the professors considered the candidate as presenting it as fully educated and qualified to practise veterinary science.

Professor Spooner.—We merely assert, that he has had the opportunity of obtaining that knowledge; you are to see whether he does possess it or not.

The Secretary stated, that the Examiners had nothing to do with these certificates: they were to be sent to the Secretary; and if he was satisfied with them, he furnished a list of the candidates to the Chairman, and they were examined as a matter of course.

The Committee of Supervision was re-appointed, when the proceedings terminated.

MISCELLANEA.

"A STRANGE STORY" ABOUT A HORSE SWALLOWING A BOX.

THE following very strange story appears in one of the French journals:—"A. M. Macquart, contractor for slaughtering horses at Montfauçon, purchased four years ago a lot of thirty-three

worn-out animals, and amongst them were several which had formerly belonged to the army. The thirty-three were soon killed, and the men proceeded to cut them up. Judge of the stupefaction of one of the men, named Matelot, on finding in one of them (the horses) a small box in silver, containing a cross of the legion of honour, and a paper, in a perfect state of preservation, containing the following lines:—"As I cannot survive the defeat of my emperor, and as I have neither wife, nor child, nor cousins, I am about to get myself killed in a last charge against those scoundrels, the English; and as I will not let them have my cross, I will make my faithful horse, Chateau Margot, swallow it. He will give it up when he can.—Pierre Dardenne, sergeant in the 2d squadron of Red Lancers." Matelot took the things to the commissary of police of the district, and that functionary allowed him to keep the silver box. As for the cross, it was sent to the Grande Chancellerie of the Legion of Honour. From documents published by the professors of the school at Alfort, it appears that certain horses have lived to the age of forty-five; that which Charles XII rode at the battle of Pultowa attained that age. The white charger of Napoleon lived twenty-nine years. Chateau Margot is supposed to have been about forty.—*Galignani.*

We do not believe this "strange story;" but as it may happen to meet the eye of some of our continental veterinary brethren, we expect it may receive either confirmation or contradiction.

ED. VET.

SNAKE IN A HORSE'S STOMACH.

A FEW days ago, a horse belonging to M. W. Ridsdale, farmer, of Rowley, near Wetherby, suddenly became ill, and died. After death, a living *snake*, eighteen inches long, was taken from the animal's stomach!—*Stafford Advertiser, 5th April*, 1851.

Query. Was not this "snake" a *lumbricus teres?*—ED. VET.

OBITUARY.

On Friday, 18th April, at his country residence, Alvaston, near Derby, aged 78, John Mills, Esq., one of her Majesty's Justices of the Peace for the town of Nottingham.

Mr. Mills formerly practised as a veterinary surgeon, and was at his death, we believe, a Vice-President of the Royal Veterinary College.

Do we deplore the loss of the "Father of the Veterinary Profession?"

THE

VETERINARIAN.

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ANNUAL GENERAL MEETING

OF THE

ROYAL COLLEGE OF VETERINARY SURGEONS.

[From our own Reporter.]

THE Eighth* Annual Meeting of the Members of the Royal College of Veterinary Surgeons was held on Monday, May 5th, at the Freemasons' Tavern, and was attended by the following members:—

Mr. Wm. Robinson, President (in the Chair);

Messrs. Alfred H. Cherry	Messrs. H. Daws
F. C. Cherry	James Moon
H. Meginnis	J. B. Simonds
E. N. Gabriel	Alex. Henderson
W. Cooper	S. Peech
Arthur Cherry	F. Collins
T. W. Mayer	J. Turner
W. M'Kenna	W. Ernes
Wm. Bereley	J. G. Lee
Wm. Percivall	W. J. T. Morton
H. W. Hooper	C. Spooner
W. Smith	J. C. Broad
S. H. Withers	E. Braby
H. J. Godwin	F. R. Silvester
H. Withers	J. Dunsford
R. Pritchard	F. King
G. W. Varnell	A. B. Henderson
T. W. Gowing	G. Harvey.

* This makes the *Eighth* "Meeting," although the "Report" read at it numbers but the *seventh*. Into the four antecedent volumes of The Veterinarian an error in this particular has crept, owing to the reporter having taken the number of the Meeting from that of the Report.—Ed. Vet.

The Chairman, in opening the proceedings of the meeting, stated, that he had been placed in the position which he occupied in consequence of the continued illness of Mr. Thomas Turner, whose resignation was some months ago tendered to and accepted by the Council; he (the Chairman) having been elected to the vacant office for the present year.

The Secretary then read the following Abstract of the Proceedings of the Council during the year 1850-1.

"The Council of the Royal College of Veterinary Surgeons, in this their Seventh Annual Report, have much pleasure in being able to congratulate the profession on its improved prospects; as, with a single exception, all parties are strenuously exerting themselves for the promotion of its best interests and welfare. This improved state of things, happily, does not require from your Council a report in the analytical and discursive form of those which have preceded it; and a brief abstract of their proceedings is all which they have to lay before you, now that the differences of opinion, divisions of interests, and diversities of action, hitherto existing, are nearly passed away.

"Last year, and for the first time since the obtainment of the Charter, the chair was not taken at the annual meeting by the President of the College; long-continued illness, much and deeply regretted by all who knew him, kept him from us: it was hoped that his restoration to health would be both speedy and complete, and therefore he was again elected to the chair. Partial restoration enabled him to attend occasionally the meetings of the Council, but only for a time; and it was too evident, although he energetically endeavoured to perform the requirements of the office, that his strength was unequal to the task. Your Council had to receive with regret his resignation, and they lost no time in offering him their condolence, and in tendering him their heartfelt thanks for the manner he had discharged the onerous duties of the Presidentship. Mr. Robinson was chosen as his successor; a gentleman who has proved his fitness for the office, and realized the most sanguine expectations of your Council.

"The new code of Bye-laws, the preparation of which was announced last year, has been issued; the high legal opinions of Sir John Jarvis, Sir Frederick Thessiger, and Mr. Jago, then alluded to as about to be taken, have been obtained; and every effort has been made to secure the correctness of the laws in accordance with the provisions of the Charter, and to render them strictly applicable to the exigencies of the profession.

"The proceedings of your Council, hitherto irregularly published, and therefore not fully and generally known to the body at large, are now officially reported in the Veterinary Journal.

The labours of the professional reporter are submitted to the supervision of a committee, specifically appointed at each meeting; and thus is secured a fair and unbiassed statement, which may, consequently, be considered as authentic.

"Several resignations having taken place in the section of the Board of Examiners acting for Scotland; and some alterations of it being deemed desirable to secure its more efficient operation—as, from the report of the deputation to Edinburgh, a considerable degree of laxity and irregularity had crept in—it has been re-organized. Professor Lizars of Edinburgh, Dr. Easton of Glasgow, and Mr. Robb, veterinary surgeon, of the same place, have been elected to the vacant chairs; and your Council cannot doubt that the addition of gentlemen so well known to science will materially tend to enhance the Board in the estimation of the public.

"Your Council have also to announce that Mr. Field, after rendering considerable service to the College in his official capacity as Treasurer, and after having had the gratification of seeing the original debt liquidated, resigned his appointment. His resignation was received with regret; but still your Council felt that they could not urge his remaining in office, knowing that his time is so fully occupied by his professional avocations as to leave but little for the transaction of other matter; nothing remained, therefore, but to tender him their thanks, and to appoint his successor: this was done, and Mr. Henderson was unanimously elected to the office, a gentleman whose name is a sufficient guarantee that its obligations will be faithfully performed.

"The important question of Finance will, it is trusted, be found in a very satisfactory condition. A balance of £220..6*s*..3*d*. remains in hand, notwithstanding the heavy demands made on the funds during the past year for legal opinions, a new form of diploma, printing the Charter and Bye-laws, with other necessary expenses connected with the meetings of the Council and the examinations of the pupils.

"The first official Register of the members of the College was issued in 1848, and in the following year this was added to and corrected by the publication of an ADDENDUM. A new List is this day laid on the table by the Registrar, in which all honorary distinctions to which members are entitled, as communicated to that officer, are inserted. It is scarcely necessary to add, all inaccuracies or omissions will be corrected as early as possible; it being a matter of no small importance to the profession that the public should be informed as to who is and who is not a graduated member of the College.

"Forty-one gentlemen have received the Diploma of the

College during the past year, making a total of 361, which have been admitted under the provisions of the Charter: three deaths have been communicated as having occurred during the same period.

"Your Council, in concluding this 'Abstract of their Proceedings,' would venture to express the hope, that nothing will hereafter occur to disturb the feelings of good-will, the reciprocity of interest, and the unity of purpose, which now prevail among the members of the College. A continuance of these, and especially if combined with high and honourable motives, calm, deliberate, and open discussions, steady and unflinching resolve to do the best to advance the science of veterinary medicine, cannot fail, ere long, to secure the result so anxiously looked for by its members,—namely, the obtainment of the same privileges and exemptions for them as are already granted by the Government to the practitioners of Human medicine and surgery.

"E. N. GABRIEL,
"Secretary."

"April 9, 1851."

"ALEXANDER HENDERSON, TREASURER, *in Account of Cash with the Council of the Royal College of Veterinary Surgeons.*

DR. 1850.	£	s.	d.
To Balance from last Year	212	5	7
— Examination and Admission Fees	388	10	0
— Copies of Register	1	5	6
	£602	1	1

CR. 1850.	£	s.	d.
By Legal Expenses	121	19	6
— Fees paid Board of Examiners	74	0	0
— Allowance to Secretary	75	0	0
— Allowance to Registrar	25	0	0
— Printing	16	12	6
— Advertisements	10	0	4
— Rooms for Meeting	16	9	6
— Deputation to Edinburgh	12	10	0
— Stationery, Postages, &c.	10	6	6
— Altering Plate and Printing Diplomas	7	9	0
— Stamping Diplomas	4	0	0
— Reporter	8	7	6
— Balance due to the Royal College of Veterinary Surgeons	220	6	3
	£602	1	1

"We, the undersigned, have audited the above, and found them correct:
"JOHN DUNSFORD,
"T. W. GOWING."

"April 8, 1851."

Mr. Hooper, of Cheltenham, moved the adoption of the Abstract.

Mr. M'Kenna, of Belfast, seconded the motion, which was unanimously agreed to.

Mr. Cherry suggested that, before the election of members to fill the vacancies in the Council, it would be well that the meeting should know the number of the attendances during the past year of those gentlemen who retired, and were eligible for re-election: such information, he said, would be valuable, and would, in some measure, influence the members in their votes.

Professor Spooner was of opinion that it would be inconsistent to furnish the information Mr. Cherry desired, unless a resolution to that effect had been agreed to by the Council.

Mr. Mayer wished to know whether all the gentlemen who retired were willing to act again; for, if there were any who did not wish to be elected, the members would be throwing away their votes by giving them in their favour.

Professor Spooner said, the subject had been considered at the last Council meeting, when the names of those gentlemen who were not desirous of acting were omitted from the list of proposed members; it was, therefore, to be presumed that the gentlemen proposed by the Council were willing to act in the event of their being elected.

The Secretary (being appealed to by Professor Spooner) said he was aware of one gentleman not on the list declining to act.

Mr. Mayer asked if Mr. Silvester was willing to serve on the Council.

Mr. Silvester said he would be happy to do so, if elected; but he felt that there were many gentlemen present who had far greater claims to the votes of the members, and he should be happy to give way to them.

Mr. Arthur Cherry adverted to the proposal that had been made for the number of attendances of members of Council to be read. He considered that a general meeting of the body was perfectly competent to call for such information, if it desired it; and, if there was any doubt on the point, the question might be put to the decision of the meeting itself.

Mr. Mayer thought it would be only fair, if the list of attendances was read, that it should be accompanied by a statement of the reasons for non-attendance on the part of those who had been compelled to absent themselves, otherwise erroneous conclusions might be formed by the meeting. He (Mr. Mayer) had attended only one meeting since his election, but before he was elected he gave valid reasons for his absence to the late

President. Other gentlemen, probably, among those who now offered themselves, might be similarly circumstanced.

The Secretary said the list had been read at the two previous meetings.

The list was then read. The attendances were as follow (the number of meetings being twelve):—Mr. Goodwin, 2; Mr. Silvester, 3; Mr. Braby, 7; Mr. Godwin, 7; the Secretary, 12; Professor Dick had not attended at all.

It was stated that the following gentlemen had been proposed as members of Council:—

Mr. E. N. Gabriel, of London, by Mr. Robinson.
Mr. W. J. Godwin, of Birmingham, by Mr. Henderson.
Professor Dick, of Edinburgh, by Mr. Gabriel.
Mr. E. Braby, of London, by Mr. A. Cherry.
Mr. G. W. Varnell, of London, by Professor Spooner.
Mr. T. W. Gowing, of Camden-town, by Professor Morton.
Mr. C. Dickens, of Kimbolton, by Professor Simonds.
Mr. W. Mavor, jun., of London, by Mr. Braby.
Mr. T. Wells, of Norwich, by Professor Simonds.

Mr. Godwin then proposed Mr. Silvester.
Mr. Cooper seconded the nomination.

On the motion of Mr. Wm. Hooper, seconded by Mr. James Turner, Mr. Meginnis, of Horsham, and Mr. Cooper, of Birkhampsted, were appointed Scrutators.

The votes having been taken, and examined, the numbers were declared as follow:—

Mr. Gabriel . . .	34	Mr. Varnell . . .	16
— Braby	31	— Wells . . .	13
— Godwin . . .	26	— Gowing . . .	13
— Silvester . . .	20	— Mavor . . .	10
— A. Cherry . .	19	— Goodwin . . .	6
— Dickens . . .	16	Professor Dick . .	4

The Chairman then declared the election to fall on Messrs. Gabriel, Braby, Godwin, Silvester, and A. Cherry. Messrs. Dickens and Varnell, he said, had an equal number of votes, and the decision in their case would have to be by lot, as stated by the Charter.

This mode of decision was accordingly adopted, and the lot fell on Mr. Dickens, who was then declared elected.

Mr. Cherry alluded to the list of members of the profession which had been laid on the table by the Registrar. Among the deaths indicated in the list he saw the names of several persons

who had died before the Charter was obtained; while many deaths had occurred more recently, which were not entered at all: on this account he thought the list would need extension and correction. He wished to know whether the deaths that were inserted had been communicated by the friends of the parties themselves.

The Registrar (Mr. Arthur Cherry) said, he had endeavoured, as far as possible, to ascertain the names of all the members of the profession from the time of the first granting of diplomas, and to procure all the information respecting them which could be obtained. Through the very kind assistance of Professor Simonds, he had been able to obtain information derived from sources which it was impossible for any one else to furnish; and, owing to the incompleteness and incorrectness of the books kept in the early periods of the Society, it would have been impossible, without great perseverance and research, to have made even the imperfect list which had been laid before the meeting. Up to 1819 it was, to a certain extent, correct; but from that period to 1844 it was incomplete, owing to the apathy—he might say wilfulness—of the members in withholding information which they could easily furnish.

Mr. Mayer said, that, when he was appointed Registrar by the Veterinary Surgeons' Committee, he not only inserted an advertisement in the papers, but also wrote to Professors Sewell and Dick for every information which they could afford on the subject. From Professor Sewell he received the last printed list of the members of his College, and from Professor Dick a written communication and a written list of members of the College up to that period. From the members of the body at large he received only about 160 or 170 letters in answer to the advertisement; so that it was utterly impossible from that source to compile any thing like an authentic register: he could only copy the lists he had received, and the record kept by the London Veterinary College; correcting them, as far as he could, by his own knowledge and information. In the present list he was sorry to see the dead mixed up with the living; and to find, moreover, that several names that had been added since 1819 were not inserted at all.

The Registrar said, that the list was not professedly correct in all respects from 1819 to 1844. As soon as errors and omissions were observed they would be rectified; great difficulties, however, stood in the way.

Mr. Mayer thought there were authentic records kept which would have afforded much of the information needed by the Registrar. Unless the information furnished by proper authority was considered correct, as well as that given by

Professor Dick and Professor Sewell, it was impossible that a satisfactory list could be obtained.

Mr. Cherry said, there were lists published by authority as far back as 1803, which would much facilitate the labours of the Registrar. He thought it most unsatisfactory to take the members' own account of themselves; they should only be invited to supply deficiencies, or correct any erroneous entries that might come under their observation.

Professor Simonds wished to say a word as to the part he had taken in reference to the list. He had always desired that there should be as correct a list as possible of the members of the profession, and that information should be furnished as to whether they were living or dead. He had procured Mr. Mayer's register, which he had bound and interleaved; and he had himself been in the habit of entering the names of members according to the date of their passing, taking care to indicate any death of which he was satisfactorily assured. This list he continued up to 1819, and the Registrar had availed himself of it, having printed in italics the names of those whom he had marked as dead.

The Registrar said, he had embodied in his present register all the names published in Mr. Mayer's list, unless he knew personally that the entries were incorrect; and in the last issue, all the names of those who had passed were given, even up to the last examination. Whether there was any source from which further information could be obtained must remain a question of time; at present he was not aware of any. As to "mixing up the dead and the living," that was simply a matter of opinion.

Mr. Cherry thought the present list calculated to excite an erroneous impression on the part of the members generally, an impression which might be removed by a reference to the early lists published by the Veterinary College, of which he (Mr. Cherry) had a great number in his possession. Members would now imagine (as there was no explanation to correct the impression) that those only in the list were dead whose names were printed in italics, and that the others were a complete list of all the members of the profession; while it was clear that there were very many others whose existence might have been ascertained by a reference to the documents he had alluded to.

Professor Spooner would prefer seeing the living and the dead members forming separate lists; he also thought that it would have been advisable to have made a distinct list of those who died before the Charter was obtained, for up to that time they were not legally a profession.

The Chairman stated that the Charter gave the title of

profession both to those who obtained diplomas after that period, and to those who had received them before.

After some further conversation on the subject,

Mr. James Turner proposed a vote of thanks to the *Chairman*, which was seconded by *Mr. Franklin.*

Mr. Mayer, in supporting the motion, suggested that in future the interval between the conclusion of the meeting and the dinner in the evening should be occupied by a *conversazione*, in which some member should read a short paper for discussion among the members. The annual meeting would then be looked forward to with more interest, and a better attendance secured, especially if they were enabled to meet in their own rooms.

The proposed vote of thanks was unanimously accorded to the *Chairman*, who, in replying, expressed his entire concurrence in Mr. Mayer's suggestion.

The proceedings then terminated.

ON THE CÆSAREAN OPERATION.

By W. A. Cartwright, M.R.C.V.S., Whitchurch, Salop.

[Continued from page 188.]

In those instances where we are not called upon to operate under great emergency, it will be highly prudent to give a little aperient medicine, and to stint the animal from food a little, so as to reduce the bulk of the contents of the abdomen; in short, "to prepare" her for the operation. Before we commence, it will be necessary to empty the bladder by means of a catheter, and if there should be great distention of the rumen with gas, we had better give some chloride of lime or soda, or puncture the rumen with a trochar, so as to reduce its bulk, and bring the uterus more into view, and prevent the escape of the intestines: we had also better remove the hair from about the parts where we intend to make the incision. Having gone so far, we must provide ourselves with plenty of assistance, and then proceed to cast the animal, which we must do on the left side. We must then loosen the right hind leg from the hobbles, and stretch it out as far as necessary behind, and secure it to something in that position, so as to give every freedom to operate in the flank. It is highly important,—as Mr. Hayes, of Rochdale, has justly observed,—that we should always bear in mind the necessity of making the incision in the same direction

as the muscular fibres, and, above all, never to sever a muscle if it can be avoided. It may be a doubt with some what part we ought to prefer laying open, whether along the linea alba or in the flank; but I think, with Mr. Hayes, that the latter is by far the most preferable place; since, in the former situation, "we should not be able to keep the lips of the wound approximated by sutures or bandages, on account of the depending state of the abdomen and its contents." There certainly would be the advantage in opening the linea alba, that the aperture would permit the exit of any fluid which might be effused into the abdomen, or of any pus or serum from the wound, better than the flank.

We ought to commence our incision in the right flank, about two or three inches anterior to, and a little below, the haunch, and continue it from above, below and behind, forwards, first through the skin, then through the muscles and peritoneum, for ten or twelve inches (in the cow), according to the size of the animal or to the extent of opening required for the fœtus. We must then search out either for the head and fore legs, or for the hinder parts of the fœtus, over which we must make the necessary longitudinal incision through the uterus and placental membranes. Next, we should search for the umbilical cord, and pass two ligatures on it, between which it is to be divided. Afterwards, carefully remove the placenta, and every thing that may happen to be in the uterus, or that has escaped into the cavity of the abdomen.

Having proceeded thus far in the operation, we must now insert two or three sutures into the wound in the uterus, so as to bring the divided edges together; we must also return the intestines into the abdomen; after which we may slacken the rope that has held the off hind leg; whereby the edges of the wound will more approximate. This done, we shall also be able to insert sutures through the skin and muscular parietes of the abdomen. When the parts have become dry, we may apply a *charge*, adhesive plaster, or pasted roller bandages round the body over the upper parts of the wound. The cow or mare may now be made to rise, with as little struggling as possible. The wound must be attended to with every care, being of a highly serious nature. The diet should be for a time spare, composed of gruel, mashes, ground oats, a few turnips, and but little hay: in short, her stomachs and intestines must not be distended, if possible, with any thing having a tendency to force open the wound or to produce irritation or fever in the system. If pain or fever should come on, enforce the anodyne and antiphlogistic treatment with boldness, yet with every caution, and do not carry purgatives to too great an extent.

I must also further observe, that, in making the incision through the abdomen, it will be far better to cut through the skin the entire length before we incise the muscular parts and peritoneum; for if a portion of the parietes only be divided it will be found when the incision comes to be extended through the remainder of the skin, that, in all probability, excessive straining and struggling will come on, which may cause great protrusion of the intestines to take place, and this would obstruct the operator in finishing his incision. In cutting through the uterus it will be well enough to make the incision longitudinally, so as not to run the risk of cutting across any large bloodvessel. As soon as we have made an incision into the uterus, assistants should immediately seize hold of its sides, and draw them up against the abdomen, so as to prevent the liquor amnii, or other matters that may happen to be in the uterus, from falling into the latter cavity. With some it is a practice not to insert any sutures in the uterus, under the impression that the incision will close quite as well without them. On the whole, however, for my own part, I am inclined to adopt the use of them. In many instances where the uterus has been ruptured or laid open by the Cæsarean operation, sutures certainly have not been used, and still the patients have recovered.

M. Chréten advises, that at the inferior part of the wound we should have an opening unconfined by suture, sufficiently large for the passage of two fingers, for the purpose of introducing a small piece of sponge, to staunch any hæmorrhage, or remove, as often as might be necessary, any blood that might be effused into the abdomen, as well as for the escape of any matter that might become collected in the course of the suppuration of the wound. This opening was closed by a bit of sponge, which was confined in its proper situation by means of two ribands passing through the skin.

LAXITY OF CONTRIBUTORS.

By John Beevor, M.D., M.R.C.S., and Fellow of the Royal College of Physicians, Edinburgh.

To the Editor and the Readers of "The Veterinarian."

Gentlemen,—The laxity of contributors complained of in your late number, inspires me, of the sister profession, to express my thanks towards those who have contributed, and, as a reader, to assure them of the valuable information and the

scientific recreation their writings have afforded me. For my part, I have been always a lover of the veterinary art; and am glad in making this honest acknowledgment, that to veterinary science I owe many a valuable hint, which has aided me in the practice of my own profession. Let me not unnecessarily occupy your space, nor would I be tedious to your readers.

I shall not be so, at least, whilst I dwell upon and thank you for the word "condition." We have no such comprehensive word in all our medical vocabulary. How much is expressed in that word "condition!" *Health*, indeed, may be some approach to it; but it is only an approach. Mr. Alderman Greenfat may be in a high state of health as he rides from Bloomsbury to the city; but this is not "condition:" no more so than is a fat Lincoln horse when compared with the crack in Mr. Scott's stable. "Condition," though it includes and insists on perfect health, has a further meaning. It teaches that living mechanism is alone perfect in the natural exercise of its parts, and all its parts in a balance and harmony one with another,—circulation and respiration—appetite with digestion—a fine and proper state of tension of every animal fibre—sinews, ligaments, and joints, each with the other; whilst the bloom upon his skin bespeaks that every pore is clean and open.

What an extended view of health is this to that which is promised by Parr's life pills for the stomach, or Holloway's grease for the legs! And this is the instruction "condition" affords. It teaches the medical practitioner to take a more expanded view of his patient's health; not to be satisfied with his pulse or his liver, or the state of his tongue; but to look at him more as a whole; in a word, gentlemen, to study his "condition."

Chapter the Second.

A theory is no friend of mine without a practical application. In general medicine how frequently do we hear, "Ah, he's a liver man!" Another makes the kidney his choice; then there is the bowel man; or his stethescope is his pride: if we study the sister art, their watchword is "condition."

In general medicine, it is considered well if our patient be restored to such degree of health as shall enable him to pursue his ordinary business. Our friend, the Bloomsbury alderman, can pursue *his* ordinary business: he can ride into the city on his cob, and, having sat upon his high stool for six or eight hours, whilst the favourite stands in a hot stable, the alderman and the cob slide homewards on the greasy stones, and are both

able to *feed* on their return—*mirabile dictu*, must be in rude *health*. Of course, my friend; but we have already written the other word four or five times—I need not repeat it. However, some unusual exertion is required of both: suppose they trot on a sporting expedition to see Mr. Scott's crack take his preliminary canter. Aldermen have been known to do such things: our friend has done so. The course is reached, his friends in the carriage have a basket of champagne. Veal pie and sherry has done its work. The cob has eaten a little dusty hay and imbibed a bucket of water. Exciting scene—hot work—dusty roads. Cob with his head and tail up—not to be done by a cab-horse—no: nor our friend Greenfat by the cabbie; nevertheless, they were both *done;* and—including the sweat from the long unpractised pores of their skins, plus the sun, plus the dust—let us add the word *brown*. Now I can write it—would we could add "*condition!*"

Chapter the last.

It is the next morning. The physician and the veterinary surgeon have each received a note requesting their attendance in Bloomsbury.

Veterinary surgeon.—Well, groom; his nose is in the manger certainly; and what! why here's half a peck of corn. Grooms, sir, always know best, of course. John here has some excellent receipts, which he had from a clever farrier afore he came up. Bless you, he would not shew 'em, not for a trifle; they are carefully locked up, like the secretions of the cob, lest the veterinary surgeon should see them. Nevertheless, the surgeon does see the hot and filled legs, the cracked heels, and the pelletty dung; desires John to take the corn out of his manger, and the hot dung out of his feet; for that restless propping shews a head is rather the thing just now and not the receipts. Will you have the goodness to step into the library, sir? Dr. Beevor has seen Mr. Greenfat, and wishes to speak with you. The surgeon politely complies (this I write because I feel it is as it should be). The Veterinarian has written on this head a few numbers back. Have the kindness to take a chair. "How do you find Mr. Greenfat, doctor?" "I am sorry to say he is far from well; his secretions locked up, his stomach very irritable, and acute pain in his right toe."—"Indeed, sir!!! That's exactly the case with my patient." A mutual interest is awakened: "The fact is," says the physician, rising from his chair, as though he said something most important, "the alderman was never *fit to go*."

" Exactly," exclaims the veterinary surgeon, rising also; " neither, sir, was the cob."

As a matter of course, the curtain falls upon this interesting scene; but it almost immediately rises again, and discovers seated (a few days are supposed to elapse) the alderman, the veterinary surgeon, and the physician in the library. " And so, gentlemen, you consider that my case and my horse's bear a close resemblance." " Both have been treated on the same principle, and, we are happy to observe with equally good results." " But," interrupted the alderman, " Mr. P——l directs me under his * * administering medicine to exercise and occasionally to place three or four old rugs on my horse, and to give him a sharp sweat, or, as he says, to get him into better condition." The alderman now turns to his physician, as though he had him. " That, sir," says Dr. B——, " is precisely what I shall prescribe for you." Greenfat was a clever fellow; he bowed to reason, took the hint, acted on it—he will last many years more for it—and his exploits have been of late both recorded and delineated in " Punch," under the assumed name of " Briggs."

Vivat Condition.

BLACK QUARTER.

By J. R. Atcherley, M.R.C.V.S., Bridgenorth.

To the Editor of " The Veterinarian."

Sir,—Having perused Mr. Cook's paper in The Veterinarian for the month of May, and having had considerable experience, as well as success, in the treatment of black quarter in calves, I beg to offer some observations on the above disease. Preliminarily, however, I may here state, I have known black quarter attack yearlings and two-year-olds, and in a solitary instance a three-year-old heifer.

I believe the disease known by the name of " black quarter" to be a specific inflammation of the cellular tissues, usually implicating the pericardium and heart, but not invariably; the premonitory symptoms of which are so slightly marked as generally to escape observation until the animal is beyond the power of human aid. Often, however, cases occur in which the subcutaneous tissue alone is attacked, and it is in such cases only that we have a chance of saving the animal. It is only in

the early stages of the disease, as it then shews itself, that we have this single chance; and then our remedial agents must be prompt and energetic. When carditis (as is usual) accompanies the disease, so intense is the inflammatory action (the symptoms of which are very accurately described by Mr. Cook), that death soon steps in and closes the scene. The appearances presented on a post-mortem examination are—patches of ecchymosis, not only in the tissues immediately below the integument, but following those also of the deeper seated muscles; and, finally, as has been before observed, intense inflammation of the heart.

If called in within a few hours of the commencement of an attack of black-quarter, I begin with a close and searching manipulation of the four limbs and body; if later, what I am about to describe will be sufficiently manifest. Upon either the arms, shoulders, thighs, or loins, will be found a soft, puffy, flattened tumour, on passing the hand over which, with some pressure, a crackling sound is emitted, conveying nearly the same sensation as that of passing the hand over a shoulder of veal after its tissues have been inflated by the butcher. The above-named tumour contains gas, evolved from the specific character of the inflammation out of the subcutaneous cellular membrane. Now, it is not sufficient that this gas be liberated by a few simple punctures; *the integument must be removed from the entire surface of the tumour* with the scalpel, and the edges of the wound, and the tissues beneath, slightly touched with the actual cautery. A poultice, composed of bran and solut. calc. chlorid. of the strength, calc. chlor. ʒss, aquæ cong.; should be applied hot to the part, and renewed every four hours.

As much blood should be taken away as the animal will bear, and a full dose of magnes. sulph. cum zingib. given.

The system must be supported by horning down thick oatmeal and linseed gruel, as the appetite is almost invariably lost. This, however, is not always accompanied by constipation.

Such is an outline of the only treatment I have found efficacious in that fatal disease, black quarter. Some practitioners may think it has only its cruelty to recommend it. However, *experientia docet.*

I have the honor to remain, Sir,

Your obedient servant.

May 7th, 1851.

JAUNDICE IN THE DOG.

By Samuel Brown, M.R.C.V.S., Melton Mowbray.

The dog, in common with other domesticated animals, is subject to attacks both of functional disturbance and inflammatory action of the liver, either of which maladies or deviations from healthy action and function, is characterized by a yellowness of the skin, mucous membrane of the lips, mouth and eyes. Hence the terms *yellows* and *jaundice*. As the yellows in the dog is a dangerous disease, and one, too, which occasionally rages in an epidemic form, both in the kennels of hounds and pointers, I consider it of importance to publish my account of it. Indeed, in my opinion, it behoves us all, as one professional brotherhood engaged in the pursuit and advancement of veterinary science, to contribute the results of our limited experience in the nature and treatment of any disease to the general stock of knowledge; in order that future veterinarians may build up a superstructure of domestic animal pathology. In a pecuniary point of view, canine medicine is unworthy of our consideration*. But as it is a branch of veterinary science which the upper classes of society expect us to be conversant with, it ought to be made a part of our education.

In all cases of yellows the dog should be taken from the kennel, and if the weather be cold the animal should be put into a comfortably warm place, have a good bed of clean straw, and water kept within its reach. The disease is usually accompanied with such a degree of thirst that water is lapped with avidity, and seems to be the only kind of sustenance which nature requires for the support of animal life for many days in succession. As nature is an economist, and frequently proves equal to her own wants in restoring diseased organs to a state of health, there can be but little doubt, but that she sets up the loss of appetite for the express purpose of relieving herself, and continues that loss until the liver be sufficiently restored to healthy action, and able to carry on its secretory function, which serves to purify the blood, while it preserves it from that superfluous flow of bile which gives the yellow tinge to the skin and other parts of the animal's body. The dog is naturally an active and sprightly animal, and one to which liberty is requisite for health. Confining him in the kennel, deprives him of exercise and of his dog-grass—with which nature everywhere abounds, at the same time that she has endowed

* In the country it may be; but is not so in metropolitan towns.—Ed. Vet.

the dog species with those instinctive or reasoning faculties which teach them to eat the grass for the purpose of exciting vomition and relieving their ailments. Probably, these restraints upon natural habits may be regarded as some of the predisposing causes of the yellows; while the exciting ones may be unwholesome flesh, barley meal, nut cake, or too great a supply of vegetable food, which may be difficult of assimilation, and in consequence occasion such functional disturbance of the digestive system as may excite the liver, and produce morbid action or function in the viscus.

SYMPTOMS.—The dog being out of spirits, eating grass, lapping water, feeding sparingly, running or hunting unwillingly, may be considered premonitory symptoms; and these are soon followed by the diagnostic ones—dry nose—shrunken eyes—pitiful countenance—unwillingness to move—appetite gone—urine voided in small quantities, saffron coloured, and emitting a peculiar odour—tongue furred—teeth, mouth, eyes, ears, and skin yellow, and that assuming a black tinge as the disease progresses, indicates approaching death. In some cases, lameness in one or more of the limbs is not observable; in others, it is present in the early part of the attack, or supervenes after the animal has become convalescent.

Treatment. — During the early part of my professional career, chloride of mercury was considered the best therapeutic agent for restoring the liver to its healthy state, and if it were not for the extreme irritability of the dog's stomach, the chloride would, in all probability, prove as efficient a remedy in the canine race as it is in most other classes of domesticated animals; but vomition is so easily excited in the dog, that the chloride of mercury becomes ejected before a sufficient quantity can be retained in the system for the purpose of restoring the liver to its healthy action.

It was continued unsuccessful results ensuing from the administration of chloride of mercury in dogs affected with yellows that induced me to prescribe pil. hydrarg. in combination with pulv. rhei. and ext. hyoscyami; one scruple of each of the two former with from six to ten grains of the latter, made into a mass, and divided into six pills, one of which is to be given night or morning, according to circumstances. But if the case should be a dangerous one, the pills may be given twice a-day. These pills are usually administered for three days in succession, at the end of which time, for the purpose of evacuating the bowels, from ʒij to ʒvj of mag. sulph. are dissolved in as much sweet whey, mutton broth, or milk and water, as will make the dog a meal, varying the quantities both of the medicine and vehicle according to the size of the

animal. But if the patient's appetite should not be sufficiently restored to enable it to relish either of those kinds of food, oleum ricini will answer as an aperient. The alterative medicine is omitted during the operation of the purgative, but is usually administered again the next morning, and continued for three days, as before, until the animal's skin, and other parts of the body, begin to approach their natural colour, which indicates the convalescent state of the animal. Blue pill is decidedly preferable to calomel as a medicinal agent in hepatic affections of the dog, because it is retained in the stomach without exciting any apparent nausea; at the same time that its salutary effects upon the liver, from their being well marked, stamp it as an efficient remedy. But in treating a case of hepatitis, it may be necessary to have recourse to counter-irritants, to blisters, setons, the warm bath, &c.

During the continuance of an attack of yellows, dogs lose their flesh fast, and, if the attack should have been a severe one, the emaciation which ensues renders the animal a pitiable object before his desire for food returns. At first, the appetite is squeamish, and requires coaxing with nice slop food; such as good mutton broth with a small quantity of soaked wheaten bread in it, or good milk porridge, thickened with oatmeal and flavoured with salt; and by means of making the porridge more nutritious an egg may be beaten up and boiled in it. Animal food must be cautiously given, and that should be of a light and nutritious quality, such as sheep's paunches well washed and slightly boiled, and then sliced and given in the broth, which ought to be also thickened with oatmeal and flavoured with salt. This suits the digestive organs of the dog, and perhaps answers the restorative purpose better than the continued use of tonic or other kinds of medicine. When the patient is sufficiently restored, short walks daily in the field will strengthen the system, and at the same time afford the animal an opportunity of eating the dog-grass, which is usually sought during the convalescent state, or so long as any functional disturbance of the digestive system remains. As the dog improves in health he will require more animal food and stronger exercise, in order to restore his strength and condition.

The epidemic form of yellows is, perhaps, little more than an attack of bilious fever, and is usually carried off by a dose or two of blue pill, and sulphate of magnesia to empty the bowels, which may be taken in any kind of liquid food that the dog is fond of. The sick dogs should be taken from the kennel during the continuance of the disease, and be kept on such light and digestible food as will suit an attack of functional disturbance of the digestive system.

Melton Mowbray, May 14th, 1851.

THE VARNELL TESTIMONIAL.

To the Editor of "The Veterinarian."

Sir,—THE students of the Royal Veterinary College having lately taken an opportunity of exhibiting the high estimation in which they hold their talented Anatomical Demonstrator, G. W. Varnell, Esq., and feeling that the account of so interesting an occurrence cannot fail to be acceptable to a large class of your readers, I make no apology for requesting the insertion of the particulars thereof in the forthcoming number of your valuable Periodical.

The mode adopted by the students for acknowledging, in some degree, the sense they entertain of the able and indefatigable exertions of Mr. Varnell, in imparting instruction to them in that scientific branch of their education over which he presides, was by the presentation to that gentleman of a testimonial, consisting of a beautiful Microscope, manufactured by the celebrated makers, Messrs. Powell and Leiland, expressly for the occasion.

The presentation took place on Saturday evening, the 26th of April last, in the Theatre of the College, in the presence of the Professors and Students of the Institution.

The arrangements for carrying out the wishes of the subscribers were confided to a committee consisting of the following gentlemen, all students of the Royal Veterinary College :—

Chairman.—Mr. Chas. Steel.

Committee.

Mr. T. Hart	Mr. J. Carless
— T. Greenhill	— J. Churchill
— C. V. Payne	— J. H. Carter.

Treasurer.—Mr. M. Clancy.

Secretary.—Mr. Robert Moorhead.

The anxious duty of delivering the Testimonial into the hands of Mr. Varnell, and of giving expression to the feelings by which the subscribers were animated, devolved on Mr. Chas. Steel, of Norwich, Chairman of the Committee ; and the manner in which he acquitted himself of his difficult but honourable task excited the admiration of all present.

Mr. Varnell, who at the commencement of his reply was visibly affected, expressed the deep sense he entertained of the

honour conferred upon him in receiving so gratifying and so unanimous an expression of the esteem of the students, in whose present and future welfare he took the liveliest interest.

To those about to finish their course of collegiate study and to enter on the practice of their profession, he addressed a few words of warning and advice, pointing out the sunken rocks and quicksands on which the hopes of many a young aspirant have been wrecked.

Those who had not yet completed their studies he exhorted to be diligent in embracing the opportunities of instruction presented to them, so that, on *their* entrance into professional life, they might not have to experience the bitter reflection of having mis-spent their time, and neglected to acquaint themselves with forms of disease which they would thus be unqualified to grapple with; but which proper attention to their teachers would have enabled them to combat with credit to themselves, and satisfaction to those by whom their services were required.

In conclusion, Mr. Varnell declared that he considered the presentation of such an instrument under such circumstances to be indicative of a spirit of progress, and to mark an era in the veterinary profession; and, after making some judicious remarks on the use and abuse of the microscope, he renewed his thanks to all present, and sat down amidst the loudest applause.

The Professors of the College having expressed the gratification with which they viewed the whole proceedings, and the cordiality with which they united with the students in doing honour to the merits of Mr. Varnell, the meeting adjourned to the board-room of the College, where refreshments had been provided, when each student had an opportunity of personally presenting his felicitations to Mr. Varnell on this auspicious occasion: and thus were brought to a conclusion the events of an evening which will long be remembered with gratification by those who enjoyed the privilege of taking a part in them: Mr. Varnell being not only the able instructor, but the guide, the counsellor and friend, of every student in the Royal Veterinary College.

I cannot conclude this *resumé* of the proceedings, without expressing the obligations the committee are under to Professor Simonds for his kind co-operation and advice in the selection of the instrument. Hoping I have not too much encroached on your valuable space,

I beg to remain,
Sir, your obedient servant,
Ωμέγα.

Pratt-street, Camden Town,
May 14, 1851.

*** We feel very great pleasure in the opportunity afforded us by "Ωμέγα"—who has confided his name to us—of giving professional publicity to the foregoing. The pupil does not experience warmer feelings of gratification at receiving a prize of merit at the hands of his master, than does the master at the unanimous expression of satisfaction on the part of his pupils. Ed. Vet.

BLACK QUARTER, OR QUARTER EVIL.

By Peter Broughton, V.S., Hounslow.

To the Editor of "The Veterinarian."

Sir,—If you deem the following remarks worthy of notice, and the number of your correspondence admit of it, I shall feel obliged by their insertion in your pages, hoping they will lead to further information on the subject from some abler hands than mine. Mr. Cook, in his letter, invites "remarks" on the disease he calls "black quarter." Now, had it not been from a wish to see the diseases of cattle more correctly classed and named than they are at present, I should not, on this occasion, have troubled you with any of mine. I have seen a disease differing so greatly from what Mr. Cook mentions, and yet called black quarter, that I am sure he will, like myself, feel much pleasure if our remarks should lead to a more satisfactory account of the nature, cause, and treatment of the disease in question from abler pens than ours. The disease I take to be correctly termed black quarter or quarter evil; both names being applied by persons in the same locality when speaking of it, they using sometimes the one and sometimes the other.

The disease is found to prevail at certain seasons, to a very considerable extent, on the north-west coast of our own country, and in the Isle of Man, also along the north and north-west coast of Ireland. In the Isle of Man it is very destructive at times, and frequently attacks their best animals. The occupiers of farms on the island, where the situation is low, look very suspiciously at a calf or steer if it happen to shake its foot (as many of your readers must have noticed the cattle do when first attacked with eczema epizootica), as though something had just pricked or stung them, that being generally the first symptom observable. A few hours afterwards the animal may be seen walking lame, and in less than twenty-four hours the whole limb will be mortified, and the animal's death ensue. In some it attacks the fore leg, and in others the hind one; the skin

assuming a dark leaden hue, approaching to black, from which I think the name is derived. It appears to me that the blood becomes poisoned by the lungs inhaling an atmosphere loaded with miasma. I think it only occurs in low situations, where the soil is wet and cold, and fogs are prevalent; at least, I have never known it do so in any other. It broke out on some land lying beyond Staines Bridge, where the stock had been kept a long time in one pasture, close besides a withy ait, which the Thames overflows whenever a few wet days creates a rise in the river: there it had destroyed either six or seven previously to my seeing them. The plan I adopted was to order them into a dry straw-yard, and give to each spt. nit. æther. with vegetable tonics, morning and evening, and then seek some high dry pasture for them. Two that were very bad when I first saw them, died; the others recovered, and were turned into some pasture on the high land to the left of the road between Egham and Virginia Water. No subsequent case of the disease there shewed itself. The last case I saw was in the autumn, in a meadow adjoining the Thames, near Richmond Bridge. The owner came to me, and asked me to see an heifer of his, a year and a half old, that he thought had got its thigh out of joint, or else broken. When I saw it, I told him it was suffering from what I called *black quarter* or *quarter evil*, and that nothing could be done for her, as the whole of the limb was mortified, and she would be dead in two or three hours at the farthest. She died in less than an hour. When I came to inquire how long he had found her lame, he told me, "Only that morning." He had seen her the previous night, and then she was feeding cheerfully. Now this heifer, like those at Staines, was in good condition; as far as I have been able to observe, the poor starved-down animal being rather less liable to the disease than the highly-fed ones. But I feel I am occupying too much of your valuable space, and will therefore here conclude, with the expressed hope that others may do so to more advantage.

I remain, &c.

THE RESPECTABILITY OF THE VETERINARY PROFESSION.

To the Editor of "The Veterinarian.

Sir,—I HAVE just been carefully re-perusing the correspondence which has taken place on the above subject during the last few months, and I cannot but express my surprise at the attack made on the Sporting Surgeon by Mr. Pritchard for stating

that which is only too true; and I think it would be much more judicious to seek a remedy than deny the truth of such charges. Certainly the recommendation of the writer in your last publication would do much towards obtaining such a result; but there is one cause, apparently overlooked, which, unless remedied, will always have a degrading influence, and at the same time do much to deter well-educated and honourable men from entering the profession.

Mr. Pritchard is, fortunately for himself, in a district where his employers, being regular residents, have a personal knowledge of him and his ability, and therefore the grooms have little or no power over him; but how is it with those dependant on the exercise of their profession in such places as Brighton, Bath, Cheltenham, Leamington, *cum multis aliis?*

Now, having had some years' experience, I am enabled to tell you. It is, as the Sporting Surgeon asserts, the servile custom to doff their hats to their patrons. But this is not all, they must also submit to the insolent familiarities of the grooms themselves. They must also pay them poundage on all bills, and, if required, must not hesitate to unite with them in defrauding the masters by charging for new shoes in cases where removes only have been supplied, and also for medicines which have never been required, and, possibly, never been given: the groom either receiving all or an important share of the plunder.

Observe, I do not mean to say that *all* veterinary surgeons living in such towns are guilty of such practices; but this I do most boldly affirm, that wherever you find a man extolled by the grooms they are well paid for so doing, and this at the expense of the master. On the other hand, those who will not lend themselves to such dishonesty are sure to incur their hostility, which, from the despotic influence submitted to by their masters, leads to nearly a total loss of business.

I have no doubt these remarks will draw on me a heavy storm of abuse; but, being in a position to prove the truth of the foregoing statement, I will endeavour to bear the infliction with patience, and will hereafter, if necessary, and with your permission, enter more into detail.

My object in writing this is not to degrade the character of the veterinary surgeon, but with a latent hope that the matter will eventually come before the parties most interested (I mean, of course, the proprietors of horses), and that they will, if only from personal motives, lend a helping hand to raise him from such a humiliating position.

I beg to remain, &c.

A VETERINARY SURGEON.

April 26th, 1851.

*** It is obvious, from the nature of its contents, that the writer could hardly append his name to this letter; but he has sent it to us, and authorised us to make it known "to any person wishing to have *private* correspondence on the subject."—Ed. Vet.

MALIGNANT FEVER.

By Mr. W. Arkcoll, Leek.

Dear Sir,—If you think the following worth a place in your Journal, it is at your service.

The subject was a three-year-old cart filly, that had done a little work, belonging to Mr. Bainbridge, residing about five miles from this place. He turned her out on Good Friday for a few hours, during which time a very heavy storm came on. On Saturday morning, on visiting the stable, he found a slight swelling upon the lower jaw bones, just above the chin, very hard. The swelling continued to enlarge, extending to the nose and lips. At day-break on Sunday he came for me. On arriving, I found the mare hanging her head, with the whole of her nose, lips, tongue and jaws very much swollen; though the swelling had not yet got to the throat. The pulse was perfectly regular; the breathing natural, but the breath very offensive. I immediately abstracted about four quarts of blood, and tried to administer some warm ale, with zingib. ℥ij, and aloës ʒij, but got only a small quantity of the drink down, owing to the tongue being so much swollen. I then had the whole of the head fomented with warm water. After a few hours the swelling seemed subsiding, but about 2 A.M. it returned with tenfold intensity. The throat, the eyes, and the whole of the head, face, nose, &c. becoming of an enormous size. The tumefied nose, &c. reminded me of the lips of the hippopotamus. I continued to foment and steam the whole of the head by means of an empty corn-bag and pailful of scalding hay, in which some chloride of lime had been put. But all to no purpose. She lived but until the following day, occasionally drinking a little meal and water, by putting her head up to the eyes into the bucket, and sucking it up. I scarified the face, jaws, &c., and from the punctures some yellow serous fluid escaped; all, however, I repeat, proved in vain. Before she died her breath had become so offensive I could hardly

enter the stable. After death the owner buried her as she was, with her skin, and would not allow a post-mortem inspection to take place. What to call the above case I hardly know, but suppose, malignant fever.

I am, Sir, your's, &c.

Leek, May 17th, 1851.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

Bulletin de la Societé Centrale de Médecine Vétérinaire, publié par les Soins de son Bureau, et rédigé par M. H. Bouley, *Secretaire Annuel. Années* 1844-45-46. Tom. Premier, Labé, Paris, 1827.—Bulletin of the Central Society of Veterinary Medicine, published under the Direction of its Committee, and edited by M. H. Bouley, *the Annual Secretary.* For the Years 1844-5-6. Vol. I. Labé, Paris. 1847.

[Continued from page 205.]

On the Distemper (Gourme) in Horses.

In our last article on the interesting subject before us, the Committee delegated to report upon M. Charlier's "memoir" confined their inquiries to an analysis of its contents. They now proceed to a critical investigation of them. And the first point of inquiry to which their attention is called is the *title* of the paper, viz. CATARRHAL DISTEMPERED (*gourmeuse*) INFLAMMATION.

In order to enter on the discussion of this subject with a view to its satisfactory solution, there is a question which must necessarily be pre-considered, and it is one of the most difficult to answer in veterinary medicine; and that is, WHAT IS DISTEMPER? (*gourme?*) WHAT IS THE NATURE OF THE DISEASE?

Is it, as the school of Broussais taught, and as M. Charlier himself seems implicitly to admit, no more than an inflammation of the aerial passages, a *rhinitis*, a *pharyngitis*, a *bronchitis*, of the same nature as inflammations of the same tissue and orgasm caused by direct irritation? Or is there, in this affection, a *nescio*

quid, some strange element of inflammation pre-existent, either in the shape of *diathesis*, or as some material substance, the product of modified nutrition, which to the local inflammation of distemper, rhinitis, pharyngitis, &c., is what the principle of rot is to *cutitis*, through which it becomes transferrible; that of glanders to *rhinitis* and local *angeioleucitis;* and that of boil or carbuncle to local inflammations of the cellular tissue; by each of which the general disease manifests its presence?

For our own part, we confess to a predilection for this last notion, albeit it be that of ancient medicine, over that of the Broussaien doctrine, which, in our opinion, is too confined, too insufficiently comprehensive.

To us the distemper appears, to express ourselves in the language of the old school, a sort of *crisis*, consequent on the modifications brought about in the economy, through altered influences, arising from changes of place and regimen, to which the young animal is subjected; the providential design whereof, if one may so speak, would seem to be, to rid the circulatory mass of molecules, either modified or in excess, which nutrition, itself under modification, has produced in it. This is, doubtless, a vague hypothesis; but let us see whether it cannot be supported by a sufficient number of proofs.

And, first and foremost, clinical facts shew daily that distemper is something else besides an inflammation of the primary passages, respiratory or digestive, and owns other causes than mere direct or sympathetic irritation of the membrane lining them. Have we not seen, do we not daily see, distemper manifesting itself at one time through eruption of the skin, large humid tetters arising from the union of little agglomerate pustules, whose elected site upon the ample surface of the skin is very variable; at another time, through an erysipelatous inflammation over the vast extent of the skin, accompanied by the formation as well upon its surface as within its substance, and in the meshes of the subjacent cellular tissue, of a multitude of little abscesses, whose agglomeration and succession simulate enough to deceive one into a farcy eruption?

At other times, the diathesis of distemper manifests itself in the formation of vast purulent collections in regions of the body abounding in cellular tissue, as is the case in the throat and the groin; or else the mesenteric glands become the seats of such purulent accumulations, multiplied and at times considerable.

Lastly, as an additional proof that the distemper does not simply consist in an inflammation of the air-passages, it often happens that, at the same time inflammation is pervading these regions, well-formed abscesses make their appearance in various parts of the body, through which the diathesis present in the

economy finds vent, and the multiplicity of such abscesses has been known to prove the cause of exhaustion and death.

So that distemper is not what the title of M. Charlier's paper would lead us to believe it is, a local disease, a catarrhal inflammation of the air-passages: rather, it is a general disease affecting the whole body, *morbus totius substantiæ*, of which inflammation of the air-passage is one manifestation, and indeed the most common one, but not the only one, as the examples we have adduced will sufficiently demonstrate.

This (general) disease, what is it? Is it not possible, in this our day, to relinquish those too vague terms of *crisis* and *diathesis*, by which the ancients expressed such phenomena as were the most salient in such kind of diseases, and to give some more definitive meaning to those general formules of antique medicine in the which the truth appears to us implicitly shut up? Perhaps!—But, before replying to this question, let us inquire under what influences distemper most commonly declares itself.

Of all the causes to which the development of distemper is attributed, the most active, the most powerful, the most certain in its results, is emigration; that emigration which causes the colt to pass, without transition, from a part of the country where he has been bred into a fresh part, wherein every influence is new to him. What is the *modus operandi* of this cause? It is manifold and complex.

Emigration to a great distance produces, in a given and very short time, the same effects as change of seasons, with the difference, that it is not by the slow and almost imperceptible gradation which marks the passing from one season to another, and modifies the influences proper to each of them, but by brusque and instantaneous change.

Now, the living organism enjoys, it is true, a wonderful aptitude of accommodating itself to the external world, and of establishing a sort of equilibrium between its own functions and the influences of the different physical agents which surround it. But it is only in a certain condition that this aptitude remains unimpaired, and that is, when the action of such agents is not forcibly and suddenly modified; for then, taken by surprise, it becomes deprived of its power of resistance.

Thus, to cite but one example among many, and one of the most striking, that remarkable faculty with which animals are endowed of incessantly generating heat, and preserving, in all situations, a temperature suitable to them—this faculty, we say, is not the same in all seasons. It is greater in winter and less in summer, so that the living body, not possessing the same power of tolerance of cold and heat during these two extreme seasons, a low temperature, very supportable in winter and compatible with

health, may in summer become harmful and injurious. This was shewn to be the case by the experiments of Milne Edwards. The animals he experimented on, succumbed in summer to a decrease of temperature quite supportable by them in winter. Whence we may come to the conclusion, that the calorific power of animals undergoes a progressive increase or decrease during the temperate or middle seasons, to fit their constitutions to support the temperatures of the extreme seasons.

Well! Emigration often overturns this law of equilibrium between organic bodies and the surrounding world.

In suddenly transporting an animal from one (part of the) country into another, without the constitution being prepared for the change of temperature it is to support, it is placed under conditions hurtful to its organization, as is shewn by physiology.

But it is not through influence of temperature alone that change of climate exercises upon the animal economy a profound modificatory action: the air, the aliments, the drinks, the habitations, the regimen, the care, all conspire to the same result, in a degree proportionate to the difference existing between their action and that of the same physical agents in the localities the animal inhabits.

And what is the nature of these modifications experienced by the organism under such conditions? Without doubt, a change in the proportion of the constituent elements of the humours, as well as in the nutrient actions in operation at every point of the organism.

Ancient science seeks to explain the phenomenon by saying, that, under such influences, the crasis of the humours was altered, and that nature endeavoured to eject out of them the redundant and impure parts by a salutary critical effort, which, through purging the economy, re-established the natural proportions in the humoral compositions.

Now, within this vague formule of ancient medicine we find the truth implicitly included, as we shall by-and-by point out; and modern science, in demonstrating, by analysis, that in the diseases of the nature of that we are now studying, the proportions and qualities of the constituent elements of the blood are modified through the predominance or alteration of some of them, attaches a meaning more precise and definite to this *crasis of the humours*, to which the ancients attributed the eruption of febrile and depuratory diseases.

Thus it is, remarkable enough, that, after three thousand years, the ancient idea of the school of Cos promises to receive a striking confirmation from the researches of modern medicine.

Let us now return to M. Charlier's paper. Distemper, then,

is not simply an inflammatory catarrhal affection of the primary air-passages; it is, in our opinion, a disease deeper seated, more radical, more general, of which inflammation of the air-passages is the most ordinary expression and the most common one, but of which the modes of manifestation may make their appearance in other places than in the mucous membrane, and under a different form from the discharge of catarrh.

In accordance with this view (*manière de voir*), we are not unwilling to admit the opinion put forth by M. Charlier, that distemper is a *contagious* disease.

In this respect, as has already been observed, opinions are completely at variance. Like as they are in all medical disputes where contagion is the question, some say "yes," some "no;" and what renders the complexity the more difficult is, that the question does not appear of a nature readily resolvable through such means as are the most certain for detecting the contagious properties of diseases. Inoculation with the discharges of distemper gives a negative result.

Nevertheless, it would be exceeding the bounds of fair reasoning, we think, were we to infer from this negative fact that distemper was not contagious.

Contagion does not operate alone through the medium of material or ponderable substances. From the body of a sick animal emanate certain effluvia, principles uncognizable by the senses, and yet proving the elements of contagion, whose effects we have no other means of learning than through clinical observation: witness the pleuro-pneumonia of cattle, so evidently contagious, although its principle of transmission altogether eludes our investigations.

We repeat, therefore, that we have no right to reject the opinion of the possible transmissibility of the distemper of horses, merely because the attempts by inoculation have hitherto failed.

The principle of contagion of the disease may reside elsewhere than in the products of the catarrhal dtscharge, and may exist even anterior to this event, since it is but the expression of the disease already advanced—arrived at that stage which the ancients denoted by the *period of coction.*

We come, therefore, to the conclusions in favour of contagion, that

1. M. Charlier's experiments are for it.

2. Sollysel, Garsault, Bourgelat, Paulet, Brugnone, Gilbert, Gohier, Toggia, &c. are unanimous for it.

3. Such of the common horse public as are capable of forming an opinion are the same. Whenever, any horse shews symp-

toms of distemper, it is their custom to separate him from the rest. Thus is a remarkable coincidence of opinion established between scientific and vulgar opinion.

4. It is true, avers M. Charlier, that men high in the veterinary profession are anti-contagionists; though, after all, this difference of opinion is more imaginary than real, since these even confess by their practice the danger of contact.

3. Therefore, add the committee, even though we had nothing else to guide our judgment more than the facts and opinions before us, should we feel ourselves constrained unhesitatingly to pronounce in favour of contagion; and in doing so, our decision may be viewed with less suspicion of partiality, since had we to pronounce on the question purely from our own observations, we must, probably, arrive at conclusions altogether opposite to those of M. Charlier.

This want of accordance of opinion, no doubt, arises from the difference of conditions under which the disease has been observed by us. He has followed it through all its phases, from its origin to its termination; we only, ordinarily, have had opportunities of seeing its advanced stages, at a time when the humoral secretion has commenced.

M. Charlier has likewise mooted the question, whether distemper is to be viewed as a depuratory disease, one necessary for the horse to have, that is preventive of other ulterior diseases of a graver character. And on this he comes to a negative conclusion, basing his reason for so doing on the liability of distemper to relapses.

We are of his opinion. Distemper being a disease of climate, recognizing for its cause, emigration, (change of temperament, &c.) may be expected to, and does in fact, make its appearance, whenever the organism is exposed suddenly and without transition to the influence of new climacteric conditions.

So true is this, that horses advanced even in age, experience under such circumstances a morbid revolution in their constitutions similar to what colts do, though generally less intense, a kind of *gôurme de voyage*, as the dealers have denominated it.

The possible transformation of distemper into glanders is likewise discussed by M. Charlier, and resolved affirmatively. This is true. This sad and but too frequent termination may happen from the propagation into the sinuses of the inflammation of which the pituitary membrane is the seat, and from the formation of abscesses in these cavities; or else under the influence of the general fever which precedes the distemper, glandered virus becomes engendered. Be this as it may, it is no rare thing to see glanders, acute or chronic, appear either as

an accompaniment or sequel of distemper. But the consideration of a point of so much importance as this we must defer to another and fitter occasion.

In reference to M. Charlier's paper, the report of which, as drawn up by the committee appointed by the central society, we have now concluded, we are decidedly of opinion, that many practical advantages are derivable from the consideration of those disorders to which young horses, when they come first to be stabled, are especially obnoxious, as *one general disease*, to which the French have appended the name of *gourme*, and for which we can in our vernacular vocabulary find no better appellation than *distemper;* the old notion in regard to which is, that the animal has accumulated, from some causes or other, within his system, a quantity of *peccant humours*, and that it is quite impossible for him to thrive or do well until he has cast these humours off; the ordinary way in which this is effected being, as we know, through the emunctories of the membrane lining the air-passages. Supposing it to be founded in fact, that certain matters do accumulate and become hurtful or redundant in the animal economy, and that therefrom, for the well-doing of the animal, it is necessary they should be got rid of, the reason why the membrane lining the nose and windpipe and bronchial tubes should be, by nature, so commonly selected as the emunctory, appears to have no other foundation than the simple circumstance of its being, in the first place, a convenient channel for emission; and, in the second, from its being so subject to have irritation and inflammation set up in it; during the augmented secretion attendant on which it is that we suppose the "bad humours" to be discharged. And once over this, we regard the young subject as "having had the distemper," or, in the French expression, as having *jetté sa gourme*, and on such account to be more desirable or valuable to his possessor: distemper being so far from being unattended with danger, that in certain forms and sites we know it frequently amounts to a highly dangerous disease.

From the fact of all the three and four and even five year old horses, with very few exceptions, who come out of the

country into large towns, such as London, being all but physically sure to have the distemper, either in the form of *catarrh* or *strangles* or *sore throat* or *bronchitis*, as well as from the fact, linked with the former one, of the same horses having once had the disease being for the future all but exempt from any similar attack—unless in the form of *relapse*, which is but a part or sequel of the disease itself—we say, these two well-known relative facts would incline us to favour the vulgar or groom's notions of the pathology of distemper, and look upon it as a sort of small-pox or measles, or hooping-cough, or scarlet fever, which the young animal was pretty certain to have, and, having had it, which had got him over all but unavoidable natural troubles. We have no great objection to the theory as contained in the Committee's report, to regard the distemper as "a sort of *crisis*, consequent on the modifications brought about in the animal economy through the altered influences arising from changes of place and regimen to which the young animal is subjected." (*Turn back to page* 326). "Vague hypothesis," as we, with the Committee, acknowledge this to be, still it is a theory to which we, ourselves, attach more weight than to M. Charlier's or Broussais', which would induce us to believe that it was no more than a common disease, caused by an assemblage of ordinary agents and influences.

Another essential point on which we differ from M. Charlier is, *the contagiousness of distemper*. Although we feel quite aware that many of our countrymen *in*, we believe, and certainly *out* of, the profession, will dissent in opinion from us on this point, yet we feel bound to say, our own observation and experience has never afforded us satisfactory reasons to believe that distemper, in any of its various forms, was communicable from horse to horse. On this account we have never been at any great pains to segregate distempered horses; though we are ready to confess, it has ever been our custom, for the sake of cleanliness and decency, to put a "snotty-nosed subject" by himself. Still, we have never enjoined any precautions about the contact or conveyance of the discharges, or in any way restricted the groom from looking after other horses at the time he was tending distempered patients, unless in the case of any suspicion of glanders.

While, however, we are saying so much of our own opinions and practice, it is but fair that we should give currency to what we have heard to the contrary; and which, while it proclaims in favour of M. Charlier's views of contagion, comes from authorities to which we have every inclination to pay attention. And one of the strongest evidences of the kind that has come to our knowledge—one, indeed, that has at times almost tempted us to waver in our own belief—is what was communicated by an extensive dealer in Yorkshire, who, perhaps, has more young horses passing through his hands in the course of the year than any man in the country. We mean Mr. Shaw, of Acomb Hall, near York. Believing, as he firmly does, in the contagiousness of distemper, on one occasion, in the course of a conversation we had with him on the subject, he informed us, that, whenever he felt desirous that any young horses he had on his farm for sale should take distemper, he had only to introduce a distempered horse among them, and the disease was almost certain to become epidemic. In our own country this is no new notion. Very far from it, indeed. Prosser*, who wrote a small work on strangles and fever in 1786, asserts that *strangles may be communicated through inoculation.* Could this be satisfactorily demonstrated, it would, of course, settle the question of contagion, and might go far to induce us to believe the disease to be communicable through infection or the medium of the air. We, however, are in possession of no modern confirmation of this, save the notions we have stated as current among breeders and dealers and persons who, however intelligent they may be in the management of horses, we dare not cite as decisive authority in the solution of pathological queries.

* We have not the work by us; nevertheless, we believe this to be a correct statement.

Home Extracts.

HORSES AND THEIR DISEASES; LAMENESSES; CURIOUS CASE; EXTRAORDINARY STATE OF THE LAW IN LOWER CANADA AS REGARDS WARRANTY.

By J. B. Turner, V.S.

A case came under my notice a short time since, which, curious in itself, *pathologically*, seemed to me yet more curious for the way in which it was settled *legally*, according to the law prevailing in this country.

Every one knows that the Courts of Law in Lower Canada are governed in civil cases by the laws or customs which obtained in France at the time of its settlement, and not by the code Napoleon introduced into France after the revolution.

It appears that these laws or customs recognise three *vices redhibitoires*,—that is to say, *la morve*, *la pousse*, and *la courbature*. If A buy from B a horse, and afterwards discover that the horse is affected by either of these maladies, he has a right to *redhibition*,—that is, A returns the horse, and B returns the money; and if B refuses, A sues him.

Now, every one knows that *morve* is glanders, and *pousse* broken wind: the difficulty is to discover what is *la courbature;* and how great this difficulty is, will be exemplified in the following case, which I shall detail, and then explain why I have requested the editor of this journal to allow me to occupy his pages.

Some time in September last, I received a paper, of which the following is a translation:—

" Province of Canada,
District of Three Rivers.

Circuit Court.

Antoine Pleau, plaintiff, v. *Firmin Demers, defendant.*

" The Court having heard the parties by their respective advocates, and seen the proofs offered, before pronouncing judgment, orders, that J. B. Turner, Esq., appointed expert for this purpose, shall see and examine the horse in this case, and report, in detail, with what malady it was affected at the time of sale made by the defendant to the plaintiff, with special mention of the signs, marks, and symptoms of the said malady;

how long the said horse was affected before the period of the said sale, and if, in the opinion of the said expert, this malady is that known to the law under the name of *courbature*, or if it is that known as *curb ;* if the said malady be incurable, and if it be one of those considered as concealed maladies, and which the plaintiff might not have been able to perceive when he bought the said horse ; of which and all which he shall make report with diligence."

" By the Court, &c. &c."

It appears that some months before this, Pleau had bought the horse in question from Demers,—Demers verbally warranting it to be sound ; that Pleau only saw the horse once in motion, as Demers drove it through the street of Three Rivers ; that he bought it the same night, examining it only by the light of a lantern in the stable, paying for it and taking it home. Pleau went to the stable in the morning to look at his new purchase, and found it lying down, and much to Pleau's dismay *up* it *could* not get without the assistance of several men ; and in this very unpleasant predicament the animal continued up to the time I saw it, Pleau being in the equally unpleasant predicament of having £25 good and lawful money taken from his pocket and placed in that of Demers, and a horse in his stable that wanted more help to get up in the morning than a dissipated lady of fashion. Pleau, however, is a man of pluck, and, if there be law in the land, he is determined to get rid of his bad bargain. He flies to his lawyer, and straightway Demers receives a billet-doux, in which he is politely requested to hand back the money and take back his *screw*. Demers flies to his lawyer, and as politely declines. Pleau then serves him with a writ in an action of *redhibition ;* and the two attorneys, with Pleau and Demers as backers, set the battle in array. The plaintiff declares that the animal is affected with *la courbature ;* the defendant denies it ; the Court, learned in all law but not in horse-flesh, feels itself unable to decide, and appoints an expert. Accordingly, I, the expert named, repaired to Three Rivers ; and on the 5th of November saw and examined the horse, and rendered to the Court a report, of which the following is the substance :—

" I found the said horse to be affected in the knee joints of both fore legs, and the hock joints of both hind legs, with that disease of the bones which is scientifically denominated " exostosis,"—popularly, in English, known as " splint" on the fore legs, and " spavin" on the hind legs, and which I believe to be popularly known in France as " *un suros*," which is certainly a *courbature ;*—and which disease, being of slow growth, I have

no hesitation in saying, must have existed for some considerable time previous to the sale of the said horse on the 13th day of June last. The symptoms, signs, and marks of the disease, are, the visible and sensible enlargement of the joints, heat and tenderness of the parts, with the accompanying lameness, which signs and marks must have existed for some months previous to the said sale. The disease, so far as it occasions lameness, is *courbature ;* and I know that the lameness both in the knee and hock joints is, in this case, incurable. The horse has not what English veterinary surgeons call "*courbe*" (curb), which is a curable disease. It is very possible that the plaintiff may not have noticed the disease when he purchased the horse ; because, though the disease was going on within the cavities of the joints, there may have been neither swelling nor lameness sufficiently visible to strike an inexperienced eye, but which would have been readily detected by a veterinary surgeon."

It will be observed that the horse was bought on the 13th of June, and that I did not see it till the 5th of November, the intervening time, I presume, having been taken up by the preliminary skirmishes of the lawyers. On the 13th of June the horse, I was told, could trot tolerably fast, without shewing any great lameness though, when it laid itself down, it had not the power to get up again. When I saw it in November, it could hardly hobble : two immense spavins were on the hocks, and, what is very unusual, two equally immense splints, situated as high up as they well could be on the knees, and directly interfering with the suspensory ligament. All four joints were violently inflamed, and the animal evidently in great pain, the fore legs knuckling under it at every step.

I handed in my report to the officer of the Court, and returned to Montreal. It appears that the defendant's lawyer raised several technical objections to my report, which will be understood by the following documents. I may, however, mention, that the defendant's lawyer, as I was informed, did me the honour to accuse me either of "bad faith" or "ignorance;" perhaps not much else was to be expected from Mr. Turcotte.

On the 30th of November the Court issued a further interlocutory judgment, addressed to me, of which the following is the substance :—

"The expert is required to give a supplementary report on the following points :—1st, The disease known to the writers of the law of this country as *courbature*, being by them defined '*un battement dans les flancs occasionné par un travail excessif, cette maladie ôte au cheval la liberté du mouvement des jambes*,' and to consist, in the words of Solleysel, author of the Parfait Marechal, '*dans une chaleur etrangere causée par les obstruc-*

tions qui sont dans les intestins et dans les poumons,' and said to give the same signs as *la pousse*, another disease of horses, which consists '*dans un battement et alteration du flanc, qui vient d'un oppression qui empeche le cheval de respirer :*' it is required of the expert that he state if the horse in question did exhibit to him, at the time when the same was examined by the said expert, any of the afore-mentioned signs of the first-mentioned disease called *courbature*, and which; and in case the said expert should report in the negative, he is required to state if, notwithstanding the absence of such signs, he still is of opinion that the said horse was affected with the disease called *courbature*, of which last-mentioned disease the said expert is required to give his definition and understanding, with the diagnostics of the malady and the grounds and authorities in support of his opinion.

"2d. In the French translation of an English work on the Veterinary Art, by Mr. Delabere Blaine, entitled 'Fundamental Notions on the Veterinary Art,' vol. iii, page 200, 205, the abovementioned disease, 'pousse,' which is there stated to resemble the asthma in the human species, is given as a subdivision of a disease denominated 'thick wind;' it is required that the supplementary report should state if there be any and what analogy between the disease called '*courbature*' and that treated of in Mr. Blaine's work under the denomination of 'thick wind.'

"3d. It is required of the expert that he do report if the malady with which he found the said horse affected was or was not a primary affection of the joints and other parts of the legs, not having its cause or seat in the stomach, intestines, lungs, and other parts of the system. Or if the said affection of the joints and other parts of the legs was not a secondary or sympathetic affection, the principal and original seat of the disease being in the stomach, intestines, lungs, or other and which parts of the system; and in the last hypothesis, the said expert is required to state on what signs, marks, and symptoms he grounds the opinion that the primary affection is one of the stomach, intestines, or lungs, and how far it corresponds with the definition given by the French law writers and veterinary surgeons of the abovementioned disease called '*courbature.*'

"4th. The tenor of the report before the Court leading to the belief that, in the opinion of the expert, the affection is one of the legs and purely local, and the terms 'exostosis,' 'splint,' 'spavin,' and 'suros,' together with the expert's description of the symptoms, signs, and marks of the disease apparently pointing to this conclusion; the expert is required to state in

what sense the expression a '*courbature*,' immediately following the words '*un suros*,' has been employed by him, and whether, in using the said expression '*courbature*,' regard has been had to the French technical signification, or to any real or supposed etymology of the word.

"5th. It is also required that the said expert should report if modern discovery or experience has or has not proved that the disease called '*courbature*' is not other than and different from the malady known to old writers under the same name, and in what respect."

This supplementary series of interrogatories I replied to, without loss of time, to the following effect:—

"To reply to the questions put in this further interlocutory judgment is almost to write a history of veterinary surgery; and the whole gist of the matter, so far as it relates to the former report of the 5th of November, may be found in the fifth clause or paragraph of the second interlocutory judgment,—'it is also required that the said expert should report if modern discovery or experience has or has not proved that the disease called *courbature* is not other than and different from the malady known to old writers under the same name, and in what respect.'

"It is probable that I, as expert named in this cause, committed an error in not submitting to the Court, in my former report, the reasons which led me to the decision contained in that report; but I was not aware that such reasons would be required by the Court, and I believed that my duty was simply to do justice between the plaintiff and defendant according to the knowledge which I possessed, leaving the mere legal technicalities, with which I am utterly unacquainted, to the advocates and this honorable Court. I must further observe, that a period of some months had elapsed between the sale of the horse in question and my examination thereof; that in so long a period diseases often alter their character in a very material degree; and, further, that I could learn nothing of the history of the animal in question previous to its sale to the plaintiff by the defendant.

"Although I have a very good acquaintance with the works of French veterinary authors, I never saw the word '*courbature*' used, or heard of its being used, until I saw it in the interlocutory judgment of this Court, dated the 30th of September. My immediate anxiety was to find out the meaning of the word in its medical and not in its legal acceptation. I consulted the best French Dictionary in my possession—that of Richelet, edit. folio, Lyons, 1759; and I there found—

"'*Courbatta, Courbattue;* adj. (equaus obstructus) qui a la courbature. Cheval courbattu, c'est a dire, qui n'a pas le mouvement des jambes bien libre.

"'*Courbature;* s. f. (Asthmus. Equi obstructio.) Chaleur etrangere causée par les obstructions qui sont dans les intestins et dans le poumon, et qui donne les mêmes signes que la pousse.

"'Cette maladie arrive quand un cheval est tellement fatigué, qu'il ne peut presque pas respirer. Cheval courbattu, qui à été poussé a l'outrance et n'a pas la respiration libre; il est different du poussif en ce que celui-ci à le poumon altéré, avec de grands redoublements de flanc. Un cheval peut devenir courbattu sans avoir été *surmenè*, lorsqu'il a les parties interieures, ou lesang, echauffé et plein d'humeurs étrangères.'

"I then referred to Boyer's Dictionary, where I found these words:—

"'*Courbattu;* il se dit d'un cheval qui a les jambes roides pour avoir trop travaillé.' I may here state that the word 'surmené' is a term of the manège, and is rendered in the same dictionary of Richelet, 'c'est accabler un cheval de travail.'

"The Court will be pleased to observe, that the word 'courbattu' is, in the first place, applied to a horse that has not the free use of his legs, the cause of the want of that free use not being stated.

"In the second place, a '*cheval courbattu*' is said to be one that has been pushed beyond endurance (poussé a l'outrance), and so affected in its respiration.

"In the third place, that a horse may be '*courbattu*' without having been '*surmenè*;' or, in other words, pushed beyond endurance in over-work.

"I then take Solleysel's definition, that the want of free use in the limbs is caused by obstructions in the intestines and lungs.

"In these apparently conflicting statements I discovered pretty well where the truth lay, so far as the meaning of the word *courbature* is, as used by the old manége writers.

"I must here observe, that the Sieur de Solleysel, whose 'Complete Farrier' is quoted in the Dictionary of Richelet, and according to this honorable Court, by certain writers on French law, was not a veterinary surgeon, but a riding-master or equerry to Louis Quinze; and that his book was written towards the end of the 17th century, or about seventy years before the establishment of the Royal Veterinary School at Lyons, and the Royal Veterinary College at Alfort, respectively founded in 1761 and 1766 by the King of France; and that it would be just as ridiculous to quote Paracelsus, or any

old alchemist of the middle ages, as an authority in chemistry, against Faraday or Berzelius, as to cite Solleysel against Percivall or Hurtrel D'Arboval.

"Now, Mons. Huzard, an eminent modern French veterinary practitioner, whose work I procured since my first report in this case, appears to express his wonder that the term *courbature* has been retained in the law of Louis Philippe relative to the warranty of horses, dated from the Tuilleries, the 20th of May, 1838. He speaks of it as a term 'dans le language de l'ancienne maréchalerie qui avait précédé la médicine véterinaire.' Its etymology is evidently from the Latin *curvare*, and in human medicine the French practitioners apply the word to fingers and toes permanently bent and distorted; but how does this word, if we had no other light before us, apply to 'obstructions of the lungs and intestines,' and also to a horse not 'having the free use of his limbs?'

"I will see what light I can throw on this apparently mysterious subject.

"I was told in Montreal that the horse which I was to examine and report on was lame in all four legs, and that this lameness *must* be a '*courbature*,' or it could not come within the '*vices redhibitoires*.' Of course, it was immaterial to me, personally, whether it did or did not; but seeing from the description given that it was a curious case, professionally, I examined the horse on my arrival at Three Rivers, and without much difficulty came to the conclusion which led me to give the opinion which I did; and had I not carefully studied the works of the old farriers, as well as of the best modern authors, on scientific veterinary medicine, I could not have come to any conclusion at all on the examination which I made and the information which I had.

"I fortunately had in my possession the English translation of Solleysel's work, made by Sir William Hope, the governor of Edinburgh Castle, in the year 1717. In that book I found the word '*courbature*' rendered 'chest-founder,' and this at once developed the mystery. What the old unscientific French farrier called *courbature*, the equally unscientific English farrier of the same age called 'chest-founder;' and, according to Blaine's authority (edit. 1832, page 485), we find that the terms 'chest-founder, body-founder, and foot-founder,' were so jumbled together in old works on farriery, that one is really at a loss to know in what part of the body the horse, according to them, was diseased. Modern science has shewn that chest-founder is, in fact, accute rheumatism (see Blaine, Youatt, White, Spooner, Volpi Rodet, and Hurtrel D'Arboval, *passim*); that the rheumatism flies about from one part of the body to the

other, particularly attacking the joints, and often producing incurable lamenesses. But even if we allow '*courbature*' and 'chest-founder' to be synonimous terms, according to language, as stated by a contemporary writer, Sir William Hope, and that chest-founder is rheumatism, this explanation will not apply to the present case. But it is well known that the old farriers believed that almost every disease with which they found the legs of the horse affected, and for which they could not account, was caused by what they termed 'descending humors;' and so when they found a swelling on either leg, and on any part of it, and could not tell what it was, they set it down to arise from some 'obstruction in the intestines or lungs,' to use the words of Mons. de Solleysel; and this reconciles the difficulty between the two versions of the meaning of the word '*courbattu*,' the one, that it is any thing which causes the horse to be without the free use of his legs, and the other, that it is an obstruction in the intestines or lungs.

"But there is another disease recognized by the scientific practitioners of the modern school, which more nearly in its symptoms and consequences resembles the 'signs and symptoms' of the '*courbature*' of Mons. de Solleysel and the lawyers. In chest-founder, or acute rheumatism, there is neither '*un battement ni un alteration du flanc, ni une chaleur etrangere;*' but, in the sub-acute form of pneumonia, there are. A horse may be taken out for a day's work, and may be, from the operation of various causes, seized during its absence from home or return to its stable with inflammation of the lungs; and, to use the words of Percivall, one of the most eminent modern practitioners, 'with the exception of such attacks of acute inflammation of the lungs as by bold and early treatment are at once arrested and supplanted by the return of health, and of such as rapidly continue their destructive course in spite of every measure we may employ to counteract them, all cases may be said to decline into the sub-acute stage before their termination.' But there is another thing, metastasis, or change of place of a disease. Now, it often happens that after this sub-acute form of inflammation of the lungs *(obstruction dans le poumon)*, has existed for some time, it suddenly leaves that viscus and attacks the legs, and particularly the joints; to use the words of the old farriers, 'the fever has fallen from the lungs into the feet;' and here again we have the connection between 'the obstruction of the intestines and lungs,' and 'the want of free use of the legs.' Mr. Percivall distinctly mentions that this sometimes ends in anchylosis of the joints; and what are splints and spavins, *(suros* and *eparvin)* when on the joints, but incipient anchyloses of those joints?

"Wherefore, from all these considerations, I came to the conclusion, seeing the extraordinary condition of the horse in the possession of the plaintiff, affected with exostosis of the worst description on the knee joints of the fore legs and hock joints of the hind legs, that on some occasion anterior to the time of sale, that horse had, from over-work, or some other cause, been attacked with inflammation of the lungs or pleura, *(poumon ou plevre)* probably of a very mild or sub-acute character; that metastasis had taken place to those joints, and knowing the extraordinary disposition of the bones of the horse to throw out bony deposits (*exostoses*) under inflammation, and particularly in those joints, I came to the conclusion that the horse was really and truly affected by 'courbature,' in the first instance, by the inflammation or obstruction of the natural action of the lungs or pleura, as the cause; and in the second place, by the want of the free use of his legs, as the effect.

"I therefore proceed to answer the interrogations of this honourable Court, seriatim:—

"1. The horse, when I examined him, had neither 'battement ni alteration dans les flancs;' but notwithstanding the absence of such signs, I am of opinion that the horse was affected with the disease known by the old writers and in the law as '*courbature,*' though the metastasis to the legs prevented the above mentioned signs from being visible at the time of examination. The definition, diagnostics, grounds, and authorities are cited in the preliminary part of this supplementary report.

"2. In my edition of Blaine, I find no such passage as that quoted. In the recent English editions of Blaine much matter is omitted that was in his former ones, (vide introduction to the fourth edition); but I have always understood 'pousse' to mean 'broken-wind,' to use the English term; it may, however, mean asthmus, or chronic pneumonia, which would be equivalent to the term 'thick wind.' Mons. Huzard's description of 'la pousse' completely answers to that of 'broken wind.'

"3. I believe the malady of the joints of the legs to have been a secondary affection, for the reasons stated in the preliminary portion of this my supplementary report.

"4. This question is also answered in the preliminary part of the report; but I affirm that many diseases which appear to be local may often be traced to primary causes originating elsewhere. I used the term '*courbature*' in this sense, '*cheval courbattu, c'est à dire, qui n'a pas le mouvement des jambes bien libre,*' the effect; and '*obstructions dans les intestins ou dans les poumons,*' the cause; and should then have entered into the present detailed statement, had I thought it necessary.

I used the word, as I believe modern science bears me out, having regard to the assumed ancient signification at the same time.

"5. This question is already answered by the whole tenor of this report."

Judgment was given for the plaintiff, in accordance with this opinion.

My reason for requesting the publication of this case is to draw attention to the absurd state of the law, which persists in retaining a barbarous nomenclature, invented and obtaining in Courts of Law long before scientific veterinary medicine had a beginning. *Courbature*, as defined by legal writers, is an impossible disease—there is no such thing; and it follows that, since one of the three redhibitory vices known to the law, glanders *(la morve)* is not known in this country, no man can obtain redress from the knave who imposes on him an unsound animal, unless he can prove it to have been affected at the time of sale with broken wind, or with '*la courbature*,' an impossible disease, in the sense in which the law books define it*. Too much space has already been occupied, or much more might be said to demonstrate the absurdity and injustice of such a law. The remedy is obvious,—a short statute defining the most prominent of those maladies and defects which really constitute unsoundness, an act which shall defend the buyers of horses against their own ignorance and the rascality of the venders.

Montreal, March 15, 1851.

British American Medical and Physical Journal, April 1851.

OBSERVATIONS ON ANIMAL PHYSIOLOGY;

AN ADDRESS DELIVERED BEFORE THE EAST SOMERSET AND HENNEBIC COUNTY AGRICULTURAL SOCIETIES, ON THE OCCASION OF THEIR CATTLE SHOWS AND FAIRS.

[Extracted from the "Maine Farmer," 21 Nov. 1850.]

"ANOTHER department of agricultural education, from which you will derive great benefit, is Animal Physiology, particularly that portion relating to the multiplication of the species. The laws of animal life are remarkably peculiar. They possess the same power of preserving their identity that we find in the vegetable economy, as manifested in the oak and cedar. The wild horses of Arabia still preserve their identity, and are still

* Because there is no disease known to modern science, in which lameness is primarily caused by and connected with obstructions in the intestines and lungs.

celebrated for their symmetry of proportions and powers of endurance; yet when brought under the refined control of man, they often degenerate. The law of nature provides that good qualities shall be propagated by the union of animals possessing good qualities; and that defects, faults, and infirmities are in like manner transmitted. Large sums of money have been expended, from time to time, in importing from abroad first class stock; yet, after a few generations, the offspring are found to be no better than the native stock. This often arises from the destructive practice of breeding in a close degree of relationship; and this error, I would remind you, has proved equally fatal in the human family. In Spain, the deformed and feeble state of the aristocracy arises from the alliances being confined to the same class of relatives through successive generations.

"That the live stock of our farmers frequently deteriorates, no one will deny. Horses, in particular, are fast degenerating. What is the cause of it? You have a great number of ill-shaped, broken-down studs going about the country, whose offspring hardly pay the expense of rearing. Under these circumstances, and when the farmer can obtain the services of studs at his own door, for the paltry sum of three dollars, it will be difficult to effect a change. Gentlemen, if you wish to prevent this degeneracy, instruct your representatives to advocate the enactment of a law prohibiting the breeding to stallions unless they possess the requisite qualifications of soundness, form, size, style and colour. Depend upon it, there are some physical defects about animals when the owners can afford their services at so low a rate. In many cases their powers are overtaxed, and the produce is weak and inefficient. You are all aware of woful results attending too frequent sexual intercourse. The records of our lunatic asylums tell a sad tale of woe. They teach you that before the blast of this dire calamity, *sexual escape*, lofty minds, 'the suns and stars of our intellectual world,' are blotted out; it spares neither age, sex nor kind. I cannot on the present occasion go into details, but shall conclude the subject with the old maxim, that 'From the brave descend the brave.'

"In reference to veterinary education, a science which has for its object the preservation in health, and the restoration from disease, of all classes of domestic animals, is of importance to you. On the present occasion I shall merely shew the benefits of its direct application to the horse, from which you will be able to estimate its value when applied to other animals. Unfortunately the science has received but little attention at the hands of the American people. Horse-doctors, intemperance, and ignorance, have heretofore, with a few exceptions, been so intimately blended, that you have judged of the profession by

the men you find in it. A horse-doctor has been looked upon as one who has forfeited his social position,—has descended from an elevated stand to associate with men of low habits. But, thanks to this enlightened age, reforms are germinating, and spreading their giant influence throughout the length and breadth of this country; and, ere long, the American people will boast of their veterinary colleges. They already begin to see the errors of the past. Dear bought experience has taught them, that the treatment of disease in domestic animals involves as great an amount of knowledge as the practice of human medicine, and that none other than high minded, intelligent and merciful men should ever practise this art."

Foreign Extracts.

ON THE CONTAGION OF ITCH OR MANGE *(GALE)**, AND ITS TREATMENT.

By M. le Dr. H. Bourgrignon, Laureate of the Institute, Member of the Society of Medicine of Paris.

(Read at the Academy of Sciences, at their Sitting, Nov. 11, 1850.)

On account of its contagious property, the knowledge of itch in man involves the study of the same affection in the lower animals with which man has daily intercourse. Indeed, human medical science, that it may attain as near as possible to the perfection of the exact sciences, and thus be the expression of the laws of health and disease, ought to consist of deductions from an aggregate of facts which, along the animal scale, are linked one to another under the twofold relation of physiology and pathology; and the close dependence in which we live with animals often renders indispensable such knowledge of diseases which shorten both their days and ours. It therefore becomes a matter of very great consequence for us to know what animals with whom we are compelled to have intercourse are subject to mange, and, considering the *acarus* to be present, to demonstrate whether contagion be or be not possible.

In the course of my first inquiries, the contagion of itch between man and man especially commanded my attention, a subject on which, after I had practised divers inoculations, I came to the following conclusions:—

* *Gale* is the French word for both *itch* and *mange* in that form in which either actually is, or is taken to be, genuine *psora*.

1st, That the serosity contained in the vesicles, or the pus in the pustules, was not found to include the active principle of contagion.

2d, That ten living acarus, reduced to magma and inoculated upon the arm, determined the eruption of a pustule at the seat of inoculation, and of papulæ in the vicinity.

3d, That a living acarus deposited upon the skin is capable alone of producing signs amounting to the pathognomonic characters of itch.

Two years of daily contact with itched persons having failed in producing the malady, I was obliged to take some acarus and suffer them to penetrate my epidermis, that I might exactly appreciate the whole of the phenomena accompanying the contagion of itch and its development.

A work on the contagion of itch, as it affects animals downwards, requires an examination into the various authors that have treated on the subject, and the submission of any fact that might be doubtful to past experimentation.

This memoir is divided into two parts; one treating of the subject of contagion, the other of the treatment of itch.

On the Contagion of Itch (or Mange) from Animals to Man.

The transfer of itch from animals to man is now-a-days admitted by all the world, as well by people whose judgment is instinctive as by medical men who base their opinions on observation. Nothing is more common than to see itchy patients presenting themselves at the Hospital of Saint Louis, with tales of having contracted their malady from some horses they have been looking after, or from some cat or dog with which they have had constant intercourse; and up to this very day, the professional man, so far from calling in question the assertion of the patient, has confirmed it. So that, in fact, the contagion of the itch from animals to man seems to be established by a multitude of observations.

We are going succinctly to analyse these facts of contagion: though, first of all, we would state by what criterion we shall examine them; since, should the data of the problem be clearly established, its solution will follow as a logical deduction.

We shall divide the facts intended to be brought under discussion into two categories. The first will include those having relation to mangy animals upon which the acarus has never positively been observed; the second, such facts of contagion as regard animals really infested with the acarus, and suffering from mange. By this means we shall reduce to nothing those observations in which there exists any question about the presence of an insect, and we shall also set a proper value on cases where contagion was barely possible, admitting that the ele-

ments of contagion existed. So that, as to Bosé*, Gohier†, Hertwig‡, Bounes§, and Hering‖ having met with insects on dogs pretended to be mangy, there is no proof that such insects were sarcoptes. In a disease which admits of the fact being scientifically demonstrated, it is not sufficient to say, as Bosé has done—"I have observed some insects on a mangy dog;" or, as Gohier, "I examined through a magnifying glass the acarus of the dog in April 1813; it did not seem to me to present any remarkable difference from the acarus of the horse;" or, like Hertwig, "The acarus of the dog has its body more thickly covered with hair than that of the horse;" or, as Bounes, "That the sarcopte of the dog presents differences sufficiently distinctive from that of the horse;" or, lastly, as Hering, "That he has found the acarus of the dog in an ulcer upon the concha of the ear; the same acarus that he has since seen upon the ulcered foot of a horse." For our own part, we cannot in these assertions discover irrefutable proof of the presence of an insect peculiar to the mange of dogs; and since, as a principle, every thing tends to the belief that there is such a thing as the sarcopte of the dog, we cannot outstep observation, and out of a supposition run on to the reality. We have also found, as we shall by-and-by point out, a microscopic insect upon dogs affected with skin disease, but we have not from that fact concluded that the insect was the acarus of mange. But although we place in doubt the existence of the sarcopte that would cause mange in dogs, and, *à fortiori*, the possibility of the spreading of the disease to man, we are not to be regarded as considering of no value cases of disease of the skin contracted by man through contact with the dog suffering under cutaneous disease. If we deny contagion in-so-far as the mange is transmitted by an insect, we cannot deny the influence of contact with an animal having disease of the skin as a cause of cutaneous disease in man. In a word, there are two kinds of facts here, one requiring scientific demonstration, which we reject; the other requiring no more than constant relation between cause and effect to be kept in view, which we accept. Among these last may be mentioned the veterinary pupil, of whom Grognier¶ speaks, who had hands and arms covered with itch, after having well rubbed a mangy dog; the child who took the itch

* Cited by Hering, in his memoir.

† Mémoires et Observations de Chirurgie et de Médecine Vétérinaires.

‡ Cited by Hering.

§ Compte-Rendu de l'Academie des Sciences, 1838. J. H. Half-year.

‖ Die Krotzmilben des Thiere und einige verwandte Arten. Nach eigenen Hutersuchringen beschrieben. In nova acta Phisico-Medica, vol. xviii, & Parl.

¶ Compte-Rendu des Travaux de l'Ecole Vétérinaire de Lyon pour 1817.

from caressing a mangy dog, narrated by Biett; and the pretended cases of contagion reported by Viborg* and Mouronval†.

We dispute the existence of mange in the fox, the monkey, the ox, the rabbit, the mouse, the pig, the ass, and the lion; notwithstanding Walz, Gervais, Derfeuille, sen., Gohier, Koch, Hering, Bateman, Greve, and Alibert, assert, some of them, that they have actually seen insects upon such animals when they were mangy; others, that the disease has spread from the animal to man; though not one of these authors has given the characters denotive of the sarcoptes they pretend to have found. The only fact, however, we shall make a reservation of, is, that declaring that the disease in such animals has caused cutaneous affections in man.

The second category includes such facts as have relation to animals affected with mange, upon which acarus appears really to have been found; as, for example, the horse, the camel, the goat, the sheep, the cat, and the kangaroo, have all presented disease of skin caused by the presence of particular insects which have been observed by the microscope, and of which descriptions, more or less perfect, have been given. Not that they have described the characters peculiar to each of these varieties of acarus; for if, by way of example, we wished to distinguish between the sarcopte of a sheep and that of a cat, according to Hering's descriptions of them, the thing would turn out very difficult. A few hairs, more or less, the volume of the insect, the length of its feet, such are the distinctive marks by which authors pretend to recognise the various acarus. We feel no hesitation in asserting, notwithstanding the labours of Gervais, Hering, Dujardin, &c., that the entomology of acarus is yet to come. Vague descriptions are unsatisfactory when our business is with insects requiring an attentive observation under the microscope, in order that no confusion may be made among them. Be this, however, as it may, the acarus of the horse has been described or represented by Loutreig, Saint Didier, Bose, Raspail, Hertwig, Gervais, Dujardin, and M. D. Got, whose inaugural thesis is an excellent monograph on mange in animals in general. Mange among horses is so common, and its sarcopte so numerous, that the slightest attention is sufficient to discover it amid the epidermic detritus occasioned by the disease. The acarus of the camel has been superficially described by Gervais; that of the goat by Hering; that of the sheep by Walz, Linnéus, Morgagni, Hering, and Hertwig; that of the cat by Gohier, Boze, Hering, and M. Rayer, who has given drawings of it more complete than that published at the present day. The existence

* Veterinar sels kapdeel, vol. ii, p. 194.

† Mouronval—Recherches et Observations sur la gale; 8vo, Paris, 1822, p. 10.

of the sarcopte of these animals being taken for granted, let us analyse the facts of contagion attributed to them.

Up to the present day, communication of the disease from the horse to man rests upon the proof of some dozen well-authenticated observations, half of which number might be considered as valueless. What, indeed, are we to think of an itch communicated to a groom by a horse bought of a Prussian officer, an itch which broke out *exclusively upon the chin?* and of the other case of veterinary surgeon Syron, who sought in vain, during the summer of 1808, for the acarus upon a mangy horse, and experienced no less, five days after, than *itchy pustules* upon the hands? The six cases exhibiting some value are,—1. That by Hertwig, of a groom who looked after a mangy horse, and was attacked two days afterwards with a violent itching in the breast, face, hairy parts of the body, trunk, and lower extremities 2. That of a helper in the stable, reported by Osiander, who was in the habit of putting his cap upon the back of a horse that had the mange while he strapped him, and who contracted a scabby head difficult of cure. 3. The case of a countryman, related by Grève, who had ridden for a couple of hours a horse badly manged, during exceedingly sultry weather, the internal surfaces of whose thighs became covered with itch pustules, itching cruelly, but which, at the end of three weeks, disappeared *without treatment.* 4. That of a veterinarian at Nancy, by name Mayem, who witnessed mange spreading rapidly to men having the care of horses, and contaminating all the inhabitants of a village without distinction of age or sex. He communicated this extraordinary fact to the Academy of Dijon, of which he was a member. 5. The case, not less remarkable, published by ich, who knew two hundred horsemen catch the itch from their manged horses. Inflammatory swellings made their appearance on their faces, as well as their arms and thighs; these parts became covered with dense black incrustations, and, in most of them, the face swelled to that degree that the eyelids could hardly be opened. 6. Lastly, the case reported by Professor Vibeng, of Copenhagen, of horses who repeatedly affected the men who looked after them.

Such are the most demonstrative facts of the transmissibility of itch from horse to man: others might be adduced, but they lack the proof of the presence of the insect.

The transmission of the itch from the goat to man rests upon the authority of Louis Franck*, Strauss-Durkheim†, M. Hament‡,

* Collection d'Opuscules de Méd. Pratiq. avec un Memoir sur le Commerce des Négres au Cairo.

† Cited by Hering.

‡ L'Egypte sous Mehemet Ali.

who all agree that mangy goats frequently infect their keepers; to which may be added the famous contagion, when ten men, employed in the Garden of Plants, were contaminated in 1827. "I have, with great interest," says Biott, "since January 1827, had my eye on several men employed in the museum of natural history, who had caught the itch from looking after some goats suffering severely from it on their arrival from Africa. Ten of these men were admitted into the hospital St. Louis at the request of Messrs. Cuvier, Geoffrey, Saint-Hilaire, and Desfontaines. The eruption had assumed with several of them so much intensity, that it was followed by symptoms of gastro-intestinal inflammation, and in two of them, of vigorous constitutions, general infiltration, &c." The number of individuals contaminated, and the gravity of the symptoms, would give us reason to doubt the nature of the disease, even were the observation not invalidated by its irregularity. Nobody sought for the acarus upon the diseased goats, nor was their presence substantiated upon the men. It was not, indeed, until 1841 that M. Gervais gave an imperfect description of the acarus of the goat. One of these animals arrived at the museum, some months ago, likewise suffering from a disease of skin: I examined him at Alfort, but found no acarus.

Authors mention no instance of the transmission of itch from the goat and sheep to man. M. Dumenil found some insects on a dead kangaroo at the Garden of Plants, whose itchy skin communicated a cutaneous disease to the assistant naturalists charged with the preparation of it. We have our doubt whether this transmitted disease was the itch; since no sarcopte of the animal was found on the affected persons, and nothing is more common than to see the diseased skin of an animal not affected with mange cause impetigo or prurigo. As to the contagion of the itch (or mange) of the cat, M. Gol, to whom we are indebted for the facts, has met with but two observations: one of Hertwig*, relating to a maid servant who had taken a cat into her bed which itch had rendered almost bald. After the first night she felt a smarting and itching in the soles of her feet against which the cat had lain, which in a few days extended over the body, and was greatly augmented by the heat of the bed. The itching was especially violent about the head, arms, hands, and knees, in which parts were to be seen little *itchy pustules*. The other observation is from Dr. A. Berthold. He relates that a little girl was brought to him on account of an eruption extending over the right side of her head and neck, the inner side of her right arm, &c. and which bore the greatest resemblance to

* Cooper—Jour. Hebdom. de Méd. Vét. 1836. No. 20.

dry itch. After much inquiry it came out that, eight days before the disease made its appearance, a young cat having the itch had been seen lying upon the neck and arm of the child while asleep.

Such are the facts of contagion mentioned by observers. None of them, it will be seen, have put themselves to the trouble of discovering the insect either upon the mangy animal or the person who caught the itch from it; so that, in spite of our best inclinations, we are forced back to the point of deciding upon, not the contagion of itch of a disease caused by a sarcopte peculiar to the itched animal, but upon purely and simply the development of a disease of the skin, contracted through contact with an animal suffering itself from a cutaneous disease.

Having thus far given the results of the observation of our predecessors, we shall now submit our own on the subject.

All the patients admitted for having caught the itch from horses, during our sojourn at the Hospital Saint-Louis, were submitted to careful microscopic examination, and were all discovered to harbour the acarus of man or else to be simply affected with prurigo. But all these facts put together, those borrowed of authors as well as those furnished by ourselves, still require confirmation by direct experiment; and this experimentation we have put into practice, as regards the contagion of mange affecting horses and dogs.

M. Delafond, professor at Alfort, sent me about fifty acarus taken from a mangy horse, which were kept alive for ten days amid *detritus* and epidermic scales and incrustations. On the 3d June, one of these acarus was placed upon the back of the hand of a man by the name of Francis, in the service of M. Bazin. For half an hour I watched every movement of it through a microscope, in the expectation of seeing it enter some groove and conceal itself, as the acarus of man never fails to do. But this proved vain. I then detached the epidermis, and with care placed the insect underneath the epidermic follicles still left adhering: indeed, I traced out for it the entrance to a groove. The acarus made haste to creep into it at once, under our eye, filled itself with nutriment, and, having satisfied its hunger, began again to run about in all directions without once making a breach in the epidermis. At the end of an hour it was transferred to the left fore-arm of the same subject, in company with two other acarus, underneath a watch-glass which I had firmly fixed to the part by bands very moderately tight, for a special reason. Some hours after, the apparatus became displaced, as I anticipated it would, and the three acarus had full liberty to wander upon the body, and so effect a transmission as direct as it was possible. This was immediately followed by pricking,

sensations such as a pin would cause, felt at irregular intervals, and on different parts of the body, continuing for forty-eight hours, and these were the only sensations felt by Francis. No eruption followed, to give us the idea that he had received any itch. Eight days afterwards, three fresh acarus were imprisoned upon his fore-arm; and as he submitted to these experiments with fear and mistrust, I at the same time put three acarus upon my own left arm, and M. Piogey fixed a watch-glass over them. These six acarus, confined for eight days to the meagre diet of epidermic detritus, amid which they had been brought to us, became famished, empty and wrinkled, manifesting extraordinary activity. I soon felt under the watch-glass an itching, which increased to insufferable pricking. A pin slowly buried in the skin will convey a notion of the pain experienced. An hour afterwards, and for the remainder of the day, and at night, at irregular intervals, the same pricking sensations returned. When by chance the three acarus punctured the skin at the same time, the violence of the pain was such as instinctively to make me tap the watch-glass, with the view of shaking the skin, and interrupting the suction of the insects. Four-and-twenty hours afterwards the glasses were lifted. The acarus had tripled their volume. One of those placed upon Francis was dead; and the five others could hardly move on account of their distention with lymph. The skin bore the marks of numerous prickings, such as are made by gnats; and for some days was the seat of itchings, which lasted until the healing of the papulous eruption, which took place at every puncture. But this comprised all the mischief. Nothing further indicated that the insects had essayed to raise the epidermis, to make grooves in it. Francis remained in the hospital until the 10th July, without undergoing any treatment, taking no bath, and yet experienced no eruption.

These facts have led us to the conclusion, that the mange of horses is not communicable to men.

Nor would it avail anything to urge, that the six imprisoned acarus were placed under exceptional conditions, and therefore could not produce contagion, while their presence for four-and-twenty hours under the watch-glass was intended to prove, that the acarus of the horse did not, like that of man, obey that pressing necessity of burying himself underneath the scarf-skin; in a word, that it made no grooves. We must not forget, however, that under the first experiment every liberty was given to the same three acarus which were afterwards confined under the glass without any production, through them, of mange: so that this first experiment, wherein no groove under the epidermis was made, capitally corroborates this second experiment, the

acarus in neither case being able to produce itch or mange, like what it has been pretended has been observed, in which the groove, as a matter of course, constituted the pathognomonic character of the disease.

Here let us pause for a moment.

Since the groove constitutes by itself the certain sign of itch, good observers never fail, in the case of contagion of itch from horse to man, to rely upon the presence of this groove for forming their diagnostic. If the groove be wanting, the patient is considered as having prurigo, eczema, &c., according to the predominant eruption, and is treated altogether differently. In a word, the communication of mange or itch from horse to man, to be susceptible of proof, demanded what in neither case could be present, since the acarus of the horse makes no grooves.

We maintain, that the horse acarus is unable to make grooves under our epidermis, not merely because observation has shewn this to be the case, but from Nature having refused to it the organs requisite for such a function. The feelers of the human acarus and its mandibles are extraordinarily formed to incise and detach and raise the epidermis; and the horny appendages issuing out of the dorsal line of its body are specially designed for its progress within the groove. On the other hand, the feelers and mandible of the equine acarus are exclusively formed for puncture and suction: it has no organ for facilitating its possible course underneath the epidermis. I have proved that this acarus — and such is likewise the opinion of Messrs. Delafond, Bouley, jun., and other veterinarians—lives sheltered underneath the hair, in the midst of epidermic pellicles and eruptions produced by it, without ever digging any furrows or grooves.

Upon what has gone before we base the following propositions:—

1st. That no observation, confirmatory and irrefutable, of the communication of itch to man by the acarus of the horse has, up to this day, been published.

2dly. That the cases admitted at the Hospital Saint-Louis during our sojourn there, as affected with itch communicated by the horse, when submitted to the examination of the microscope, have invariably shewn the grooves peculiar to the human itch.

3dly. That the equine acarus, placed in precisely the same condition as the human acarus, have digged no furrows or grooves for the purpose of concealing themselves; that, in fact, it is not possible for the contagion of itch to pass from horse to man. Nor is it requisite for the communication of itch from the horse to our own persons that certain eruptions appear upon our skins. We shall consider this question of pathology further on.

Contagion of the Mange of the Dog.

If there be any other animal from which it is said man may contract itch, it undoubtedly is the dog. We have frequently had occasion to observe patients who have believed themselves to have caught the canine mange, and yet we have never discovered any thing upon them beyond the itch and sarcopte proper to man. I have seen little red insects upon dogs, in groups, firmly attached to their skins. But none of them burrowed underneath the epidermis; neither was there any trace whatever of furrow or groove.

I have also seen the same insects upon cats regarded as mangy, without being able to discover whence they came.

Therefore, we may safely conclude, that, so far as the acarus is concerned, and touching certain pathognomonic symptoms, true mange or itch has not yet been demonstrated as affecting dogs.

Still, the consideration we have given to the subject of contagion of the mange of the horse and that of the diseases of the skin in the dog, has led us to this novel, important, and incontestible conclusion; which is—*that the diseases of the skin in animals, caused or not by acarus, frequently give rise upon man, as the result of immediate contact, not of itch properly so called, but of some other cutaneous affection.*

May, then, acarus of the horse, or any other animal, transported in any notable quantity upon the body of man, give rise to pruriferous, eczematous or pustulous eruptions? We hesitate not to answer, " they may." Supposing them, in this case, to act as a cause of general irritation, still the disease is not *itch.*

The human itch is a disease *sui generis,* having changeless characters which belong to no other. It has its incubation, its preliminaries, its regular advance, *its groove,* its insecticide treatment; and every disease which falls short of these conditions, and, above all, which presents no groove, is no longer itch; and if we give the name of itch or mange to any disease of skin simply because such name belongs to that of another animal, be that disease *psora* or not, we shall run into arbitrary and confused opinions, altogether forsaking true science.

Recueil de Méd. Vét., Decemb. 1850.

[To be continued.]

THE VETERINARIAN, JUNE 1, 1851.

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

THE Report presented us by the Council, for the Collegiate year, 1850-51, of the transactions of the Royal College of Veterinary Surgeons during the past twelve months, is, to use a hackneyed and not over-refined epithetical phrase, "short and sweet:" "short," since, after taking out the finance, it occupies but little more than a couple of pages of our space; "sweet," since in that short space it affords assurances of our College being in the enjoyment of "improved prospects;" and assigns "this improved state of things" as a reason why nothing beyond "a brief abstract of their proceedings" is required, "now that the differences of opinion, divisions of interests, and diversities of action, hitherto existing, are nearly passed away."

In the amount of pleasurable feelings created by an announcement such as this, we will confess inferiority to nobody, either in or out of the profession. The corporate body, since its inauguration, has had its share of agitation. Of intestine commotion and peristaltic action it has had enough, and somewhat more than enough; we therefore cannot but express ourselves too happy to find that not only is dissension at an end, but that the present offers every prospect of improvement.

The corporate house, certainly, divided and subdivided as it was at one time against itself, evinced fearful symptoms of being in that critical state of equipoise that serious apprehensions were felt by many lest a single step taken in the wrong direction might have endangered its stability; and what would have rendered its declension the more lamentable and vexatious, would have been, as the inevitable consequence of it, that, so far from either party being benefitted in any way by it, everybody concerned could not fail, in the end, to experience more or less detriment from it; neither would the public in general have escaped unscathed by such a calamity. The professors and practitioners of our art neither would nor could have

effected that without the chartered College which they have it in their power to achieve with it: veterinary science would have felt the want of it; the public and the army could not have been so well served with veterinary aid as the present improved aspect of affairs affords every assurance of their being ere the College has stood many years upon its now promising improved foundation.

With so short and gratifying a report before them, the General Meeting had its attention especially drawn to the latter part of it, wherein a subject in questionable shape presented itself to their notice. This was the subject of registration. A new list of the members of the College had been prepared for the occasion; one which, though it must have cost some pains and trouble to compile, failed to give universal satisfaction. Fault was found with it for containing the names of members dead as well as living, notwithstanding the former were contra-distinguished by being printed in *italics*. One member thought the dead had no claims for admission into the list at all; while another conceived it would be best to entomb them in a separate list by themselves. Wherever they may be, or to wheresoever they may be consigned, for our own part, we say,

Requiescant in pace.

Unless it be for the sake of swelling the registry, we do not, for our own part, see any great good to be derived from retaining them in the catalogue.

It is a much easier matter, however, to find fault with a registry than to compose one, or even to point out in what way the faulty one admits of being amended or improved. For registration to exhibit any approach to perfection, the registrar must have ample and ready material to work with, and willing and effective aid to call in, as occasion may require. How has the recent public census been obtained? If a great national undertaking like this has been year after year accomplished, and satisfactorily so, why cannot a comparatively insignificant affair like ours be effectively worked out? So it can, and with as much ease, give the registrar like powers and facilities! The public functionary sends to every house a printed form of notice to be filled up according to specified directions by the

head or occupier of that house, by such a time and with certified accuracy, under liability of summons before a magistrate, and the imposition of a penalty of five pounds. Can the Registrar of our College proceed on any such compulsory plan? Has he any tools such as "pains and penalties" to work with? He commenced his labour by sending a circular letter, containing certain queries to be answered by the recipient, to every member of the veterinary profession whose address could with any accuracy be ascertained. And what was the result? Why, that numbers of letters remained unreturned! Many persons to whom they were sent manifested a total disregard of the missives, while others set themselves in direct opposition to the call. The Registrar, in fact, was thwarted, or at least succeeded only to a limited extent.

The public registrar, but for the supporting power of the law, would have been similarly or even worse treated. What our Registrar wants is some such power as this; or, that not being obtainable, some inducement on the part of the individual appealed to, to answer to his call;—some demonstration of advantage thereby to be obtained, or of some disadvantage evidently incurrible by that member who does not choose to comply. Might not the annual publication of the names of those resident in the several counties, in the newspapers most read in such counties, have some telling effect, particularly if a short notice were appended to the provincial list, to say, that none other persons resident in the county, save those whose names appeared in the list, were *known* as Members of the Royal College of Veterinary Surgeons? Such notification might induce numbers, for their own credits' sake, to send their names and addresses to the Registrar, in order that the provincial public—their employers especially—might not be misinformed on this head. The cost of this annual advertising would not be great—not greater at least than the present finance of the College can very well bear; and it is an experiment which, we are of opinion, is well worth trying. In addition to which, we think, the same end might, perhaps, be furthered by forwarding such lists to the compilers of provincial and general directories, with a request that they would insert the names therein contained as

Members of the Royal College of Veterinary Surgeons, in contradistinction to those who had no chartered right to call themselves veterinary surgeons.

Mr. Mayer's observations, concluding our account of the General Meeting—suggesting "that in future the interval between the conclusion of the meeting and the dinner in the evening should be occupied by a *conversazione*, in which some member should read a short paper for discussion among the members"—remind us strongly of some remarks to the same purport we made in our Leader for February last. They were thus:—"Nothing would please us more than to see such a President (of our College) as would assemble our scattered flock around him, and, ere his year of office run out"—at the General Meeting we mean—"in imitation of the President of the College of Surgeons, in the delivery of his Hunterian oration—give a COLEMANIAN ORATION!" This would not only fill up any time that might be left to spare after the transaction of the ordinary business of the meeting, but would, there is little reason to doubt, prove an inducement for many members who have never yet been present, or at all events are by no means regular attendants, at the general and only annual meeting of the profession, to give us the pleasure and advantage of their appearance thereat.

PROCEEDINGS OF THE COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS,

FREEMASONS' TAVERN, MAY 13th, 1851.

Present—Messrs. HENDERSON (in the Chair), BRABY, CHERRY, A. CHERRY, DICKENS, F. KING, PEECH, ROBINSON, SILVESTER, J. TURNER, WILKINSON; Professors MORTON and SPOONER; and the SECRETARY.

The Chairman stated the first business to be the election of a President for the ensuing year.

Mr. Cherry proposed the election of Mr. Robinson.

Mr. Peech seconded the motion.

Prof. Morton had no doubt that the Council would be unani-

mous in the election of Mr. Robinson, whose kindness and ability they had so frequently witnessed. Still, he hoped there would not be a recurrence of what had taken place, namely, the re-election of the same gentleman in previous years, year after year, which was virtually telling the profession that there was but one man capable of filling the office.

Mr. A. Cherry supported the nomination.

Mr. Robinson was unanimously elected. The chair was vacated by Mr. Henderson, and taken by the President, who thanked the meeting for the renewal of their confidence in re-electing him as President. He trusted that the interests of the profession would not suffer during his presidentship; and he assured the Council that every effort on his part should be made to advance and establish them. He agreed with the observation just made, that there should be an annual change of the President, unless some signal service had been rendered by him to the profession, when the honour of a re-election might be deemed desirable.

The following gentlemen were then elected as Vice-presidents:—Messrs. Karkeek, Stockley, Taylor (Bury), Taylor (Nottingham), Baker (Teedbury), and Grover (Lewes).

Mr. Gabriel was re-elected Secretary for the ensuing year, on the proposition of Mr. Henderson, seconded by Professor Morton.

Prof. Spooner brought before the Council the case of a student in the College who had been examined and rejected by the Board existing previous to the obtainment of the Charter. He had now returned to his studies, and wished to be re-examined. By the former by-laws, pupils who had paid their examination-fees to the old Board were gratuitously examined by the present one; but such an arrangement had not been carried out in the new by-laws, probably from a supposition that no pupils were left who would wish to avail themselves of that privilege.

Mr. A. Cherry thought that the rule in existence before the new by-laws were passed should still be acted on. It was a matter requiring an order of Council merely, and not a by-law; he would therefore move that such an order be made for the regulation of similar cases in future. He also believed that there was an order, admitting all persons to examination who had attended the College previous to the obtainment of the Charter on the payment of the original fee, three guineas.

Professor Spooner believed that the period to which that order extended had expired.

Mr. Wilkinson asked if it was to be understood that in

future no one would be admitted to an examination without the payment of the fee of ten guineas?

The Chairman, Certainly; except a rejected candidate who has paid a fee either to the old Board or the present one.

No motion on this subject was passed; but it was understood that rejected candidates who had been examined by the old Board should be admitted for re-examination without the payment of an extra fee.

On the motion of Mr. Braby, seconded by Mr. F. King, orders were given for the payment of expences connected with the Board of Examiners.

The Secretary laid before the Council the report of the Secretary to the Board of Examiners in Scotland, and alluded to the rejection of a pupil who had been previously examined and passed at a Board named by Professor Dick. He was glad to see the two bodies acting independently of each other; shewing that it was not a matter of course, that, because pupils passed one Board, they were therefore to pass the other.

Professor Spooner suggested the propriety of a period being named for the re-examination of rejected candidates. There were cases in which it might be desirable that the pupils should be admitted to another examination at the end of the same session, without subjecting them to the delay of six months. Such a case, indeed, had occurred at the last examination.

Mr. Wilkinson suggested the propriety of the professors of the College giving certificates to the Board of Examiners as to the regular or irregular attendance on the instructions given at the College of the candidates for examination.

Professor Spooner concurred with this.

Mr. Wilkinson and *Messrs. Cherry* thought such a plan would give the professors a control over the pupils which it was desirable they should possess.

The Chairman thought it was a matter in which the Council could not interfere, and one which rested with the authorities of the Royal Veterinary College.

The Secretary stated, that at the next meeting, he should lay on the table the resignation of Mr. Goodwin as a member of the Board of Examiners; when it would be necessary to fill up the vacancies that then exist.

Professor Morton, Mr. Wilkinson, and the Secretary, were appointed as the Committee of Supervision, and the proceedings then terminated.

THE

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LAMENESS IN HORSES.

By William Percivall, M.R.C.S. and V.S.

[Continued from page 247.]

Treatment of Canker.

IN accordance with these views*, canker would appear rather to consist in disease of the keratogeneous structure than in any change of the deeper-seated tissues. The secretion of horn is superseded by the production of *fungus*, and this fungus-generating action is so predominant in the secretory apparatus, that, when once established, the morbid secretion continues for a length of time, in spite of every effort on our part to suppress or correct it. While the manifestation of hypertrophic action in this exuberance of production is too plain to be denied, there is at the same time evidently at work some anormal action which nothing short of the actual destruction of the orgasm—and not always even that—is found to eradicate, so as to re-establish the secretion of sound horn. M. Bouley's "chronic inflammation" will not by itself account for the phenomena of canker, no more than it will for the obstinacy the morbid function sets up against treatment. This explains why, as experience shews, no radical or permanent cure of canker can be brought about without the use of caustics or escharotics, coupled with the aid of the knife or the actual cautery as occasion may require. And with all this, time will be necessary to bring about sound and healthy secretion. So great and paramount is the morbid disposition to generate fungus, that the morbid productions will require being destroyed, again and again, down to their very roots, before sound horn can be induced to spring up in their places.

Were we not taught this harsh practice by experience, or could we find any more lenient mode of procedure, such mild treatment would turn out not less acceptable to ourselves than comparatively painless and pleasant to our patient. But we

* See The Veterinarian for May, pp. 246-7.

fear no plan of treatment of the kind *with any prospect of success* offers itself to our notice. M. Bouley, after finding fault, commendably enough, with our destruction of tissues, when, as he says, the error is not physical but *functional* only, recommends the following—certainly comparatively humane—method :—

FRENCH MODE OF TREATMENT.—The cankered foot to be cut down to the extent required, and then to have such a shoe properly fitted as will admit of the requisite dressing and pressure. All loose portions of horn to be removed, without, if possible, making the parts bleed or wounding such as are sound ; though nothing is to be allowed to save the complete denudation of the diseased parts. This done, any very exuberant fungus, likely to resist pressure, is to be excised ; after which the entire diseased surface is to be covered with a thick layer of tar, supported by pledgets of tow, and splints with bandages calculated to give the requisite pressure. And this dressing is to be daily renewed. Perseverance in such measures is enjoined for several days, taking care at every dressing to remove all horny matter anywise unsound, and to cover the places over afresh with tar ; under which mode of procedure we shall, says M. Bouley, every day perceive healthy action spreading, to the gradual diminution and decay of the disease. Nor do we doubt his assertion, when we read, further on, that in the most common cases he is in the habit of using, in combination with the tar, such agents as the undiluted sulphuric, nitric, and hydrochloric acids, concentrated solution of caustic potass, quick lime, the caustic ointment of Solleysel, the caustic paste of M. Plasse, &c. &c. M. Bouley adds, that, with the indispensables of time and attention, such treatment will prove successful, from two or three months being required for the cure.

Discovering in the foregoing account of treatment nothing that need divert us from our accustomed plan of action, we proceed to a detail of measures which have, not in our hands more than in hundreds and thousands of others, turned out the best adapted for the cure of canker, in as short a time and with as much certainty as the nature of the particular case will admit.

BEFORE THE TREATMENT OF A CASE OF CANKER BE UNDERTAKEN, it becomes the duty of the veterinary surgeon, in order that he may guard himself against any expression of blame or dissatisfaction on the part of his patient's master, to calculate in his own mind the probability of cure as well as the time likely to be required for it. The extent and malignity of the disease, the duration of it, the age and value of the horse, should all be taken into the account, lest it be found, in the end, that the doctor's bill and the keep of the patient while under treatment, overbalance the animal's value. Nor must it be forgotten,

that, although treatment may prove successful in eradicating the disease, yet should it do this, and leave such deformity or disorganization of foot as proves the cause of unsoundness, still will the proprietor of the horse have reason to complain of the doctor's work. Canker in any form is an intractable disease. In some forms, indeed, it has been pronounced incurable; though I cannot say, in my own sphere of practice, I ever found it so. But we read in White's work of its being "difficult of cure," and not "unfrequently incurable;" and French writers of the same date speak of it as "l'opprobre de notre art."

THE FIRST THING TO BE DONE, supposing this to be the primary treatment of the case, is to take off any shoe the cankered foot may have on at the time, and, after paring down all exuberant growth of horn, by well lowering the heels and shortening the toe of the crust—anormal growths to which such a disease as canker is certain to give rise—to subject the foot to a close and thorough examination, while the drawing-knife is kept at work, removing every portion of dead, loose, or partly detached horn, as well as any living horn which may be in immediate contact with the cankerous parts, in such manner as not only to completely lay open the diseased surfaces, sinuses, and crevices, but at the same time as much as is possible to isolate them. All contact and communication between sound and unsound parts must be cut off; and then, but not until this be completely effected, are we to think about dressings. The less hemorrhage we produce in accomplishing this indispensably necessary preparation the better; bleeding not only being uncalled for, but tending to interfere with our operations, besides being unfavourable for the application of dressing: we must not, however, suffer hemorrhage to thwart us in our object, one so important towards cure which, if not carried out the first time of paring and dressing, certainly ought, on the second occasion of dressing, to be put completely and effectually into execution.

THE NEXT THING TO BE DONE, after the diseased foot has been thoroughly searched and exposed by the drawing-knife, is to fit a shoe, as a covering and defence to it, of a description which, while it admits of being nailed to the foot, affords every facility of applying and removing dressings, and at the same time—supposing the foot to be in a state to admit of it—enables the horse to perform more or less work: for canker-footed horses, especially of the heavy or agricultural class, are much better kept at labour than remaining at rest: they maintain better health, and from this cause, as well as from the motion and pressure given to the foot by exercise, it is found that the cure proceeds with more rapidity and certainty; added to which, the shoe enables the practitioner to confine his dressings to the foot,

and make the requisite pressure with very little comparative trouble. Sometimes a plain shoe, sometimes a three-quartered shoe, sometimes a bar-shoe, is the one best suited for the case. But a shoe which possesses peculiar advantages in canker is what is called the *box-shoe;* since it not only serves for protection, but is a great defence against injury and dirt and wet while the horse is at work. And of box-shoes I know of no better description than those recommended by Mr. Wells, V.S., of Norwich*.

Now, however, that leather and gutta percha are introduced into the forge, we may, either with a plain bar-shoe or a common shoe, make use of either of them as a cover and protection to the dressing; though, of course, the durability of these substances has its limit, and such may in consequence turn out, in the end, somewhat expensive. The proper leather for use is the sole leather of shoemakers, which will have to be secured with the nails of the shoe. The gutta percha has the advantage of being capable of being moulded into the sole of the foot while the shoe is on, by being previously made soft and flexible by immersion in water at nearly boiling heat: when cold, it becomes again perfectly hard and firm, and proves an excellent protective. In this way the same piece of gutta percha may be used for several times; each time, however, it will be found to have become less influenced by heat and cold and to have shrunk, so that ultimately it turns rotten, and so calls for repair or renewal. The box-shoe, in durability, has, of course, the advantage over these contrivances; but is heavier for the horse to carry.

THE PRINCIPLE OF TREATMENT, so far as the separation of the anormal from the normal parts being fully and satisfactorily carried out, must now be completed by the destruction of the former, and the preservation of the latter from the same diseased action. The drawing-knife laid aside, the shoe best adapted for the foot should now be determined, and fitted and nailed on. This done, the dressing may be commenced. Fungus presenting itself in prominent masses may be pared down to a certain extent with the scalpel: though this is a practice I am myself not friendly to, unless the fungous growths be of extraordinary luxuriance, and then great care is required, since the operation is very likely to excite troublesome and by no means salutary hemorrhage. Some practitioners burn down the fungus with a red-hot iron, or cut it off with a sharp firing-iron: this is a practice, however, which for my own part I do not pursue. For cases of the ordinary description I think the object may be accomplished, and, in fact, is best effected, by

DRESSINGS.—And for the most effectual and curative I may,

* See THE VETERINARIAN for April last, p. 196.

in truth, say the pharmacopeia has been literally ransacked. Caustics have obtained—and, I think, deservedly so—most favour; though astringents, stimulants, anti-putrescents, &c. have likewise been introduced, and no doubt on occasions, in certain forms and stages of the disease, have their utility. For the primary object in view, viz., the destruction of the fungus, I am acquainted with no caustic so powerful and effectual as the undiluted nitric acid. Sometimes I use the sesquichloride of antimony (the butter of antimony); and, as a variation of the caustic dressing, and one not so virulent as the nitric acid, it is very useful in its turn. I have likewise employed for the purpose the various preparations of arsenic, mercury, copper, zinc, &c.; but though some of these will be found very serviceable as we proceed, there is no dressing so great a favourite with me for the "eating away" of the fungus as nitric acid. Its effect is instantaneous and decided, and its erodent operation is confined to the parts it touches. Supposing we make up our mind to first pare down the sprouting fungus with a sharp knife, the dressing will immediately succeed this. In ordinary cases, however, this is not required. Simply wiping the diseased parts dry will be sufficient, which done with a sort of mop—made by twisting a skein of tow around the end of a small stick—the fungus ought to have every part of its surface thoroughly wetted with the acid, by well mopping and rubbing the dressing into its pores and clefts and crevices. Or, should the butter of antimony be preferred, let it be used in the same manner. This done, thick pledgets of soft tow must be laid upon the cauterized surfaces, and upon them similar pledgets of coarse tow—that answering every purpose for an outer covering—the whole to be pressed down with as much force as the diseased parts can bear, and the *tout ensemble* confined within the sole of the foot by cross-bars of iron hooping, of the requisite length, being driven with the hammer underneath the web of the shoe, and nicely adjusted to their situation by a final blow or two from the hammer at such places as they may shew any appearance of bulging or bowing downward. This is the common mode of securing the dressing when no leather or gutta percha or box shoe is made use of; in which cases, of course, cross-bars will not be required. Should the disease have made such incursions into the foot as to render it impossible, after the necessary paring has been made, to find sufficient hold of crust for nailing a shoe to, the dressing must be bolstered up with an abundance of coarse tow, over which a piece of sacking or coarse cloth may be put, and the whole bound together with tape, or, what proves an exceedingly useful ligature in such cases, rope-yarn or tar-cord, with which the foot, thus thickly covered, ought to be cleverly and *tightly* packed up.

A "sharp" dressing of this description will be likely—especially when *extensively* used—to excite a good deal of pain in the foot, and this may be followed by some amount of constitutional irritation; indeed, so touching is the appeal made from such effects sometimes, that, for humanity's sake, if not from a sense of danger, it becomes necessary to remove the dressings, and immerse the cankered foot in a warm bath, succeeded by a poultice, and to give the animal some medicine, should he not have already had any: I say "already," because it ought to have been mentioned, that, in all such cases, it is an excellent practice to administer in the first instance a full dose of cathartic medicine, which, coming into operation about the time that the sluoghing is at its height, is likely to be attended with the best results.

Should nothing call for the removal of the dressing, however, it ought to remain undisturbed for two, if not for three, days, depending upon the circumstance of the horse having been in the stable the while, or at work; for the process of sloughing is found to go on quicker under work or motion than while at rest. So that work, of the kind that has been recommended, provided the ground be not wet or muddy, so far from being objectionable, will be found beneficial, whenever the patient is able to take it. When the dressing comes to be removed, the aspect of the cankered parts will be found completely changed. There will remain comparatively little or no stench; and the fungus, which before was porous and full of ichorous oozings, and possessed a degree of transparency from the discharges standing in globules upon its surface, has now turned dead white, and crumbles away or peels off under friction like so much milk-curd; while the sinuses along the sides of the frog and bars, from which issued more discharge than from anywhere else, appear dried up. This, which may be regarded as an amended condition of parts, in contradistinction to that state of the diseased foot in which the dressings come off soaked with the discharges, must not, however, be suffered to delude us into a hope that no repetition of caustic will be necessary. Caustics or escharotics, in some form, will be required so long as any fungus, or disposition to engender fungus, remains, and until the clefts and crevices are not only dried up, but present at their bottom red granulating surfaces, with clear white borders of sound though soft horn.

A SECOND AND A THIRD CAUSTIC DRESSING may be called for, though, having reference of course to the nature and intensity of the particular case, some modification may be required in the application of the dressing as well as in the dressing itself. There may be only certain parts which now call for the strongest corrective; or, we may choose to employ

the butter of antimony in lieu of the nitric acid. Some places indeed, not generating fungus, but simply issuing ichorous secretion, will be best corrected by a milder caustic, such as sulphate or acetate of copper. For it may be here observed, in cankerous affections we make use of two different kinds of caustics; the one *erodent*, eating off the substance to which it is applied, such as the nitric acid, the butter of antimony, &c.: the other, simply *escharotic*, productive of slough; such as are the sulphate and acetate of copper, bichloride of mercury, arsenic, sulphate of zinc, &c. Fungous excrescences will at all times require erodent caustics; while morbid secreting surfaces and parts indisposed to throw up granulation may be left to escharotics. The grand difference to be observed between the treatment of ulceration of the foot and common sores in other parts of the body, consists in the *pressure* found to be so salutary and requisite for the former. The foot being a part which, from its natural habits, may be called *the organ of pressure*, the same influence appears indispensably necessary to it under disease, as a stimulus to excite its vital powers to resume their normal functions.

When once we have got quit of the fungus, and have annihilated all power to reproduce it, we may bring about the healthy secretion of horn by such escharotic and stimulant dressings as, from trial, appear best suited to the case: always bearing in mind that *change of dressing* usually turns out beneficial practice. Parts will often for a time progress favourably with a dressing under which they will retrograde if the same be persisted in beyond a certain period. There is no better escharotic for general purposes than the sulphate of copper. The acetate of copper, which is likewise an excellent one, is used with most effect in the form of the ointment known by the name of CANKER OINTMENT, a formula for which will be found under the head of Frush*. A capital form of the "blue solution" is the compound solution, containing sulphuric acid, as recommended by Mr. Morton; which will also be found under Frush*. In fact, canker, when once deprived of its fungus-generating property, is reduced to much the same disease as frush is which has underrun the frog and spread under the sole, and therefore calls for similar treatment. During this stage, when stimulants are indicated, common tar or the oil of tar or oil of turpentine, may be occasionally used. At any time when fetor requires correcting, the chloride of lime, either in powder or solution, may be introduced. In fine, we might, were we to look down our own list, without adverting to the favourite remedies of others, enumerate dressings *ad infinitum*

* See THE VETERINARIAN for February last, pp. 69 and 70.

almost. Let it, then, suffice to say that, be dressings as numerous as they may, the hand of science must select them as well as direct their use; the object of treatment in the disease under our consideration being, to destroy anormal productions, correct morbid and faulty vital action, and substitute in its place the formation of normal horn.

ON THE STATUS OF THE VETERINARY PROFESSION.

By Chas. Dickens, M.R.C.V.S. London.

Dear Sir,—My attention has recently been called to an article contained in your April number from a "Non-Vet." anxiously making inquiry as to what had become of some of your former Contributors, or, if I may be allowed a sporting phrase, some of those hounds which occasionally used to give tongue with the *old pack*. Being one of those he has challenged by name, I had almost said *by lash*, I will, in accordance with his wish, endeavour once again to "rouse myself"—"to shake off that slumber and sleep" he complains of. It may stimulate others to do likewise.

Your Contributor, Non-Vet., with all his anxiety for the welfare of our art, is doubtless in possession of The Veterinarian for 1841; a reference to which pages will prove, I have no doubt, sufficiently explanatory of the silence he complains. Believe me when I state, that, on my part, it has not arisen from any want of respect and esteem to the memory of your departed colleague, Mr. Youatt, or of gratitude towards yourself for your indefatigable labours in our vineyard.

In perusing a late Number, I was rejoiced to see the name of my old fellow pupil, Mr. Pritchard, of Wolverhampton; and the more so, to find him exercising his independent spirit in our cause, in answer to a Sporting Surgeon, who seems to express a great deal of sympathy for our degraded position, and anxiety for our elevation in the scale of society. For such, all true *Vets.* should express their gratitude; but I must confess that I have not yet been enabled to observe the wide gulf which the Sporting Surgeon would lead us to believe exists between us and his own craft. He seems to forget, that, although our avocations are to a degree allied, yet they are at times widely different in their prosecution. He insinuates a charge, as a drawback upon our respectability, that we hold companionship with coachmen, grooms, bailiffs, &c. It is true, we are often

obligated, in the details of our practice, to confide much to these functionaries for the due application and administration of our *agents*, and more particularly so when our patients are situated at a distance; and I feel bound to say, after a practice of some years, that in general I have found them carried out to my satisfaction; and that, without the familiarity existing which a Sporting Surgeon would lead us to believe. Nevertheless, on the principle of treating every man with the respect and civility due to his station, we shall generally get a more faithful return, and obtain our objects better, by such a course of conduct.

But could we not, upon equal grounds, charge the family surgeon with being placed on a similar footing, regarding familiarity and dependency with the head nurse, whose influence ever reigns paramount, at least over the juvenile part of the establishment, as to his wishes and practice being frustrated or fulfilled, and upon whom rests the responsibility of his compounds being duly administered or not? And beyond this, a Sporting Surgeon will find many *Vets.* holding as due a sense of propriety of conduct and station as himself.

We must admit and acknowledge the remarks in your Leader, that we cannot, perhaps ought not, to assume such high ground as the practitioner of human medicine. We must be content to play the Cinderella part. Our art has only yet to boast of having been systematically and rationally practised for little more than half a century; and, however much we may proudly now boast of our Coleman, a Sewell, our Percivalls, our Turners, a Spooner, a Morton, and many others, we must recollect that the Hunters, Homes, Blizards, Fordyces, and Babingtons, were many years in advance.

If proof were wanting that we are gradually rising in the public esteem, instances are not singular where a Sporting Surgeon would, upon reference to some of our corporate boroughs, find the veterinary surgeon sustaining the highest municipal honours; some of which, I understand, in that capacity had the honour of an invite to the great civic feast of 1850; and we have the authority of your late Number, that the father of the profession died a magistrate of one of our leading manufacturing towns!

With, perhaps, some degree of truism, has it been asserted that the veterinarian needs not that polished education which the human practitioner does; or, to express myself professionally, however valuable and interesting it may be to him as a *science*, it may not, practically speaking, be so absolutely necessary for him to pursue such minute anatomical and physiological research: yet, in another respect, I contend he has more to learn;

he requires to make himself more of a *citizen of the world.* He needs to be more conversant with men and manners; for I know of no individual who has to fashion himself to so many different services as the veterinarian, particularly the provincial one; since, if not so frequent a guest of the drawing-room, if not so well versed in small talk as the *Sporting Surgeon,* yet the well-conducted and self-respected veterinarian will find few societies whereof he is not a welcome guest.

At his market ordinary, he will often find himself the subject of appeal upon matters more or less connected with his profession. Again, he must or should not be totally ignorant of *turf* matters; at least, it will be desirable to possess information as far as regards the pedigree and performance of the more favoured horses of the day. It will occasionally be his lot to accompany some kind patron (perhaps, in refutation of what the Sporting Surgeon would state, after having been admitted to lunch with him) to the hunting stable, and here, with a passing glance of his eye, he will be expected to speak, and correctly too, as to the merits of each individual horse, as far as capabilities as to pace, weight, adaptation to different countries, and liabilities as to endurance and failure; and should he, in any one of these, egregiously err, he will soon perceive himself at a discount with his patron.

A succeeding day may place him amid a knot of agricultural friends, by some of whom he may be questioned, not upon the disease of any animal, but upon reference to good and bad points as to feeding, qualities present, and future weight, &c. This knowledge may, perchance, be taxed as to the new calf, what he or she is likely to become as the future ox or cow. He may, perchance, visit some far-famed flock, the careful produce of many a year; and here, too, he will be expected to hazard an opinion, point out merits or defects, speak somewhat correctly regarding blood, its purity, &c., to detect some distant trace of old, or recognise some recent dash of new.

There are so many other things, quite as essential, of which we are required to possess a knowledge, in addition to what may be strictly termed *medical knowledge,* that, as it has been stated, "if a man knoweth not that which it is necessary for him to know, it signifyeth nothing, even should he know all the world beside." I saw this verified once, very much to the chagrin of a promising young veterinarian, in attendance upon a cow having an inflamed udder, who for the first time in his life tried his hand at milking, in which his performance proved so clumsy and unsuccessful as to expose him to the ridicule of a host of farm-yard ignoramuses.

You occasionally venture an opinion upon the present and

future prospects of the veterinary profession. I am not one of those who do generally take the dark side of the picture; yet I must confess I see but little to encourage the aspirant to veterinary science, when we behold our path obstructed and interrupted by empirics, who meet with encouragement from quarters we should but little expect, both on the part of ignorant pretenders, and also another class, now becoming somewhat numerous, termed *amateurs*. Nothing can be more pleasing to a veterinary surgeon than to find an employer somewhat versed in the nature of his art; while nothing is more troublesome than to meet with a conceited self-styled amateur veterinarian, a term I always take as synonymous with dilapidated gent.

When we find *registered* members of our own body sending forth their flaring advertisements in our sporting and agricultural papers and periodicals, extolling their *several constitutional, sedative, and renovating medicines*! accompanied with the old ditty, which is only worthy of such names as *James, Goss* and *Culverwell*, of "come buy my cheap physic, and I will give you my advice gratuitously, either personally or by *post-letter*;" others, recommending their "golden" applications as a "safe and certain cure" for all defects and diseases of horses' legs, with an addendum, that it will completely supersede the use of our old and faithful friend, the cautery—I contend, in opposition to such statements, and am ready to maintain, after a somewhat lengthened trial in a fox-hunting county (in which I feel confident of being backed by scores of professional brethren), *that so long as the legs of horses are subject to injury, so long will the* IRON *be resorted to as a remedial agent.*

Others of our members have attached themselves to newspapers, in answering the queries of correspondents, who wish to obtain knowledge by illicit means, some of which questions, to use a parliamentary phrase, might be termed both "frivolous and vexatious;" so much so as to excite both the disdain and contempt of the practical man.

Amongst others, a few weeks since, the following highly amusing one appeared: "What's to be done when little pigs lose their tails?" Suffice to say, it was answered, and by a veterinary author too! Whether his suggestion was successful or not, the little pigs' owner has not yet divulged for the public benefit. But I am taking up too much of both your time and space; so, for the present, I must remain,

Your's very truly.

Kimbolton, May 1851.

A FEW REMARKS ON STRANGLES, &c.

By J. W. Gloag, M.R.C.V.S., 11th Prince Albert's Hussars.

To the Editor of "The Veterinarian."

Sir,—With reference to an article under review last month, "On the Distemper (Gourme) in Horses," I beg to offer a few remarks. The reviewer gives it as his opinion, that distemper, in any of its varied forms of strangles, influenza, catarrh, &c., is not contagious. This is a point I can scarcely reconcile myself to, although I am fully persuaded that, usually, other causes besides contagion are in operation to produce the disease.

I have generally found a number of young horses to become ailing about the same time; and when two or three cases of influenza or strangles occur, others quickly follow. To decide, however, that this is absolutely produced by contagion, is a very difficult matter, although I certainly have always inclined to that notion. I will, at present, confine myself to the complaint, strangles.

Diseases seem to me to have much changed their character during past years, and none more than the one under my present notice. At one time, I regularly expected annually to have a number of cases of strangles; and the other day, when I read your "Review," I began to cast up in my mind how long it was since I had a case under treatment, and I could only recollect one for the last two years; and that solitary case occurred in a horse eight years old. This led me to look a little more into the matter, and go at once to black and white. Taking a period of five years, I found the accounts stand thus:—

	Cases of Strangles.	Cases of Catarrh, Influenza, Bronchitis, Low Fevers, &c.
From Apl. 1, 1845 to Sept. 30, 1846	10	20
From Oct. 1, 1846 to March 31, 1847	1	25
From Apl. 1, 1847 to Sept. 30, 1847	0	17
From Oct. 1, 1847 to March 31, 1848	2	27
From Apl. 1, 1848 to Sept. 30, 1848	15	35
From Oct. 1, 1848 to March 31, 1849	11	34
From Apl. 1, 1849 to Sept. 30, 1849	0	31
From Oct. 1, 1849 to March 31, 1850	0	18
From Apl. 1, 1850 to Sept. 30, 1850	0	12
From Oct. 1, 1850 to March 31, 1851	1	36

On looking over this list, it will be observed at a glance, that the great majority of cases of strangles seem to have occurred at distinct periods, and that at other times we have had very few;

and that four only have thus to be accounted for, and I again have recourse to my daily register.

One case is entered during the period between Oct. 1, 1846 and March 31, 1847: I find this to be (C. 27, br. m.) admitted as "Incipient Strangles;" and, looking to the treatment and result, it is stated "the swelling between the jaws gradually became absorbed, and did not come forward to suppuration." The mare, certainly, ever since has been a thriftless animal. I now go on to the period between Oct. 1, 1847 to March 31, 1848, when two cases of strangles are recorded. I find that one of these (E. 10, b. m.), was admitted as having incipient strangles; but the tumour or swelling, which I conceived would terminate in the disease, did not come forward; while, as to the other case (C, 26, b. m.), I cannot positively speak to whether it was a pure case of strangles or not.

We now pass over a period of two years, to the last half year between Oct. 1, 1850 and March 31, 1851, when it appears, we had one case (C. 23, br. m.), which took the regular course; but this animal was eight years old, and had been at her regular duty for four years, and was therefore not in the young-horse stable; and old horses naturally are not so much under the influence of this disease.

Summing up the total of cases for five years, they appear to be forty; and, deducting three I have accounted for (two on the score of the tumour not coming forward, and one as being an old animal and removed from any chance of infecting the young horses), there only remains one solitary case occurring without several others being affected at the same time.

This result seems, in some degree, to favour the idea of contagion being a cause. But, although I incline to that opinion, yet am I fully satisfied that the weather and state of atmosphere have much to do with the appearance of strangles. After young horses acquire a certain amount of flesh, and appear to be thriving and doing well, and are becoming partly acclimated to the stable, we must not expect that all this is to last Fine weather often precedes storms, and it appears necessary to young horses that they should, in some way or other, rid themselves of something hurtful in the system; and this is usually done by their contracting various diseases ending in copious defluxions from the nose, or otherwise by strangles. Thus, we often find cases of this last disease arrested by copious discharges from the nose. But, although under these circumstances the ordinary appearances of strangles have not been gone through, yet, to all intents and purposes, has the animal had the strangles, and the constitution has rid itself of what is obnoxious to it.

In some seasons we have influenza prevailing, and at others strangles; but I think that, usually, the causes which induce the one set of diseases similarly affect the other; and the grand exciting cause, in my mind, is *atmospheric influence.* I have observed that strangles or catarrhal fevers generally appear in a cold, wet spring or autumn, with a heavy, muggy condition of atmosphere; and I look upon the state of the weather, as regards dryness, as a sort of barometer to the health of young horses: thus, it may frequently happen that almost every one of a batch of young horses shall be constantly ailing during the first five or six months after joining a regiment, while another lot, under the same care, feeding, and management, shall scarcely ail any thing during a similar period.

There is an evident tendency, from many causes, for young horses to take on these febrile attacks; and we must look upon it as an effort of nature to get rid of something, induced by stabling, deleterious to the system; and thus we never expect a young animal to thrive and continue to do well until this preparatory step has been gone through. It is true that, occasionally, young horses will pass scatheless through the trial; but these instances are rare, and the susceptibility to these diseases exists for a considerable period. The depressing effects of atmospheric influence being more especially felt at spring and autumn, during moulting season, will induce disease; and so firmly do I feel convinced of this, that under certain states of atmosphere, finding two or three horses to become ill, I think it advisable immediately to be on my guard, by substituting a change of diet to such young horses as are plethoric, and looking carefully to ventilation, &c. and doubling my watchful care over them, in which I find myself rarely deceived.

It would appear by a reference to the table, that the numbers of cases of catarrh and influenza, and low fever, correspond in some degree with those of strangles, shewing that these diseases seem to be influenced by the same causes. Your reviewer remarks, that, although he does not incline to the opinion of the contagiousness of strangles, yet he is aware that many others in and out of the profession entertain a different notion, and he mentions an extensive dealer in horses (a Mr. Shaw, of Acomb, near York), who, firmly impressed with the notion of the contagiousness of strangles, is in the habit of procuring a distempered horse, and placing him among his young stock of horses, that they might take the disease. I have often conversed with Mr. Shaw on this matter, and he assures me it has this effect. Mr. Shaw does this with a view of his young horses having strangles, and by this means getting rid at once of what is obnoxious to the system. He has also assured me, that horses

so treated thrive very much better afterwards, and that they give the greatest satisfaction to their purchasers, inasmuch as they continue to improve without experiencing drawbacks from attacks of those excessively annoying and protracted diseases to which young horses are so subject.

Nottingham, June 6, 1851.

CALCULUS IN THE URETHRA.

By R. Nicholson, M.R.C.V.S., Womersley, near Pontefract, Yorkshire.

To the Editor of "The Veterinarian."

Sir,—Perhaps the following account of a case of calculus in the urethra of a gelding, five years old, will not be thought unworthy of a place in your valuable Periodical, for the benefit of the junior practitioner, since the occurrence of such cases is exceeding rare. The circumstances of the stone descending so low down the urethra, together with the symptoms manifest, might lead the younger members of our profession materially wrong in their diagnosis; on this account I am led to report it.

The animal is five years of age, of cart-horse breed, the property of Mr. Reiley Stubbs, Walden, in this neighbourhood, and was brought to my establishment on the 13th of April last. The symptoms present were, colicky pains, together with others denoting disease of the urinary organs, on which my attention to the bladder was immediately directed as being the probable seat of the malady. On examining, *per rectum*, nothing could be discovered, save distention of the bladder. No calculus could be detected. The distention of the bladder led me to suspect that there might be some obstruction of the urethra. This consideration induced me immediately to proceed to examine the urethral passage throughout its course; when, to my astonishment and entire satisfaction, I found a phosphatic calculus, about six inches from its inferior extremity. I was able, by a little manipulation, to cause it to descend somewhat lower; though, after it had descended an inch or so, I was unable to get it any further in consequence of its changing its position in the urethra, as well as of the excruciating pain it gave the poor suffering beast: I therefore abandoned this mode of procedure, and made an incision at the extremity of the urethra, about an inch in length, by which means I was enabled to reach it with a pair of forceps.

Grasping it firmly, I succeeded in extracting it without much inconvenience. After the operation the quantity of urine evacuated was incredible.

The calculus appears to be a phosphatic deposit: it weighs about four drachms avoirdupois, and measures in its long diameter about two inches, and in its short about an inch and a quarter. It presents a very irregular surface externally.

I may add, that very little hemorrhage occurred after its extraction. The sheath and penis were well cleansed and fomented after its removal, and a mild cathartic given, quietude and mashes directed, and the strictly avoiding of all agents of a diuretic nature. Under this treatment the animal rapidly recovered; and so completely so, that in less than a week he resumed his usual work, at which he has continued up to the present time without manifesting any derangement whatever of the urinary organs.

The horse had been observed to have difficulty in passing his urine for some time previous to my seeing him; but, as to the nature of the affection, no one was consulted until he was brought to me.

I am, Sir,

Respectfully yours, &c.

THE CÆSAREAN OPERATION—FALSE LABOUR, &c.

By JOHN YOUNGHUSBAND, V.S. Greystoke, Cumberland.

IN the April number of THE VETERINARIAN for 1851, there is a paper from the pen of Mr. Cartwright, giving an account of the progress of the Cæsarean operation, wherein he mentions, that it is sometimes had recourse to when the animal cannot be delivered, and specially for the purpose of saving a valuable progeny; to which he adds, a case in point may be found in the "Proceedings of the Veterinary Medical Association." To this, if I may be permitted, I beg to add another one; which, though of no great utility in itself, may tend to shew the advantage arising from a prompt and decided diagnosis.

May 24th, 1849.—I was desired by a farmer (not a regular employer of mine) to visit a cow, which he described to be in a laborious state of parturition, which was attended with extreme debility and loss of motive power. He stated, that they had been using all their means to get the calf away, but without avail; as they could find no passage up to it. Now, from his

being a stranger to me, and the case a hopeless one, I hesitated very much about the undertaking; but he being pressing, I ultimately agreed to pay her a visit. On arriving at my patient's, I found her in a most deplorable condition, unable to make the least use of her limbs. I now for the first time learnt she had been gradually succumbing for the last three weeks. After viewing her generally, I likewise made an examination *per vaginam*, and found the *os uteri* completely closed, without the least signs of preparation for calving. I gave it as my opinion that it arose more from the pangs of death than from the efforts of nature to relieve her that such violent struggles took place. There appearing, therefore, no possibility of the cow surviving even a few hours, and as we strongly suspected that the fœtus was dead, not having seen it move after my arrival, I strenuously advised that she should be destroyed, which was immediately agreed to, and was accomplished by blowing air into the jugular vein. Just as she was about to expire, the calf was seen to make a violent movement, when seizing on the opportunity for the sake of experiment (as it could be reckoned little else), I drew from my pocket a large clasp-knife, with which I am generally provided, and, heeding neither sections nor regions, immediately and almost instantaneously cut away all obstruction between me and the little sufferer, and immediately dragged it forth into the broad glare of that luminary which gives life and vigour to all things.

Thus was brought forth, weak and wavering, a progeny deemed to be dead, which by dint of good management we succeeded in animating and bringing to, and perfectly restoring; for in the space of two days it was able to drink milk without assistance. I kept sight of it for one month, when my employer, having another farm at a distance, where he himself resided, had it removed home, since which I have received no account of it, the distance from my residence to his being great.

May 15*th*, 1851.—I was called to attend a heifer in her first parturition. The messenger stated at the time, that she had experienced the most violent pains, and was straining as though she would "void her inside." He had made an examination; but, somehow or other, could not get to the calf, as there was something that obstructed him; but what, he could not tell.

I visited the animal, and found her as described. In fact, I immediately discovered it to be one of those cases which I have described as *false labour;* and which is well illustrated in a paper by Mr. Hayes, V.S. of Rochdale, in the April number of THE VETERINARIAN for 1840, p. 209, to which I beg to refer the reader: as it would appear great affectation in me to presume

to enlarge upon a case which has been so accurately delineated. I now told the owner how the case stood, and that if he could make up his mind to be patient, I could in a short time make all right. I endeavoured to dispel his fears by relating a case that happened in his own immediate neighbourhood, though, after all, he seemed very doubtful. Now, as the cow was represented to me to have gone the usual time of gestation, I had not prepared myself with the articles required in such cases as this; and had, therefore, the mortification of having to return home to procure them. Being wanted to an urgent case elsewhere, I sent her two doses of sedative medicine; one to be given immediately, the other, two or three hours after, as occasion required, letting them know I would attend again as soon as I could make it convenient. In the evening I made another visit, when I found my patient much easier, the pain and straining being nearly gone, and she appearing cheerful and ruminating. I administered another small draught; ordered one for morning, if required; encouraged the owner, who still remained doubtful; and left. Next evening, passing that way, I made a call, when I found all uneasiness had subsided. I now thought I could perceive something in her appearance that would warrant me in giving a favourable prognostication, which I did by letting the owner know he would ere long get an addition to his stock, to which he replied, "I am afraid it will turn out worse than you represent." Now, to shew how little such men know of animal parturition, the cow, within a very few hours of my last visit, produced a large male calf, needing very little assistance, no more than ordinary attendance; and both mother and calf have done well; and in the language of Mr. Hayes, have "established more confidence" between me and my employer than any thing that has heretofore transpired. I have met with at least a dozen cases of this description; all in cows, and, generally, in the first calf, the difference in time being from one month to a few days. One case I have had in a ewe; none in the mare.

STATUS OF THE VETERINARY PROFESSION.

By Richard Pritchard, M.R.C.V.S., Wolverhampton.

Dear Sir,—I would not have taken notice of your anonymous veterinary correspondent but for your remark at the close of his letter, stating you have his name for any one desiring to correspond privately with him, and his making use of my name, as if he wished to do so with me in particular. He

states, that he could not help expressing his surprise at the attack I made on the Sporting Surgeon for asserting that which was true. I do not consider I did any thing so furious as make an *attack;* and I am positive I never denied the truth of the statement. I have a great aversion to anonymous communications in a professional journal; and more especially on the state of our profession; because it gives the writer the advantage of saying behind the curtain what he would not presume to say before it; and I apprehend this is the position with regard to the subject in question, both of the Sporting Surgeon and the anonymous writer of the article at page 322 of your June No.

I am of opinion the Sporting Surgeon was out of his course when he gave himself the trouble to set the veterinary surgeon to rights; knowing, too, that if he would open his eyes to his own fraternity, he need not seek any other source for a supply of the particular article in which he was at that time dealing. But the complaint the latter made against some practitioners amongst us is comparatively harmless with the serious charges made by the anonymous veterinary surgeon, page 322. Allow me, Sir, to recapitulate them for the benefit of Brighton, Bath, Cheltenham, Leamington, *cum multis aliis:*—"Veterinary surgeons must submit to the insolent familiarities of the grooms: they must also pay them poundage on all bills (!), and, if required, must not hesitate to unite with them in defrauding the masters by charging for new shoes in cases where removes only have been supplied (!!), and also for medicines which have never been required, and possibly never been given (!!!), the groom either receiving *all* or an important part of the plunder" (!!!!). Really, Sir, this is information too important to be limited to the pages of THE VETERINARIAN. It ought to figure in *Bell's Life*, the morning daily papers, and other sources of advertisement. Right glad should I be to see it, and join in the expense, not for the benefit of those veterinary surgeons who practise such infamous and disgraceful swindling, but for those who do not, and for the patrons of the profession. The custom of gratuities to servants is an old one in England, and will remain so; but the purchase of patronage by a system of plunder, in trade or profession, ought to be put a stop to. The whole veterinary profession is bound, as in the performance of a moral duty incumbent upon it, to use every legal means in its power to put down a practice of plunder so disgraceful, dishonest, and destructive to its interest as that declared to be true by the writer of the article, p. 322, of your Journal for June. There are other persons practising the veterinary profession in Brighton, Bath, Cheltenham, &c., besides the anonymous writer, who can add their testimony to the fact, if it be so, of what has been

communicated to you by that person, and they will be doing nothing more than a duty they owe to themselves by subscribing their evidence; and if it be shewn, that such is the degraded state into which a portion of our members have fallen, I think it a right subject for the Council of the College to legislate upon. It does not follow that, because an individual obtains a diploma from the College, he is thereby let loose upon the public and the profession, to plunder the former and ruin the latter. No: there are ways and means to teach him better, and put a stop to his doings.

I am, dear Sir, your's truly.

Wm. Percivall, Esq.

Wolverhampton, June 13, 1851.

ABSCESS IN THE LIVER AND KIDNEY OF A FILLY.

By J. Kay, M.R.C.V.S.

The subject of this case was a well-grown two-year-old chestnut filly, belonging to Mr. W. England, of Pomfret. I first saw her on 4th March last, and my attention was at once directed to a large swelling in the right hypochondriac and umbilical regions, measuring about 12 inches in the antero-posterior by 8 inches in the transverse direction. Pulse 40; respiration 12. Schneiderian membrane of the temperature of the surface. Bowels and urine both normal.

I was informed she had been at grass with a heifer, from which it was surmised she might have sustained some injury; I also learned that she had given much trouble to break in last December; had been several times thrown down and roughly used; and that she had been turned out whilst sweating profusely from such harsh treatment. But there was no swelling or other ailment observed until a few days before I saw her.

At my first visit, I simply ordered the swelling to be fomented for two hours twice a day, refraining from puncturing the tumour on account of the risk, should it not prove an abscess. March 16th, I found the abscess had burst, and discharged a great deal of unhealthy pus. Pulse 26. Schneiderian membrane blanched. The aperture and skin natural. I ordered tonics, fomentations, and plenty of nourishment, which were continued until the 24th, when the owner wished her to take her chance at grass.

Some weeks after, she was found to be much wasted, with appetite impaired, skin unhealthy, pulse 24, and respiration 16. I gave it as my opinion that the case was one of bad omen, since so much apparent mischief could not be expected to arise from a superficial abscess. We had her taken up. The owner, however, soon becoming dissatisfied, again sent the animal to grass, and asked a very young veterinary friend to look at her.

We agreed to attend together. Finding her failing more and more at every visit, we continued the tonics and liberal diet, adding gruel, &c., until she died, which she did under the usual symptoms of anæmia.

On *post-mortem examination*, I found, on taking the skin off the abdomen, seven sinuses. The liver contained two large abscesses, one of which had evidently burst, and deluged the intestines with pus and sanies; in addition to which, there was a smaller one in the left kidney.

The thoracic viscera and muscular tissues in general were healthy, though they presented a blanched and softened appearance.

Query.—Was this amount of disease owing to injuries from the falls or the checked perspiration?

*** Most probably, to the "injuries."—Ed. Vet.

STATUS OF THE VETERINARY PROFESSION.

By Samuel Brown, M.R.C.V.S., Melton Mowbray.

To the Editor of "The Veterinarian."

Sir,—"The false insidious partisan, who creates or foments the disorder, sees the fruits of his dishonest industry ripen beyond his hopes, and rejoices in the promise of a banquet, only delicious to such an appetite as his own."

I regret to see your space occupied by such communications on the respectability of the veterinary profession as that which appears in your last Number by a Veterinary Surgeon. In my opinion it is calculated to sow the seed of discord among the members of our humble profession, already too discordant, and, at the same time, excite the ridicule, if not the contempt, of gentlemen, who in all probability entertain a higher opinion of the integrity of their upper servants than they do of that of

the Veterinary Surgeon. Moreover, the attempt to expose a nefarious system, which possibly may be carried on to a limited extent in certain fashionable places of resort, can only incur a feeling of resentment among those persons with whom we must necessarily come in contact, until gentlemen condescend to become their own grooms and the familiar companions of assuming veterinary surgeons.

However, if our object in practising the veterinary art should be professional reputation, it can be obtained by the exercise of those attainments which enable us to recognise, successfully treat disease, and perform the operations in veterinary surgery with such manual dexterity as will ensure the safety of the animal; and, with the additional qualification of as much common sense as will enable us to pay such a degree of familiarity and respect to all classes of society as will be suitable to their rank and station, we shall have no occasion to have recourse to any principle of dishonesty in order to become *extolled by the grooms*, or to obtain the respect which is due to our social position.

I am, Sir, your's truly.

*** We beg to apologise to Mr. Brown for the omission of his name in the list of "Contributors to the Third Series" of THE VETERINARIAN, as well as to any other gentleman to whom the same omission may have occurred. The keeping of the list is an affair we have commonly left in our printer's hands, though we have no right to hold him responsible for its fulfilment.—ED. VET.

THE MEANING OF THE APPELLATIONS *COURBATURE* AND BLACK QUARTER EXPLAINED.

By WILLIAM ERNES, M.R.C.V.S., Dockhead.

Sir,—I AM not surprised that an English veterinary surgeon should be at a loss to know what *courbature* means, since it appears plain only to any one acquainted with the old names of French farriery. The word is derived from *cœurbature* or *corbature*, beating of the heart; and in the *Veterinary Dictionary* of Lafosse we find it thus explained:—"COURBATURE (la) est à peu près la même maladie que la pleurisie: c'est une inflammation du poumon, causée par une fatigue outrée ou un travail forcé. Le cheval a une fièvre considerable, tient la tête basse, est dégoûté, respire avec peine, tousse, et jette par le nez

une humeur glaireuse, quelquefois jaunatre, quelquefois sanguinolante," &c. Courbature (the) is nearly the same malady as pleuritis: it is an inflammation of the lungs, caused by overfatigue or hard work. The horse has a considerable degree of fever, holds his head low, loathes his food, respires with difficulty, coughs, and has a ropy discharge from the nose, sometimes of a yellowish, at others of a bloody colour, &c., p. 398, vol. i.

Mons. de la Geurinière, in his *School for Cavalry*, gives the following description of the courbature :—" L'on appelle *courbature* dans les animaux ce que les médécins appellent aux hommes *la pleurisie*, ou fluxion de pointrine effectivement même parmis les hommes: les gens grossiers sont accoutumés de donner ce nom indifférement à l'une et l'autre de ces maladies, lorsqu'ils s'en trouvent attèints," &c., p. 147. This is followed by a description of the causes and symptoms and treatment of disease of the chest, shewing that the old farriers perfectly understood the meaning of the courbature, though there exists a slight difference between these two as to its being pneumonia or pleuritis. Lafosse's Dictionary bears date 1776; and De la Geurinière, 1756. But in Hurtrel d'Arboval's Dictionary we read the following:—" COURBATURE, expression vague, inexacte, vulgaire, et d'une acception indeterminée, qui ne presente a l'esprit l'idée d'aucune maladie speciale, et rappelle tout au plus celle d'une reunion d'un certain nombre de symptômes variables appertenant à divers maladies. Quelques auteurs on decrit la courbature comme une phlegmasie des organes du thorax; d'autres, comme une phlegmasie des organes de l'abdomen; ou l'a identifiée avec la phthisie tuberculeuse; on l'a crue une maladie spasmodic; ou l'a rapprochée de la fourbure, du tetanus, &c."—*Dictionnaire Vétérinaire, par Hurtrel d'Arboval*, tom. i, p. 612. This shews that, while the veterinary art progressed in France, the courbature was less accurately defined and understood. Now, we come to the new laws on soundness, and in the law of the 20th of May, 1838, we read as follows :—" Pour le cheval, l'ane, et le mulet, les maladies anciennes de pointrin, ou vieilles courbatures," for the horse, ass, and mule; chronic disease of the lung, or old courbatures, &c., clearly shewing that though this name is obsolete, its meaning is perfectly understood by the legislature, and by the common people, though veterinary writers might have described different diseases under the same name.

One word on " black quarter." This disease, as described in the last Number of THE VETERINARIAN, is neither more nor less than that dreadful malady of horses and cattle called by the French *charbon*. ANTHRAX would, perhaps, be the better

appellation, seeing its characters are a hard circumscribed tumour, exceedingly painful, with tension and burning heat in the subcutaneous cellular tissue. This is often depressed in its centre, and sometimes preceded by a small and almost imperceptible opening. The tumour, though small at first, suddenly increases in size, sometimes to that of a child's head. Grangrene soon supervenes, beginning in the centre and extending to the circumference, which rapidly converts the whole into an eschar of a black colour, similar to a piece of charcoal; hence its name (*charbon*). This eschar is sometimes several inches in diameter, and is almost always either preceded or accompanied by *phlyctenæ*, which form a sort of areola around it. There is also always an œdematous swelling more or less considerable, owing to an emphysematous state, and an infiltration of serum or serogelatine into the cellular tissue, which crepitates on pressure, caused by the presence of gases. The danger and rapidity of the disease are such, that, when an animal is attacked after a violent access of fever, it falls a sacrifice to it in a few hours, rarely exceeding twenty-four or thirty-six. All animals are subject to it, but the herbivora more so than others. It is either epizootic or enzootic: the first is the most destructive.

The CAUSES are heavy fogs, damp air, fetid emanations, arising from the decomposition of animal and vegetable substances; the continued sojourn in marshy pastures during summer heat in the day time, succeeded by cold nights, and the contact or accidental inoculation from diseased animals.

TREATMENT.—Nothing short of deeply incising, or extirpation followed by cauterisation with the iron heated almost to fusion, will avail, followed by a rational internal treatment, acidulated drinks, and spare diet; and even this is too often unavailing. To attempt to check the progress of this disease by the ordinary antiphlogistic means, such as bleeding, &c., is mere waste of time. As auxiliary to the foregoing, many tonics have been recommended, such as boiling vinegar or oil, spirit of turpentine, liquor ammonia, &c.; but the preference is generally given to the chloride of sodium, either in its pure state or diluted with a proper quantity of water. In the incision or extirpation of these tumours, the practitioner should take great care not to cut himself, or to operate if he has any scratches or cuts about his hands. Many veterinary surgeons have been the victims of this want of precaution. The French recommend strong leather gloves, so as to effectually protect the hands, even for the mere exploration of the tumours.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

Bulletin de la Societé Centrale de Médecine Vétérinaire publié par les Soins de son Bureau, et rédigé par M. H. Bouley, *Secretaire Annuel. Année* 1847. Tom. Deuxième. Labé, Paris, 1847.—Bulletin of the Central Society of Veterinary Medicine, published under the Direction of its Committee, and edited by M. H. Bouley, *the Annual Secretary.* For the Year 1847. Vol. II. Labé, Paris. 1847.

[Continued from page 333.]

From the first volume of these interesting "Bulletins" or reports of transactions of the Central Society of Veterinary Medicine in France, we pass on to Volume the Second, which, from being hardly one-third the size of the first volume, in consequence of its containing but one year's reports instead of three, is not only less in dimension, but contains less to invite our attention. In fact, the only article we need notice is one transcribed from a small work sent to the Society by M. Huré, an army veterinary surgeon, upon which we find the Committee reporting as follows:—The subject is—

On the Causes of Chronic Glanders in the Cavalry.

M. Huré is reported to have laid it down as a principle, that chronic glanders owes its origin especially to profound modifications *(modifications profondes)* undergone by the animal economy in consequence of the suppression, tardy or rapid, frequently reiterated, of his cutaneous perspiration. In the first instance, M. Huré passes under examination the several conditions which the troop horse travels through. He follows the animal out of the remount depôt to join his regiment; he observes him while breaking under the riding-master, at grooming, at exercise, at recruit drill, in the field, and, lastly, on march, while he is changing quarters.

M. Huré remarks that young horses recently purchased, after having remained their time of warranty at the remount depôts, are allotted into detachments, and sent off to their respective

regiments; and that after marching several days most of them become attacked with distemper (*gourme*) more or less intensely. And it often happens, says he, while in this state, at a time that the cutaneous perspiration is excited by fatigue, should the skin become suddenly cooled by rain or snow or any other cause, that glandular swellings under the jaw make their appearance, become indurated, and at length acquire the characters of the submaxillary tumour symptomatic of chronic glanders. Such, according to our author, is one of the starting points of the scourge which has so long raged among the horses of the army. This opinion is based upon the following occurrence:—A detachment, consisting of fifty young horses, marched from Alençon, in the course of the year 1838, for Epinal. The temperature was cold at the time. Out of them thirty-four were attacked with distemper, after marching for some days. Six months after, six of those who had suffered from distemper were destroyed for glanders.

In these observations, the Committee are of opinion that M. Huré is too exclusive. He ought, in their opinion, to have placed to the account of the predisposing causes of glanders, ill assortment (of male and female) in breeding, the parsimonious manner in which colts intended for the army are fed, the premature work they (from the age of a year and-a-half to three years and-a-half) are put to; their abandonment, in certain parts of the country, out at pasture for the year together; their subsequent hasty fattening to get them ready for sale, the sudden visissitudes of regimen and habits they are exposed to after purchase; the transit from a state of liberty to confinement in a stable; their agglomeration; the defective conformation of certain of them; their change of place, &c.

After this, the author explains how it happens that breaking should be considered a cause in regiments of cavalry. He says, that the irascibility of certain subjects, together with their irritability or their susceptibility (*mollesse*), give rise at work to sweating; and that, after they are returned to their stables, the dragoons neglect to rub them quite dry; the consequences of which are, that, before their breaking is completed, they suffer repeated suppressions of perspiration, the result of which in the end is chronic glanders.

The Committee admit, with M. Huré, that frequent chills of the skin, at a time that it is bedewed with sweat, is apt to re-act in an injurious manner on the health, and particularly on the pulmonary system. It becomes our duty, however, to observe, that the breaking of young horses is progressively and judiciously conducted, and that at their return to their stables they become the objects of especial attention, as is proved by

the statistics annually furnished by the army veterinary surgeons; which demonstrate that glanders is rare among the remount horses, but particularly prevalent among horses from six to nine years of age, at the time they are doing duty in squadron.

M. Huré points out, with reason, as a cause of glanders, the too prevalent custom, in most regiments, of taking their horses out of the stables, morning and evening, for the purpose of cleaning them, at a time even when the air is cold and humid, notwithstanding many of the horses may evince cold shiverings about the neck, shoulders, and quarters. For a long time past the army veterinary surgeons have made known this departure from the laws of hygiène to the military authorities. Three years ago, M. Robert, Chief Veterinary Surgeon to the 5th Regiment of Artillery, addressed to the Minister of War an excellent memoir on the advantages resulting, in the preservation of horses, from dressing horses in their stables, let the weather be what it will. On which occasion, we should say, orders were issued to every cavalry regiment for the cleaning of the horses, for the future, to be conducted always within doors.

The author likewise says, in respect to the general exercise, that he has been witness to several practices incompatible with hygiène, and which are sources of suppressed perspiration. The time prescribed for exercise is two hours; whereas, it happens every now and then that officers (in command) mistaking the time, find they have got back to the gates of the town before the hour has expired, and, in order to escape reprimand, instead of entering, they make a halt there; the consequence is, that the horses, already sweated by their exercise, catch a chill from the draughts they are exposed to. We are quite of M. Huré's opinion, that this is wrong; but we believe it to be an exceptional case.

Other causes of suppressed perspiration connected with military discipline are mentioned by M. Huré, which it is hardly worth while here to repeat: we shall, therefore, conclude this Report with the

Resumé, that we cannot agree in opinion with our author when he says, that glanders prevails much more among horses in the army than among such as are employed in agriculture and for general purposes, owing to the repetitions of suppressed perspiration to which the former are subject. If we contrast the care which the former receive with the vicissitudes of all kinds besetting the second, we shall perceive that some other causes must exist for our cavalry horses being so infected besides suppressed perspiration: there must be an aggregate of causes acting in consonance to produce such a result.

From the veterinary statistics of the French army, published on a former occasion* in this Journal, as well as from reports every now and then reaching us through other channels, we feel ourselves authorized in asserting, that, among the horses of the French cavalry and artillery, glanders is much more prevalent than it is in our army; and since it is pretty well ascertained from facts derived from the experience of army veterinary surgeons in this country, that stabling has much to do with the continuance of the disease, so we should apprehend that sufficient stress has not been laid upon this point by the French authorities we have been citing. We do not dispute that, on occasions, glanders may prove the off-set of malignant catarrh or fever, induced by suppressed perspiration; but we take this to be a rare cause when brought into comparison with others: nor is it one to which, for our own part, we feel inclined to pay any great amount of attention.

* See VETERINARIAN, vol. xxiii, pages 89 and 90.

VETERINARY JURISPRUDENCE.

COURT OF EXCHEQUER.

Before Mr. Baron Parke and a Common Jury.

IM THURN *v.* EMMOTT.

MR. W. H. Watson and Mr. Manesty conducted the case for the plaintiff, and Mr. E. James and Mr. J. Browne appeared for the defendant.

This was an action by which the plaintiff sought to recover compensation in damages for the alleged breach of the warranty of a horse for which the plaintiff had paid the defendant £75.

It appeared that the plaintiff, a merchant in the city, but having a residence at East Dulwich, in the month of April last purchased a chestnut gelding from the defendant, a livery stable-keeper in Bond-street, upon a warranty of soundness given by the nephew of the latter. He paid the sum of £75 for the animal. He had not, however, had the horse many days before it was discovered that he was suffering from lameness. The groom had also found that the horse did not feed, and upon examining his mouth saw that he was labouring under what is

termed "lampas." These were cut away, and then the animal, having recovered from the immediate effects of the operation, took his feed as well as any other horse. Upon the discovery of the lameness, the plaintiff sent the horse up to the Veterinary College at Camden-town, to be examined, with a view to the ascertainment of its cause. Professor Spooner made the examination, and afterwards gave a certificate to the effect that the horse was unsound; that it was lame in the "off fore leg," having contracted feet, more particularly the "off fore foot;" that there was the indication of splints, and that the horse had a "thrush" in that foot, which was the immediate cause of the lameness. This was on the 29th of April. It was also said that the horse was not only unsound at the time of the sale, but that the cause of that unsoundness had been in existence for several months prior to the time of the sale to the plaintiff. The horse was eventually returned to the defendant, who refused to refund the purchase-money: hence the present action for compensation.

In the course of the evidence it was stated, that the horse in question had upon two occasions been sent to Buckingham Palace for trial by his Royal Highness Prince Albert, and that even on the day when the plaintiff made the purchase the animal had been sent to the Palace for a further trial by the Prince. The nephew of the defendant proved that he had not only sold the horse in the absence of his uncle, but had warranted it to be sound. He then stated, that when the horse was brought back, it was in a very dirty state, and that the disease of "thrush" was frequently the result of neglect and dirt. At the termination of the examination and cross-examination of the nephew,

Mr. James said it was his intention to ask his Lordship that the Jury might take a sight of the horse [*laughter*], and so form an opinion for themselves from a personal inspection.

Mr. Watson should object to such a proceeding, as unusual.

Mr. James would then make a formal application to his Lordship upon the point. His application was, that the Jury might be allowed to go and look at the horse, which had been brought down to some stables in King-street, a street close by, and—

Mr. Baron Parke thought it was but reasonable, if it were desired by the defendant, that the Jury should make a personal inspection or examination (if any of them understood horses) of the animal.

Mr. James said that if his learned friend objected to the Jury's paying a visit to the stables, which, as he had stated, were close by, he should then ask his Lordship's permission to

bring the horse into court [*loud laughter*], for the purpose of the animal being identified by the witness, as being the horse which had been sold to the plaintiff. [*Renewed laughter*].

Mr. Watson should object to the horse being brought into court. [*Increased laughter*].

Mr. Baron Parke.—I think the Jury should have the opportunity of looking at the horse, and of forming an opinion for themselves.

The Jury, in the course of the day, retired from the court to look at the horse, which had been brought from the stables, to the outside of the court.

Upon the return of the Jury, several of them said that they were just as wise then upon the subject as they were before they had gone out to look at the horse.

After some other witnesses had been examined,

Professor Spooner, of the Royal Veterinary College, Camden-town, was examined. He said—I remember examining this horse at the College on the 29th of April. I submitted him to the usual preliminary tests, and as he trotted down I observed that he was lame in the off fore foot. I then examined his feet, and found that the feet were contracted, and that in the foot mentioned he had a "thrush," or discharge. There was a "disinclination" (disintegration?) in the structure, accompanied by narrow feet. Narrow feet there might be, but still a healthiness might nevertheless exist in the feet, and no lameness be the result. There was a contraction of the heel. Contraction might be the result of disease, and there might also, from other circumstances, be contraction in the feet which was not the result of disease; that is, a contraction in existence independent of disease. But in the case of this horse, in my opinion, the lameness is the result of a predisposition to an internal disease; or, in other words, this "thrush," and consequent lameness, are the results of internal disease. The horse is therefore unsound. In my opinion the horse has internal disease of the foot, which has produced this external appearance and lameness. The thrush was in the off fore foot. The contraction of the feet might exist, and the consequent tendencies might appear, but still not always in such a way as that a casual observer should notice them, whilst a real judge of what a horse is subject to on an examination would make the discovery. The attack of thrush may be cured, where it does not arise from predisposing causes, in a comparatively short time. There are two classes of thrush; one where it is the result of predisposition and of internal causes, of inflammation of the leg or foot, or of the internal structure of the foot; and in that case, as in the one under consideration, the effects are incurable, for a permanent

unsoundness has set in. We frequently have cases of the disease called "thrush" under examination, with a discharge from the "frog" of the foot, where the attack is the result of inflammation of its own structure; that is, to disease of the structure of the foot, or where it has been brought on by an accumulation of dirt and neglected moisture. But in most of these cases we think but little of them, for they are curable. In the case of this particular horse, however, there is no cure, for there are present the symptoms of internal disease of a chronic character. I have seen many cases where men considered to be good judges of horses have been taken in. The disease in this horse has been of considerable standing, and must have existed long before the time when the purchase was made.

Cross-examined.—Taking the attack of thrush, where not chronic, it may be created probably in forty-eight hours. In the course of one night, for instance, it will appear, although when the horse has been "put up" for the night there may not have been any apparent indications of its approach. It is a very rare result that thrush is produced by a bruise of the foot. With respect to the contracted feet of this animal, I believe that contraction to be what is denominated "congenital." These are very small feet. It by no means follows that I should have rejected this horse simply because he has contracted feet. I have just seen the horse outside, and I have no hesitation in stating that he is lame; he is decidedly lame in the off fore foot. He is not now labouring under thrush, but the frog is in an unusually bad condition. I found that the horse had splints, but they are not the immediate cause of the lameness.

Mr. Turner, *Mr. Kerr*, and *Mr. Nice*, veterinary surgeons, were then examined, and all corroborated the testimony of Mr. Spooner.

Mr. E. James, on the part of the defendant, contended that the real truth of the case was, that the plaintiff, being unable to ride his horse, was anxious to return it to the person of whom he had purchased him. The plaintiff was a Dutchman*, and, as it happened, a Dutchman who was an exceedingly bad rider. [*Laughter.*] Indeed, he believed it was a proverbial fact that skill in equitation was not a national characteristic of the Flemish or of the Dutch. A "riding Dutchman" was as much a fable as a "flying Dutchman" [*laughter.*] For himself, he could say that when in Holland he had seen some Dutchmen attempt to ride, and certainly a greater caricature upon equestrianism it would be utterly impossible to conceive. With

* The plaintiff, we are credibly informed, is a *Swiss*, and therefore the learned Counsel's humorous caricature of *Dutch* equestrianism is inapplicable.—Ed. Vet.

respect to the horse which formed the subject of the present action, he was prepared by the most indisputable testimony to prove, beyond all doubt, that the animal was "sound." In conclusion, he would entreat the Jury to consider the case fairly, as between the parties, without any prejudice, and, if they did so, then he was assured they would arrive at a just conclusion, that conclusion being a verdict for the defendant.

Mr. Meyer, the riding-master to his Royal Highness Prince Albert, who had made several trials of the horse, on being called, stated, that at the time of the sale the animal was perfectly sound. The reason the Prince did not become a purchaser was, that his Royal Highness did not like the white legs.

Mr. Mavor, a veterinary surgeon, gave it as his opinion, that the horse was a sound horse essentially, and that although, like other horses, it had had the "thrush," still that disease in his case was the result of local inflammation, and not the result of deep internal disease. It was not from chronic causes. Of course, so long as a horse was labouring under thrush, or under its effects, he would be unsound. With regard to the size of the fore feet of this horse, the "off fore foot" was the larger of the two. (It will be recollected that the medical witness called by the plaintiff stated that the off fore foot, that in which the disease was, was contracted and considerably smaller than any of the other feet.) In his opinion, there was no disease of thrush which was incurable.

Mr. Field, another veterinary surgeon, said that he had examined this horse on the 9th of May, at which time the off fore foot was bad with thrush, and he saw him again yesterday, when he found that the animal was very considerably recovered. In his opinion, this attack of thrush was the result of local inflammation, which might have been occasioned by neglect or an accident. He had measured the two fore feet of the horse, and had found that the off fore foot was the larger of the two. There was no contraction in this horse's feet as the result of disease or as leading to disease.

Cross-examined.—He did not see any contraction in the feet of this horse.

By Mr. Baron Parke.—The feet, no doubt, were long and narrow, but they were not contracted.

Cross-examination resumed.—This was a congenital formation without doubt, but not a case of contracted feet. When he examined the feet yesterday the frog had been all pared, because it had been diseased. His examination of the horse on the 9th of May satisfied him that the horse was unsound, for he was lame in the off fore foot. The frog at that time was spongy and decayed, and a discharge was coming from it.

Hotness of the foot would be the first indication of disease in the foot, but, if the horse were gently physicked and taken care of, he would soon get over it.

Mr. Vines, another veterinary surgeon, gave similar testimony as to the disease not having been in existence at the time of the sale.

Mr. Watson replied.

Mr. Baron Parke summed up.

The Jury consulted for a few minutes, and then gave a verdict for the defendant.

Times, June 1851.

County Court, Ashbourne.

At the County Court held on Tuesday last, the only case that excited any interest was one respecting the warranty of some cows, which were purchased by Mr. James Brough from Mr. Samuel Millward, of Horsley, at the fair at Ashbourne on the 29th of November last. It appeared, that the plaintiff, purchased the cows as barren, but, two of them proving to be in calf, he sought to recover damages on that account. His Honour remarked that it was a novel case. After a good deal of conflicting evidence respecting the warranty, his Honour directed the plaintiff to be nonsuited. [We regret that, owing to the unavoidable absence of our reporter, we cannot furnish a report of the case.]—*Derbyshire Advertiser, July* 1850.

Home Extracts.

THE RATE OF IMPORT DUTY ON DRUGS.

Aloes—The duty which previous to 1832 was 1*s.* 3*d.* per lb. on Hepatic or Barbadoes, 2*s.* 6*d.* on Socotrine, 3*d.* on Cape Aloes, and 9*d.* on all other sorts, was in that year fixed at 2*d.* per lb. on all sorts the produce of the British possessions, and 8*d.* per lb. from other parts. In 1842 the duty was further reduced to 1*d.* per lb. on the produce of British possessions, and 2*d.* from other parts. In 1845 the duty was repealed. We import aloes from the East Indies, Barbadoes, and the Cape;

and export to America, Australia, Russia, and the ports of the Mediterranean.

Balsam Capivi.—The duty, which, previous to 1832, was 2*s.* per lb., was then reduced to 4*s.* per cwt. In 1845 the duty was repealed.

Camphor.—The duty, which, before 1832 was 10*d.* per lb. on refined and 5*d.* on unrefined, was then fixed at 40*s.* per cwt. on refined, and 1*s.* on unrefined. In 1842 the duty on refined was fixed at 10*s.* per cwt., and on unrefined at 1*s.* per cwt. In 1845 the duty on unrefined was repealed; and the duty on refined was fixed at 5*s.* per cwt., at which it still remains. We obtain our supply of camphor from the East Indies and China; and export it to Russia, America, and the Mediterranean.

Cantharides.—Previous to 1832 the duty was 3*s.* 6*d.* per lb.; it was then reduced to 1*s.*; and in 1842 to 3*d.* per lb., at which it still remains. We obtain our supplies of cantharides from the ports of Russia and the Mediterranean, and export to North America, Canada, and Australia.

Cubebs.—The duty, which, previous to 1832 was 2*s.* per lb., was then reduced to 6*d.*, and in 1842 to 1*d.* per lb. In 1845 the duty was repealed. We import cubebs from the East Indies.

Gamboge.—The duty, which, previous to 1832, was 1*s.* 8*d.* per lb., was then reduced to 4*s.* per cwt., and in 1842 to 1*s.* per cwt. In 1845 the duty was repealed. We import gamboge from the East Indies.

Gentian.—The duty, which, previous to 1832, was 6*d.* per lb., was then reduced to 4*s.* per cwt., and in 1842 to 5*s.* per ton. In 1845 the duty was repealed. We import gentian from France, Germany, Switzerland, and the ports of the Mediterranean.

Guaiacum.—The duty, which, previous to 1832, was 3*d.* per lb. on the produce of any British possession, and 1*s.* 10*d.* on that of any other part, was then fixed at 6*s.* per cwt. on all sorts, and further reduced to 1*s.* per cwt. in 1842. In 1845 the duty was repealed.

Gum Kino.—The duty, which, previous to 1832, was 1*s.* 6*d.* per lb., was then reduced to 6*s.* per cwt., and in 1842 to 1*s.* per cwt. The duty was repealed in 1845. We import these gums from Trieste and the ports of the Mediterranean, also from the East and West Indies.

Hellebore Root.—The duty, which, previous to 1832, was 6*d.* per lb., was then reduced to 1*d.* per lb.; and in 1842 to 3*s.* per cwt. In 1845 the duty was repealed. We import hellebore from France, Germany, and the Mediterranean ports.

Myrrh.—The duty, which, previously to 1832, was 1*s.* 8*d.* per lb., was then reduced to 6*s.* per cwt., and in 1842 to 1*s.*

per cwt. The duty was repealed in 1845. We import myrrh from the East Indies, &c.

Seeds Anise.—Previously to 1832, the duty was 60*s.* per cwt.; it was then reduced to 5*s.*, and in 1842 was fixed at 2*s.* 6*d.* per cwt. on the produce of British possessions, and 5*s.* on that of foreign parts. The duty was repealed in 1845. We import anise seeds from the Mediterranean.

Squills.—The duty, which, previous to 1832, was 20*s.* per cwt. on dried, and 5*s.* on undried, was then fixed at 8*s.* per cwt. on the former, and 1*s.* on the latter. In 1842 the duty was fixed at 1*s.* on dried, and 6*d.* on undried. In 1845 the duty was repealed. We import squills from Trieste, &c.

Pharmaceutical Journal, May 1851.

THE ARSENIC BILL.

THIS Bill having passed the first and second readings in the House of Commons, was introduced into Committee on the 15th of April, *pro formâ;* with the intimation, on the part of the Secretary of State for the Home Department, that it would be reprinted with some verbal corrections, and again brought before the House in its amended state prior to the third reading.

The alteration required is in the second clause, which is obscurely worded, and for which it is proposed to substitute the following:—

II. No person shall sell less than ten pounds weight of Arsenic at any one time to any person who is unknown to the person selling such Arsenic, unless the sale be made in the presence of a witness who is known to the person selling the Arsenic, and to whom the purchaser is known, and who signs his name, together with his place of abode, to such entries, before the delivery of the Arsenic to the purchaser; and no person shall sell less than ten pounds weight of Arsenic at any one time to any person other than a male person of full age.

III. No person shall sell any Arsenic, unless the same be, before the sale thereof, mixed with soot or indigo, in the proportion of one ounce of soot or half an ounce of indigo at the least to one pound of the Arsenic, and so in proportion for any greater or less quantity: provided always, that where such Arsenic is stated by the purchaser to be required, not for use in agriculture, but for some other purpose for which such admixture would, according to the representation of the purchaser, render it unfit, such Arsenic may be sold without such admixture, in a quantity of not less than ten pounds at any one time.

An alteration is also desirable in the third (now the fourth) clause, which permits the wholesale purchaser to buy Arsenic in quantities of NOT LESS THAN 100*lbs.* WEIGHT; the effect of which provision would be to oblige many persons to purchase several times the quantity they require.

Pharmaceutical Journal, May 1851.

SOLUTION OF LAC A SUBSTITUTE FOR COLLODION.

As a substitute for collodion, Dr. Mellez recommends a solution of powdered shell-lac in hot highly-rectified spirit. The solution when cold becomes gelatinous, and is used by joiners for polishing furniture. Spread on taffeta or linen and applied to the skin, it shews all the properties of collodion. It is impenetrable to air, water, fat, and the organic secretions; it does not irritate the skin, and can be employed instead of dextrin for fractures. Wounds heal remarkably quickly when dressed with this solution.—*Pharmaceutical Journal, May* 1851.

Foreign Extracts.

ON THE CONTAGION OF ITCH OR MANGE *(GALE)*, AND ITS TREATMENT.

By M. LE Dr. H. BOURGUIGNON, Laureate of the Institute, Member of the Society of Medicine of Paris.

(Read at the Academy of Sciences, at their Sitting of Nov. 11, 1850.)

[Continued from page 354.]

CHAPTER II.

On the Communication of Itch from Man to Animals.

THE non-transmission of mange (or itch) from animals to man leaves room to suppose that every animal possesses its proper acarus, and an itch or mange peculiar to it: the study of the contagion of itch from man to animals confirms this opinion.

Communication of Itch from Man to the Dog.

On the 9th of May ten lively acarus, taken from an itched subject, were transported upon a dog of middle size, from two to three years old, five being placed upon its back, and five upon its belly.

On the 16th of May, the microscope could detect no trace of the insects. Ten others were laid upon the belly.

30*th.*—The epidermis was everywhere furrowed, the insects having commenced making grooves, though nothing resulted from them. The furrowing produced branny scales, a sort of slight pithyriasis. There is not the slightest eruption. The belly is shaved; the skin appears white and smooth. Five fresh acarus are laid upon the part, and watched for half an hour. Two of them set to work immediately, digging into the epidermis, and concealed themselves underneath it. I surrounded the place they had taken possession of with a circle made by azotate of silver. The following morning I found them in the same place. The morning after they had deserted their first made cave, and had commenced another close to it.

4*th June.*—They have passed the boundaries of the circle; the epidermis is lacerated; the acarus are seen still alive underneath its pellicles; nowhere is to be detected any regular or determinate grooves.

10*th.*—Same observation. The belly is shaved, and ten more acarus put on.

12*th.*—The acarus living, commencing furrows, and afterwards abandoning them.

20*th.*—Same state. The acarus appear to have become distributed over the body, for none are to be found, and the hair is growing again.

The dog is kept in the hospital until the end of July, being all the while in perfect health.

In fine, up to the 15th September, nothing had happened to excite any suspicion of the transmission of the disease. Thirty-five acarus had been placed, during May and June, upon the dog, without giving rise to any symptom of mange.

Communication of Itch from Man to the Rabbit.

12*th May.*—Eight human acarus were placed upon the back and belly of a rabbit. They disappeared in a furrow almost immediately.

20*th.*—No trace of the acarus to be found, nor did the animal shew any sign of mange.

6*th June.*—Same observation. The belly was shaved, leaving exposed a fine rose-coloured soft skin, clothed by an epidermis of extreme delicacy. Hardly were six acarus placed upon it than they attacked it and made their grooves, so that in twenty minutes four of them were completely covered, they being perfectly perceptible through the epidermic pellicle.

8*th.*—The insects have remained concealed in a sort of groove,

although they have deserted the spot they occupied two days before. Some ecchymotic spots, produced by the lesion made into the superficial vascular network, indicate the places where suction has been applied.

10*th.*—Grooves commenced and abandoned, demonstrate that the acarus are in search of some home to please them, whence they may find suction fit for their nutrition. Not one of the insects, though ordinarily so productive, has left any eggs behind it.

15*th.*—Same observation. The insects are still living. The belly of the rabbit is covered with furfuraceous pellicles, but nowhere is to be found the true groove.

1*st July.*—The hair has grown, and no longer permits us to discover the insects. No eruption is to be seen, nor any sign of itch. The rabbit continued well during July and August, notwithstanding, altogether, it has received fourteen acarus.

Transmission from Man to the Cat.

A cat was placed under experiment at the same time, during the very same days, with the rabbit. Fifteen acarus disappeared upon her skin without our being able to find them again. It is true that, less enduring than the rabbit, she did not permit us to use the razor. This cat, which lived at the hospital Saint Louis, never once created any suspicion that she felt the insects upon her.

Transmission to Birds.

Fifteen acarus were placed at three different times, at intervals of ten days, underneath the wings and feathers of a sparrow, which never experienced the slightest irritation or annoyance.

The same experiment was made upon a Guinea-pig and upon a rat, without affording any result.

Conclusions.

It may therefore be deduced from these divers observations, that the insect of the itch of man is able to survive for some variable time upon animals; that it conceals itself at once underneath their epidermis, without making grooves through it; a circumstance ascribable in the one case to the fineness of the epidermis, which becomes detached in scab as the insect burrows under it; in the other case, to the quality of the nutritious juices, which, although fit for sustenance for a certain period of the life of the acarus, and especially in the rabbit, is not sufficiently grateful to detain them in one place, like that of man.

One acarus, in fact, does not abandon a groove once made—nothing induces it to decamp: every thing conspires to make us believe that it dies upon the spot after having travelled about 1-25th part of an inch during the twenty-four hours, and pierced the epidermis covering it with small apertures through which the young larvæ hatched along the train of its eggs may make their escape.

The transmission of a single acarus suffices in man to produce itch. The animals we have submitted to experiment have all received a greater or less number of insects without experiencing the slightest indication of the disease.

Let us, therefore, conclude that the communication of itch (or mange) from man to animals, and from animals to man, is impossible, though the diseases of the skin in animals often prove the occasion of some affection of the same organ in man.

ROYAL VETERINARY COLLEGE, LONDON.

At the Annual Examinations for honours, held at the above institution at the close of the past session, the following were the questions propounded by the respective teachers; and to which the names of the successful competitors are added.

It is extremely gratifying to record the progress which is being made in the education of the student of veterinary medicine, who is much advantaged by acts like these, from a healthy and laudable stimulus being by them imparted to his mind, the benefits resulting from which do not cease with his pupillage.

Session 1850-51.

1. Name the Cranial Nerves; their numerical arrangement, and their endowments separately. Also state the foramina through which they obtain exit from the cranial cavity.

2. Describe the changes which the Food undergoes in its passage through the alimentary canal of the horse, commencing with the lips; and point out the most striking peculiarities in the process of assimilation, as performed in the horse, comparatively with ruminating and carnivorous animals.

3. State the number of Teeth in the mouth of the foal at birth, and say to what class they belong; also state if any other of the same class are subsequently developed; and if so, at what periods; and further explain the nature of the changes generally, which

take place in the teeth, up to five years old, as indicative of the age of the horse.

4. Explain the pathology of the disease commonly called Grease; and state the causes which give rise to it, both predisposing and exciting; also the treatment to be pursued for its removal in the different stages met with.

5. Explain the symptoms of Nephritis in the horse; and name the causes which give rise to it, both predisposing and exciting.

CHARLES SPOONER,
Professor of the Anatomy, Physiology and Pathology of the Horse.

Silver Medal	Mr. Thornton Hart.
Certificate of Merit of the First Class.	Mr. Charles Steel.
Certificate of Merit of the Second Class.	Mr. John Gamgee.

SECTION.

ANATOMY, PHYSIOLOGY, AND PATHOLOGY OF THE OX, SHEEP, &c.

1. Describe the principal constituents of the Blood; explain the round of the circulation, naming the vessels immediately connected with the heart; and also state the alterations the fluid undergoes while circulating, together with the causes and advantages of these changes.

2. State the circumstances influencing the suppurative result of Inflammation; and describe the formation and progress of an abscess.

3. Point out the differences between the Œsophagus of the ox and horse; and explain briefly the anatomy of the stomachs of the ox: also state the especial function of each, in the several processes of deglutition, rumination, and digestion.

4. Name the symptoms of Choking in the ox; say which indicate the greatest danger; and describe the several operations required to afford relief in the different varieties of choking usually met with.

5. Describe the structural anatomy of a portion of the Common Integument, which is party coloured and very thinly covered with hair,—cut from the side of a pig.

6. Name the different causes of Variola Ovina, and also the leading symptoms of the disease in its several stages: explain likewise the treatment, general and special, which should be

adopted; and be particular in describing the progress of ovination, and the necessary precautions to ensure the success of this operation as a prophylactic.

7. Point out the differences in the general arrangement of the parts proper to the kidney of the ox and sheep, and also describe the structural anatomy of the gland in the latter animal.

8. Explain the pathology, symptoms, progress, results, and post mortem appearances, of the disease termed "red water;" also name the principles of cure, and the details of treatment in its different stages.

J. B. SIMONDS, *Professor.*

Time, 12 *to* 6.

Silver Medal	Mr. Charles Steel.
Certificate of Merit of the First Class . .	Mr. John Gamgee.
Certificate of Merit of the Second Class . .	Mr. Thomas Webb.

Division—CHEMISTRY, &c.

W. J. T. MORTON, *Professor.*

"Facts, not Words."

1. Give the foundations and advantages of the atomic theory.

2. Describe the manner in which the elements of compound bodies comport themselves, when under the influence of electrolytic action.

3. State both the old and modern theories of combustion.

4. Shew how, analytically and synthetically, the composition of water may be proved; enumerate its various kinds, also their tests and the general properties of this fluid.

5. Describe what particularly takes place when water is subjected to the influence of cold, and the conditional states in which it exists.

6. Describe the methods by which oxygen gas may be obtained, its uses and characteristic properties.

7. Give the sources of carbonic acid, its states, and how produced, also its properties as a gas.

8. State the sources and uses of ammonia, especially in reference to the animal kingdom.

9. Give the origin of the phosphoric acid in the vegetable kingdom; and state where the phosphates are most abundantly met with.

10. Classify and describe the tests for arsenious acid, with the re-actions that take place; also the accepted antidote, and mode of preparation.

Time allowed, 12 *to* 5.

Silver Medal	Mr. Thornton Hart.
Certificate of Merit of the First Class . .	Mr. E. Carrington.
Certificate of Merit of the Second Class . .	Mr. G. Wentworth.

Practical Anatomy.

1. Name the muscles which are attached to the occiput, and describe the precise part of that bone to which each is attached.

2. Describe the foramina of the orbit, also the vessels and nerves which pass through them.

3. Describe the course of the œsophagus from its commencement at the pharynx to its termination in the stomach; and be particular in pointing out its relative position and connection with adjacent parts.

4. Describe fully the anatomy of the pericardial sac.

5. Describe the form of the spinal cord; how and where it terminates; also state the variations in its diameter.

6. Describe the membranes of the spinal cord, and state briefly the anatomical peculiarities of each.

7. Describe the origin of the spinal nerves, the peculiarities of their roots, and their passage out of the spinal canal.

8. Describe the course of the anterior tibial artery, and state the position it holds to other important organs; and further describe the continuation of the same vessel to the pedal bone.

9. Describe the figure of the tenth dorsal vertebra, stating its size (as compared with other vertebræ), the number of its articulations, and the ligaments proper to it.

G. W. Varnell,
Demonstrator of Anatomy.

Prize:—*Miller's Principles of Surgery, last edition, elegantly bound and appropriately lettered*	Mr. John Henry Carter.
Certificate of Merit of the First Class	Mr. Charles Steel.
Certificate of Merit of the Second Class	Mr. Thomas Webb,
Equal	Mr. George Rossel.

THE VETERINARIAN, JULY 1, 1851.

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

SINCE the publication of the Charter, now seven years and more ago, nothing in the profession has occurred to afford us greater gratification than the announcement we are this month called on to make, of the introduction of a Bill into Parliament—whereof a copy will be found in our pages—for the exemption of "Veterinary Surgeons, and Professors and Teachers of (at?) Veterinary Colleges and Schools" from "serving the office of Constable, Collector of Assessed and other Taxes, Churchwarden, Overseer of the Poor, or any other office, County or Parochial; and from being returned and from serving on any Jury, Leet, or Inquest whatsoever," &c. Such a boon as this, though too long deferred, come when it will, cannot fail to be most acceptable to private practitioners. Nothing can be more annoying or vexatious than having irresistible calls like these made upon a veterinary surgeon in busy practice, at a time when the demands upon his attendance and judgment are such that it is impossible for any substitute to supply his place. An animal's life is in danger, or lameness calling for prompt and judicious decision is painfully pending; and the veterinary surgeon is peremptorily called away to serve on a jury, or to transact some important business of his parish! The result is easily guessed at. In the one case, the animal, worth perhaps forty or fifty, or a hundred pounds even, may die for need of that skill and experience which might have saved his life; in the other, lameness may run on to destruction of foot—and it might as well, for what the horse is likely to be good for afterwards, run on to destruction of life itself—in the absence of the man who would have discovered its seat, and applied the proper remedy *in time* to save the animal from such disastrous consequences.

Our readers will give us credit for never having ceased to entertain sanguine hopes of obtaining privileges such as surgeons in practice have all along enjoyed to our exclusion. So that those who have put such questions to us as, "what has the Charter done for us?"—"what are we the better for it?"—are likely

soon, we trust, to have their questions satisfactorily answered. The Bill passed, members of the "Body Politic and Corporate" will find themselves in a position enviable to those who do not belong to that body; since it must be plainly understood, "that members of the said Body Politic and Corporate, *solely* and *exclusively* of all other persons whomsoever, shall be deemed and taken and recognised to be Members of the said Profession, or Professors of the said Art, and shall be individually known and distinguished by the Name or Title of Veterinary Surgeons," &c. And that no other persons, we may add, whomsoever and whatsoever, will be included in the said Bill now before Parliament. We hope next month to be able to speak in terms of congratulation to the Profession on the successful progress, or even the passing, of their much desired Bill. It was read for the second time in the House of Lords on the 19th of last month.

Since the above has been in type, the Bill passed the third reading in the House of Lords, on Tuesday last, the 24th ult., and was read for the first time in the House of Commons on the following day.

In our present Number appear no less than three letters on the "Status or Respectability of the Veterinary Profession," in reply to two anonymous communications; one of which—originating the matter—appeared in our Number for April last, and was subscribed "a Sporting Surgeon;" the other, in our publication for last month, subscribed "a Veterinary Surgeon." One of the letters, Mr. Dickens', reached us at too late a date in April to obtain insertion—as probably was the intention of its writer—in our May Number, which, in some measure, accounts for its apparent lateness of reply to that of the "Sporting Surgeon."

We have as "great an aversion" to *anonymous* communications as Mr. Pritchard or any of our correspondents can have, and particularly when they relate to matters other than are purely scientific. This constitutes a question, however, in which Editors—who, like ourselves, are not at all times placed by their "correspondents" in a position to be fastidious or saucy—on occasions find themselves in a difficulty which way to act.

Many years ago, at the commencement of our journalistic career, a very true friend to us and to our Journal—a surgeon in practice of some experience in matters of the kind—was consulted as to the most politic or fairest course to pursue in such a dilemma; and his advice ran thus :—"There are descriptions of papers which the editor does perfectly right not to admit without real signatures, such as cases of cures performed, the effects of the exhibition of powerful remedies, and facts of real importance. But papers on scientific subjects might not be improperly admitted, although anonymous. Many gentlemen may write on scientific subjects connected with the veterinary art who may not choose to be known. *They* must leave their papers to the good sense and discretion of the editor to insert or not. If they are inserted, the parties feel gratified; if they are not, they feel no chagrin, since they are not known. After all, however, every editor must lay down rules for his own guidance, and not suffer himself to be diverted from his purpose without very good reasons. And he must assume the privilege of omitting or altering any passage in the communications sent him that may be ungrammatically or obscurely constructed, for which the writers ought to be, and, I believe, are in general, thankful." This advice, given in the true spirit of friendship, of a gentleman wishing well towards the cause in which we had engaged, we have, if not to the letter, at least in the main, acted up to. It is, we repeat, on occasions, a difficult matter for us, *in our position*, to decide between what we owe to the public and what we owe to our Journal. Our desire is to give no offence; our policy, to give as little as possible.

In respect to the subject which has this month brought us rather an unusual supply of "correspondence," viz. *the Status or Respectability of the Veterinary Profession*, our own opinion is, that, if we are to proceed in the matter to the extent our correspondent in the June Number would seem inclined to push us, we should, with the public, rather "befoul our own nests" than do ourselves any service thereby. That ungentlemanly and dishonest practices of the kind mentioned by "a Veterinary Surgeon" do exist, not in our profession only, but in others as well, and especially among tradesmen, whose businesses lay among opulent and noble families, we are afraid is too notorious

to be questioned; and that, in certain venal quarters, business can hardly be carried on without some such roguery, we can also believe; but that any man of principle, assuming any pretensions to the name of gentleman, would "take his account and write down 100" when 50 only was owing to him, we cannot imagine. Neither will we be easily persuaded—although for the time being, custom might, for want of acquiescence with the groom or coachman in dishonest practices, be temporarily lost—that *in the end* the practitioner would incur any great damage from refusal to participate in such unprincipled collusion. But whether loss or not accrue, nothing whatever can countenance such practices as "a Veterinary Surgeon" speaks of; and should the opposition party be dishonourable or dishonest enough to take advantage of refusal to do business on terms at once degrading and insulting to a professional man, the very exposure involved in the reasons given for declining such business cannot fail ultimately to unmask the roguish circumventor. But servants do not possess the sway with their masters they did in former days. Masters look more into their domestic concerns, and call for more frequent and stricter accounts from their head-grooms and bailiffs. The former will tell you they *expect* to be "robbed;" but they are determined the plunder shall not proceed to any very great extent, or be perpetuated for any indefinite length of time.

We have received one more letter on this subject than we have inserted. It is anonymous; but that is not the reason why we have on the present occasion withheld it. It is because its general tenour, we think, is calculated rather to do harm than good to the cause of our profession. For all this, however, there is a passage or two in it which tells in such complete unison with our view of the subject, that we cannot forbear giving it a place here. It is—"what is to become of the Veterinary Surgeon, if, in the veterinary books published, his aid be in but few cases recommended?—If you are a scientific body, write as men of science, for the good of your professional brethren, and not for every quack and ignorant pretender!—There is your College too! The young farmer goes to it and takes his ticket for a session, but stays perhaps but a fortnight, and then returns as full of (assumed) knowledge as any of you,

&c." In reply to the latter part of this quotation, it should be understood, that, whether a man "stays" one day or one year at the Royal Veterinary College, he cannot be admitted as a pupil under the amount of the regular fee, which is twenty guineas: a sum, we should imagine, few farmers in these free-trade days would be disposed to spend upon their sons, to "stay but a fortnight at College."

The former part of this quotation, however, calls for more consideration. We have always regarded with a feeling allied to disgust *popular medical writing*. It has done the patient harm and the doctor too; while any benefit that has accrued from it can be estimated only at the treasury of the publisher, for whose house such plausible and saleable stuff has been concocted. Publishers' long purses have seduced some of the best men, in our and other professions, to write that which they must have felt no brother-professional could applaud no more than their own consciences approve.

If pathology, with its handmaid, therapeutics, derive its value from physiology, and physiology be nothing worth without anatomy, then must popular medicine, into the composition of which none of these sciences enter, be a fallacy—a hit or miss sort of knowledge, which is likely to be twice wrong for once right: in a word, a most uncertain and perilous pursuit. It is of no use to interlard the descriptions of disease with a smattering of anatomy and physiology: giving such things to "useful knowledge" readers in general is like casting pearls to swine. Besides, supposing medical science were reduced to such mathematical principles that every disease had its appropriate remedy assigned it, does not every medical man well know that no two cases of diseases, or two patients labouring under the same malady, ever presented mathematical similitude? Does not the disease itself vary in character and intensity and tendency? and does not the constitution of one patient differ altogether from that of another? And yet our employers are to be taught by popular medicine to "cure" diseases themselves, and to shut the door against the doctor, as of no service until the "closing scene" be let down. If there be one reason we dare vaunt for self-gratulation more than another, it is that we

have never suffered ourselves to be seduced to write "Every Man his own Horse and Cattle Doctor;" "The Groom's Oracle;" an "Encyclopædia of Veterinary Medicine and Farriery," &c. &c. In the language of our Correspondent, if we are (or profess to be) "men of science," let us "write as men of science!"

In human affairs, popular medicine or *empiricism*—for the line of demarcation between them is not a very broad one—has received some serious checks and warnings from deaths and coroners' inquests. But the poor dumb animal has no coroner to bring his destroyer to account. Life after life, and limb after limb, may be sacrificed, and no one be found to make a complaint. The doctor who can restore a lame or a sick horse in the shortest time, and at the smallest cost to his master, has an undoubted claim to preference; but are promises or assertions, and a parcel of worthless fabrications, perhaps "certificates of cures performed," to weigh with us against practical facts and results whose value experience is daily unfolding to us? And, yet, how are the public gulled and cheated by such lies and devices! St. Bel, the first Professor at our Veterinary School, found veterinary affairs in a rude and barbarous state at the time he commenced teaching; since which, through the exertions of his successors, and various of their pupils who have emanated from the schools, they have become greatly altered and improved. Let us then, since we have so far advanced, not go backward by attempts to reduce our art to a level with the capacities of men who have never studied its elements, much less can comprehend its principles. St. Bel prefixed a frontispiece to his Works, representing empiricism scared at the apparition of science, with the motto,

A l'aspect de la verite l'ignorance s'enfuit.

This must be our motto too. To quackery let us present the bold and truthful visage of science. Though the former may prosper and thrive for a while, whenever thus confronted will the arch-deluder be found quailing and shrinking from the daylight.

PROCEEDINGS OF THE COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

COUNCIL MEETING, MAY 27th, 1851.

Present—The PRESIDENT (in the Chair), Professors SPOONER, SIMONDS, and MORTON; Messrs. BRABY, BURLEY, CHERRY, A. CHERRY, ERNES, GODWIN, HENDERSON, JAS. TURNER, WILKINSON, WITHERS; and the SECRETARY.

THE minutes of the last meeting having been read and confirmed,

Mr. Godwin proposed, and *Mr. James Turner* seconded, the re-appointment of Mr. A. Cherry as Registrar.

Professor Simonds referred to the incompleteness of the Register, and to the difficulties in the way of compiling a complete list of the members of the profession—difficulties which he considered no one individual could surmount. He therefore proposed the appointment of a Committee of Registration, of which Mr. A. Cherry should be a member, for the purpose of laying before the Council as complete a list of members as they could compile. The Registrar had not at present sufficient materials; and it was not right that he should be placed in the unpleasant position of being obliged to send out so imperfect a list as that which had been published.

Mr. A. Cherry said, there was an admission in the Register that it was only correct up to the year 1809. He adverted to the many difficulties which had been thrown in his way by the apathy evinced by the great body of the profession; and expressed a hope, after the remarks which had been made upon the incorrectness and incompleteness of the Register, that he should have time allowed him to make good its deficiencies: when that was done he should willingly resign his office into the hands of a committee.

Mr. Cherry, and several other members, drew attention to the lists which had been published from time to time by the College, and expressed their surprise that the Registrar should not have availed himself of them, as they would have supplied many omissions in the list he had prepared.

Mr. A. Cherry said, he doubted the correctness of these lists, and did not, therefore, embody the names contained in them unless they were supported by collateral evidence.

After some further discussion on the subject, during which *Mr. A. Cherry* stated that the present list was withheld, that gentleman was re-appointed as Registrar. He then applied for a committee, consisting of Professors Simonds and Morton, and

the Secretary, to assist him in his labours; and the application was, on the motion of *Mr. Ernes*, seconded by *Mr. Henderson*, unanimously granted.

The President being under the necessity of leaving, Mr. Cherry was elected Chairman in his stead.

Professor Simonds proposed that not a smaller sum than that of last year, namely £75, should be placed at the disposal of the Secretary for the year 1851-2.

Mr. Burley seconded the motion.

Professor Spooner adverted to the very efficient manner in which the Secretary had performed the duties of his office, and suggested that £100 should be placed at his disposal for the ensuing year, regretting that the funds of the Institution did not allow them to vote a sum commensurate with the services rendered.

Professor Morton seconded the proposal; and Professor Simonds, after stating his full concurrence in the observations of Professor Spooner, having withdrawn his motion, with the consent of the seconder, it was passed unanimously.

The Secretary felt gratified that his services were approved of. They had always been performed by him *con amore*, and had been considerably lightened by the valuable co-operation of nearly every member of the Council. The Secretary then stated, that the next business was to fill up the vacancies in the Board; at present there were three, one in the London and two in the Edinburgh portion. Two gentlemen had been named, one by Professor Morton, to fill the veterinary vacancy in Scotland; and another by Mr. A. Cherry, to act in London. A medical vacancy would still remain in Scotland, which he was not prepared to fill.

The resignation of Mr. Goodwin as a member of the Board of Examiners was then laid on the table; and, on the motion of *Professor Simonds*, seconded by *Mr. Wilkinson*, was accepted by the Council.

Mr. A. Cherry proposed, that Mr. Walton Mayer should be elected to the vacancy caused by the resignation of Mr. Goodwin: it was quite unnecessary for him to say any thing in support of that nomination; it was seconded by *Mr. Turner*.

Mr. Godwin nominated Mr. A. Cherry.

Mr. Burley seconded.

A ballot was taken; when a majority was declared in favour of Mr. W. Mayer, and he was declared duly elected.

On the motion of *Professor Morton*, seconded by *Mr. A. Cherry*, Mr. Cowie was unanimously elected to fill the vacancy in the Scotch Board.

Mr. A. Cherry laid before the Council the draft of a bill to

exempt veterinary surgeons from serving on juries or inquests, or as churchwardens, overseers of the poor, or other parish or county officers. There was now an opportunity, he said, for presenting such a bill to the House of Lords, Lord Beaumont having promised to take charge of it, and to use his exertions in carrying it through. It would be in the form of a public bill, and would therefore not involve any very considerable expenditure. Mr. Cherry enumerated the acts which had been passed by the legislature with reference to the immunities enjoyed by the medical profession; and urged the desirability of similar privileges being conceded to the veterinary profession. Even if the bill should not pass, the interests of the body would not be in any way prejudiced thereby; but an important step would be gained in furnishing a precedent for such an application. He begged to move for a committee in order to carry out the proposition.

The Chairman (Mr. Cherry) was of opinion that the profession generally did not desire these exemptions.

Mr. Burley was quite sure that the profession could little afford to devote their time to such offices, and that they were almost unanimous in desiring an exemption from them.

Mr. Ernes said, that the exemption would not disqualify them from filling such offices if they were desirous of doing so.

Mr. Withers seconded Mr. Cherry's proposal.

The motion was put and carried in the following form:—

"That a committee be appointed to take measures for obtaining an Act of Parliament for privileges and exemptions for members of the body corporate; and that such committee report the result of their proceedings to the Council."

The following gentlemen were appointed on the Committee:—The President, the Secretary, Professors Spooner and Simonds, Messrs. Henderson, Mayer, and A. Cherry.

The President named Messrs. Ernes, Braby, and the Secretary as the Committee of Supervision of the report of the evening.

The proceedings terminated with a vote of thanks to the Chairman, moved by *Mr. Ernes*, and seconded by *Mr. Wilkinson*, and carried unanimously.

WM. ERNES,
EDW. BRABY,
E. N. GABRIEL.

COUNCIL MEETING, JUNE 3d, 1851.

Present—The PRESIDENT (in the Chair), Professors SPOONER and SIMONDS; Messrs. BRABY, CHERRY, A. CHERRY, ERNES, GROVER, HENDERSON, MAYER, PEECH, WILKINSON, and the SECRETARY.

THE minutes of the previous meeting were read and confirmed.

Mr. Ernes complained of what he considered an irregularity in the withdrawal of the Register lately published.

The President explained, that the list was only withheld by him, in consequence of some omissions in it, until the opinion of the Council could be taken.

After a brief conversation respecting the business transacted at the meeting held on the 13th of May,

The Secretary read a letter from the candidate referred to at a previous meeting as having been rejected by the Scotch Board of Examiners, requesting his examination fee of ten guineas to be returned, together with the certificates of his attendance at the Edinburgh Veterinary College, as he was about to leave the country, and should not, probably, be able to avail himself of the privilege of a re-examination.

It was stated, that he was not entitled to have his fee returned, inasmuch as it was paid, not for admission, but for examination; and it was held, that the certificates of all candidates, whether admitted or rejected, should be retained by the Secretary as vouchers for the examiners, and as a security against forgery.

Mr. A. Cherry laid before the Council the report of the Committee appointed at the last meeting to take measures for obtaining an Act of Parliament for privileges and exemptions in favour of veterinary surgeons. He presented also the draft of a petition from proprietors of horses and other domesticated animals, and another from veterinary surgeons, praying that such exemptions might be granted, together with a rough draft of the proposed bill.

REPORT FROM THE COMMITTEE APPOINTED TO PREPARE A DRAFT OF A BILL FOR PRESENTATION TO PARLIAMENT.

Your Committee having twice met and deliberated on a proposed Draft for a Bill laid before them, revised and corrected, submit such amended draft to the consideration of the Council.

Your Committee, deeming it requisite for the success of the measure recommended that petitions should be presented to Parliament, have accordingly prepared copies of such petitions in support of the Bill. Such drafts your Committee also submit for the consideration of the Council.

Your Committee also beg leave to suggest that Mr. Jago be

empowered to place the Bill in the hands of the Honourable the Lord Beaumont for presentation, and that immediate steps be taken to obtain signatures to the abovenamed petitions.

JAS. B. SIMONDS
CHARLES SPOONER
ALEX. HENDERSON
THOS. WALTON MAYER
WM. ROBINSON
E. N. GABRIEL
ARTHUR CHERRY, *Secretary to Committee.*

May 3d, 1851.

To the Right Honourable the Lords Spiritual and Temporal in Parliament assembled.

The humble Petition of the undersigned Veterinary Surgeons, practising at
and its vicinity.

Sheweth,

That your Petitioners by Letters Patent, bearing date the Eighth day of May, in the Seventh Year of Her present Most Gracious Majesty, have been incorporated, and by the said Letters Patent the Members of the Corporation are deemed and taken to be recognized as a profession individually known and exclusively distinguished by the name or title of Veterinary Surgeons.

That your Petitioners, in the practice of their Profession, are greatly inconvenienced and sustain much loss by being compelled to serve on Juries, Leets, and Inquests, and to discharge the duties of County and Parochial Offices.

That the compulsory performance of such duties and offices very frequently is attended with great and serious losses to the Owners of Horses, Cattle, and other domesticated Animals.

That the discharge of such duties unavoidably forces your Petitioners to neglect those Animals intrusted to their Medical Care, not only tending to the aggravation of the diseases of such Animals, but augmenting in a serious degree the loss of life.

Your Petitioners humbly submit their case to the consideration of your Honourable House, in the hope and expectation that your Lordships will enact a Law, relieving them of what they so justly complain, by extending to Veterinary Surgeons the exemption which the Medical and other Professions enjoy.

And your Petitioners will ever pray, &c.

To the Right Honourable the Lords Spiritual and Temporal in Parliament assembled.

The humble Petition of the undersigned Proprietors of Horses, Cattle, and other domesticated Animals, residing at
in the County of

Sheweth,

That your Petitioners are Proprietors of Horses, Cattle, and other domesticated Animals, and have frequently to avail themselves of the aid of Veterinary Surgeons when their Animals are suffering from diseases or accidents.

That your Petitioners acknowledge that of late years great benefits have resulted to them from the superior manner in which their Animals are treated by Scientific Practitioners of Veterinary Medicine and Surgery, which not only leads to the saving of the lives of many which otherwise would be lost, but to the arresting and cutting short the progress of disease.

That very many of your Petitioners, depending upon Agricultural pursuits for a livelihood, can ill afford to incur the loss of valuable Animals.

That your Petitioners often do sustain heavy losses from the present state of the Law as affecting Veterinary Surgeons.

That of late years many diseases of an epidemic nature have been very rife among Animals in general, after shewing themselves without any premonitory symptoms, and quickly carrying off their victims, and that it not unfrequently happens when your Petitioners' Horses, Cattle, Sheep, or Pigs are thus suddenly attacked, they find that the Veterinary Surgeon cannot give his personal attendance, having been summoned to a distance to serve on Juries at the Assizes or Quarter Sessions, or being compelled to attend Juries and Inquests, or discharge the duties of County or Parochial Offices.

Your Petitioners, therefore, expect that your Honourable House will pass such a Law as will leave Veterinary Surgeons free to discharge the duties of their Profession.

And your Petitioners will ever pray, &c.

(CIRCULAR.)

Royal College of Veterinary Surgeons.

THE Council being desirous to obtain for the Members of the Body Corporate, the exemptions from the liabilities of serving on Juries, Inquests, and of County and Parochial Offices, have appointed a Committee to take measures towards obtaining a Bill from the Parliament granting such exemptions and privileges.

The Committee, consisting of the President, the Secretary, and Professors Spooner and Simonds, and Messrs. Henderson, T. W. Mayer, and Arthur Cherry, deeming it necessary that the application (which has already been made in the House of Lords) for such Bill of Exemptions and Privileges, should be supported by Petitions forwarded to you for the purpose of obtaining as many signatures as possible, one for those Members of the Body Corporate who reside in your neighbourhood, and the other for those who, being Proprietors, can by their Petition greatly assist; the last is the more important of the two.

As this is a measure that more particularly affects those Members of the Body Corporate resident in the Country, the Committee trust that every means will be taken to forward the measure.

Your attention to, and speedy return by post to me, as under, of the Petitions enclosed, is therefore requested.

(By Order of the Committee),

ARTHUR CHERRY,
Secretary to the Committee.

31, Gresse Street, Rathbone Place,
London, June 9th, 1851.

To

It was moved by *Mr. Ernes*, and seconded by *Mr. Braby* "That the report now read, be received." Carried unanimously.

Mr. Wilkinson asked on what foundation such proceedings had commenced? He thought it would be imprudent to incur any great expense in the matter until they had ascertained what had been done by surgeons and other corporate bodies, and what success had attended their efforts.

Mr. Henderson believed that the surgeons would be glad to have a clause in their favour inserted in the present Bill.

Mr. Ernes thought there would be no difficulty in raising funds to pay the expenses of the Bill, for both the country and town members were greatly in favour of it.

Mr. A. Cherry said the Bill would be in the form of a public, and not a private bill, and would therefore involve but a comparatively small expenditure.

Mr. Mayer stated that in the original petition for the Charter, these privileges and exemptions formed a part and parcel of their prayer. They were told at the Home Office that they could not be granted by charter, but would require a distinct bill; which bill, however, could not be introduced unless the charter was obtained. He therefore thought that the Council was pledged to the prosecution of this undertaking on the part of the profession generally. It could not, of course, be done without expense; but some portion of it, he believed, would be willingly borne by the profession.

Mr. Wilkinson stated that Mr. Mayer's reasons were very satisfactory as far as they went: perhaps there were few so little affected by the proposed measure as himself, but he was none the less anxious that his professional brethren should enjoy such privileges: he then asked what probability there was that such a bill would pass.

Mr. A. Cherry explained, that more than a twelvemonth ago a proposal was made to Mr. Henderson and himself, by Mr. Jago (a gentleman thoroughly conversant with parliamentary business) that such a bill should be presented. Owing to the illness of the President, the discussion and revision of the bye-laws, and consequent confusion of the Council, no steps could then be well taken in the matter; but now that the Council was in working order it was deemed expedient to bring the matter forwards, and the proposal was adopted. Mr. Jago had considerable influence with the House of Lords, and he promised his services freely in carrying the Bill through; and Lord Beaumont had undertaken to present it. Taking all the circumstances into consideration, he thought there was a fair and reasonable chance of the Bill being carried.

Mr. Ernes said, if the Bill was lost, the body corporate would not be in a worse position than they were now; but would have taken a step forwards, by bringing their claims before the public, and establishing a precedent for such an application.

Mr. Cherry thought the country practitioners would not, as a body, be favourable to the Bill.

Mr. Mayer and several other members stated that the feeling of both town and country members was all but unanimous in its favour.

On the motion of *Mr. Peech*, seconded by *Mr. Grover*, the report of the Committee was adopted by the Council.

Mr. Ernes moved "That the Committee be requested to continue their labours, and to take such steps as they may deem advisable for the effectual promotion of the Bill now before Parliament."

Mr. Peech seconded the motion, which passed unanimously.

The sum of £25 was granted to the Committee for current expenses.

The Secretary gave notice of the following motion :—"That the President be requested to communicate with the Honourable Board of Directors of the East India Company, calling attention to the fact of a non-graduated member of the College having obtained an appointment as veterinary surgeon in their employ; a circumstance likely to prove most detrimental to the Honourable Company's service and to veterinary science, and utterly at variance with the system hitherto adopted in Her Majesty's service."

The same gentlemen as at the last meeting were named by the President for the Committee of Supervision, Edw. Braby, W. Ernes, E. N. Gabriel.

VETERINARY SURGEONS' EXEMPTIONS.

A Bill intituled an Act to exempt Veterinary Surgeons, and Professors and Teachers of Veterinary Colleges or Schools, from serving on Juries and other Offices.

WHEREAS by Letters Patent, bearing date at Westminster the Eighth Day of March in the Seventh Year of the Reign of Her present Majesty, reciting (among other things) that Thomas Turner, William Joseph Goodwin, Thomas Mayer, William Dick, William Sewel, Charles Spooner, and James Beart Simonds, by their Petition, humbly represented that the Royal Veterinary College of London and the Veterinary College of Edinburgh have been established for many Years for the Education of Students in the Veterinary Art, and that the Petitioners have been Pupils at the said Royal Veterinary College of London, which was established in the Year Seventeen hundred and ninety-one; that the said College was instituted to improve the Veterinary Art; that the Institution had been of great Advantage to the Country and to the Royal Army; that said Petitioners had been at considerable Expense in Payment of the necessary Fees until they obtained a proper Certificate or Diploma; and that nearly One thousand Members who graduated at the Veterinary Colleges of London Edinburgh are practising as Veterinary Surgeons: And whereas in and by the said Letters Patent it is willed, granted, ordained, and declared that the said Thomas Turner, William Joseph Goodwin, Thomas Mayer, William Dick, William Sewel, Charles Spooner, and James Beart Simonds, with such other Persons as hold Certificates of Qualification to practise as Veterinary Surgeons granted by the Royal Veterinary College of London or by the Vete-

rinary College of Edinburgh respectively, and such other persons as now are or may hereafter become Students of the Royal Veterinary College of London or of the Veterinary College of Edinburgh, or of such other Veterinary College, corporate or unincorporate, as now is or hereafter shall be established for the Purposes of Education in Veterinary Surgery, whether in London or elsewhere in the United Kingdom, and who shall pass such Examination as may be required by the Orders, Rules, and Byelaws framed and confirmed pursuant to the said recited Letters Patent, be Members of and form One Body Politic and Corporate, by the Name of the Royal College of Veterinary Surgeons: And whereas the said recited Letters Patent do further declare and grant that the Veterinary Art, as practised by the Members of the said Body Politic and Corporate, shall be henceforth deemed and taken to be and recognized as a Profession, and that the Members of the said Body Politic and Corporate, solely, and exclusively of all other persons whomsoever, shall be deemed and taken and recognized to be Members of the said Profession, or Professors of the said Art, and shall be individually known and distinguished by the Name or Title of Veterinary Surgeons: And whereas Veterinary Surgeons, and the Professors and Teachers of Veterinary Colleges and Schools, are compelled to discharge the Duties of County, Parochial, and other Offices, and serve on Juries, Leets, and Inquests, which is highly detrimental to the Interest of their Profession, and very injurious to the Proprietors of Horses, Cattle, and other domesticated Animals; and as there is no Law to relieve them from such Duties and Services, it would be expedient that an Act should be passed exempting them from the Duties and Services aforesaid: Be it therefore enacted by the Queen's most Excellent Majesty, by and with the Advice and Consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:

That from and after the passing of this Act Veterinary Surgeons actually practising in any Part of the United Kingdom, and the Professors and Teachers of Veterinary Colleges and Schools recognized by the said recited Letters Patent, and the Professors and Teachers of Veterinary Colleges and Schools which shall be established for the Purposes of Education in Veterinary Surgery in the United Kingdom by Authority of the Crown, are hereby absolutely freed and exempted from serving the Office of Constable, Collector of the Assessed or other Taxes, Churchwarden, Overseer of the Poor, or any other Office, County or Parochial, and from being returned and from serving on any Jury, Leet, or Inquest whatsoever, and shall not

be inserted in the Lists to be prepared in pursuance of the Provisions of an Act passed in the Sixth Year of the Reign of His Majesty King George the Fourth, intituled "An Act for "consolidating and amending the Law relating to Jurors and "Juries," notwithstanding any Prescription, Grant, Writ, or Statute to the contrary.

NAMES OF NEWLY ADMITTED M.R.C.V.S.

THE following Gentlemen having passed their Examination before the Board of Examiners appointed under the Royal Charter of Incorporation, have received the Diploma of the Royal College of Veterinary Surgeons.

1850.

December 18.

Frederick Joseph Mavor	London
John Grogan	Belfast
Richard Parker	
Stephen Beeson	Chalfont, Bucks
John Jenks	Ellesmere, Shropshire.

1851.

April 30.

Isaac Bristow Bacon	Upper Clapton
Edward John Brock	Brixton
John Carless	Stafford
Edmund Carrington	Great Missenden, Bucks
Joseph East	Bishopstone, Bucks
Colin Vernon Payne	Market Drayton, Salop
Henry Webb	
Gavin Scott	Hampstead
Thomas Webb	
Hicks Withers	Bristol.

May 7.

Robert Knight	Lochgelly, Fifeshire
Bernard Reynolds	Dublin
George Snowball	Huntly, Aberdeenshire
John Newlands	Erskine, Renfrewshire.

May 14.

Thornton Hart	Hadleigh, Suffolk
William Blensom	Daventry
Francis Cotterell	Kensington
Charles Waterman	Winchester

Charles Steel	Norwich
John Bull Richardson	Birmingham
William Cawthron	Walton, Wakefield
John Mason	Harleston, Norfolk.

May 20.

William Henry Augustus Waller	Madras, India
Henry Bath	South Wroxhall, Wilts
Francis Grace	Witney, Oxon
William Sanders	Studley, Warwick
George Wentworth	Great Grimsby
Charles Henderson	London
George Evans	Carmarthen, South Wales
George Russell	Olkbrook, Derbyshire
Henry Wragge	Soton, Nottinghamshire
John Haydock Ramsbottom	Islington.

May 28.

John Henry Carter	Bradford, Yorkshire
Robert Moorhead	U. S., America
Michael Clancy	Kildare, Ireland
William Scott	Chippenham, Wilts
William Barrow	Newmarket
John Quallett	London
James Darling	Cheshire.

MISCELLANEA.

SUCCESSFUL EMBRYOTOMY IN A CASE OF MONSTROSITY.

We have just seen a full-grown calf, in the possession of Mr. G. F. Morton, veterinary surgeon, of this town, which he extracted from a cow in the possession of Mr Thomas Foster, of Pinchingthorpe, with one head, four ears, two necks joined together by the skin, four fore legs (one pair coming out at the back of the others just behind the shoulder blades) two separate bodies, and four hind legs, in their natural position. So that it had four hind legs and one pair of fore legs to walk with. The calf was alive, but embryotomy had to be performed before its extraction. It had one heart and lungs, but divided at the diaphragm into two separate bodies, each having separate sets of organs, stomach, liver, &c. Both are heifer calves, and the colour is a good roan. The cow is doing well.—*Yorkshireman.*

THE

VETERINARIAN.

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CASES FROM PRACTICE.

By J. Gloag, V.S., 11th Hussars.

Thoroughpin, treated by Acu-puncturation and Pressure.

JULY 11*th*, 1850, a chestnut mare, aged four years, admitted with a large thoroughpin, off hock. This had existed four or five months, and seemed to be increasing in size. It was proposed to me that the hock should be extensively fired; but, instead of so doing, the following plan of treatment was adopted:—

I cut a slice, transversely, about half an inch in thickness, off a large bottle cork, and this was pierced by four common-sized darning needles, so that their points projected about half an inch from the surface. The cork was used in order to give the needles a firm position, and to admit of the distances of their projecting points being graduated according as required. I then plunged the needles into the enlarged sac, on each side, which was followed by a slight oozing of serous fluid. The hock was afterwards ordered to be well fomented. This treatment was daily repeated until the

16*th*, when no particular change had occurred. The operation was to be daily continued; but, instead of fomenting after the puncturing, the parts were to be well smeared with an ointment composed of hydriodate of potass one part, mercurial ointment one part, blister ointment half part, and lard ten parts.

25*th*.—The thoroughpin is evidently somewhat reduced. After each operation the swelling partly subsides, but subsequently fills again. The ointment is occasionally discontinued for a day. I was now resolved to try the effect of pressure. For this purpose I applied a spring-truss to the hock, upon the enlarged bursa, which was to be daily punctured, as before, with the application of the ointment as often as it could be safely used. After the first application of the truss, it was quite astonishing to observe the difference in the enlargement, which had become

quite soft, and evidently shewed that its contents would be absorbed. The mare wore this truss day and night, and took her walking exercise in it daily. I need not follow the case in detail, but simply state that, on the

10*th Aug.* the enlargement of the hock was almost gone, and that, in a very short time afterwards, it became as clean as the other joint. The truss was discontinued on the

20*th Aug.*, when the mare was discharged. Up to the present time there has been no appearance of a return of the affection.

Remarks.—This is the fourth case I have treated successfully in this way; and, from what I have seen of the plan, I am quite satisfied it is extensively applicable. The late Mr. Ions, of Waterford, many years ago, was the first person who mentioned to me about puncturation with needles: he told me it was a very common practice with him. This case, however, did not fully answer my expectation; and the matter remained unsettled in my mind until I saw in the pages of THE VETERINARIAN a drawing and account of a spring truss for the hock, where the two remedies, *puncturation* and *pressure* conjointly, struck me as being very feasible; and now I am quite satisfied that they will answer in many cases. I do not think that bursal enlargements can with safety be opened in any other way than by puncturation with needles.

FEVER, ENDING IN DISEASE OF THE LUNGS AND PLEURA.

Jan. 18*th*, 1845, 11 A.M.—Bay mare, aged four years, admitted with fever. The mare had been to riding-school early in the morning, and appeared pretty well. She was now observed to be very dull, hanging her head, &c. I was sent for, and found her as above described. She was also "blowing" a great deal, and appeared very weak, and the Schneiderian and conjunctival membranes were injected. The pulse was 70, but very weak. She was moved into a loose place; her legs rubbed with turpentine liniment, and bandaged up. A tepid injection of soap and water was thrown up; the body was warmly clothed; potass. nit.; resinæ et aloës āāʒij, given in ball.

Three o'Clock, P.M.—All the symptoms are increased. The breathing has become very quick; pulse, still very weak, 75. I felt afraid of congestion, and, although I was fearful of the results of drawing blood, yet did I not, at the time, see any other resource. The mare lost about three quarts, which proved to be of a black treacly consistence. She appeared much exhausted, and the vein was pinned up.

Seven o'Clock, P.M.—The breathing is decidedly easier; but the mare is very weak, and the pulse scarcely discernible. She is kept quiet, with a pail of fresh water before her.

Nine o'Clock, P.M.—The mare reeled about, and fell, and could not rise. The mouth felt cool, and was very white. Pulse scarcely to be felt. After much difficulty, we got her on her legs, but to all appearances she seemed so exhausted that she was likely at once to die. With a view to rouse the circulation, ammon. carb., camphoræ, zingiberis āā ʒij, were administered in a ball. Turpentine was applied to the legs, and double bandages, and some thick gruel horned down.

Twelve o'Clock, P.M.—The mare is in a most alarming state; no pulse to be felt, and the mouth cool and white. The breathing, however, is quieter. Spts. æther. nit., tinct. opii āā ℥ij, given, and stimulated the front of the chest extensively.

Jan. 9th.—This morning the mare appears much easier in her breathing, but extraordinarily weak; mouth very pallid; pulse scarcely to be distinguished; legs are warm, which are kept bandaged, and are occasionally hand-rubbed whenever inclined to be cold: the shoes are also removed, and the feet put into hot water, as far as the top of the coronets, should the legs become cold. There has not been any action on the bowels. The ball to be repeated as yesterday, and injections given occasionally during the day.

Six o'Clock, P.M.—She has slightly rallied; some dung has passed. Give rad. gentian., zingib. āā ʒij, cantharidum gr. v, in a ball.

10*th.*—The breathing is much relieved, and the mare appears better. Mouth of a more natural colour, but she is still excessively weak: she hangs her head very much, which feels hot, and the mare looks stupid. I thought it advisable to give some aloes; and accordingly gave ʒiv in a ball, with gentian and ginger: having injections still occasionally thrown up.

11*th.*—This morning the breathing appears perfectly natural, but there is no recovery of strength. The mare picks over a little mash, but remains heavy and listless: pulse 70, though scarcely to be felt: she utters an occasional cough; dung quite loose.

16*th.*—From the last date no particular change has occurred. The mare has not regained any strength; she eats a little; the breathing has continued perfectly natural, but she has not lain down since the first day. I augur badly of her case. She has an excellent groom, and her appetite is indulged with every change of food.

20*th.*—The breathing has increased very slightly in frequency. The mare does not like pressure upon the off side, and coughs

occasionally. I apprehend hydrothorax, and therefore apply strong blisters to both sides, and prescribe half a diuretic to be given daily.

23*d*.—The breathing still continues to increase in frequency, and the mare does not regain her strength.

31*st*.—From the last date the case has continued steadily to progress towards a fatal termination. The balls were discontinued on the 24th. The breathing has now become distressing, and the weakness is extreme. On the 24th I first perceived a fœtid smell from the nostrils. The cough since that time has increased, and the respiration has gradually assumed the peculiar double heave of hydrothorax. The smell from the nostrils is now horribly offensive. She died on the night of the 31st.

Post-mortem Examination.—I found the lungs greatly diseased. On the left side of the chest they were, as the saying is, "completely gone." The right lobe was very much diseased, and the lobes absolutely shrunk. The pleura was also much involved. Extensive adhesions had formed between the pleuræ pulmonalis and costalis. The cavity of the chest was filled with water, with bands of coagulable lymph floating in and across it.

Remarks.—I have inserted the above unsuccessful case, because I think such cases do most good: this is recorded exactly as it occurred some five or six years ago. I know, as I read it, how dissimilar my practice would have been now, with a very weak pulse. I certainly should not bleed, and I think in this case I should have cut short all those diasters attendant upon bleeding by a judicious combination of the stimulant and sedative, as by ether and opium. The case shews us how fearfully the system is, in some cases, lowered by blood-letting, even to the extent of three quarts. This poor animal had no blood to lose. I would very gladly have infused more into her veins afterwards, when I found out my mistake. I feel quite convinced that disease of the chest in this instance, and hydrothorax, supervened upon the loss of blood, and that it would not have occurred under a different treatment; for I believe that congestion may take place from absolute debility and want of power to carry on the circulation: and as to hydrothorax, as far as my experience goes, that disease only occurs after the system has been much lowered either by treatment or disease.

STRANGULATED HERNIA IN A COW.

By Jas. Stowar, V.S., Turreff, Aberdeenshire.

To the Editor of "The Veterinarian."

Sir,—As I have been an attentive reader of The Veterinarian for some time, and have of late seen several letters from "Correspondents," I beg your acceptance of the following interesting case for insertion :—

On the 17th of Sept. 1850, I was called to the farm of Ashogle, to see a cow which had been injured by the horns of another; but as I had left home that afternoon for a distance, and did not return until late next day, I did not see the cow until the 19th. I found her with a hernial tumour protruding from the right iliac, which remained covered within the skin, so large that a bushel measure would not have contained it. She was evidently in much pain while standing, and would stand only a very short time. I was told that she had eaten a good deal since the accident, and, as a stoppage of the dung was observed, they had given her a pound of Epsom salts. Her abdomen was enormously distended, notwithstanding the largeness of the hernial tumour. The non-escape of the fæces was proof positive, under the circumstances, of the hernia being strangulated.

I had her laid on the left side, as carefully as possible, and, after every attempt to return the hernia by external manipulation had failed, I cut into the sac, and attempted to knead in, inch by inch, the gorged intestines; but in this also I failed. The hernial opening was large enough to admit three of my fingers, so that it was not want of room in that, but in the abdominal cavity, which was so fully distended by the intestines forming the hernia, that caused the difficulty. I had her laid upon her back, with her hind legs drawn up, so as to throw the contents of the abdomen as much as possible upon the diaphragm. Even then, however, I could not succeed; I therefore with a sharp-pointed scalpel cut into the intestine, and emptied it entirely of its semi-fluid contents; stitched up the wound, and washed it carefully; and so ultimately accomplished the reduction. With a strong cord I closed the hernial opening, as well as the one I had made through the skin, nine inches farther up; I then turned her on her left side, and in a few minutes the fæces began to escape by their proper channel. I gave ol. lini ℥xx, cum tinc. opii ℥ij. Next morning I found her up, stepping through the shed, inclined to eat, her bowels acting freely. I had her tightly bandaged, to support the ab-

domen, and made an opening to allow the escape of discharge at the bottom of the sac. I saw her daily for a week, and prescribed according to the state in which I found her. On the whole, her health proved good, and her wounds healed pleasantly. She was fourteen, indeed nearly fifteen, years old, and, like most old cows, had a large belly. She fattened well, and was sold for the shambles in April. The butcher told the farmer that he found a large abscess in her side when he cut her up.

ON CANKER.

By William Gavin, M.R.C.V.S.

To the Editor of "The Veterinarian."

Dear Sir,—In your excellent paper on Canker, you omit to notice a form of the disease which I have twice met with, and found incurable, and which may or may not be found often to occur.

The disease in the foot presents the usual characters; but, instead of resulting from derangement of function in the secreting surface, seems to be dependent on disease of the absorbents, and most probably also of the veins in the leg, which becomes very much enlarged gradually, from the hock downwards. This enlargement consists of organized deposit, having a sanious greasy discharge from the skin covering it. In the bend of the heel or pastern there is a wound, attended with a more or less copious exudation. If the discharge be dried up, the canker becomes very much worse, and pours out a discharge similar to what comes from the leg. Great labour and attention will be so far successful on the foot as to renew healthy horny secretion in it, saving and excepting upon one small spot, of uncertain situation, on the sole, which nothing can induce to heal or suppress the constant exudation of the discharge from, I mentioned. In this state a single day's neglect will undo the labour of months. I have tried the seton and firing-iron for the leg; but, as I thought, with a little benefit. Also purgatives, alteratives, tonics, &c. without any service whatever. I consider canker in these cases incurable, unless the condition of the limb can be very considerably ameliorated.

I remain, your's truly.

*** Are not cases such as the one above described *sequelæ* of inveterate canker? Mr. Gavin will accept our thanks for calling our attention to the subject.—Ed. Vet.

RESPECTABILITY OF THE PROFESSION.

By J. Tombs, M.R.C.V.S., Stratford-on-Avon.

Sir,—Much has been said lately about the respectability of the veterinary profession. I cannot agree with those who assert that it is in a degraded and servile state; in fact, it is just the reverse; for I know full well that a veterinary surgeon is as much respected as any other professional man, provided he conducts himself with propriety on all occasions. It is too true, I am sorry to confess, that there are a few black sheep amongst us, who disreputably give discount to gentlemen's servants when their master's bills are paid; also some who keep low company and live intemperately. Such are like angels' visits, "few and far between;" therefore, why should the whole profession be condemned for the delinquencies of a few? All that we want is our common interests advanced, which I believe could be done by suppressing empiricism and the publication of cheap veterinary literature (trash?). Another grand point would be, the obtainment of an act (now before parliament) to prevent us serving on juries, parochial offices, &c., all of which I have had more than an ordinary share of. The inconveniences of serving offices and being summoned on juries I have found to be manifold. Patients neglected—business at a stand-still—and instead of cash coming in, going out; and last, though not least, some people think that surgeons must necessarily be of a higher grade in society than veterinary surgeons, inasmuch as they are exempt from serving on juries, &c.

CASE OF ACUTE DIARRHŒA IN A MILCH COW.

By the same.

May 17th, 1851.—Was apparently well last night. At 10 A.M. I saw her, when the following symptoms were manifest: Pulse quick, and almost imperceptible; looks back, kicks her belly immediately preceding an evacuation; voids half a bucketful of liquid matter at a time, which she does frequently—(I am informed by the owner that she was blown before the first liquid fæcal motion); strains violently, and then voids mucus, which emits an intolerable stench; continual rattling of the bowels; extremities, skin, horns, and ears cold; the latter droop from loss of muscular energy; no dew on the nose; eyes sunk

into the orbits; opinion, that of poisoning; case dangerous; has been bled. Gave an opiate; cauterized the abdomen; then stimulated it with a strong liniment. Opiates repeated, with large quantities of starch gruel; in the evening, ordered the administration of creta preparat. and catechu.

May 18*th.*—Considerably and surprisingly improved; pulse not so quick or oppressed; ears up and warm, also extremities and horns; nose dewy; eyes more natural; fecal evacuations less frequent and not so thin; eats a little; rumen slightly distended with gas. Give ol. ricini and vegetable tonics.

May 19*th.*—Convalescent; milk returning; thighs excoriated from the effects of the acrid fæcal matter running down them on the 17th inst. Much excited, and uneasy; bellowing after the other cows; re-action having taken place in the sensorium and nervous system, which must have sustained a severe shock. Another cow of the same herd died on the 16th inst.; had been in the same pasture and tied up in the same stall with the one just mentioned. I hear she was ill fourteen hours; alarmingly blown; in great pain, with laboured breathing, but did not purge.

I made a *post-mortem* examination, and found a large quantity of half-masticated food in the rumen. The leaves of maniplus inflamed, and lining coat of the abomasum; the whole lining membrane of the intestines highly inflamed, especially the duodenum; all contained liquid matter: this confirmed my opinion that both cases were that of poisoning. The cows had been turned out a few days in a pasture where colchicum grew; before the cows were taken ill all had disappeared. Part of the rumen, intestines and contents, were submitted to careful analyzation, which however threw no light on the subject.

ANOTHER CASE IN A COW OF INFLAMMATION OF THE FARDEL AND INTESTINES.

By the same.

June 25*th.*—ATTENDED on a cow by request at 7 o'clock, P.M. When the cowman went to fetch the cows in at 4 o'clock, P.M. to milk them, he observed one, the subject of our notice, lying under a tree and in great pain: there was nothing the matter with her in the morning, according to his statement.

Symptoms.—Pulse quick, small, and oppressed; ears, horns, nose, and legs, extremely cold; no dew on the nose; eyes glassy

and sunk deep into the orbits; skin very cold too; lies down, looks back, rolls about, but not over; moans, evidently suffering excruciating pain; gets up, kicks her belly; staggers and tumbles; great prostration of strength; rears up on her fore parts, then falls down on her side with violence. On inquiring I was told that she has purged several times since she has been had in the shed. As death was evidently approaching, I did not push the treatment. Died at 11 P.M.

June 26th, 10 A.M., post-mortem appearances.—The papillæ and leaves of the manyplus (fardel) very red and highly inflamed. Intestines, both the peritoneal and villous coats inflamed, particularly the latter.

Observations.—Supposed to have eaten veratrum, commonly called bearsfoot, which grows in abundance in a wood to which this cow, as well as others, have had free access.

I record these cases of bowel complaints, as diseases of them are rare amongst cows, in comparison to that of horses, which is attributable to the uniform habits and feeding of the former; for in this class of animals affections of the digestive and alimentary organs are invariably produced by a sudden change of diet, or from eating noxious herbage.

I am, Sir, your's respectfully.

RESPECTABILITY OF THE VETERINARY PROFESSION.

By W. P. STANLEY, M.R.C.V.S.

To the Editor of "The Veterinarian."

Sir,—HAVING read the article in your June Number relative to the respectability of the veterinary profession, and your anonymous writer having asserted that many of us are guilty of a dishonest fraudulent practice in charging our employers for medicines and horseshoes which were never supplied, purposely to fee the grooms, and to obtain our support, and naming, amongst other places, Leamington, where such practices exist, and myself being the individual to whom such an aspersion applies, and which, Sir, you can, if you choose, upon inquiry, find has only reference to me, I deem it a duty I owe to myself and the profession to trouble you with a few lines; and beg to say, that I will defy your correspondent to prove a single dishonest fraudulent transaction against me, or substantiate any charge that has been made at this establishment but what is reasonable and just. I beg also to express my surprise that you

should have deviated from your usual custom, as Editor of THE VETERINARIAN, so far as to insert so personal an article, and particularly from an anonymous writer, without first taking the trouble to ascertain the truth.

I remain, Sir,

Your obedient servant,

W. T. STANLEY, M.R.C.V.S.

Leamington Veterinary Infirmary, Regent Grove,
June 12th, 1851.

P.S.—Mr. Prichard's reply to the Surgeon did, in my opinion, quite vindicate veterinary surgeons from the Surgeon's aspersions.

SOME OBSERVATIONS ON THE PATHOLOGY OF THE GENERATIVE ORGANS OF CATTLE.

By JOHN RELPH, V.S., Sebergham.

SOME years ago I ventured to lay before the profession, through the medium of THE VETERINARIAN, two cases of uterine dropsy in cattle; and, subsequently, Mr. Cartwright favoured us with two valuable papers on the same subject. From extended observations I have imbibed some notions connected therewith, which, perhaps, may be found worthy of record.

When disease is not associated with gestation, it is generally the result of mechanical injury sustained in copulation. Of course, when the injury is received beyond the os uteri, the uterus is mostly the seat of disease; but in many instances the posterior parts are those that suffer. Inflammation is set up in the mucous membrane; adhesion of the parietes of the passage takes place: a sac is thus formed, into which muco-purulent fluid is poured, and a vaginal abscess is the result. Hence it follows that a similar collection in the uterus may, with more propriety, be called an uterine abscess than uterine dropsy, as in my former paper.

I am fully aware that the effect of the injury is not invariably an abscess. The walls of the vagina may be perforated, and peritonitis produced; even the rectum may be lacerated. A distressing case of this kind occurred in my practice last summer. The subject was a good middle-aged husbandry mare. The parts were so dreadfully torn, that no hopes of restoration could be entertained. Although the fæces lay in the pelvis until

manually removed, yet the poor beast survived the accident three days, and then the owner consented to have her put down.

Lately I was called to a heifer, which, eleven days after having had the bull, manifested an unusual degree of uneasiness, emissions of small quantities of blood being noticed immediately after intercourse. The uneasiness gradually increased, and I found her almost constantly lying, and straining violently. The appetite was gone; the extremities cold; the pulse frequent, quick, and small. The hand passed up the rectum with some difficulty, in consequence of the distention of the vagina. The uterus felt a little swollen. The bladder was empty. I then introduced my hand through the vulva, and found the passage just beyond the meatus urinarius quite impervious. A small cicatrice was felt, but, from the tightness of the parts, I could not examine it with the desired accuracy.

A breach was made into the sac with a seton needle, when its contents were found to be blood in a very corrupt state: it was cleared out by injections of warm water. An antiseptic injection was afterwards used, with counter-irritants and other remedies for peritonitis. The straining ceased soon after dressing, but the animal died within two days. Distance prevented me making an examination of the body.

Here an interesting question presents itself—Did *imperforation of the vagina* originally exist? A breach was made by the bull; hæmorrhage ensued; a considerable portion of the effused blood was retained; and, since that retention could not have occurred in the vagina when that part was in a normal condition, we must account for it by supposing that the hæmorrhage continued after the sides of the passage had been united by inflammation; or that its parietes had been punctured, and the blood poured out into the cellular tissue, between it and the rectum; or that malformation previously existed. The evidence presented by the form and situation of the tumor, and the condition of the adjacent parts, with the time which had elapsed between the accident and examination, incline me to put the case down as an example of imperforate vagina. A case under that title was ably given in your Journal, and in it, I suspect, the same exciting cause had been in operation.

In conclusion, it may be repeated, that these lesions may occur in different situations, and be followed by hæmorrhage, immediate or remote; the first occurring from the laceration of a blood-vessel, the latter from its destruction by ulceration or gangrene; through inflammation either local or extending to the peritoneum; by abscess; by ulceration; or by gangrene. It is obvious that the treatment must be adapted to the particular nature of the case. Hæmorrhage must be combatted by styptics, general and

topical; inflammation by depletives, antiphlogistics and counter-irritants. If an abscess forms, it must be freely opened; though I have reason to believe it is good to defer the operation until the tumour is well developed. Afterwards, daily inject the cavity with an anodyne detergent or antiseptic mixture, according to its condition.

A charge upon the back and loins is a good defence to the animal before turning out.

ON THE VETERINARY SURGEONS' EXEMPTION BILL.

By J. Horsburgh, V.S., Dalkeith.

To the Editor of "The Veterinarian."

Sir,—In the newspapers, lately, there has appeared notice of a bill (first in the House of Lords, and next in the House of Commons by Mr. Hume) to exempt veterinary surgeons from serving on juries. This would be perfectly right, and in justice to the profession; but perhaps no bill is required in the case.

I do not pretend to be acquainted with the law, but, having often been called on as a juryman, and put to much trouble and loss of time, I thought of claiming the exemption which I considered the act of parliament, as it stood, entitled the veterinary profession to. Accordingly, about four years ago, being summoned to attend on a criminal trial before the High Court of Justiciary in Edinburgh, I, on my name being called, walked up to the bar, and claimed exemption from serving. On being asked by the lord justice's clerk on what my claim rested, I stated to his lordship, that the act of parliament distinctly said "ALL surgeons having a regular diploma, and actually practising, were exempted:" therefore, though I was not a *human* surgeon, still, the act containing the words "*all* surgeons," I considered veterinary surgeons came under its meaning; and that, if his lordship really thought such *was* the meaning of the act, I hoped he would be so good as to grant us the benefit of it. Books were accordingly sent for (I suppose containing the acts referred to), and consultation took place between his lordship and the other judges; which finished, he told me that they considered I had a good cause for exemption, but that *he* could grant me release *but for that day only;* and that I had better apply to the sheriff's office for a blank schedule, on which I was in future to state my objections, and he had *no doubt* I would be relieved. I did so, and have never since been summoned as a juryman.

I have not been able at this time to get the act of parliament, but I have sent you the schedule required to be returned by every person supposed liable to serve on juries, with columns for those persons who can claim exemption. The words *all surgeons* will likely be found in the 6th Geo. IV, chap. 22, and 7th Geo. IV, chap. 8. And if you think it will be of use to any member of the profession, or save any trouble or expense in getting a bill for that purpose, you may give it a place in THE VETERINARIAN.

I am, Sir, your most obedient servant.

Dalkeith, 14th July, 1851.

P.S.—Before the time of making my claim for exemption, I had been called on frequently twice in a year. I am not aware how you are summoned in England, but forty-five is the number here required, however paltry the case may be, out of which fifteen are chosen. Sometimes there may be two or three trials in a day; sometimes one trial lasts two or three days.

*** We should imagine our worthy correspondent can hardly have perused the last Number of THE VETERINARIAN.—ED. VET.

A VISIT TO MY UNCLE.

Dear Mr. Editor,—ALTHOUGH I feel as strongly as you can do on the subject of anonymous communications, particularly when they exhibit any tendency or reference towards personality, yet, for all that, am I glad to find you have not come to the conclusion of shutting them out altogether from your Journal. Agreeing with your old and sensible adviser on this subject, I am of opinion that there are gentlemen, and professional men too, who occasionally feel inclined to send you contributions, perhaps more of a general than of a scientific nature, but who would refuse to do so could they not exhibit their communications under some *nom de guerre* or assumed cognomen. I myself profess to be of this class, and trust, having made this confession, you will, after you have perused this letter, see no reason for its non-admission into THE VETERINARIAN. Its contents may not prove strictly technical; but, should they convey some useful and entertaining knowledge about horses, their purpose will have been answered.

My uncle, a hale octogenarian, reckoning, come his next birthday, four score years and three, in full possession of his never-

failing good health, with every faculty of mind, save being somewhat "hard of hearing," in its pristine vigour, was from his youngest years bred up among horses, and has all his lifetime been a true sportsman, fond of horses and dogs, and all appertaining thereto. He is, both by nature and taste, one of the old school, and, as one of the old school, has not a great deal to say in favour of the new. He endures transport by rail to any distance too great for his "old mare's" powers; but wherever she can, pleasurably to her and himself, translate him, no railway or "man-hutch" for him. He throws his leg across the old mare every morning after breakfast, and away they go, jig by jole, for their morning ramble. The old girl (though, by-the-by, she is not more than fifteen) never made a mis-step in her life, and was never known to shy, save at the report of a gun or the issue of smoke; she not having, any more than her master, any belligerent propensities. Talking of her after dinner one day—"Ah!" says he, "she's a good bit of stuff; and I came by her in rather an odd way. She belonged to a gentleman who valued her very much, until she one day met with an accident in the stable by getting her fore leg over the halter rope, and injuring herself. At length she became so lame from this, that the gent. sent for his farrier; a cunning man, who informed him that harm was done to the 'shoulder' *inwardly*, and that, if his 'oils' did not work a cure, the case would prove incurable. This intelligence proved so vexatious to her master, who was on the eve of going on his travels, that he desired his coachman to dispose of her. I purchased her 'for an old song,' and, by having her carefully tended, soon got her right again, and was offered £20 for my bargain. But I wouldn't take a hundred for her!"—"Ah! there's some good looks about the old mare, and I'll be bound to say she inherits good breeding on one side. But, I think I heard you say that you have resided some years in France. What sort of horses are there in that country?"—"Why, in the country, for agricultural purposes, very indifferent, for they don't half cultivate their land. I have seen them ploughing with asses, mules, or a sorry jade or two; and as for digging, they absolutely do not know how to turn up the ground to freshen it; and, when they have dug a plot of earth, they leave a wide trench at the end unfilled in."—"But, do they seem to know much about horses themselves?"—"Very little, I should say. They are—the *fermiers* and *payans* at least—altogether bad judges of horseflesh. Some of the best horses I saw in France belonged to the cavalry. They certainly appeared—such of the regiments at least as I happened to meet with—to be well mounted, though still inferiorly so to those of our own country."

"Why, that engraving of a horse hanging over your mantelpiece has something about it not unlike the Godolphin Arabian!" —"Ay! well, he is not a very distant descent from a barb. That's the celebrated horse, old Marske, the sire of Eclipse. Marske, you know, was got by Squirt, and Squirt by Bartlet's Childers, and Childers by the Darley Arabian; while Marske's dam was got by Hutton's Black Legs, he by Fox Cub, Coney Skins, Hutton's Grey Barb, descending from the Helmsley Turk; so that you have plenty of the Arab and Barb blood in Marske. And a rare good horse, as you know, he was." —"Yes! I am observing what prodigiously fine make he exhibits in his portrait. What an intelligent head! though they have detracted from its expression by that vile old practice of cropping."—"No! you are wrong there. He never was cropped. Those mouse-ears are true to nature."—"Such a beautifully bowed, lengthy, and yet muscular neck! and what an oblique and smoothly let-in shoulder, short back, strong loins, fleshy arms, and broad sinewy legs! Why, he's made more like a twenty-stone hunter than a racer."—"Ay! he was what a race-horse ought to be, to serve long in his master's employ and get stock of real service for the country. But you have, of course, heard of the strange mistakes that were made about the doubtful parentage of Eclipse? I remember, when I was a boy, that a *Mr. Compton*—I think his name was—was in possession of a very favourite racer he used as a stallion, to whom Marske was kept as, what racing people call, 'teaser;' and that one day Mr. Compton was said to have received a visit from some sporting acquaintance, who, it was thought afterwards, had been sent on his mission at the instigation of O'Kelly, the then owner of Eclipse, which was to make purchase of Marske, in consequence of O'Kelly having received private information of his being the veritable sire of Eclipse. Under pretence, therefore, of looking over his stud, his visitor, when he came to Marske, said, in a tone of seeming indifference and mere inquisitiveness, 'And, pray, what price would you think of putting on this old worn-out horse?' The reply was, '£20.'—"I'll buy him; it's a bargain!" He turned out, as we all know, not only the true sire of Eclipse, but of several of our best gone-by horses of his day; among others, of SHARK, for whom his master, the Duke of Rutland, refused £12,000. Marske covered, at one time, at so high a price as 100 guineas a mare; his son, Eclipse, covering at twenty-five guineas."

"I was admiring—for utility, at least, albeit, I suppose, on the score of unsightliness it might now-a-days be objected to—the plated bit you ride your mare with. The branches being flat, and made broad enough to contain a couple or more of eyes

through them, sufficiently large to admit of the reins being buckled either to one or the other of them, has precisely the same effect as is usually only obtained through the use of bits of various lengths."—"I am glad you like my bit: it is, I believe I may say, *unique* of its kind. I had it made forty years ago, according to a fancy of my own; and (handing me the bit) look how well the plate upon it has worn! And I don't —as you seem to do—deem it anywise unsightly."—"Well, seeing how much you study ease and utility in horsemanship more than elegance, I suppose you have, before now, discovered the superior degree of rest afforded the foot of the rider by a stirrup with a spreading oval bottom, having *three* in place of two bars across it?"—"No, I cannot say I have; but I can readily imagine you are right on that point."

"I remember an old cropped horse you used to ride a hunting; and a capital horse he was. Did you *buy* him cropped?"—"Ah! he was the shiest horse I ever rode; he would take fright at his own shadow. He was cropped when I bought him, for cropping was in fashion in those days: at least, was so far practised, that horses of any value for riding, who happened to have long or lopped or ugly ears, were frequently subjected to the operation by way of improvement in their appearance."

"I was going to divert from the subject of 'horses' to mention to you a singular practice, and yet one, for my own part, I admire so much, that I now always follow it, and that has relation to the simple affair of killing fowls. Instead of pulling their necks or twisting their heads, or twirling their bodies round their heads as round an axis, as is the cruel custom of our own country, the French poultry-woman—*la marchande de volaille*—places the fowl in her lap, between her knees, and then, separating its beaks with one hand, she with the other hand simply snips the bridle of the tongue—the *frænum linguæ*—with a pair of scissors; the effect of which is, an immediate and copious discharge of blood from the mouth, causing the creature to struggle and flap its wings for a moment or two, while being held up by the legs, and life is gone. It is, in my estimation, in a humane point of view, a great improvement on our mode of killing."

"What is that engraving hanging on my right hand?"—"Why, that is the portrait—and I believe a pretty faithful one — of the noted—I might say, notorious — character, old Frampton,

"The Father of the Turf:"

A long inscription about his and his horse Dragon's exploits is appended to it, which, if you have not read before or heard of it, may afford you amusement, stained as the account is with base

ingratitude and most heartless conduct." I read it, and found it running as follows:—"Tregonwell Frampton, Esq., of Moreton, in Dorsetshire, Keeper of the Running Horses at Newmarket to their Majesties William III, Queen Anne, Geo. I and II, died 12th March, 1727, aged 86."

This extraordinary character was born in the reign of Charles I, when the sports of horse-racing commenced at Newmarket, and he was owner of the celebrated horse, Dragon (whose portrait appears in a frame in the back-ground*). The most remarkable event in the lives of this gentleman and his horse Dragon is most pathetically depicted by Dr. John Hawkesworth, in No. 37 of the "Adventurer," in the following words, supposed to be spoken by the horse in the elysium of Beasts and Birds. "It is true," replied the steed, "I was a favourite; but what avails it to be the favourite of caprice, avarice, and barbarity? My tyrant was a man who had gained a considerable fortune by play, particularly by racing. I had won him many a large sum; but being at length excepted out of every match, as having no equal, he regarded even my excellence with malignity, when it was no longer subservient to his interests. Yet I still lived in ease and plenty; and as he was able to sell even my pleasures, though my labour was become useless, I had a seraglio in which there was a perpetual succession of new beauties. At last, however, another competitor appeared, and enjoyed a new triumph by anticipation. I rushed into the field, panting for the conquest; and the first heat I put my master in possession of the stakes, which amounted to 1000 guineas. Mr. ———, the proprietor of the mare that I had distanced, notwithstanding this disgrace, declared with great zeal that she should run the next day against any *gelding* in the world for double the sum. My master immediately accepted the challenge, and told him that he would the next day produce a gelding that should beat her. But what was my astonishment and indignation when I discovered that he most cruelly and fraudulently intended to qualify me for this match upon the spot, and to sacrifice my life the very moment in which every nerve should be strained in his service? As I knew it would be in vain to resist, I suffered myself to be bound. The operation was performed, and I was instantly mounted, and spurred on to the goal. Injured as I was, the love of glory was still superior to the desire of re-

* There is also introduced into the picture a game cock and a greyhound; the former perched upon a slab or table by the side of Frampton, while the latter reposes his chin upon the old man's thigh, with his mouth gently twitching his loose and ruffled coat-sleeve: both figures evidently intended as emblems of the genuine spirit of the sporting character of his day, while they remain as confirmatory testimonies of his heartlessness and cruelty.

venge. I determined to die, as I had lived, without an equal; and having again won the race, I sank down at the post in an agony which soon after put an end to my life." When I had heard this horrid narrative, which indeed I remembered to be true, I turned about in honest confusion, and blushed that I was a man!

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

Blaine's Canine Pathology: *being a Description of the Diseases of Dogs, Nosologically Arranged, with their Causes, Symptoms, and Curative Treatment; and Practical Observations on the Breeding, Rearing, and Sanitary Treatment of these Animals.* 5th Edit. Revised and Corrected by Thomas Walton Mayer, *Member of the Council of the Royal College of Veterinary Surgeons.* London. Longman and Co. 1851. 8vo, pp. 236.

Since the demise of the Father of Canine Pathology*, opportunity has until now been wanting to us, to pay that tribute of respect to the memory of a man who devoted the early and most vigorous period of his lifetime to the study and prosecution of veterinary medicine, with a success which the works he has left behind him remain as standard literary proofs of; while the practice which he made in Wells-street, Oxford-street, and subsequently enjoyed, and afterwards sold, to Youatt, in Nassau-street, amounting as it did, when at its height, to £1500 per annum, sufficiently proclaim the estimation in which the name of Blaine was held by the public at large. In the hemisphere of veterinary constellation the name will long shine forth as a star of superior order.

In the fourth and last of the Author's own editions of the work before us, Blaine has given us his "Professional Life;"

* It is singular enough that we should have applied this very patronymic to our author, when, afterwards, we came across the following passages in his own works:—"As no one, I believe, will attempt to dispute my claim to being the Father of Canine Pathology," 3d *Edit.* "As by common consent I appear to be considered the *Father of Canine Pathology.*" 4*th Edit.*

from which, as the edition may not be in the hands of all our readers, we extract the following interesting summary:—Blaine was educated with his maternal grandfather, "a dignitary of the Cathedral of St. David's;" the Bishop of the diocese becoming his Godfather, on condition that he was to be brought up to the church. His father's principles, which were dissenting, frustrating this design, it was agreed between the two parents that the *ars medendi* should be young Blaine's calling. At fourteen he was placed "with an eminent practitioner in Buckinghamshire; and at twenty-one was entered a pupil at the two Borough Hospitals," under Dr. Haighton, remaining there three years, "the last of which was passed under the roof of this friend of his family:" employing himself during this advantageous sojourn in assisting the Doctor in his physiological experiments, making dissections and drawings for him, &c. About this time St. Bel, who had come over to this country, was wanting an assistant teacher of anatomy and demonstrator; which, being offered, was accepted by young Blaine. This diverted the course of his study; although, after he had quitted the College, he resumed the practice of human medicine "for a twelvemonth in Sussex." He then returned to veterinary medicine, practising and teaching it at Lewes, where he met "with much notice and encouragement." "Improvident management," however, forced him back again into the practice of human surgery in a regiment of militia; whence he was translated, at the recommendation of General Gwynne, "always a kind and zealous friend" to him, to a surgeoncy in a troop of Horse Artillery, then stationed at Woolwich, where he served under Dr. Rollo. Here he remained three years; and then resigned, and set up as a surgeon "in the neighbourhood of Queen-square, London." Even here, however, the latent spark, which had smouldered but was not extinguished, again shewed itself by the employment of the hours his professional avocations left him in preparing and publishing his Anatomy of the Horse, in folio numbers, with both coloured and plain plates. Not long had Blaine been thus settled in town, when, in consequence of "the death of a near relative investing him with considerable property," he relinquished his

practice, and betook himself into the country, "where the expenses of a sporting establishment" in a few years forced on him a new course of life. He first "accepted a commission in the North Gloucester Militia," whence he volunteered his services to the Medical Board, and was provisionally appointed surgeon to the 40th Regiment, with which he went to Holland. From foreign service he had returned but three weeks, when he was, out of his turn, again ordered abroad, and this time to the West Indies; whither refusing to go, he left the army, and his services became cancelled. Foiled in obtaining fresh employ to his liking, Blaine now retired once more into the country, occupying his days there "in sketching, shooting, or fishing," and his evenings "in arranging his materials for the *First Edition of the Veterinary Outlines*." Retirement, however, not suiting for long Blaine's "naturally active habits," he again came to London, having meanwhile published his "Outlines," which "insensibly and unexpectedly" drawing him into "correspondence and practice on the diseases of horses and dogs," determined him to "devote his professional energies to those subjects." He did so, and soon found a remunerating practice, which he continued for twenty years, refusing, in the course of the time, flattering offers to "translate his professional services, first to India, and next to Russia." These refusals Blaine never found reason to "repent;" on the contrary, as he adds, "The retirement I have for some years enjoyed is still employed in editing new editions of my former works, and collecting materials for others connected with the improvement of the persons and treatment of our domestic animals."

So chequered a professional life as we have been culling the heads of, may challenge veterinary biography for a parallel. Blaine, indeed, was "a rolling stone." Had he from the first steadied down to the practice of that art in which he in after years became such a proficient and favourite, he would, like others we could name, have likewise had his "gathering of moss."

Blaine's earliest works*, written under circumstances which

* A Concise Description of the Distemper in Dogs. 4th Edit. Boosey, 1806; A Domestic Treatise on the Diseases of Horses and Dogs. 4th Edit. Boosey, 1810. These are the only primitive works of Blaine we have been able to lay our hands on.—REVIEWER.

seemed to call for such a course, were imbued rather with a "come and buy my medicine" spirit than with any indication of founding a branch of science of which he in after years became the acknowledged "Father." While Coleman was engaged in wresting horse medicine out of the hands of ignorance and presumption, and endeavouring to clothe it in the dress of science and humanity, Blaine was engaged in essaying to do the same for canine pathology; there being manifest this difference, however, between the labours of the respective professors, that, while Coleman was receiving aid from all around him, Blaine was left to his own unassisted exertions. Still, reformation and improvement became evident, not in Blaine's practice alone, but in his literary works as well, each successive reprint surpassing the former one; until we reach that appearing as the "third edition" of the "Canine Pathology," between which and the fourth, which was his last, we find no material difference.

It was in the "third edition" that Blaine first arranged "the matter of the work" into "three parts":—the first embracing "the Natural History of the Dog;" the second, his "Breeding and Rearing;" the third, his "Diseases," which are distributed into "classes." Nor do we find this arrangement disturbed in his "Fourth" and last edition. In the "Fifth Edition," the one now before us, "revised and corrected" by Mr. Mayer, we have the three condensed into *two* parts:—Part I comprising, inclusive of the "Introduction," Chapter I, on the "Breeding and Rearing of Dogs;" Chapter II, on the "General Treatment of Dogs;" Part II being devoted wholly to the "Diseases of Dogs." If, however, from the former division we detach the "Introduction," as giving the natural history of the dog, and call that Part I, there will be found no real deviation from Blaine's original plan.

"In discharging the duty," says Mr. Mayer, "that has devolved upon us in revising this edition, we have been desirous of contributing our mite to the well-being of the canine race, regretting that our literary and professional experience has not enabled us to do greater justice to our subject. We have not, however, been so much desirous of adding new, and possibly but at best crude, ideas of our own, as we have been to give

effect to the work of Mr. Blaine, by re-arranging his matter, compressing his facts, with the addition of such improved classification and method of treatment as the advanced state of veterinary science has enabled us to supply."—*Preface.*

Of "re-arrangement" we have already said something; we shall have more, however, about it to say hereafter. Of "compressing facts" we are going now to give a specimen, the subject being that which has proved so attractive of theory and speculation among naturalists, viz. the special origin of the dog. Blaine, in his last edition, has written as follows:—

"The natural history of an animal is most satisfactorily commenced by inquiries into its direct origin; and in this instance it would be peculiarly gratifying to trace the source from whence has been derived a race now so extensively diffused among us, and one that is become not more important by the value of its services, than interesting by its amiable and companionable qualities. But, unfortunately, we have to lament that around the descent of no quadruped does there hang so much obscurity as about that of the dog; and however reason and analogy may lead us to conclude him an original animal, and however well convinced the majority may be that he is so, yet the subject is so beset with difficulties and contradictory appearances, that we cannot wonder at the doubts which exist in the minds of others on the subject. Some eminent naturalists have even doubted whether the dog be not wholly a factitious animal; one not acknowledged by the great Architect of Nature, but altogether compounded from such spurious sources as the intermixture of *various* nearly-allied animals. Others have allowed him a more direct lineage, by confining his descent to one among those which compose the genus in which he is placed: thus, some have considered his parentage derived from the wolf, and the comparison of the anatomy between these two animals presents an argument of some weight, and the more when, added to this, we take into the account that the gestation of the wolf is, like the canina, sixty-three days. The dingo has likewise been supposed a probable source from whence the dog originated, but, in my opinion, not a very likely one: some from the fox, others from the chacal or jackal; and a few have regarded the hyena as his primogenitor. (See Mr. Bell on this subject, in his *History of British Quadrupeds.)* So infinitely varied are the scions of this great tree become, that among those who, like myself, would be glad to advocate his claim to originality of formation, yet we are constrained to admit the difficulty of concluding that all his varieties can have sprung from one root. It is not easy

to suppose that even the powerful agencies of climate, food, and domestication, could have operated diversities so striking and so multiplied; but, on the contrary, some maintain that he was originally formed in such corresponding varieties as fitted him to inhabit the different countries in which he was placed, and which opinion it is not easy to controvert entirely. As regards the identity of the wolf and dog, I confess that, though originally hostile to such opinion, I am not equally so now. I would not willingly give up the opinion that the dog, in his native character, is an original animal, and most probably of one type, yielding to the powerful influences of change of temperature, of locality, of food, of treatment, &c., has suffered vast alterations in its form and proportions, but I would less willingly adhere to error. It may, it is true, be asked whether the first dogs might not by intermixture with other members of his genus have so diversified his kinds. The query is at once curious and important, but at the same time it is one that I am not ready to uphold, nor prepared to deny. But when we regard attentively the effects produced by the powerful agencies already hinted at, particularly that resulting from climate, and that brought about by man when he assumes to himself the direction of the sexual intercourse, I cannot but incline to think, that the varieties of this animal, numerous and disproportionate as they are, might result from these united causes of themselves. This subject is not more interesting than intricate, and the more I examine it, the less am I satisfied with my own inferences. In one point only am I certain I am right, and that is, that the dog, let him be an original or a compounded animal, deserves our admiration."

This lengthy paragraph Mr. Mayer has "compressed" into the following:—

"It is, however, to be lamented, that around the descent of no quadruped does there hang so much obscurity as over that of the dog; indeed, some eminent naturalists have even doubted whether he is not wholly a fictitious animal. His parentage has been severally ascribed to the wolf, the jackal, and the hyena. We shall not attempt to reconcile these discordant views, as we agree in the opinion expressed by other naturalists, that the dog is descended, not solely from a species of wolf or jackal, but also from genuine wild dogs of more than one homogeneous species."

In the "zoological arrangement" Mr. Mayer has judiciously given the preference to "Jardine's Natural History" over the Linnean classification, as retained by Blaine; the latter,

added to other advantages, being in consonance with the advanced state of the zoology of the day.

In Part 2 (Part 3 of Blaine), treating of "the diseases of dogs," Mr. Mayer has substituted a nosological arrangement in conformity with "Stevens' Synopsis of Diseases," for Mr. Blaine's, which is a classification decidedly faulty; not only in departing from the principles on which it appears to have primarily set out, but as being chargeable—even as he himself has shewn it to be—with inconsistency. Blaine, for example, lapses from class 1, comprising "Febrile affections;" 2, "Inflammation of mucous membranes;" 3, "Inflammation of the brain;" into class 4, "Inflammatory affections of the thoracic viscera;" 5, "Inflammatory affections of the abdominal viscera:" which is, commencing with grouping diseases according to that most natural classification, of *tissues* affected by them; and following that up, by classing others together in families according to an assemblage of organs devoted to one common function, but of vast difference in their tissue or structure; of which arrangement in Class 3, Blaine himself finds the inconvenience in being compelled, under the heading of "Diseases of the alimentary canal," to refer back to class 1 for *Gastritis*, *Enteritis*, and *Bilious Colic*. Difficult as nosological classification is, and objectionable in some respects as it is almost sure to be, in any form, still has Mr. Mayer decidedly improved upon Blaine in making the alterations he has. We likewise prefer a nosology in Latin to one in English; for the same reason that we give choice to a Latin over an English prescription. Of *popular* "dog and horse medicine" we have had enough, or, at least, our poor, dumb, suffering patients have had enough; and it is for their sake, more than for our own, that we hail, as a happy omen in veterinary literature, this re-dress of the work before us in a garb which will give it, what it has much wanted, an air of science and orthodoxy.

In the detailed accounts of disease, in its several forms and varieties, Mr. Mayer has deemed it requisite to make but few alterations from the text of his author; and these few, far between as they are, unless one were to institute a *verbatim* comparison between his edition and Blaine's fourth, would fail

to meet the eye, in consequence of his having everywhere substituted the editorial *we* in the place of the author's personal *I;* with the single exceptions, at least, of the very few places in which the substitution would not have stood in consonance with the sense. The veterinary public will thank Mr. Mayer in having been instrumental in saving such a work as "Blaine's Canine Pathology" from being out of print. Being one of our standard volumes we could not afford to lose it from our libraries. He promises more hereafter.

"It might have been expected," says Mr. Mayer, "that we should have availed ourselves of this oportunity of giving an expression of our opinion on the origin of some of the more serious diseases that infest the canine race. We have refrained from doing so for this simple reason, that our opinions on this subject are undergoing a great change.

Foreign Extracts.

ON THE CONTAGION OF ITCH OR MANGE *(GALE)*, AND ITS TREATMENT.

By M. le Dr. H. Bourguignon, Laureate of the Institute, Member of the Society of Medicine of Paris.

[Continued from p. 399.]

Part II.

On the Treatment.

Our microscopic researches of 1846, on the organization of the acarus, its habits and its reproduction, or, in fact, its general entomology, has led to the discovery of a therapeutic less empirical than the one in common usage. The presence of the insect over every part of the body (in twenty or thirty cases out of a hundred) has induced us to lay it down as a principle, that frictions ought to be general, and not limited to the feet and hands; and we had established rules for readily carrying out this treatment.

Experience has shewn us, that alcoholized stavesacre, used as a hand-bath, destroyed in a couple of hours both the acarus and its eggs, lodged about the hands, and that the ointment of stavesacre, when the acarus occupied different regions of the body,

brought about a complete cure on the sixth day So that the treatment, which at the hospital SAINT-LOUIS occupied twelve days, and at the hospital DES ENFANTS nineteen days, became thus reduced to half the period; added to which, this ointment possessed the advantage of suppressing the eruptions of the different forms of complicated psora.

Things were in this state, when, in the month of April, May and June last, M. Bazin, chief of the department for diseases of the skin, among which itch came for treatment, was kind enough to grant us permission to essay divers anti-psoric preparations. The result of these novel observations it is that we now make public.

We shall first say a few words about the choice of medicines, and of the friction to be preferred; we shall then make known the different experiments we have made, and finish with some general considerations on the results obtained.

The choice of medicines will be regulated by the age of the subject, the nature of the disease, the price of them, since advertence must be made to the poverty of the patients in general; and with the more reason, since the three kingdoms, mineral, vegetable and animal, offer to us products of equal efficaciousness.

For example, from the mineral kingdom, medicine derives sulphur and the potassic salts; from the vegetable, juniper oil; from the animal, the empyreumatic oils; which different productions and preparations are insecticide in the highest degree. It is in vain, however, to make choice of a good medicine, since the cure will not be prompt and certain unless the patient be submitted to a perfectly regular method of friction. Where the patient rubs only his lower and upper extremities, one time out of four the disease will return. And, supposing that the whole body be smeared or even rubbed over with the ointment, but only for a minute or so, morning and evening, no certain cure will be effected before the twelfth day. But if, on the other hand, the patient strips himself, and with his hands imbued with the ointment, thoroughly rubs himself for a quarter of an hour, first well rubbing his hands and afterwards his body, taking from time to time fresh supplies of ointment; and if a similar friction be practised twelve hours afterwards, taking care to rub both hands and body with every fresh dip made, from one minute to another, into the ointment, he may consider himself as perfectly cured, without liability to return.

An itch consisting of fifty acarus has generally forty of them buried in the hands, and the ten others distributed upon the feet and genitals, and every part where eruptions appear. The thickness and hardness of the epidermis of the hands of labourers, independently of the greater number of insects infest-

ing them, constitute one of the reasons for insisting so much on the frictions of the upper extremities.

Here, then, are the facts which have led to an abridgment in the duration of the treatment, to the great advantage of the patient as well as of the administration.

Let us say, once for all, that the patients set apart to determine the effect of any medicament were submitted to the examination of the microscope before, during, and after treatment; that is to say, we have with great care established the facts:—1*st*, that the patients harboured living acarus; 2*dly*, at what precise moment the insects were struck with death; 3*dly*, that no fresh hatching had taken place. Let us add, also, that, on all occasions, those patients the most confirmedly itched were selected.

In the first series of experiments, we have made trial, in their isolated state, of substances which, in combination with one another, possessed the property of curing the itch: for example, sulphur, fatty matter, and salt having potass for its base, mixed together in given proportions, possess a well known efficaciousness. But, is it to the sulphur alone, to the fatty matter alone, or to the salt alone, that the cure is to be ascribed? Such was the problem put; not hypothetically, for there were practitioners who contended that oil or friction killed the acarus by asphyxia. Sulphur mixed with oil proved no less efficacious; and the affinity of sulphur for the hydrogen of the fatty matter, by forming a fresh poisonous compound, yielded a ready explanation of the *modus curandi*. Moreover, this hypothesis failing, might not one come to the logical conclusion, that the sulphur broke up the grooves, and killed the acarus upon the spot?

The task of reducing these opinions down to their proper value was not, therefore, without interest*.

A.—Frictions with common Oil.—Two patients rubbed themselves with oil, twice a-day, for three days, according to directions given them. The acarus died, but the eggs but little disturbed in their development.

B.—Frictions with powdered Sulphur and Oil,—two parts of the former to three of the latter:—Four patients, two at a time, were submitted to frictions with this mixture, morning and evening, from the day of their admission. One of them had acarus about the genitals. We found, twelve hours

* The necessity for being clear and concise has obliged us, in the exposition of facts, to change the order we have followed in our experimentation, and sometimes to confound under the same date the admission and discharge of patients submitted to a treatment occupying several days of interval.

after the last friction, through the aid of the microscope, insects in plump condition, and seeming to be torpid; nor was it until we brought them into a larger field of the microscope that we discovered they were dead. The eggs did not appear to have undergone any alteration. The itching had completely ceased. The four patients complain of an insufferable heat of skin, obliging them to scratch. At length, an itchy eruption breaking out upon the limbs and trunk, vesicular upon the hands, attest that if the sulphur, united with the oil, has proved a veritable poison for the insects, it is not without having proved a strong irritant to the skin submitted to its contact. The four patients took daily bran baths for three days, and, as their recovery appeared questionable, they rubbed themselves with the hospital ointment, and went out twelve days after their admission.

C.—Frictions with azotate of potass, 5 ounces; charcoal, 2 ounces; oil, 10 ounces. Two itched subjects are submitted to the action of this ointment, and present, twelve days after the second friction, acarus dead and plump. An acute inflammation is set up in the regions rubbed; the topical action is manifest, without at the same time appearing sufficient to assure the cure. Some baths operate favourably upon the artificial irritation, and hospital ointment puts the patients out of the reach of relapse.

D.—Frictions with gunpowder, 200 grains, and oil 300 grains. The gunpowder, powdered and mixed with the greasy body, has often been employed by soldiers on a campaign; it was, therefore, not without interest that we set about to ascertain the operation of a medicament which they have instantly at hand. The itch became perfectly cured in five patients submitted to frictions with it; but there were heat and eruptions produced which tardily yielded to bran baths.

E.—Frictions with equal parts of sulphur and gunpowder, and five parts of oil, which was also found to be a poison for the acarus.

From these and other experiments, Dr. Bourguignon has come to the conclusions,—1. That a great number of medicaments possess in different degrees the property of curing itch, such as sulphur, the salts having potass for their base, gunpowder, oil of tar, the animal oil of Dippel, and oil of turpentine; 2. That three of the principal of these, the ointment of sulphur and gunpowder, juniper oil, and the sulphuro-alcaline of Helmerick, are superior to the others. Of these, we give the preference to juniper oil (*l'huile de cæde*).

The practice of making two general frictions for a quarter of

an hour together is attended with so much effect, that M. Bazin has reduced the twelve days of treatment to two or three; which rapidity of admission and discharge from the hospital has enabled us to do a thing unknown before,—to reduce the hundred beds for itched patients down to twenty.

Recueil de Méd. Vétérinaire, de Janvier 1851.

SARCOMA OVARII IN A COW.

By F. Meyer, V.S., Berne.

[Translated by Mr. Ernes.]

A cow, about nine years old, was sent to the fattening pasture with a number of others, in the spring of 1848, and had gained a good deal of flesh; but as the fat market was very low, and the cow in calf, she was put back to be milked for another season. She remained in good health up to the 20th of January 1849, when she was suddenly affected with an anormous fluctuating tumour on one of the hind extremities. This tumour covered nearly the whole inside of the thigh, and extended from hip to hock on the outside, and contained above a large stable-pailful of fluid. No cause for this could be assigned. By proper means the swelling was removed. In four weeks from this nothing more had occurred, and the animal continued apparently in good health until she was near her time of calving, with the exception that she appeared to be of an unusual size, measuring nine feet round the body over the loins; otherwise, every thing else seemed in its normal state.

After calving, the size of the abdomen had but little subsided. She gave but a moderate quantity of milk, and remained in the same state until the spring, 1850, when she was turned again into the pasture for the purpose of fattening. This time, however, she did not improve, though her appetite and digestion seemed good. The proprietor again consulted F. Meyer, who, after a careful examination, could not discover any thing amiss, with the exception of the enormous size of the abdomen (8 to 10 feet in circumference), and a somewhat unthrifty coat, with a slight cough, although he examined her both *per anum et vulvam*. The *os uteri* was closed and soft. The owner had heard of a successful case of paracentesis abdominis performed by a colleague in the neighbourhood, and, fancying the case of his cow analogous, wished the operation to be tried, in spite of the absence of fluctuation. F. Meyer undertook the operation,

although nothing could be expected from it. On the following day F. Meyer introduced the trochar near the linea alba, about a hand's breadth behind the umbilicus. This was followed by the escape of about six ounces of fluid, of a yellow reddish colour, in a very feeble stream, which soon ceased. The canula was then removed, and the trochar plunged in again about a foot more to the left. This was followed by a similar result. The conclusion thereupon was, that, if ascites was present, the fluid must be contained in a sac. *(ascites saccatus.)* The medical opinion was for slaughtering the cow, but eventually she was sent back to the pasture. On the 14th of July, F. Meyer was informed that the cow had been ill ever since the operation, and had lost her appetite. On examination, the pulse was found beating at the heart, and respiration was the same as before the operation. The visible mucous membranes were paler, particularly the conjunctiva. The animal was very dull, and laid down a great deal. The diagnosis was *peritonitis*, and the cow was killed the same day. The dissection shewed the cellular tissue of the left hind leg to be the seat of the fluid extravasated. Tumour thicker and harder, while the small quantity of adipose matter was of a yellow colour. On opening the abdomen, about two stable-pailsful of dark red-coloured serum escaped, in which large clots of coagulated blood were found, weighing from three to four pounds each. The peritoneum shewed traces of inflammation, while an anormous irregularly shaped fleshy mass, covered by peritoneum, and unconnected with the abdominal muscles, partly of a dark and partly of a paler red colour, occupied such an extent of surface that neither stomach nor intestines were visible.

To remove this extraordinary formation, which extended from the pelvis to the posterior part of the sternum, it became necessary to raise the posterior part of the carcass, and, after making a section at the uterus and rectum, this enormous mass rolled out: the stomach, bowels, and other abdominal organs, appearing along the spine, reduced to about one-third of their natural size, through the pressure of this extraordinary formation. On examination it was found that the mass was the right ovarium. As it lay upon the ground, it measured four feet in length and three in breadth, and, on a section being made, one foot in diameter. Its weight was 250 pounds, Cologne. In the centre was a large cavity subdivided into innumerable compartments, filled with dark clotted blood, which was estimated at about one-third of the weight. The broad ligament of the uterus was somewhat longer on the right side than on the left. The ovarial branch of the internal spermatic artery, which supplied the tumour with blood, had acquired the size of a large goose-

quill, yet had preserved its serpentine figure. The left ovarium did not exceed the size of a large pigeon's egg. The uterus was contracted and empty. The digestive organs were so diminished, that the small intestines were not larger than a man's finger. The liver exhibited some yellow streaks upon its posterior surface. The gall-bladder contained about a quart of bile. The urinary and thoracic organs were normal.

Magazin für die Gezammte Thierheilkunde, Berlin, 1851.

P.S.—From the miscellanea of the same journal we extract the following:—M. Agnelli, director of the vaccinating committee at Algiers, has communicated to the Academy of Medicine an interesting discovery he has made; which is, that there occurs an eruption in the *camel* similar to the cowpock, by the inoculation of which the human frame is equally preserved from that dreadful disease, the small-pox. M. A. proposes to make experiments with this matter, to which he has given the name of *cameline,* the result of which he will communicate to the Academy.

INTRO-SUSCEPTION IN THE HORSE.

ETIOLOGY—DIAGNOSTIC—TREATMENT.

By M. Reynal,

Principal Clinical Professor at the Alfort School.

The annals of science contained, that we knew of, no mention of intestinal invagination, when, in 1823, M. Bouley, jun. published two cases of it, one of loose portion of intestine ensheathing itself, the other of the jejunal portion entering the cæcum. In 1826 the same gentleman published another case, this time consisting of the entrance of the cæcum into the colon.

Two years afterwards, in 1828, M. Dufour, in the "Memoirs of the Veterinary Society of La Manche and Calvados," and M. Renault in the "Recueil," published two very curious cases of intus-susception of the small intestine. And two others, not less remarkable, have been reported, one in 1831 by M. Dibeaux, the other by M. Rey, in the Comptes-rendus of the School of Lyons, for the year 1843. Lastly, in 1850, M. Colin has registered a case of admission of the cæcum into the colon, in a horse given up to the School for dissection.

The additional case we this day publish has appeared interesting to us, not only on account of the few examples already known in veterinary medicine, but likewise, and more so still,

because it seems to afford some satisfactory explanation of the mode of formation of this pathological accident.

A horse given up to the School by his owner, who had possessed him no longer than about six weeks, during which time he had worked him hard, on account of presenting all the symptoms of anasarca, and being much reduced in flesh, evinced great debility, slight filling of the legs and dependent parts of the abdomen, with large petechiæ upon the pituitary, conjunctival, and buccal membranes, and laborious respiration. On the 24th, some symptoms of cholic and slight tremblings of the limbs were observed, the animal often lying down and looking at his flank. Notwithstanding the subsidence of the symptoms of pain on the 25th, and the notion that the patient was better, he died, on the 28th, with all the symptoms of traumatic gangrene. The terminating portion of the loose small intestine was found highly congested, and there was an invagination of the extremity of the ileum and the commencement of the jejunal portion within the terminating part of the jejunum and the cæcum. At a distance of about nine inches in advance of the cæcum the jejunum had become swollen, from folding back upon itself in the formation of the commencement of the invagination. Its tint, in the part which has preserved its normal relations, is a bright rose, contrasting remarkably with the deep red colour of the intro-suscepted gut. The cæcum being cut open, exposed a portion of small intestine inverted upon itself, having its mucous lining marked with transverse folds, in a high state of congestion, which increased as we proceeded downward. This part of the invagination was constituted of an intumescence of large bulk, resulting from a sero-sanguinal effusion within the interstices of the coats of the intestines. This intumescence, which resembled the end of the penis in a tumefied state, presented in its centre an aperture nearly of a finger's breadth, and which proved to be the terminal orifice of the small intestine within the cæcum.

One remarkable fact in this case was the integrity, if so we may call it, which the function of digestion preserved, in spite of the considerable derangement in the position and structure of one of the divisions of the intestinal apparatus; another, the little sympathy created by the intus-susception on the organism. The animal fed well up to the eve of his death; no stoppage of the contents of the intestines took place; a quantity of alimentary matters was found at the posterior orifice of the small intestine within the cæcum; the dung all along preserved its natural character. It has been observed that anasarca frequently accompanies asthenic congestions of intestine, accompanied with no pain, or next to none.

All practitioners — MM. Bouley, jun., Dufour, Renault, Debeaux, &c.—agree that the symptom first observed is intestinal pain, manifesting itself in cholics, at times slight, at times violent, sometimes intermittent, and always assuming an alarming character previous to the termination, too often a grievous one, of cases of intus-susception.

Taking, then, cholic as the symptom, and congestion as the morbid lesion, as unequivocally present in intus-susception, a question presents itself to our notice, which is—is the congestion of the parietes of the intestine a forerunner of the intus-susception, or is it the exclusive consequence of it?

To us, the first of these opinions appears, looking at it in all its bearings, more admissible than the second. In our eyes, effusion is both a cause and an effect of invagination: in other words, we are of opinion that congestion precedes invagination, and that the latter, once produced, determines, in opposing an obstacle to the circulation, a sanguineous stasis over and above the primitive congestion.

These considerations being premised, the production of intus-susception seems to us to admit of satisfactory explanation.

Let us admit for a moment, in order to render our ideas the more intelligible, that some part of the small intestine becomes the seat of active or passive congestion. From this moment its coats begin to thicken and its caliber to visibly contract. The alimentary matters, in their passage through the open canal, will experience, when they come to arrive at this part, an obstacle more or less difficult to overcome; their course, consequently, will be, if not arrested, at least retarded. But, the peristaltic motion continuing without intermission, is there not room for strong presumption that this congested portion, pushed on by a *vis a tergo*, will force its way into the successive portion of gut, frequently in a state of dilatation from the presence of gas?

Once invagination of the small within the large intestines, as the cæcum, effected, we may add to the cause already in existence that of the *weight* of the congested gut, suspended as it is within the cæcal cavity.

In fact, the contraction of the intestine at any given part under the influence, ordinarily, of cold water or sanguineous congestion; the dilatation, or even the conservation of the normal caliber of the part, which is constantly in peristaltic motion; lastly, the operation of weight from the moment invagination has taken place into the cæcum;—such are the conditions under the influence of which intestinal intus-susceptions become frequently produced.

ETIOLOGY.—The question of the etiology of the intus-suscep-

tion has not, one might say, commanded attention from observers who have reported cases of it. Most of them have failed to note the conditions in the midst of which cholics have made their appearance, though cholics constituted the only symptom by which the intus-susception manifested itself outwardly. Some, however, among whom stands M. Renault, have remarked that such horses have drunk cold water after rapid work. Others have pushed their investigations farther. M. Bouley, for example, has for a long time taught in his clinique that cold water, suddenly introduced into the guts, excites rapid movements, and, as a consequence, may occasion internal strangulations. M. Luscan, in his work, says, "*that possibly one may attribute those affections to a nervous excitation of the parts of the guts most susceptible of contractility, produced by the freshness of food covered with dew, gathered on a cold morning in the spring, and immediately carried out of the cold field into the warm stable.*" In my own practice, in the clinique at the school, I have often observed a similar action give rise to cholics, leading to the presumption of the existence of intus-susception or volvulus or internal strangulation. Above all things, the ingestion of cold water seems to me, most ordinarily and frequently, to be the determining cause of these divers pathological accidents. This assertion is not grounded only in observation, but in experimentation as well. For, if we cause to be swallowed, or introduced by way of experiment, from thirty-five to forty pints of cold water, we observe the intestines, the moment the water touches them, briskly contract, move about, and turn over : in divers places even the mucous lining is densely injected.

Now, if a horse who is heated from work or has been standing in some warm situation greedily drinks more or less of cold water, may not the same phenomena ensue which are producible through experiment? The intestines doubtlessly experience energetic contractions all the way from the pylorus to the cæcum : in places even their caliber will become diminished, here and there the mucous coat will exhibit congestion, and under the ininfluence of these changes of position, of rapid movements on themselves—under the influence even of the anatomical and physiological modifications they undergo, it appears to us perfectly allowable to imagine that a contracted knuckle of intestine, in a state of congestion, may become entangled in some other knuckle pursuing it, less affected by the water, and at times even maintained dilated or even gaping by the liquid collected being confined between two portions of intestine all but obliterated in their cavities through the sudden retraction of their coats together.

Nor is it only the intestines, however, which exhibit lively impressions from the action of cold water. The peritoneum, constituting their exterior envelope, and serving them at the same time as means of attachment and support, and facilitating their rapid movements, itself experiences, directly or sympathetically, modifications of texture and function which, in our opinion, offers a satisfactory explanation of the strangulations and inextricable knots, which the intestines on occasions form in conjunction with the peritoneum, which serves the purpose of ligature.

Recueil de Méd. Vét. Feb. 1851.

VETERINARY SURGEONS IN THE FRENCH ARMY.

M. RENAULT has made the communication which follows to the National and Central Society of Veterinary Medicine: a fresh board having been appointed for the consideration of the condition of veterinary surgeons of regiments of the French army, consisting of Lieut.-Generals Oudinot de Reggio, President; De Lamoricière, and Bedeau, with Aymé and Bocher, members; a new project has been framed, proposing that there should be three classes of veterinary surgeons:—1, Principal Veterinary Surgeons; 2, First Veterinary Surgeons *(veterinaires en premier)*; 3, Second Veterinary Surgeons (*veterinaires en second)*. And, in order to extend the scale of gradation, there will be first veterinary surgeons of the first and second classes; and in like manner two classes of second veterinary surgeons: so that the lowest rank will be a second veterinary surgeon *(veterinaire en second)* of the second class; and this will be the grade they will commence at on entering the service, open to progressive advance until the rank of principal veterinary surgeon be attained.

But, whatever be the grade attained by the veterinary surgeon, it will give no assimilation to military rank. For, in point of fact, in military language, there exists a sensible difference between *assimilation* to grade and *rank* equivalent to the grade. Assimilation to grade confers upon him who enjoys it the same prerogatives, the same power, the same command as the commanding officer has over those under him, correspondent to his rank. If such grade subjects him to be punished by those superior in rank, it arms him with the power of punishing him of inferior rank. It renders subordinate, *in every case*, to him enjoying this assimilation, everybody, of military rank, of inferior grade. Now, it is this effect of assimilation which

has, at all times, appeared in the eyes of superior officers, even among those who were our best friends, obstacles of the most serious character to the elevation of the position of the army veterinary surgeon.

Rank equivalent to grade places its holder in the same *honorary* position as the possessor of the grade; it is of equal value to him in the regiment, and gives him the same place in military ceremonies. It is true, that its holder possesses no power of inflicting punishment upon any one under him; though, for all that, he is not left without the power of causing its infliction, since he can demand it; which, in point of fact, is the same in the end.

So that, in my opinion, it matters nothing that veterinary surgeons are permitted only to assume such or such rank, in place of holding the reality. It is true, I might have been dissatisfied with whatever rank they might have held, had such been exclusively confined to veterinary surgeons. So far from this being the case, however, I am credibly informed that this principle of non-assimilation is intended to be equally applicable to medical officers and commissaries.

Not only, however, do I see no inconvenience arising from this arrangement, but, on the contrary, I find for my brethren, for their comfort's sake, indeed for them in every respect, veritable advantages. When I consider that, putting alteration totally out of the question, veterinary surgeons, whatever may be their rank, ought to enjoy, for the due exercise of their profession, an independence and power of a much more extensive nature than any that could be granted to them through the plan of assimilation, this may be looked upon, I think, as a change long earnestly desired.

From what I know of the plan of the board, veterinary surgeons will enter the service as sub-officers, while the principal veterinary surgeons will rank as captains. For the others, nothing is yet fixed, save that they will necessarily form part of the *état-major*.

As to pay:—

That of a principal veterinary surgeon will be 3000, increasing to 3200 francs *per annum*.

That of a veterinary surgeon *en premier* of the first class 2400, increasing to 2600 francs *per annum*.

That of a veterinary surgeon *en premier* of the second class, 2200 francs.

That of a veterinary surgeon *en second* of the first class, 1800, increasing to 2000 francs.

That of a veterinary surgeon *en second* of the second class, 1500 francs.

The retirement will be that of the grade the veterinary surgeon shall have acquired the rank of, at the time of quitting the service.

*** At the time the above was passing through the press, it came to our knowledge that the Secretary at War has not only given the plan his sanction, but has so far modified it as to place the whole body of veterinary surgeons on the *état major;* that the board have accepted these alterations; and that the same were immediately introduced into the original plan, which had just been officially laid before the National Assembly.

Recueil de Méd. Vét. February 1851.

Home Extracts.

ON GUTTA PERCHA, CAOUTCHOUC, AND THE MILKY JUICE OF FICUS ELASTICA.

By Dr. A. Adriani.

The tree which yields the gutta percha has repeatedly been described by the name of *Isonandra Gutta* (*see* Pharmaceutical Journal, vol. vii, p. 179), specimens of which are to be seen in the Botanical Garden at Kew. The manner in which gutta percha is obtained is likely to exterminate entirely this plant in the course of time. The trees, which reach a height of from forty to sixty feet, and a diameter of three to six feet, are cut down close to the root, the bark peeled off, and the milky juice collected in pieces of bamboo-cane, cocoa-nut shells, &c. The milky juice is then inspissated by boiling, or, according to other reports, dried by exposure to the air. At an average, ten trees are required to obtain one picul = 61.513 kilogrammes of gutta; 69180 trees were therefore required to collect the 6918 piculs which, during the three years of 1845 to 1847, were exported from Sincapore alone.

The caoutchouc is gathered with greater care; Edwards reports that two gallons of the caoutchouc milky juice were collected from 120 trees, and this could be repeated during many months. The milky juice of *Isonandra Gutta* appears never to have been imported to Europe until now. The chief trade in gutta percha is at Sincapore. It is carried on by the Chinese, who adulterate it with a valueless juice of a tree, called *Getah Melabeöya,* which they import from Palembang.

By this admixture various sorts of gutta percha are obtained, which differ considerably in price.

Examination of the Milky Juice of Ficus Elastica.—The author had the opportunity to examine the fresh milky juice of *Ficus Elastica* (from which, as from other species of *Ficus*, caoutchouc is manufactured in the East Indies) from a plant of two-and-a-quarter metres high, which, even after extracting part of the juice, remains in a good condition in the botanical gardens of Utrecht. The milky juice was obtained by cutting off branches or leafstalks, and successively introducing the cut ends into small vessels, and allowing the juice to flow out. The author then found, that the nearer the part from which the milky juice was drawn was to the upper end of the plant, the larger was its proportion of water. That drawn from a terminal bud contained 17.7 per cent. solid substance; that which issued closely beneath the latter contained 20.98; and that drawn from a leafstalk thirty centimetres above the ground, 25.15. Corresponding with this proportion, the milky juice from the upper parts appears to be less milky and more aqueous than that from the inferior parts. The fresh milky juice has an acid reaction, and under the microscope appears to consist of a clear, aqueous fluid, in which float a large number of globules of small diameter, and consisting of caoutchouc. By mixing the juice with water, no change takes place; on the addition of alcohol, a large number of small crystalline needles are precipitated, which unite in groups: ether causes the globules to unite, whilst the same needles are forming as with alcohol. Nitric acid produces a slight white precipitate, which is not dissolved by ammonia; ammonia or potash colours the liquid yellowish; tincture of iodine colours the globules brown, and causes them to combine together to form larger viscid drops. Being dried on a glass plate, the juice leaves a membraneous coating behind, in consequence of the union of the caoutchouc drops.

The author found, upon a continued microscopic analysis, that the juice from the terminal buds consists of

Water	82.30
Caoutchouc	9.57
Resin, soluble in alcohol, but not in ether	1.58
of an organic acid, and a substance (sugar?) soluble in water and alcohol, but not in ether	0.36
A substance soluble in water, becoming yellow by alkalies, (dextrin?) traces of	2.18
	100.48

The organic acid, whose magnesian salt forms, on the addition of alcohol and ether, crystals, does not appear to have any analogy with the known organic acid. Its most remarkable

peculiarity is, that it forms, with potash and soda, salts which are of very difficult solubility, so that it yields, with a solution of one part of carbonate of potash in 200 parts of water, a considerable precipitate. The substance which becomes yellow by potash could not be well determined; it is, however, neither vegetable albumen, nor any other so-called protein combination.

Properties and Composition of Caoutchouc and Gutta Percha.—The specific gravity of lump caoutchouc was at 20° C. = 0.9628; that of bottle caoutchouc = 0.9454. In determining these, the precaution was taken to remove the adhering water bubbles, by subjecting the caoutchouc to the action of an air-pump, which was also necessary in weighing gutta percha. The spec. weight of the latter the author found to be = 0.999; without this precaution, it was only = 0.728. A specimen of gutta percha, mechanically purified and shaped in cakes, had a spec. weight = 0.966.

The author examined, in addition to this, various samples of gutta percha. One, denominated *a*, was in cakes of five to six inches thick, and was darker on the outside than in the interior; the second, *b*, was of a very loose structure, and was much contaminated with small stones, but agreed in colour, which was in general flesh-red, with *a*; the third, *c*, was white, slightly inclined to brown. This last piece had been removed, as an impurity, from a large block of gutta percha, but was found to be in quality perfectly equal to the best gutta, and was afterwards rolled out in the manufactory of Munich, Becke and Co., into sheets of the thickness of paper, for address cards of that firm. The author obtained, moreover, a sample of the *Getah Malabeöya*, imported from Palembang, and also a sample of gutta percha adulterated with the latter. The getah, which appears also to be an inspissated milky juice, is much inferior to gutta percha; it is imported in the form of plates of two or three millimetres in thickness, of a greyish colour, somewhat clammy to the touch, and brittle when dried. When cut, it is of a dirty white colour, and contains many impurities. The vessel in which it was contained developed, on being opened, a disagreeable acid smell. Treated like gutta percha, and purified by hot water, it was much darker than the raw substance, and often quite black; the smell is equally offensive, and its consistency similar to that of wax or glaziers' putty. The gutta percha adulterated with the getah is of a loose structure, of a more greyish colour, and of smell different to that of genuine gutta.

The water in which gutta percha has been boiled (especially the sort *a*) assumes a brown colour, and reacts as an acid. This was also observed by Soubeiran. After inspissation this

reaction disappears, and seems, consequently, to proceed from some volatile organic acid. On being evaporated, a brown extract-like substance remained behind, which precipitates from the watery solution upon the addition of alcohol. Its quantity is very insignificant; in the specimen *b* it amounted, after three times boiling in water, to 0.042 per cent. of the weight of the gutta. That the gutta becomes discoloured by being boiled in water the author did not find corroborated; on the contrary, it preserves its former colour. The specimen *b* imparts to the water neither colour nor acid reaction. Also from lump caoutchouc no ponderable quantity was extracted by water.

Gutta percha, treated by water and by cold alcohol, yielded a resin, which was soluble in ether and volatile oils: the quantity amounted in the sample *b* to 3.495 per cent. The gutta percha being then repeatedly boiled with alcohol, the latter extracted, besides an additional quantity of resin, also a white fat, resembling wax, amounting to 12.035 per cent. The sample *c* yielded no perceptible quantity of resin, and but a small proportion of fat. From lump caoutchouc almost nothing was extracted by cold alcohol: boiling alcohol dissolved a light yellow very viscid resin of some smell and of a bitter taste, whose proportion amounted to 4.772 per cent.

After having been treated with water and alcohol, the gutta percha was further treated with hot ether, which extracted a resin much of the same smell as the gutta, and was in *a* of a dark colour, in *b* similar to dry grape-sugar; its proportion was, in *b*, 13.610 per cent. The sample *c* yielded no resin to either.

Having thus being treated by water, alcohol, and ether, rectified oil of turpentine was employed, in which the gutta was, after a few days, dissolved into a thick somewhat brownish liquid, which in a diluted state could be filtered through paper, to remove the impurities, and was then perfectly clear. One part of gutta percha requires for its solution from four to six parts of oil of turpentine. From this solution the gutta percha was obtained, by adding alcohol until the smell of the oil of turpentine had disappeared, as a beautifully white substance, possessing all the properties which characterise the gutta percha. In the course of time, however, it assumed a darker colour, and became, at last, yellow like straw; at the same time an acid smell developed itself similar to that of pine-resin, which originated very likely from some quantity of the oil of turpentine having been retained, which formed, with alcohol, acetic acid.

The best means of obtaining the principal and essential parts of the gutta percha in a pure state is chloroform. The samples *a* and *b* were dissolved by it even when cold; *c* required hot

chloroform. The solution is very thick and like a syrup, but can be filtered, if sufficiently diluted. From the filtered liquid the pure gutta percha is precipitated by alcohol, then washed with alcohol, and dried at 70° to 80°. The crude substance must, however, before being dissolved in chloroform, be treated with water, alcohol, and ether. Sulphuret of carbon also dissolves gutta percha, which remains behind unaltered, when the solution is evaporated. At 70° to 80° it can be moulded with facility; at 110° it has the consistency of treacle; at 130° it forms an oily liquid, which congeals again when cold, and begins to be decomposed. The *Getah Malabeöya* is also dissolved by chloroform.

By the same treatment with chloroform, caoutchouc can also be easily obtained in a pure state, and it then resembles, externally, very much Arabic gum. The author tried to reduce the gutta percha and caoutchouc by ammonia into an emulsion similar to the natural milky juice, but succeeded neither by the method of Summers nor by any other method. The ammonia, as well as other alkalies, had no other effect upon the gutta, except that of extracting from it colouring matter. Neither the purified gutta nor the caoutchouc contain nitrogen. In the crude gutta traces of it are found, and these are, very likely, contained in the extractive-like impurities. Neither could the author discover any so-called protein combination, as casein (mentioned by Guibourt as a constituent of the crude gutta percha). Vulcanized caoutchouc becomes brittle through the influence of the air, heat, and moisture; and Burke has, therefore, recommended sulphuret of antimony to be employed instead of sulphur for vulcanizing. Gutta percha vulcanized with sulphur likewise loses its efficacy in the course of time. Vulcanized gutta percha contains 8.35 per cent. of sulphur, and caoutchouc 11.3 per cent. of this substance. It is remarkable that caoutchouc thus prepared is no longer soluble in chloroform.

By dry distillation, gutta percha yields, at 100°, a yellow oil of a penetrating but not disagreeable smell. Between 120° and 200°, yellow, offensively smelling, oily substances are going off, which become darker in the air: at a still higher temperature the colour of the very thin distilled product is more red or reddish-brown. Fifty grammes of gutta percha, distilled in the sand-bath until nothing more passed over, yielded 28.83 grammes volatile oil of 0.909 sp. grav.; fifty grammes of caoutchouc, however, distilled in the same way, yielded 42.884 grammes, which contained a considerable proportion of water, in consequence of an air-dry substance having been employed, and the caoutchouc being able to retain more water than the

gutta percha. Keat, in New York, manufactures the distilled product of gutta percha on a large scale.

The incinerated, crude, dried gutta percha (sample *b*) contained 5.18 per cent. of inorganic substances; the pure gutta treated with chloroform 0.314 per cent.; the crude caoutchouc 0.487 per cent.; that combined with chloroform 0.333 per cent. These substances consisted in the gutta percha of lime, oxide of iron, traces of potash, magnesia, and silica. The bases were combined in the ashes with carbonic acid. The ashes of caoutchouc were similarly composed.

About the origin of *Getah Malaheöya*, the author could obtain no further information. In warm water it became soft and sticky; being treated with boiling water, it formed a neutral milky liquid, which was precipitated by alcohol. When boiled with alcohol it became glutinous, the alcohol extracting a white fat, resembling wax and resin; ether extracted also resin. Being dissolved in chloroform, and filtered, a black colouring substance remained behind, which could not be dissolved by the usual solvents, and was burnt without leaving a residue. It appears to be nothing else but soot. The *Getah* melts at 170°, and becomes decomposed only at much higher temperature, when dark-coloured oils are distilled off.—*Central Blatt.*, 1851, No. ii, p. 17.

VETERINARY HOMŒOPATHY.

[Without pretending to any knowledge or faith in homœopathy ourselves, we extract the subjoined cases, to which our attention has been only lately directed, from *The British Journal of Homœopathy for July* 1850.]—Ed. Vet.

CONTRIBUTIONS TO VETERINARY PATHOLOGY AND HOMŒOPATHY.

By W. Haycock, of Huddersfield.

Member of the Royal College of Veterinary Surgeons.

Irritation of the Bowels.

Case I.

August 1st, 1849.—Was aroused during the night to attend upon a horse, the property of Mr. John Bray, residing in Swallow-street, in this town.

History, &c.—The animal is of the draught breed, and is generally employed during the night in the removal of night soil; the labour is not severe, but it is of a tedious character. About two hours ago the animal was observed to exhibit symptoms of

abdominal pain; but the owner thinking that recovery would soon take place, neglected for some time to apply for relief. Finding, however, that his horse became worse, he brought him to my place.

Present Symptoms.

1. Pulse 60, and full.
2. Respirations I cannot well count, but they appear to run about 32 per minute.
3. Perspiration exists over various parts of the animal's body—in patches about the sides, the neck, under the abdomen, and the flanks.
4. The animal lays himself down; rolls over; struggles violently; occasionally turns himself upon his back, which position he will maintain for several minutes; turns himself again upon his right side; then brings his nose close to his left side, and regards it anxiously.
5. The eyes have a dull, heavy, and blood-shot appearance.
6. The abdomen is somewhat tense, but not particularly tender if pressed upon.
7. It is impossible to keep the horse upon his feet for more than two or three minutes at once.

To have aconite $\frac{2}{T}^{0}$,* aquæ ℥ij. In a quarter of an hour after taking the above, the pains had considerably abated. I repeated the dose, however, and in one hour from the commencement, the horse was taken to his labour, perfectly dry and free from pain.

CASE II.

November 20th, 1849.—An aged mare, light bred, and of a dark brown colour, the property of Mr. W. W., a manufacturer of woollen-cloths in this town, was brought to my place about eleven o'clock in the forenoon. The man in attendance stated, that the animal was seized about an hour ago with violent griping pains; that he had experienced great difficulty in getting her along and keeping her from throwing herself upon the ground. I had the mare at once removed into a suitable place, when I observed the following symptoms:—

1. Pulse 64 per minute, and somewhat of a thready character.
2. Respirations quick and short; their number I could not clearly count.
3. The whole surface of the body is wet with a cold perspiration.
4. The extremities and surface of the body are generally cold and clammy.

* This sign means twenty drops of the first solution.

5. The mare lies down and gets up frequently; when down she rolls and struggles violently.

6. The mucous membrane of the mouth presents a sooty aspect, and the tongue is cold and soapy.

7. The animal is violently purged; she parts with a brown watery matter, which emits a bad effluvium.

Such are the principal symptoms.

To have veratrum $\frac{1^{0}}{\gamma}$, aquæ ℥ij. In half an hour afterwards I gave ver. $\frac{1^{0}}{3}$; and shortly after that the mare was removed to her own stable, entirely free from pain, and the skin perfectly dry. I gave orders for her to remain in the stable for the day, and in the evening she had sulphur, first trituration, two grains. The day following she was taken to work, and has continued well up to the present time.

Case III.

February 8th, 1850.—Was requested about seven o'clock P.M. to attend upon a horse, the property of Mr. Charles Beardsell, of Holme, a village situate about eight miles and a half from Huddersfield.

History, &c.—The animal is of a dark brown colour, well bred, stands fifteen hands two inches high, and is rising five years of age; he has been the property of Mr. Beardsell about eight months, during which period the horse has always been very healthy until to-day, when about eleven o'clock he manifested symptoms of severe abdominal pain. The owner had recourse to several remedies, such as giving the animal peppermint, also a strong decoction of senna, and on one occasion he administered about an ounce of tincture of opium; but finding matters in the evening considerably worse, and the animal being a valuable one, he despatched a messenger for me a little after six o'clock. I lost no time in repairing to the place, and reached Holme a few minutes before eight o'clock, at which time the horse had then been suffering nine hours.

Present Symptoms.

1. Pulse 68, and somewhat wiry.

2. Respirations I cannot well count, but they appear to be from thirty to forty per minute.

3. Patches of cold clammy perspiration exist over various parts of the body.

4. The extremities are deathly cold, and the hair upon them presents a fine glossy aspect.

5. The abdomen is tense, and tender when pressed upon.

6. The eyes have a dull stupid look, and their conjunctival membrane is bloodshot.

7. It is with great difficulty the animal can be kept standing upon his feet; he throws himself down with violence, and rolls over and fights with the extremities, almost without intermission.

8. The animal occasionally evacuates per anum a dirty brown-coloured mass of a semifluid character.

9. The tongue is soapy-looking, and emits a bad odour.

To have aconite $\frac{1}{1}^{o}$ in aquæ ℥ij every ten minutes. After having given the third dose, no improvement; to have veratrum $\frac{1}{1}^{o}$, aquæ ℥ij; if no better in a quarter of an hour, the dose to be repeated. Shortly after the second dose of veratrum an improvement was visibly manifest: the violence had considerably subsided, the purging was better, and the pulse was firmer in its character. I left him for a time. About ten o'clock a messenger came to where I was, to say that during the last quarter of an hour the horse had become worse. To again have veratrum $\frac{1}{1}^{o}$ in aquæ ℥ij. This, however, failed to answer my expectations. At half past ten matters were much the same; the animal was certainly not so violent, neither was the purging so frequent as at first; but still the horse was not in that state I desired. Arsenicum $\frac{2}{6}^{o}$ aquæ ℥ij. In ten minutes after giving the above the violent pains all appeared to cease at once; for nearly an hour afterwards the horse lay perfectly quiet, at the end of which time he rose upon his feet, urinated freely, and began to look about him for something to eat. I had him freely dressed down, the extremities bandaged with woollen bandages, and dry rugs thrown over his body; he was then removed into his own stall, bedded with clean straw, fed with a small portion of warm mash (after drinking freely of chilled water), and he was then left in a very comfortable state for the night.

9th, 8 *o'clock*, A.M.—He looks cheerful and well. Pulse 40, and respirations 10, per minute. He has partaken freely of bran mash. He is much bruised in various parts of his body, and he is sore when handled, which I attribute to the violent bruises he would necessarily receive from kicking and rolling about when in pain. To have a dose of arnica ♄, aquæ ℥ij morning and night, for two days.

In a few days afterwards the animal was put to work, and has continued well up to the present date.

Case IV.

January 20th, 1850.—Was requested about seven o'clock P.M. to attend upon a mare, the property of ———— , in this town.

History, &c.—The mare is of a bay colour, nearly sixteen hands high, of moderate breed, and of a good constitution. During the month of June 1849, the mare in question was put to the horse, and in due time afterwards she presented unequivocal signs of being with foal. This morning she was put into harness and driven a long journey: during the day rain and snow had fallen in abundance, to which the animal was, of course, exposed; and this exposure, together with the severe exertion she had undergone, has produced abortion. Soon after aborting, the mare presented symptoms of severe abdominal irritation; and my attendance was immediately requested.

Present Symptoms.

1. Pulse 58, full and round, and respirations 40 per minute.
2. The animal is laid in the box, with her limbs fully extended.
3. Occasionally she struggles violently, and rolls over.
4. The surface of the body is covered with cold perspiration.
5. The extremities are cold.
6. Tenderness is evinced over the abdomen generally if pressed upon.
7. The countenance of the animal wears a very dejected appearance, and is expressive of acute suffering.
8. The mouth is cold and clammy.
9. When made to rise upon her feet, she began to tremble.
10. Paws the ground for a few moments, and again lies down and extends herself upon the ground.

To have bryonia $\frac{2}{1}^{0}$, aquæ ℥iv. To be warmly clothed with dry rugs, and the limbs to be bandaged.

Eight o'clock.—During the last half hour the mare has not exhibited a vestige of pain; she has lain perfectly quiet: the pulse has fallen to 43, and the respirations to 13 per minute; warmth is beginning to be restored to the limbs, and the countenance in a great measure has lost its dejected appearance.

To have bryonia $\frac{5}{3}$, aquæ ℥ij. To be fed upon warm mashes, and have warm water to drink.

21*st, eight o'clock,* A.M.—Perfectly well and hearty to all appearance. To have a few days' rest, and to be fed upon mashes and boiled corn. At night the mare had a sulphur powder, which closed the medical treatment in this case.

Case V.

February 20*th,* 1850.—Was aroused out of bed between one and two o'clock in the morning, to attend upon three horses, the

property of George Taylor, of Thurstaland, a village situated between four and five miles from Huddersfield.

History, &c.—The horses in question have during the last twelve days been engaged in the removal of a quantity of timber, and yesterday the work was finished. About seven o'clock last evening every horse was fed with a quantity of fresh grains (a diet which they had never been fed upon previously, at least not to the owner's knowledge), with which was mixed some ground oats, bean meal, and chopped hay, the last named substances being the diet the horses are regularly fed upon. In about two hours after they had partaken of the provender alluded to, they all began to exhibit symptoms of illness. Various measures of a simple nature were resorted to by the owner, but without effect. Between eleven and twelve o'clock matters became so much worse that a messenger was despatched in great haste to request my attendance. I was not long in arriving at the place. The symptoms presented by the three I found to bear a close similarity with one another, and shall therefore describe the symptoms of one case in detail, and merely touch upon the points of difference as presented by the other two.

Case I.—An aged brown mare of the heavy draught breed.

Symptoms.

1. Pulse 68 per minute; feeble and thready in its character.
2. Respirations I cannot well count, owing to the rapid movements of the beast; but I think they are about 40 per minute.
3. The extremities and ears are deathly cold.
4. The surface of the body is covered with patches of cold clammy perspiration.
5. The animal occasionally rolls about violently; turns her abdomen, and regards the side anxiously.
6. She is violently purged; the fæcal matter which she evacuates is of a dark or black brown colour; semifluid, and occasionally intermixed with more solid portions.
7. The abdomen is full and tense, but not particularly tender if pressed upon.
8. The mucous membrane of the month and tongue is covered with soapy looking matter, which emits a very sour smell.
9. The mucous membrane of the nose is of a dirty blue, or rather of a leaden colour.

Such were the principal symptoms in Case I. In Case II

they were closely similar, but not so violent on the whole. In Case III the animal was purged, but neither so violently nor so frequently as in Case I. Pulse in Case II, 55; and in Case III, 59 per minute. In Case I the attacks of pain were frequent and severe. In Case II attacks are longer between, but equally severe when present. Case III much the same in this latter respect.

Case 1, to have veratrum $\frac{2}{1}^{0}$, aquæ ℥ij.

Case 2, „ „ „

Case 3, „ bryonia $\frac{2}{1}^{0}$, aquæ ℥ij.

The time at which each animal received their potions of medicine was about three o'clock A.M. After its administration they were supplied with additional quantities of clean straw, and made as comfortable as the circumstances of the affair would allow. When opportunity offered, each animal was well wisped and cleaned, and also dry rugs were thrown over them.

Four o'clock (or one hour after giving the medicine), every animal is decidedly improved, particularly Case 1; in which case the pain has nearly ceased; the pulse is much firmer in its character, but not lower in the number of its beats per minute; the abdomen is not so tense; and the purging is not half so frequent. In Case 2 the animal has not purged during the last half-hour; is nearly dry over the surface of the body; pulse softer and more firm; pains come on occasionally, but their violence appears destroyed. In Case 3 the purging continues, but is greatly improved in every other respect.

Case 1 and 2 to have each veratrum $\frac{1}{1}$ in aquæ ℥iv.

Case 3, veratrum $\frac{1}{1}^{0}$, aquæ ℥ij.

From this time my patients progressed wonderfully; and at six o'clock I left them perfectly recovered, with the exception of the consequent debility. I directed that the owner should let me know further respecting them by four or five o'clock in the afternoon;—that the animals were to be fed upon boiled oats, boiled linseed, and bran, with occasionally portions of hay. In the evening, according to appointment, the owner waited upon me to say, that his horses he thought were as hearty and well as ever; and to all appearance quite ready for work. I deemed it best, however, that every animal should have a few days' rest, which he at once acceeded to, and I have not heard more of them since.

Case VI.

March 13th, 1850.—Was requested about eight o'clock A.M. to attend upon a horse the property of Messrs. Carver & Co., carriers, &c., in this town.

History, &c.—The animal is of a bay colour; of the heavy draught breed; six years of age; and stands seventeen hands or near upon it in height. About half an hour ago the animal was seized with a violent attack of colic; and I was immediately summoned to attend.

Symptoms, &c.

1. Pulse 40, full and strong.
2. Respirations 14 per minute.
3. When the animal is made to stand upon his feet, he immediately begins to paw the ground violently.
4. He throws himself down—rolls over and strikes out violently with all the extremities.
5. He will lie quiet for a few moments and look significantly at his side.
6. Occasionally he voids small quantities of dung in round masses resembling wax balls.
7. The abdomen is tense and hard, as though inflated with wind.

To have nux vomica ℥ℓ, aquæ ℥iij.

In fifteen minutes after giving the medicine, the animal was perfectly free from pain; and in half an hour afterwards he was put to work as though nothing had ever occurred to him; and he has remained well from that time to the present.

THE PRESENT CONDITION OF VETERINARY MEDICINE IN RELATION TO AGRICULTURE.

We approach this subject without any misgiving, conscious we are dealing with a profession which owes nothing to mystery, and has no consideration for the fancies of its patients: we see no possibility of running counter to existing prejudices, while the knowledge that there is room for inquiry impels us to use our influence in the cause of truth: as consistent advocates of the interests of agriculture, we feel bound to attempt the removal of the mass of misconception and error that obscures the subject that we propose to treat.

The science of veterinary medicine, comprehending, as it does, the medicinal treatment of all our domesticated animals, must stand high in importance as intimately blended with agricultural interest; but yet how lowly are its merits estimated—how charily its claims acknowledged—how is incipient disease

played with—primary symptoms neglected; what a fearful amount of loss results from the maltreatment of the ignorant and empirical practitioner. Did the farmer rightly estimate the mischief done by a sapient attendant, or the sportsman adequately realize the jeopardy of his "favourite hunter" under the tender mercies of that greatest plague of life "a clever groom," who can carry his horses through their three doses of physic with any man in the world, how different would be the rate of animal mortality—how closer the connexion between veterinary medicine and agriculture as economic sciences.

Medicine, like other systems, was called into existence by a present necessity; the inconvenience arising from impaired function or organism led men to search for remedy—actions were noted, consequences observed, causes sought out; till at last, beyond the cure of disease, great minds saw an end of more paramount importance—its prevention: we speak, be it observed, of medicine as a science, distinguishing no difference in its application to man or beast: practice may be modified, even opposed; but the aim, in either instance, remains the same; in each is involved the knowledge of structure and function—laboriously acquired acquaintance with diseased modifications—minute knowledge of medicinal action—a combination of rapid perception, manual dexterity, and mental adaptiveness, which are collectively the results of uniform application, unflinching perseverance, and untiring investigation. We quote from the *Maine Farmer for Nov.* 21, 1850.

"Thanks to this enlightened age, reforms are germinating, and spreading their giant influence throughout the length and breadth of this country, and ere long the American people will boast of their veterinary colleges. They already begin to see the errors of the past. Dear-bought experience has taught them, that the treatment of disease in domesticated animals involves as great an amount of knowledge as the practice of human medicine, and that none other than high-minded, intelligent, and merciful men should ever practise this art."

That veterinary medicine is not duly estimated by the agriculturist is clear; why it is not we propose to inquire. Firstly, we have no desire to cover the fact, that the anatomy, and diseases of cattle have found no efficient investigators: we are fully alive to the circumstance that essays have been written in times of emergency, during the prevalence of some fatal epizootic; we are aware that pleuro-pneumonia in cattle, and small-pox in sheep, have been discussed in a manner that alike reflects credit on the authors, and demonstrates the existence of knowledge in the few; but take the names of Percivall, Turner, Morton, and Bracy Clark, as writers on anatomy, pathology,

and therapeutics, applied to the horse, where are their prototypes in the cattle department?—all honour to the name of Youatt for what it has accomplished! But what can one man hope to achieve in such a field as that—what correctness of detail can be expected in the productions of one individual, who, single handed, investigates the structure, functions, and disease of five several animals, all of them markedly varying from each other. Until this outline is filled up—until the anatomy of every domesticated animal is thoroughly understood—until the farmer can see ample reason to anticipate good results from the medical treatment of his stock—until, in short, he sees clearly that it is more economical to call in the aid of the veterinarian than the butcher, will cattle medicine occupy its present insignificant position.

To the practitioners of the new school we alone look for real improvement. To expect men who have spent the best part of their lives in pursuing the beaten track, to forget their accumulated prejudices and begin anew, is absurd; we do not ask it. The system must form a prominent part of veterinary education to ensure an adequate amount of knowledge; but difficulties of no common character are opposed to this. The absence of deceased cattle at the Veterinary College is a subject of frequent regret: the Professor of the department has more than once publicly lamented the deficiency: while some disaffected spirits in the profession, who take an insane delight in animadverting on the faults of the institution, are invariably triumphant in their sarcasms on the state of the cattle department.

While we are keenly conscious of the unfortunate hiatus, we are slow to perceive how abuse and ridicule can afford a remedy. If the time and paper that has been spent in vilifying and condemning had been devoted to impartially inquiring into the cause, we are not certain that a very material change for the better had not been present now.

The hospital of the Royal Agricultural College has been open for the last eighteen months: during that time the supply of horses has been fair; but we have authority for saying, that save the stock on the farm, but one cattle patient has been admitted, and that a surgical case. If those animals are not sent to a hospital in the centre of an agricultural district, with the advantages of proximity and a low scale of charges, it ceases to be remarkable that an institution so much more remote, with difficulties of transit and necessarily higher charges, should be deficient in such patients. But this is not all: we must bear in mind that a sick horse is a thoroughly useless animal to his owner; it becomes economical to remove him,

and certainly to restore him to health as soon as possible. Should the animal die, his carcass is worthless: not so with cattle. A fatting ox evinces symptoms of a dangerous disease; a difficulty at once occurs, whether is it better to take the doubtful chance of ultimate cure, with certain and material loss of condition, or to convert the animal at once into food with a certainty of a reasonable, perhaps a remunerative, price.

A milch cow is seized with a subacute disease, which will require some long time to eradicate: nothing is to be gained by slaughtering this animal; consequently the case is submitted to treatment. But it is preposterous to expect the owner to send the patient to some public institution: the affection not being acute, the general secretions are not markedly interfered with; the animal still yields a certain supply of milk, which increases as convalescence approaches. This is an insurmountable impediment to the animal's removal. Again, cattle are proverbially unable to bear up against acute affections: to excite them by even a short journey would, in the majority of cases, be injurious, if not fatal. To sheep and pigs the same reasoning applies: the animals, when sufficiently fat, are mostly slaughtered at once; and when otherwise are of so little worth, that their value is soon absorbed in the expenses of medical attendance.

These are grave reasons, we conceive, why cattle have not hitherto been sent to veterinary hospitals connected with educational establishments. That these difficulties are insurmountable we should be sorry to allow; albeit, we see no present method of overcoming them: but, surmountable or not, the argument remains the same. Until veterinary schools are by some means supplied with these patients, cattle pathology will inevitably continue in its present position.

But it may be fairly urged, certain cases of disease in cattle are treated frequently. True! By whom? The regular practitioner? The instances are few and far between: anomalous as it may appear, the major part of the valuable live stock in England is medically superintended by a class of ignorant men, whose pretensions consist in the absence of all knowledge of their subject, and whose claims to the farmer's consideration are compressed in the statement, that their position enables them to spend time and attention at a much lower amount of remuneration than the regular practitioner could possibly do.

The evils of this widely existing system we have yet to consider.

Cirencester and Swindon Express, June 28, 1851.

THE ARSENIC BILL.

THIS Bill passed the third reading on the 23d of May, with a few verbal alterations.

In the second clause the quantity "less than ten pounds weight at any one time," is omitted, the prohibition against selling arsenic to strangers, or to persons under full age, being general instead of applicable only to the sale of small quantities. The prohibition against selling arsenic "to any person other than a male person of full age," is altered by the omission of the word "male." We understand the British ladies were indignant at this aggression on their liberty, which they considered equivalent to a vote of "no confidence." The remonstrance could not be resisted; accordingly the ladies continue to enjoy, equally with the other sex, the privilege of purchasing, mixing, and administering, rat poison. In so doing, however, they will be in danger of soiling their fingers, and have only to make their election between soot and indigo.

The alteration in the fourth clause, which was suggested in our last number, by us, has been made; no restriction being placed upon the ordinary business transactions between the wholesale and retail dealer. We believe no case is on record of an accident or crime arising from irregularities in this stage of the business. It is in the retailing of arsenic that the danger exists, and to this the remedy should be directed.

On the third reading of the bill Mr. Wakley expressed a desire that it should be deferred for further consideration, as he objected to some of its provisions, chiefly to the sale of arsenic to persons who cannot write. He also doubted the efficacy of the precaution of colouring arsenic with soot or indigo, and thought a more effectual bill might be framed if the subject were referred to a Select Committee for further consideration.

Sir George Grey observed, in reply, that the advice of many practical men had been obtained; that it was not desirable to discuss the details of the subject publicly, and it was impossible to frame a bill which should meet every contingency. He believed the bill before the House would answer the purpose intended, and hoped it would be allowed to pass the third reading. The objection being withdrawn, the bill was passed.

We have not much faith in the precaution of colouring arsenic, which was fully discussed by the Poison Committee of the Pharmaceutical Society, and excluded from the report under the belief that it would not be effectual. In our opinion the value of the Act consists in this fact, that henceforth no person will be allowed to sell arsenic to a stranger; and that every sale

of arsenic must be recorded either in the ledger of the wholesale dealer, or in the book kept by the retailer for that purpose, in accordance with the provisions of the Act. This will afford the means of tracing arsenic to the possessor, and will be a check upon the criminal, and an inducement to extra caution on the part of all persons who buy or sell arsenic.

Pharmaceutical Journal, June 1851.

SAPO MOLLIS.

ALTHOUGH soft soap has been included in the Materia Medica of the London Pharmacopœia since 1836, yet, as it was not ordered in any of the formulæ contained in that work, and is but rarely prescribed, it has not hitherto been generally kept in a state fit for medical use by pharmaceutical chemists. In the new Pharmacopœia, which has just been issued, soft soap is ordered as a constituent of several of the pill-masses, and it will therefore be necessarily kept in future by every one engaged in dispensing medicines.

The common soft soap of commerce is not the *sapo mollis* of the Pharmacopœia. The former is an offensive compound made with stinking fish oil or other impure oil, and is wholly unfit for use in medicine; whereas the latter, according to the instructions of the College, is prepared from olive oil and potash, and is perfectly free from any disagreeable odour. It is expressly stated in the new Pharmacopœia, that common soft soap, made with fish oil and potash, is not to be substituted for sapo mollis, P.L.

The demand which will immediately arise for this article will ensure a sufficient supply from the wholesale manufacturers; yet to some of our readers a few observations with reference to the process by which it is made may not be unacceptable.

The ingredients employed are olive oil and caustic solution of potash, which are boiled together, continuing to add the alkali until the mixture, which at first has the appearance of an emulsion, becomes gelatinous and perfectly transparent. Excess of alkali beyond that which enters into the composition of the soap is necessary to produce this effect; and, in addition to this free alkali, the gelatinous mass will also contain more than the proper quantity of water, as well as the glycerine, which is one of the products of the process.

The excess of water is driven off by evaporation. In making

hard soaps, the free alkali and glycerine are separated by adding common salt to the gelatinous mass first produced, when the soap, being insoluble in the saline solution thus formed, rises to the surface. This process, however, cannot be applied in making soft soap, as the potash of the soap would be replaced by soda, and thus the soft soap converted into hard soap. The separation of the soap may also be effected by concentrating the alkaline liquor itself, as it is found to be insoluble in strong caustic alkali, and this method is applicable to the preparation of potash soap.

In consequence of the difficulty of completely separating the free potash, soft soap is generally strongly alkaline, and this is especially the case when it is made in small quantities.

Pharmaceutical Journal, June 1851.

THE VETERINARIAN, AUGUST 1, 1851.

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

Influenza yet being rife among our horses in and about the metropolis, we would add a few observations to what we have already said on the subject. Although almost any disease, we believe, may for a time, from causes apparent or non-apparent, assume an epidemic or influenzal type, we have but one, we seem to acknowledge as veritably deserving the name of influenza among horses; but that one ever has been to us, and still, we must confess, continues to be, a puzzler. The more we see of it, the more complex and inexplicable it appears to us. Not that any very novel phenomena present themselves for notice as the disease occurs year after year; but that the same phenomena, modified as they are in variety, alternation, and intensity, tend rather more to confound us in regard to their cause and nature than to cast any additional light upon the disease they denote. It is true, by the simple treatment we are in the habit of applying to the disease, and sometimes by no medical treatment at all, that success has generally in the end proved the upshot of the case of it; but it is likewise true that, every now and then, a case—we do not say of influenza, but a case which in the

season passes for influenza—occurs that baffles our best endeavours to save it. Is this *influenza*, we ask, or is it not? If it be influenza, then all we can say about it, is, that it is no certain protection against an attack of the same disorder; for that, even at the moment when the animal is convalescing in safety out of alarming pleuritic or pulmonic disease with which he has recently been assailed under the garb of influenza, he may fall amiss afresh, and now manifest most unequivocal symptoms of veritable influenza. And if the former pleuritic or pneumonic attack were not influenza, then ought our treatment to have admitted in such a case of variation from what we should otherwise have adopted. This is one point at the real truth of which we want to arrive, and in our opinion it is a highly important one. Connected with it is the fact, which to our mind has been satisfactorily established in practice, of the animal being able to undergo influenza a second if not a third time. And, as to whether the disease, in any form, be *contagious* or not, the question has so recently been discussed, in a French article on the subject translated into these pages, that there can be no call for us to open the argument anew here.

Another phenomenon, not new, but still one of interest, is the two-fold form in which influenza among horses, according to age and condition of subject, season of year, &c. makes its appearance. Soon after the turn of winter, or else in the spring of the year, depending upon the weather, the mucous lining of the air-passages, with special determination to the larynx, marks the seat of aliment; while young horses—the three, four and raw five-year-olds, become its subjects. But, let the season advance completely into summer, and hot settled weather set in, while north east winds become less frequent or cease altogether, and the influenza—though still preserving its name—presents itself in such an altered and questionable form, that, were it not that it is still called by the name, we should not recognize or acknowledge it as the same disease; and after all, though it unquestionably is epidemic, it raises a grave question in our mind, whether in *nature* it be related to the former disease or not. For now, in place of the mucous membrane of the air-passages being the chief or sole seat of disease, the conjunctive

membranes principally suffer: the eyelids swell and droop, or become quite closed, and there is a manifestation of dulness of countenance and hanging of head which would betoken headache and other feelings of cerebral derangement, as though the membranes of the brain even were partakers in the general disorder, while the "weakness" so remarkable in the loins, warrants us in supposing that the membranes of the spine are likewise implicated. The conjunctiva has a sort of dull yellow-red aspect, and is commonly much infiltrated, suppurates on occasions, œdema in some patients manifesting itself—particularly after a day or two's illness—in the legs, the hind more especially, and sometimes in the sheath as well. But there is no sore throat, no cough, no pleuritic nor pulmonic disease, nor any apprehension of any thing of the kind. Neither is its subject any longer the three and four and raw five-year-old horse in his immature and unconditioned state of body; but the adult and even the *aged* horse, and he who is in hard-working condition, now becomes the patient. And, yet, the disease is said to be *influenza* still! Can the two diseases be regarded as of one nature, as produced by the same cause, and attacking the same subject?

Another phenomenon worth notice is, the fact of almost any "humour" already existing in the constitution of the horse at the time influenza is raging—any wound or contusion or irritation—being sure, almost, to break out afresh, or to manifest redoubled virulence under the influence of the epidemic, or, shall we say, of its causes. This has been noticed by us before; nor do we mention it here as any thing new or unknown. There is no old practitioner who has not found out the necessity of caution in blistering, firing, &c. in the season of influenza, or during very hot weather. We have repeatedly made the remark ourselves, on having a horse with an enlarged hind leg, or a humoury heel, or a blistered or fired limb, submitted to us, which has with the distemper broken out afresh, or become suddenly worse, that "the *influenza* has run into it." And so, in point of fact, does it turn out; since the local affection under such circumstances will commonly prove most troublesome and vexatious; and, after all, in no manner yield until the influenza has taken, or is about to take, its departure.

To make, before we close this article, one observation more we would ask veterinary practitioners—taking it for granted that the older ones among them will not call in question the fact—how it happens that influenza has become more prevalent, occupying so much larger a portion of the year than it was wont to do: indeed, of late years, so much, as it seems to us, has the disease extended the duration of its visits, that hardly any season would appear to be exempt from it. There is to us as great a difficulty in drawing the line between the seasons and non-seasons of influenza, as there is in the demarcation of its pathological boundary lines. In conclusion, there is, we would beg to repeat, evidently a good deal of obscurity hanging over the disease or diseases we are in the habit of calling "influenza" among horses; and on this account it is that we would invite aid in our feeble essays, if not to succeed in unravelling, at least to set in a clear light, such points as to us appear at present to be veiled in mystery, and on that account to call loudly for further investigation.

We anticipated and fully hoped that this month we should have had it in our power to have congratulated the profession on the success of their Exemption Bill. To our disappointment, however, it has been thrown out in the House of Commons. Report assigns divers reasons for the rejection. One ascribes it to the absence, from indisposition, of Mr. Hume; another to an informality in the Bill, it being improperly lithographed instead of being written; a third, to opposition to it set up on the part of Government. We suspect that some sinister influence has been privately at work. The following is all the information afforded us by the public prints on the subject:—

From the Times, 22 *July*, 1851.

The House went into Committee on the Veterinary Surgeons' Exemption Bill; but almost immediately,

Mr. Bouverie moved, that the Chairman should report progress.

Mr. Newdegate said a few words in favour of the Bill.

Mr. Healey objected to the principle of exemptions included in the measure.

The Committee then divided.

For reporting progress	24
Against	13
Majority .	11

From the Morning Post, 22 *July*, 1851.

The House then went into Committee on the Veterinary Surgeons' Exemption Bill, when

MR. BOUVERIE moved, that the Chairman should leave the chair.

After a brief discussion, in which MR. NEWDEGATE and MR. BASS supported the Bill, the House divided, when the Bill was rejected by 24 against 13.

PROCEEDINGS OF THE COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

Sitting of JULY 16, 1851.

QUARTERLY MEETING.

Present — The PRESIDENT; Messrs. BAKER (Sudbury), CHERRY, A. CHERRY, ERNES, HENDERSON, KING, MAYER (Newcastle), PEECH (Wentworth), SILVESTER (St. Albans), TURNER, WILKINSON; and the SECRETARY.

The PRESIDENT in the Chair.

THE minutes of the preceding meeting having been read and signed,

The Secretary read letters from Mr. Mayer and Mr. Cowie, returning thanks for the honour of their election as Members of the Board of Examiners, the former on the portion acting for England, and the latter that for Scotland: he then stated that there was no specific business before the meeting.

Mr. A. Cherry believed it usual for committees to make reports at these Quarterly Meetings; and he had to state that the Bill for Exemptions had passed the House of Lords and had been read twice in the Commons. Some desultory conversation followed as to any opposition likely to be raised against it, and its probable result. Allusion was also made to the employment of a non-graduated member of the College who was called in by an officer commanding a detachment of the Ordnance at Liverpool, but without any motion being made on the subject; after which the meeting terminated.

MISCELLANEA.

SHABBY REMUNERATION OF VETERINARY EVIDENCE.

Whitchurch, 5th April, 1847.

Sir,—THE latter end of last year, Mr. Tapley, of the Hollyhurst, had two horses stabbed by his waggoner, and I attended on them. Mr. Lowe, solicitor, Nantwich, had the prosecution, and I was subpœnæd on the trial, which took place at Chester, on the 4th January last. The policeman who subpœnæd me informed me I was to have a guinea a-day besides my travelling expenses. I attended, and the man pleaded guilty. In a day or two afterwards, I received from Mr. Lowe 5*s.* for my day's work and 15*s.* (9*d.* a mile) for travelling expenses. Now, I think it very hard that I should be compelled to attend and be so illiberally remunerated. It cost me 10*s.* for coach fare to Berston and back again, and 3*s.* by railway, besides my eating and drinking, and loss of business at home; and had the Court broken up half an hour later, I should not have been able to have got home before six o'clock the following day, and not have had a farthing allowed for my extra expenses and the loss of another day.

The table of fees, I believe, allows a guinea a-day only to the three professions, law, physic, and divinity. Now, I should feel particularly obliged if you will lay this matter before the magistrates at their next sessional meeting, and try to have veterinary surgeons added to the other professions, so as to entitle us to the guinea a-day.

You, perhaps, may not be aware that in 1844 a Royal Charter of Incorporation was granted, conferring on our art the title of a profession, of which I am a qualified member.

I scarcely for a moment can doubt, when you lay the case before the magistrates, but what they will allow us the same fees as other professional men; for I think it is hard indeed that even a policeman shall receive for attendance 7*s.*6*d.* a-day and us only 5*s.*

Such an allowance is enough to make veterinary surgeons evade giving evidence, and so cause the ends of justice to be defeated.

I am, Sir,

Your most obliged and obedient Servant,

W. A. CARTWRIGHT, V.S.

To H. Churton, Esq. Chester.

P.S. The above letter, though written as dated, from some cause or other, was not sent. I believe I may add to it, that the paltry re-imbursement named is pretty general throughout the country. W. A. C.

THE

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LAMENESS IN HORSES.

By William Percivall, M.R.C.S. and V.S.

[Continued from p. 368.]

Contraction.

CONTRACTION or *hoof-bound* means an anormal approximation of the heels of the hoof, and mostly of the quarters as well.

A narrow Foot is not necessarily a *contracted foot.* Of hoofs in general the outline approaches nearer to the circular than to any other figure. Some horses, however, possess by nature oblong or ovoid feet, such as Arabs and Barbs, and Sicilian horses, and many of our thorough-breds. Mules and asses are never seen with any other description of feet. With this narrow form of foot are uniformly combined hoofs of exuberant, strong, and tough fibre, high heels, and concave soles.

Contraction may be general or partial. It is said to be *general,* when the quarters as well as heels of the hoof are involved: and in this case it very commonly happens, that the wall is *straight* or upright in direction. Contraction is *partial* when confined to the heels. On rare occasions it is observable in one heel only; though commonly both are affected, and often the inner more than the outer heel. Sometimes one foot is contracted; sometimes both feet. The hind feet are not subject to contraction; the reason for which will be by-and-by pointed out.

Contraction is pure or mixed. Pure contraction exists without any collateral disease of foot; or, at least, without any in connexion with it. *Mixed contraction* is contraction accompanied by inflammation, or by one or other of its consequences.

The Symptoms of Contraction may appear too obvious to need description. In some instances it certainly is manifest enough; but not in all. When one foot is contracted while its fellow retains its normal character, a comparison with the eye

between them, as the horse stands confronting us, will readily detect the anormality: the discovery being, as is very likely, aided by the circumstance of the horse going lame in the contracted foot. But when both feet are contracted, and both consequently alike in appearance, and the same in action, it may assist our judgment to revert in our mind to what sort of foot such a description of horse ought by nature to possess; though, even in this case, without any reference to what the feet ought by nature to be, we may, by close and critical examination, detect the anormal changes in them. Combined with a narrowing form side to side, there will be visible straightness of the quarters of the hoof, with a turning-in, more or less sudden and angular, of its heels, which seem to glide or shelve forward, inward and downward, so as to vanish from our sight, as the horse stands upon his legs, before they reach down to the heels of the shoe, which are found so much too wide that the heels of the hoof rest upon the inner edges of the shoe, and when the foot is held up, we behold nothing but its ground-surface: the false width of the heels of the shoe deluding us into a notion that the foot is a good enough one, when in reality it is in a high degree contracted. This is a deception to which the smith—probably at the instigation of the dealer—contributes by, in his own language, "opening the heels" of the hoof: an operation consisting in cutting away the bars, thereby throwing the channels of the commissures into the general concavity of the sole, and so making the latter appear ample and extended, while the heels, from, at the same time, having their points obtruncated by the drawing-knife, look considerably wider apart.

A young examiner of horses should be particular in guarding against a delusion like this; and he will find it best exposed if he take up his position behind the horse, so as to direct his view upon the posterior parts of the fore feet from between the hind legs. This will enable him to judge of the high or low condition of the quarters of the fore hoofs, and see the unoccupied spaces left upon the heels of the shoe, in consequence of the unnatural curving-in of the heels of the foot. The insidious curving-in of the heels, one or both, is always a strong indication of contraction.

Predisposition to Contraction lurks in breed or kind of horse, with whom it is often hereditary: a good deal also depends upon the country—the nature of the soil, and the dryness or humidity of the situation—wherein the animal happens to be bred or brought up, as on that will, in a measure, depend his acquiring a hoof obnoxious or not to contraction. Horses of the breeds and from the countries I have named, having light bodies to carry, with hoofs of the oblong description, and strong luxu-

riant fibre, and which possess light and near-the-ground action, may be said to be predisposed to contracted feet. On the other hand, heavy horses—such as are used by agriculturists and brewers, &c., are subject to disease or anormality the opposite of contraction. Thin hoofs, of weak fibre, broad and flat, and sometimes sprawl even, are prone to disease of laminæ, and to become *pumice*. Colour has been said to have some influence to a disposition to contraction. Blaine insists upon the dark chestnut being its favourite subject. The texture and colour of the hair may have an influence over its correlative tissue, the hoof; and certain colours may prevail among light or well-bred horses, or among horses of certain countries. Farther than this I can perceive no connexion between colour of coat and contraction of hoof.

The Causes of Contraction, i. e., *of pure contraction*, are either *direct* or *indirect*. I shall consider the latter, as being the more influential, first. In order to render the nature and operation of this set of causes intelligible, it will be necessary to premise an observation or two on the physiology of the foot. Made, as this organ is, for the double purpose of supporting the weight of the horse's body and moving under it with elasticity or spring enough to ward off concussion, its structure is such as to enable its component parts to possess certain motions, one upon the other, so that the effect of the whole together may be, expansion of the foot during the imposition of weight and the force of action upon it: retraction of the parts taking place the moment such weight or force of action ceases to be in operation. This faculty of yielding or expansion it is which, while it answers the purpose of a spring to the animal body, acts counter to that tendency inherent in the hoof, from the nature of its composition, to shrink or contract within itself. What is called the *spread* of the hoof as the wall grows downward, is owing to this expansive property; and this spread, as we know, is, in the natural or unshod hoof, more conspicuous in the outer quarter than in the inner. So long as there exists nothing to prevent this function of expansion from going on uninterruptedly, and it continues to receive the necessary *primum mobile*, so long there will be no contraction. This accounts for our hardly ever seeing a contracted hoof in a state of nature. But the period arrives for the horse to be shod, and now what happens? From the very moment the shoe is nailed to the hoof is its faculty of expansibility more or less impaired. It can no longer, under the same force or weight, yield or expand to the same degree it did before. The consequence is, a slow but gradual change in its form takes place. Instead of continuing the open-heeled and expanded foot it originally was,

the first thing that happens is, that its spread becomes obliterated, after which it alters, though almost imperceptibly, from a circular to an ovoid figure, and at length becomes a contracted foot. We must not, however, infer from this that shoeing is the sole cause of contraction, any more than that every horse who wears a shoe must necessarily have a contracted foot. Were this the case, the hind feet as well as the fore, would exhibit contraction; and this, we know, they never do. Shoeing fails to bring about this end in cases in which the expansive powers of the foot are powerful enough to overcome any counteractive influence, as is the case, from the impetus of their action, with the hind feet; as also, from the natural weakness of its fibre, and consequent feeble power to contract, is the case with the naturally spreading or flat foot. But in the foot in which, from the strong and exuberant fibre of its hoof, from the height of the heels, the concavity of the sole, and the little or no pressure there is made upon the frog, there is evidently a disposition to contraction, shoeing will very influentially operate in bringing about such anormal alteration in its form. I have no objection to adopt, on this part of my subject, the first three words of the motto used by Bracy Clark,

Naturam ferro expellis;

though I cannot add, *usque dum non recurrit*, because I feel that Nature, up to an incalculable advanced period of time, preserves, and if released from her fetters—the shoe—manifests, her *power of returning*.

The Absence of Pressure to the Frog is another indirect cause of contraction, though one of inferior efficacy to the former: it was such a favourite, however, with Coleman, that he placed it in the foremost rank of causation: his argument being mainly based upon the notorious fact, that horses possessing sound and prominent frogs exhibit open heels, while such hoofs as have their frogs shrunk or diseased or cut away, become contracted. Such reasoning, however, specious as it appeared at the time, is untenable, inasmuch as it is grounded in error. Coleman took the case of *shod* horses, and, as far as they went, he found, with few exceptions, that, so long as the frog was preserved sound and prominent, contraction was effectually opposed, whereas it often supervened upon faultiness or defalcation of frog. But, did he look for, and if he had would he have found, the same result happening in horses *without shoes?* Rather, would he not have found that horses' feet, even though they were contracted, and had diseased frogs or hardly any frogs at all, supposing the shoes were taken off them, under the freedom from restraint their structures enjoyed

in the absence of shoes, by degrees repaired, not only their lost width, but their sound and prominent frogs as well, time being given them for such changes to be brought about. The action of the frog is but a secondary power in the expansion of the hoof, and when the heels of the hoof are fixed, as they are by those of the shoe, has but feeble power, unaided by the great expansive effect of the wall of the hoof, of itself to dilate the heels.

WANT OF WEIGHT OF BODY AND FORCE OF ACTION in the subject may account for lack of expansive power, and so for the predominance of the contractile force. Light horses having slender bodies and going near the ground, with hoofs of a strong and upright and growing fibre, are very subject to contraction from the diminished power there exists in them to expand a foot requiring greater force of expansion; though, if they should happen to possess high stamping action, this power is much augmented during the time they are going. But, even in this case, were it not for the unceasing counter-active effect of the shoe—or, in other words, were the foot set at liberty by being unshod—it would be only under certain circumstances that the operations of nature would be overcome by any such deficiency. Indeed, when horses are shod with tips, so long as the heels are left at liberty, it rarely—*never*, I believe I may say—happens that this cause, or even want of pressure to the frog, operates to the production of contraction. Standing tied up in the stable no doubt tends to favour the operation of such causes; but even then, were they not aided by the imprisonment of the hoof by the shoe, their influence would be comparatively feeble.

THE DIRECT CAUSES OF CONTRACTION are neither numerous nor potent when put into competition with those we have mentioned—*the indirect:* at the same time, when operant with the latter causes or such as tend to prevent expansion, they become to a certain degree influential. No agent can be said to be *direct* save one whose effect is to produce actual contraction. Such influences as operate in occasioning shrinking of the dead hoof or shrivelling of dead horn, such as droughts or heat or evaporation, may be expected to take more or less effect upon the living hoof, if not in their ordinary form, at least when applied in any inordinate degree. Heat has this tendency; and so has long-continued drought, or any thing that robs the hoof of its moisture. The heat of the stable; standing upon wet or fermenting litter, or the absence of moisture to the hoof in a situation and at a time when its own natural juiciness or humidity is departing from it, may, any one or all such like influences, take such effect as to dispose the hoof to contraction. Still, such agents will be greatly more effectual on shod than on unshod hoofs.

THE VARIOUS AND APPARENTLY OPPOSITE CAUSES set down to the account of contraction by writers on the subject, for the most part will, if what I have advanced be based upon fact and experience, admit at once of explanation and even of reconciliation. The list of causes as given by Blaine is—"neglect of paring away the adventitious growth of horn; the application of artificial heat; the deprivation of natural moisture; constitutional liability; the existence of frushes; the removal of the bars, and too great lessening of the frog; the effects of pressure occasioned by long confinement in a state of inactivity, and in an erect position; and, lastly, the contracting effects of shoeing." Of which "list" Youatt approves in the following terms:—"A very excellent writer, particularly when treating of the foot of the horse, Mr. Blaine, has given us a long and correct list of the causes of *injurious* contraction, and most of them are, fortunately, under the control of the owner of the horse."

Now, much as I respect the opinions of these two defunct eminent writers, I cannot help thinking that both of them have evinced deficiency of observation, let their experience have amounted to much or little, on the subject before us. I repeat it again and again, that, were it not for the (indirect it is true, but still) potential influence of the horseshoe, we should have to complain but very little of the production of contraction, since only under particular circumstances, and rarely even then, are any of the causes mentioned of effect in giving rise to it. Contraction is the last thing we apprehend in unshod horses. Nor even when horses are kept constantly shod with tips, *ab initio*, do we hear that contraction is among the evils which may then befal them. Such being verily the state of the case, I cannot help expressing my surprise to read in Youatt's work such passages as—"The opinion is perfectly erroneous that contraction is the necessary consequence of shoeing."—"Shoeing may be a necessary evil, but it is not the evil some speculative persons supposed it to be." By way of "plain proof" whereof, he states—"that although there are many horses that are ruined or injured by bad shoeing, there are others, and they are a numerous class, who suffer not at all from good shoeing, and scarcely even from bad." Coleman said the same thing;—by shoeing properly, *ab initio*, contraction might be prevented. And so far as *pure contraction* is the question, there is no doubt truth in this. But it is not the whole truth. The majority of cases of contraction are, as we shall by-and-by see, *cases of mixed contraction*, such as are produced under the influence of the shoe, and such, I may add, as without the shoe we should most certainly, comparatively speaking, hear but little complaint about.

PURE CONTRACTION DOES NOT PRODUCE LAMENESS. Cole-

man's mode of reasoning, derived from the writers on farriery before him, was, that hoof-bound or contraction of the hoof caused pain and lameness, by squeezing the sensitive tissues of the foot contained within it, after the manner that tight shoes or boots squeeze our feet. It is observable, however, that lameness never sets in until inflammation has made its appearance. A horse recently lame in a contracted foot will manifest heat in that foot, shewing that the lameness is not the result of the contraction—which may have been present long before—but of the inflammation which has now supervened upon the contraction. Indeed, when we come to reflect upon the history of the case, for how long a time the contraction has been, by imperceptible degrees, coming on, and that the parts within the hoof cannot fail, during this length of time, to have accommodated themselves to the diminished space, as well by absorption as by alteration of position, we can hardly imagine that lameness would be consecutive on the contraction. Even the inflammation is hardly referrible to the contraction. Rather, it is much more likely to be *immediately* produced by some concussion or contusion of the contracted foot in action, to the production of which no doubt the contracted, unyielding, *rigid* condition of the hoof has mainly contributed. But the time is come for us to consider

Mixed Contraction—that kind of contraction which *does* occasion lameness—contraction in combination with inflammation, or some one or other of its consequences. Now that we know so much about naviculararthritis, we can readily understand how it was that Coleman was so addicted to the practice of ascribing lameness to contraction. At the time he did so he was ignorant, if not of the very existence at all events of the great prevalence, of disease of the navicular joint. He beheld the contraction, and beyond that there was nothing in his eye to account for the lameness. He took the inflammation present to be the consequence of the contraction; not dreaming that it depended upon another, an undiscovered cause. Moorcroft advanced a step further towards the development of the real or proximate cause of the lameness. He suggested the presence of *pure contraction*, as distinguished from *contraction connected with deep-seated injury of the foot.* To Turner, however, it was left to discover in what this "deep-seated injury" consisted. Through the unerring guidance of morbid anatomy he demonstrated that it was not the coffin-joint which was the seat of injury, but the *navicular joint.* "I have dissected all the groggy feet I have been able to procure," says he, "and have found *the navicular joint diseased in every instance.*" But, is a "groggy" foot a *contracted* foot? Not necessarily. Some-

times it is, sometimes it is not. Where then, let us inquire, is the connexion between naviculartbritis and contraction? This part of our subject has already undergone discussion: I need therefore only repeat here, that although a horse exhibiting naviculartbritis may not have a contracted foot at the time, but on the contrary, as we so often have occasion to remark, a good open foot, still, from the repose when in the stable, and the favouring at the time of going such foot will be sure to experience, will it in time become a contracted foot. And this it is that, in the majority of cases, constitutes the chronic, hoof-bound, too often incurable, lame horse. Indeed, it matters little what the form of the foot is at the time of the attack of naviculartbritis. Long duration or repetition of lameness will be sure to induce contraction sooner or later; and, in the end, contraction will form a feature in the case strong enough to mislead those who may not be acquainted with its history, or know enough of hippopathology to reason properly on it. The seat of injury giving rise to the inflammation present in contraction causing lameness, will very well account for the horse continually going upon his toe, without supposing it to arise, as Coleman curiously enough did, from disease of the *laminæ*. But, will it account for the heat we so invariably feel, not in front alone, but all round the wall of the hoof, and for the heat and tumidity as well of the coronet? I think it will, very satisfactorily, when we come to consider that, contraction being not a primary or immediate, but a secondary and remote consequence of naviculartbritis, by the time it makes its appearance inflammation must either have existed for some time, or be in some relapsed, perhaps aggravated form, and that therefore it has not confined itself to the posterior but has extended to the anterior parts of the foot; in fact, has spread generally over the whole internal foot. And when we come further to remember that the inflammation is sometimes sufficient in naviculartbritis to cause the pastern arteries to "throb," we need feel no surprise that the pastern, or coronet rather, should take to tumefy.

Prevention of Contraction. If the principles I have laid down be consistent with the results of accurate observation, shoeing must be regarded as the main cause, indirect though it be, of contraction; and to the modification or correction of it must we look for the prophylactic. Shoeing, as it respects horses, has been said to be "a necessary evil." Without shoes, upon our artificial roads, we cannot make use of horses; and no shoes have been found to answer save such as are hard and inflexible or metallic, and as are fixed to the hoofs with nails. Here, therefore, we find ourselves in an awkward dilemma. We cannot do without horseshoes; and from the moment we nail them to the

hoofs, the feet begin to undergo more or less alteration in form, and in too many instances to experience harm from their application. The art of shoeing has given rise to a wonderful deal of difference of opinion and controversy, some thinking one shape of shoe answered best, some another; while some prefer one mode of nailing it upon the hoof, others a different one. As far as my own experience has served as a guide to me through this labyrinth of opinion, I have ever found that method of shoeing the preferable one which approached the nearest to nature, or, in other words, which interfered the least with the economy of the foot. If we could do without them, horseshoes would, undoubtedly, be best abolished altogether; but, since this is impracticable, let us adopt such shoes and modes of attaching them to the hoofs as are found to work the least mischief to the feet. On this principle it is that a half-shoe is to be preferred to a whole shoe, and for the same reason it is that *tips*, of all the horseshoes that were ever invented, are the best, i. e., the least objectionable. If those in the profession would come forward and inform us of their experience—if they have had any—of tip-shoeing, I believe it would uniformly be found, that whatever objections might be urged against the use of tips, no one would deny their tendency the least to interfere with the operations of the foot. If there be any horseshoe calculated to prevent contraction, and navicularthritis as well, I feel no hesitation myself in pronouncing that horseshoe to be the tip. In saying so much, I am fully aware that tip-shoeing cannot be introduced into general practice for reason of the roads horses have to travel and work upon, and of the numbers of horses having hoofs of too weak and brittle a fibre to stand work without chipping and breaking and wearing too rapidly away: on horses, however, whose hoofs are strong and hard enough, and whose work is light enough, to admit of their wearing tips for any length of time, or in situations where the roads or parts of the country they have to do their work upon enable them to wear tips constantly, no wholly shod horses' feet will ever bear a comparison with theirs.

Pressure to the Frog—Coleman's favourite prophylactic against contraction—considering shoeing to be an indispensable evil, must certainly be regarded as next in importance, as a preventive, to getting quit of the shoe itself, or of part of it. The frog being a body which in action operates in the expansion of the hoof, the removal of it, or even the impairment of it, must necessarily give facility to contraction. It therefore behoves us, in ordinary shoeing, to look well to the preservation of the integrity of this important part of the foot.

The Cutting away of the Bars in shoeing, through rob-

bing the hoof of a couple of stays operating against the closure of its heels, conduces to its contraction. Nature gave the bars as a sort of buttress against either heel of the hoof to oppose its drawing inward, while the frog, placed between the heels, is operating in forcing them asunder; consequently, if the bars be removed, the expansive or counter-active powers of the hoof lose an agent they can in many cases ill afford to be deprived of.

THE CONTRACTING EFFECTS OF HEAT AND DROUGHT on the hoof may be guarded against by keeping the horse's stall free from fermentable litter, while the atmosphere of the stable is maintained cool and unpolluted. The practice, also, of stopping horses' feet—or, what I believe to be better, of wearing swabs in the stable—will likewise tend to guard against the contracting effects of these agents.

We now come to the

TREATMENT OF CONTRACTED FEET.—The first thing to determine, whenever a case of contraction is submitted to us for treatment, will be, whether it be one of the pure or mixed description. If the former, the horse not therefore lame, and his feet be submitted to our inspection simply from the *apprehension* of his becoming lame, and the contraction be on this account desired to be removed, the simple and best means of doing so will be to substitute tips for the horse's ordinary shoes, and to order that he stand with his contracted feet in cold water—or, what is better, in a bed of clay—for a couple of hours once or twice a-day, he being allowed to lie down as usual at night. By such a simple plan of treatment as this will his hoofs, give sufficiency of time for Nature to carry out her operations, become restored to their pristine condition.

COLEMAN'S TREATMENT.—So much attention as the late Professor Coleman bestowed upon the foot of the horse, and so much practice as he had on contracted feet in particular, it would ill become us, on the present occasion, to pass over what he has said on this part of our subject. "There are various modes"—I quote from his 'Lectures'—by which contracted feet, in process of time, may be brought back to their original form, unless there happens to be a diseased frog. I do not mean to assert that the heels cannot be forced out by any other means than the frog; but I mean to say that this is the only means of effecting it without the aid of mechanical force. Perhaps there is no better mode than this of exhibiting the functions of the frog; for you find by giving it pressure you expand the quarters, since thereby you not only broaden the frog itself, but you at the same time give the new-formed horn an inclination to grow outwards. The expansion of the hoof is accomplished by the pressure up-

wards of the frog and the pressure downwards of the navicular bone. Seeing, then, that the frog, if pressed upon, will restore parts to a state of expansion which are contracted, it is conclusive to my mind that it performs the function we ascribe to it. The hoof I hold in my hand was once very much contracted, but the horse was turned out and it became expanded again. By rasping the horn (at the heels and quarters), thinning the sole and lowering the heels, and giving pressure to the frog, you expand the cartilages which project above the hoof, and thus force out the horn which thereabouts is as thin as paper, this thinning of the hoof increasing the power of the cartilages. And the operation is aided by the application of moisture to the hoof, which may be done by tying the horse up in a pond all day."

For expanding the Heels by Force, "there has been," continues Coleman, "an instrument recommended, by means of which they certainly have been dilated to a considerable degree, consisting of a shoe having a joint at the toe, and a screw cross-bar at the heels, which are made with inside clips. I can readily imagine that this may be productive of good in some cases, i. e., as far as opening the heels go; but there is less danger in bringing this about by a process of growth, and you are more likely to accomplish it effectually than through any mechanical operation.

The Removal of Contraction does not always remove Lameness. "Although," goes on to say Coleman, "we have had no difficulty in restoring the original form of the hoof, we frequently find we have gained nothing by it; nor could it be expected, unless we can at the same time restore the original structure of the parts contained within the contracted hoof. Contraction, by pressure upon the parts within the hoof, produces inflammation of the laminæ and ossification of them. This accounts for the horse cantering or galloping instead of trotting, and so avoiding coming down with his heels upon the hard ground, and thereby experiencing concussion, arising from want of elasticity in the laminæ; so that (although the contraction be removed), if the horse come to be worked, he will fall lame again. In nine cases out of ten of what we term *groggy* or *foundered* horses, these parts, in consequence of chronic inflammation, have become altered in structure, effusion of lymph or bony matter having taken place."

The grand Point at which I am at issue with Coleman is, that, instead of contraction of the hoof producing inflammation of the foot, in my opinion it is the inflammation that gives rise to the contraction. I believe, as I said before, *pure contraction*, i. e., contraction without any disease of the

foot, to be a comparatively rare occurrence. In my opinion, inflammation is first set up in the foot, and then, from the organ being thrown out of use, contraction befals the hoof, in certain horses; but not in all, or in all to the same degree. A foot laid up out of use, or but as little used as possible—which is the case when the horse stands constantly *pointing* with it, or by going lame bears upon it as lightly as he can in trotting or walking—will gradually grow contracted; and this change in it will be promoted by the foot being naturally of an oblong shape, of strong fibre, of upright make, with high heels, and a frog either actually diseased or so shrunk and shrivelled that it has no chance even of touching the ground, much less of receiving any pressure from it.

THE TREATMENT OF MIXED CONTRACTION is altogether a different affair from that of pure contraction. Here we have lameness and inflammation to deal with, or we have lameness with inflammation passing or passed away, dependent upon some effects it has left behind it, which is a worse case to deal with than the former one. In point of fact, we have a complication of naviculararthritis, or some one or other of its consequences, with the contraction; and for want of this knowledge about naviculararthritis it was that Coleman erred in his views and treatment of contraction. The naviculararthritis, i. e., any existing inflammation, must be dispersed; and while we are effecting this, the shoe being off the foot altogether, or, at a proper period of the treatment, a tip being substituted for it, the contraction of the hoof will by degrees give way to the return of the natural efforts to bring about original formation. It is quite surprising how perpetually in operation these efforts are, in spite of the manifold impediments continually opposed to them, and how they, to the very last period of time, return to restore primitive form, though the restoration of structure be impossible.

MY USUAL TREATMENT for a case of mixed contraction is this:—I first bleed from the toe of the lame foot, repeating the operation if requisite. I keep the foot, without shoe, immersed in cold poultices, until by the bleeding and them together I have brought about a manifest decline of the inflammatory action. I then put a tip upon the lame foot, and blister the pastern, and often the fetlock as well, with it. When the blister is worked off the horse is turned into some situation—either a marshy pasture or a mucky strawyard, or some shed where his foot or feet can be kept for a few hours daily in a bed of clay, care being taken, while he remains turned out, that the tip be removed every three or four weeks, or, should he have cast and lost his

tip, that the wall of the shoeless hoof be kept rasped down, lest he should break away or crack the horn, and so render his feet incapable, when taken up, of having shoes nailed to them. From two to three months at least should be allowed the horse from the period of his being turned out.

MELANOSIS.

Stanmore, August 13, 1851.

My dear Percivall,—SOME time ago, as far back, I find, as January last, my attention was called to a horse, aged 11 years, with a swelling in the glutei muscles, which with a little treatment apparently subsided, and I heard nothing more of him until June 20th. He was then brought to me under the supposition that he had hurt himself in drawing a load of coals down the road. He went so lame with the near hind leg, that he was scarcely able to walk ten yards without the fetlock joint knuckling over. I had forgotten having seen him before; but feeling satisfied the mischief, whatever it was, was high up, I gave him a dose of physic, and bathed the quarter with some embrocation. He seemed to get a little better under the treatment; but at the beginning of July got much worse, so much, indeed, that he could scarcely bear any weight at all upon the leg. I told his owner that I feared there must be some fracture of the pelvis, and he seemed to me as though he could never be useful to him again, and recommended him to have him destroyed. However, he did not like that exactly, and said he would let him go on a little longer. He did so, and the animal got so much worse that both legs became affected; the near side, however, still being the worst. The animal stuck his back up at every step, and raised the tail, his hock at the same time almost touching the ground. In this further development of the case I told the master that there must be something amiss with, or some part connected with, the spinal cord. He at length sank down, and was unable afterwards to rise beyond sitting on his haunches, in an almost perpendicular position. Previous to his falling the flexor muscles had become very hard indeed. After he had been down a day or two I at length prevailed on his owner to have him destroyed.

Post-mortem.—On removing the skin off the quarter most affected there was nothing visible; but over the lumbar region

there was a considerable deposit of lymph. I next cut down on the pelvis, the anterior portion of which looked rather dark; and on cutting down in the same direction still further, I found a black spot or two. I then had the whole of the lumbar vertebræ removed, together with a small portion of the sacrum; on examining which, immediately underneath the lumbar vertebræ, on the near side, I found a very extensive grumous mass, as black as your hat, which not only existed under the vertebra, but had insinuated itself into the spinal canal. The spinal cord was much wasted for a considerable space, and at the posterior part was almost absorbed, which at once accounted for the very peculiar action the animal exhibited previous to falling. Never having had the opportunity of observing such a case—which, I need hardly say, proved to be melanotic—I thought, as a rarity, it might be acceptable to you. With this account of it I have forwarded the vertebræ and a portion of the substance removed. I have no doubt now, that, when I saw the horse in January, the disease had commenced its attack, notwithstanding that he went on with his work after that up to the 20th of June. I must tell you, this was a very powerful grey cart-horse. There was not the least appearance of melanosis externally, so that I could only conjecture as to the nature of the affection, little expecting to find such a disease. I was very glad to have the opportunity of examining it, and that one of Mr. Henderson's sons happened to be with me at the time, who assisted me in the examination. If the account is worth a place in your Periodical, deal with it as you please, and you will oblige

Your's, very truly,
F. KING.

To William Percivall, Esq.

*** The black "mass" alluded to by Mr. King appears to have been seated beneath the last lumbar vertebra and first bone of the sacrum, the surfaces of which are much blackened by the contact. From this part the disease seems to have made its way, through the foramina giving passage to the nerves, into the spinal canal, and to have there caused so much pressure upon the medulla as to have produced considerable condensation, if not absorption, of it.—ED. VET.

THE EXEMPTION BILL—PROFESSIONAL RESPECTABILITY.

To the Editor of "The Veterinarian."

Sir,—In your last number, p. 433, you make a remark, that I have not perused the number for July. That *was* the case, as I was furnished by my bookseller with a wrong number in mistake. But having seen and particularly examined it now, I find nothing to alter my opinion, viz. that if the act of parliament on that subject says *all* surgeons, &c., the veterinary surgeon has as good a right to exemption as the human practitioner, if he chooses to claim it. I think I have the best authority in Scotland (the Lord Justice Clerk and three others, judges, being at the time on the bench) for saying so; and I am of opinion there is no use in being at the trouble and expence of a separate bill if the one at present in existence will serve the purpose. I see in the same number that *the bill is lost.* Perhaps some of the profession (before trying another) will have an opportunity of claiming exemption as the law at present stands. I shall be glad to hear, through THE VETERINARIAN, "how they succeed."

In some of your late numbers, a considerable space has unprofitably been taken up with replies to the Sporting Surgeon, which, though ably written, would, perhaps, have been better omitted, treating such a character with the silent contempt he so well deserves. Does this Sporting Surgeon, or his friend the veterinary surgeon (whose letter, p. 322, is of such credit to his profession), think he can make the readers of THE VETERINARIAN or any other publication believe that education alone is the only thing that will make men *honest* and *honourable?* Does he wish to make us believe that dishonour and dishonesty are exclusively confined to *our* profession? Does he not know that propensities of a dishonest and dishonourable nature occasionally occur in *all* classes of society, and among *all* professions? whether it be in church or state, among the practitioners of human medicine, or, what he seems to think, the degraded creatures that force their nostrums down the throats or torture with their rude hands the unfortunates of the dumb creation, whose mishaps may unluckily place them in their hands? If he does so, he will certainly find himself in a great mistake. And if his friend the Veterinary Surgeon is a party that does what is said in his letter, p. 323, he is certainly

worse than the groom who requires it to *be* done; and I fear no education, even of the highest degree, could ever alter his natural propensities.

Is this Sporting Surgeon not aware that there are many in practice as veterinary surgeons who have had an education in human also, perhaps little inferior to his own? and that though *he* may think little of them, and be sorry for their ignorance, it takes much more activity and much better abilities to be a good veterinary surgeon than a human one? We cannot go to our patients and ask them, if they have a cough—if the cough affects their breathing—if they feel as though needles were running into their sides when they take in a full inspiration—if they are not able to take rest on the sofa on the right side—whether they ever feel their feet cold, their head sore, their face flushed, and a general restlessness and weakness all over the body; and then tell them—"Oh, I knew well, as soon as I saw you, you were affected in that way." We cannot ask our patients, Have you a fulness on the right side, just below the short rib—do you feel pain there—does the pain extend to the back of the neck and left shoulder—is your tongue foul, and your stomach in bad order—and do you *feel* a *leetle* relieved when you take a little spirits?

No, no: we must go to our dumb patients, when labouring under any disease, and examine them in a way that our would-be-superiors would be perfectly puzzled about. We may first ask of their owner how long they have been ill; we observe their motions, and examine the pulse. If inflammation in any internal part is going on, we can tell at once where it exists, and what is its nature. If the case be lameness, we by practice know whether it be the foot, the leg, the shoulder, or the back, without ever asking where the pain is felt, or saying to them, Oh! I knew so as soon as I saw you. We know our patients cannot answer us any questions, and therefore, in the first lectures we hear from our professors at the College, *that* is a circumstance which is particularly pointed out to us. The diseases are accurately described—specimens of them plainly shewn. As soon as we begin practice the mind must be still more actively employed; and I think it will be allowed, that active employment both in mind and body must produce improvement.

It may be said by your Sporting Surgeon—"Oh! your patients cannot tell any tales, whether *their* treatment be *good* or *bad*." We can retort upon *him* the same in his cases, or in the cases at least of *some* of his professional brethren; and, as I detest *manufactured* cases, or cases to which people fear to put their names, I shall give the party in one of the cases I am about to

relate; the other I did not know. Happening to be in a laboratory kept by a doctor, in comes a servant of the *D*—— of *B*—— on which I retired to an inner room. After consultation, &c. the poor fellow walked off, when Mr. Doctor said to me "these fellows get their money easily. It is best to give *them* something to keep up the fire, and always to take the other half crown from them." The other is a case in which William Gordon, now employed on the Hawick railway, was taken ill, it was said, of *fever*. He was said to be very ill; and, being an old schoolfellow, I went to see him. I was told, his doctor said "Ah! it is one of those fevers that are always going about—it will be *twenty-one days* before he can get the turn of this fever; and by that time you will not hear him speak, he will be so reduced." The treatment was, first, bleeding; next, a powder—sub. mur. hydrarg. et pulv. jalap at night; and a dose of castor oil every morning, with diet of the lowest description—thin gruel and weak tea, &c. This treatment continued for eight days, and, no doubt, was producing the desired effect—weakness, and *no mistake*. The patient was hungry, but durst not eat any food, for fear the doctor should know. The pulse was down to 36. He had no pain; but he could hardly speak. I had visited him every day—advised him to leave off taking the "physic;" got a prescription of sulph. quininæ ℈iss, aquæ ℥xx, acid. sulph. dil. gutt. viij, written out for him, of which he was to take a wine-glassful at night, and half-a-glassful of port wine twice a day, and a small quantity of sago, and a very small beef steak. This was to be tried for a day or two, the other medicine still being sent for according to order, *but none taken*. In two or three days the patient was much better, whether the doctor would or not. *When he said,* "Oh! I see it is one of those fevers that will break down on the fifteenth day, and on that day he ordered the very same treatment he (the patient) had been using for seven days before. The patient was a stout healthy young fellow, a fit subject to act upon; the doctor had *great* skill in telling the very day on which he would get the turn of the fever; and I have no doubt if he had been left to the freedom of his own will, he would have gone on right. That such cases as these are of frequent occurrence in practice I have no doubt. I never did such a thing to any man's horse. I never knew it to be done; neither do I believe there is a man in the veterinary profession that would do so. There exist many faults among us, low enough, which might be amended; but I do not believe that statements of the Sporting Surgeon or a veterinary surgeon are among them.

There is another practice in vogue here, and also to a considerable extent in Edinburgh; perhaps very general, though

not very honorable. The doctor is called to a patient—he writes out his prescription. The patient's friends are not allowed to go to any druggist they choose; but must go to the one to whom the doctor addresses his prescription. There, an account of all the doctor sends is kept, the party calling for medicine paying on delivery; and the doctor has his yearly transactions summed up at the new year, receiving his per centage from the druggist for sending his patients.

I am, Sir,

Your most obedient servant,

J. HORSBURGH.

Dalkeith.

RUPTURED RECTUM—STRANGLES AT FOURTEEN YEARS OF AGE.

By FRANCIS BLAKEWAY, Veterinary Surgeon, Kidderminster.

To the Editor of "The Veterinarian."

Sir,—CONSIDERING the following rather a rare case, I beg to submit it to your notice.

On the 16th of July, I was called early in the morning to attend a black horse, belonging to Mr. Parry, a farmer, in this neighbourhood, which the man reported to be "griped." On my arrival, I found the horse sweating profusely, evincing great pain, with a hard and quick pulse: in short, shewing every appearance of violent inflammation in the bowels.

On inquiry, I gained the following information:—The morning before he had shewn some symptoms of pain, but which subsiding, it did not hinder his being taken to work as usual. At night, however, the pains returned in an aggravated form, and for them he had administered to him some warm ale, which afforded slight relief. But he was again attacked, and this time, from straining violently, voided a considerable quantity of hardened dung. Thinking from this that all would now go on right, and seeing him somewhat composed, they left him for the night. On the following morning I found him exhibiting the symptoms above described. Taking it to be a case of enteritis, I treated him as follows:—Hydr. chlor. ʒij, in soft ball; solut. alöes ℥viij; pulv. opii ʒij, in draught; and I bled to the extent of cong. ij. But upon passing my arm up to back-rake him, prior to clystering, I confess I was at first somewhat astonished to feel a mass of intestines, as it were, inside the rectum. I immediately informed the owner that a rupture of

the intestines had taken place, and that the horse had better be shot, which was accordingly done.

On post-mortem examination, I found the commencement of the rectum ruptured for several inches, with a considerable portion of the single colon protruding through the opening. The dung he had voided was thrown away, as is generally the case; but my impression was, that the rupture must have taken place in the act of straining, as the owner assured me he had not received the least injury to account for it otherwise. The other intestines were comparatively healthy.

I beg to add, that last week I had a case of genuine strangles in a bay horse *fourteen years old,* the property of the Bishop of Worcester.

I am, Sir, your's truly.

13th August, 1851.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

Bulletin de la Société Centrale de Médecine Vétérinaire, publié par les Soins de son Bureau, et rédigé par M. H. Bouley, *Secretaire Annuel. Année* 1849. Tom. Troisième. Labé, Paris, 1850.—Bulletin of the Central Society of Veterinary Medicine, published under the Direction of its Committee, and edited by M. H. Bouley, *Annual Secretary.* For the Year 1849. Vol. III. Labé, Paris. 1850.

[Continued from page 388.]

We resume our searches into the volumes of the "Bulletin," which for a time have suffered interruption by the arrival of "Blaine's Canine Pathology." The present volume, though more bulky than its predecessor, is, like it, considerably less so than the First Volume: a sort of intermediate condition which may be said to apply to its contents, as well as to its magnitude; since there are several articles in it wherefrom we may make useful selections, though there appears hardly one which, *as a whole,* would repay us for translation, or our readers for perusal. At the sitting of the Society of 13thJanuary 1848, M. Bouley,

junior, laid before the President a communication he had received from Messrs. Verrier, veterinary surgeon at Rouen, and Girardin, Professor of Chemistry in the same town, comprising a MS. Memoir

On the comparative Effects of Æther and Chloroform, in the Horse, the Dog, and the Cat.

The conclusions come to in this paper are,—

1. That the action of chloroform is much more marked than that of æther.

2. That both of these agents impress rather the nervous centre of animal than that of organic life; and

3. That, contrary to the opinions of Amussat and Gruby, the blood undergoes the same alteration it does in asphyxia under the influence of æther.

Remedy for Mange in Dogs.

At the same sitting, it was noticed to the President that the communication which M. Prangé, veterinary surgeon to the 8th Regiment of Hussars, had addressed to the Society on the therapeutic properties of a medicine used by him with success for the mange in dogs, had been submitted to a committee, who had reported upon it as follows:—

M. Prangé has given the name to his remedy of *oleo-sulphure-tannique*. This is the formula for it:—

Nut oil *(Huile de Noix)*
Sulphur *(Soufre Sublimé)*
Gall-nut powdered *(Noix de galle pulvérisée)*

Hemp-seed oil *(l'huile de chènevis)* may be substituted for the nut oil, though the latter is to be preferred.

Make the oil so hot that the finger no longer can be borne in it; scatter the sulphur in it by little and little, agitating it all the while with a wooden spatula, to prevent the mixture becoming lumpy at bottom; then add the powdered gall-nut a little at a time, maintain the mixture for half an hour at the same temperature, remove it from the fire, and it is ready for use.

This quantity is sufficient for a dog of ordinary size. If many require rubbing, the quantity must be augmented accordingly.

In using the liniment, we must provide ourselves with a stick, around one end of which a piece of woollen rag is wrapped, for the purpose of being dipped in the mixture, still maintained at the temperature of from 50 to 60 degrees. Two persons will be required to hold the dog, one seizing him by the head while the other holds him by the tail. The operator then, with his mop dipped in the liniment, vigorously scrubs him for three or four

minutes, and especially in such places as appear most affected; after which the animal is to be immersed in a warm bath.

The action of the remedy is at once apparent—all the mangy places having turned bright red. The animal is continually licking himself, but no longer scratches.

On the second day, the redness is less apparent, the ulcerations, if there are any, contract, and become on the third or fourth day covered with incrustations and cicatrized. The mangy vesicles dry up, and soon afterwards are replaced by furfuraceous pellicles which are not long before they peel off.

On the sixth day, the dog is washed with soap or a weak solution of carbonate of potass, when, if it were a recent mange, it will be found to completely have disappeared. Though, if it be an inveterate disease, a fresh rubbing becomes necessary. During this treatment it is a good plan to employ purgatives.

M. Prangé is of opinion that sulphur, whose antipsoric virtue is acknowledged, united with the tannic acid contained in the gall-nut, whose astringent action is so powerful, are the two agents operative in the cure. In fact, he acknowledges his remedy to be no better than many others used for the cure of mange; but he gives the preference to it over ointments requiring considerable time and care in the effective use of them, as well as over baths, which are not at all times to be had, since bathing places are not in all situations at hand.

"The remedy I recommend," says M. Prangé, "is not new, though it is but little known to veterinary surgeons. It is not, that I know of, effectual in every stage or form of mange; only in the two first stages is it that it can be used with certainty of success. As for *chronic* or *inveterate mange*, we must have recourse to more potent applications than the *oleo-sulphure-tannique*."

Willing to give M. Prangé a fair trial of his remedy, an invitation was given to him to attend at the Veterinary College at Alfort to witness trials being made of it. Of nine dogs experimented on,

One died of entero-pneumonia.

One resisted the treatment, and was subsequently cured by baths of sulphate of potass.

Two, however, on which the same baths had failed, were cured by it.

Four others yielded to its influence.

One alone, affected with diseased condition of the bulbs of the hair, caused seemingly by a sort of acarus, resisted, not only to M. Prange's remedy, but to all other antipsoric preparations, even the most energetic.

To sum up our observations, the Committee are of opinion—

1. That *oleo-sulphure-tannique* is a cheap remedy, and easy of preparation.

2. That this liniment admits of being used in all seasons of the year, and in this respect possesses advantages over antipsoric baths and lotions.

3. That, considering its consistence, and that it is recommended to be used warm, it is easy to render the inungation complete, even in a few minutes, over every part found mangy, and this renders it a preferable form of preparation to either pommades or ointments.

4. That this liniment cures mange equally as well as many other preparations, such as the helmery, citrine, sulphur, mercurial sulphur, sulphate of potass, and hellebore ointments, and as well as sulphate of potass and hellebore baths; but that it has no claim to superiority over these several remedies when properly prepared and properly used.

From this we pass on to a paper which, as it has been deemed of sufficient importance to command the attention of the National and Central Society of Veterinary Medicine in Paris, before whom it has been read, calls upon us for more or less consideration. The subject of it is one of which we profess no more than hearsay knowledge ourselves, though, we believe, in some parts of our own country, and among certain persons, it has had some notice taken of it, or, at all events, is not altogether unknown. Among the French, it appears, the notion has been for some years current, under the denomination of

The Système Guenon.

(From its having originated with an individual by the name of GUENON.)

That cows, by practical men, might be pronounced to be good or bad milkers, according as a part known by the name of *l'écusson* (in English THE ESCUTCHEON) happened to display hair—growing, as it does naturally, in the reversed direction, *wrongways*, as the saying is—of a more or less lengthy or bushy character. What possible influence one part can have over the other—what sympathy or physiological connexion can subsist between the secretion of milk and the escutcheon, and if the fact be established that such is notable or discoverable by those engaged in dairy affairs, how to account for so strange a relationship, we, for our own part, should despair to offer any

thing in the shape of interpretation. The French, however, are, avowedly, more ingenious and bolder in adventure of this sort than we are, and to them on the present occasion we must look for some rationale of the phenomenon, taking it, *in limine*, for granted, as we said before, that the "système" itself is one founded upon fact.

Explanation of the Système Guenon.

It is impossible not to acknowledge the connexion subsisting between the direction of the hair of the perineum and the activity of the udder. A quantity of reversed hair growing inferiorly betokens that cows give a great deal of milk; whilst hairs growing in the vicinity of the external organs of generation are observable upon cows known to become dry shortly after calving.

But how are we to explain these relations? What affinity is there between the skin and the functions of the udder? Physiologists have already been engaged on these questions. M. Yvart believes he can give a reason for the influence of the hair upon the perineum through the intimate connexion subsisting between the skin and the mucous membranes in the vicinity of the natural passages. He supposes that the length of hair indicates development of membrane lining the lacteal reservoirs, and thinks that the presence, upon the posterior surface of the udder, of a fine skin with thin and fine hair, with a display of numerous follicles, indicates that these reservoirs are capacious, and that, consequently, the secretion must be abundant.

This explanation is based upon an anatomical disposition observable around all the natural orifices in every animal; laying it down as a general principle, simplifying the system, that the milking properties of a cow are in ratio to the length of the hair in question, so that by measuring such hair can such quality be ascertained; besides which, the theory rests upon the fact observed by M. Yvart, in Côte d'Or, and by M. Reynal in Meurthe, that Swiss cows having thick coarse hairs, yield more milk than is indicated by their length of hair (escutcheon)*. Now, according to the hypothesis of M. Yvart, it ought always to happen thus: for the thicker the skin is, the firmer, and most opposite to what mucous tissues are, the less it should be influenced by the vicinity of such membranes. But, on the other hand, why should the hair of the mucous tissue take a direction from below upwards? why should the rows of hair and

* This we believe to be the word in use to denote the part whereon the hairs grow, *reversed*, upon the posterior part of the udder.

the causes producing them exercise an influence different according to the position they occupy. In this respect the explanation is incomplete. To resolve such questions as these, we must look to some cause beyond this—inquire what establishes the analogy between mucous membranes and the part of the skin covered by ascending hairs—what that anatomical disposition is which, in cows that are the best milkers, places this part of the skin in relation with the capacity of the lacteal reservoirs.

We believe that the anatomical disposition established by M. Yvart, and the connexion, indicated by it between the long hairs and the secretion of milk, is owing to the nerves and sanguiferous bloodvessels. In every region of the body the direction of the hair is regulated by that of the arteries; thus, the hair upon the perineum grows from above downward, or from below upward, according as the part happens to be supplied by arteries descending from the pelvis or ascending from the subpubic region, so that long hairs growing over the udder, the thighs, and the perineum, indicate that the mammillary arteries are continued on to the perineum, after having furnished branches to the mammæ, and that they are sufficiently numerous, to impart free activity to the secretion of milk, as is observed in cows in which they are most conspicuous; while the absence of such hairs, or the presence of close and short hair, indicates that the mammillary arteries, less in number, terminate upon the udder; and that they convey no more blood than is required for the nutrition of the gland, and are unable, in the time of lactation, to transmit to it blood enough to arouse this function. In the first of these cases, where the hairs abound, the mammillary arteries exceed the muscular; whilst, in the other case, these latter are relatively most voluminous: hence comes the difference we shall at another time draw attention to in the bulk of the muscles of the thigh, and the aptitude of cows to fatten and meat for the butcher.

According to this theory, the longitude of the escutcheon ought to signify the activity of the mammæ, and, to a certain point, indicate the quantity of milk cows give; notwithstanding we may imagine that the relation between the surface covered by ascending hair and the milk secreted may not be the same in all individuals. It is even probable, supposing the skin to be thick, firm and tough, that the arteries supplying the mammæ occupy upon it during fœtal existence a smaller space than if the skin were thin and fine. In fact, this is precisely what one would expect to take place, and Swiss cows, so far from being an exception to the Guenon system, confirm it, in shewing it to be an illustration of a law of physiology.

Moreover, our hypothesis likewise explains to us why the escutcheon does not spread equally upon all sides of the udder, and why its existence is often uncertain upon the superior part. It ought to exist more extensively opposite to the part whereto the arteries which have produced it are directed, growing more or less to the right, left, or middle, and forming one, two or three points directed towards the tail, according as the different arterial divisions, rarely uniform, are more or less long and voluminous. This theory also accounts for the influence of the rows of hair superiorly, which, as we have said, shew that cows, when once they have been bulled, rapidly lose their milk.

The layers of hair ascending around the vulva are to the internal organs of generation what the inferior are to the udder. Formed by arteries destined principally for the ovaries, the uterus, the vagina, and the clitoris, they indicate, when well developed, that the organs of reproduction are supplied by arteries sufficiently numerous for its nutriment, as well as to ramify upon the skin after having furnished it with the blood necessary for the exercise of its genital functions; whence it follows, that the uterus and its dependencies are highly vitalized, and produce, after fecundation, at the time they are under excitement from the presence of the germ, a derivation which detracts from the vigour of the udder and dries up the sources of lactation. The absence of these escutcheons leads to the presumption that the organs contained in the pelvis receive less blood, and that the lacteal glands keep up their function so long as they, the escutcheons, are in a state of plenitude.

Furthermore, we have made the remark that cows in which the superior escutcheons are fully developed, and who, in consequence, rapidly lose their milk when in calf, likewise experience, during the ostral season, a palpable diminution in the secretion of milk. The momentary excitation of the genital organs of a cow at the time she is bulling is sufficient to diminish, whilst this excitation lasts, the product of the udder.

Lastly, we may adduce, in addition, in favour of our opinion, the varicose condition of the veins of the perineum, frequently so remarkable in excellent cows with vast inferior escutcheons, such as are the most certain sign of extraordinary activity in the udders. Arriving in abundance in the vicinity of the perineum, and retained there by the pressure made by the udder highly distended with milk, upon the veins, the blood collects in these vessels and distends them.

Is it true, as stated by M. Guénon, that the powder which

comes off by rubbing from the escutcheon is indicative of the quality of the milk? Nothing has proved it so to us; though we may observe that Nature may possibly direct to the udder such ingredients of the blood as are proper for the production of milk, the same as, it has been said, she concentrates within the renal arteries the elements of urine; whence it follows, that such parts of the skin as are nourished by the blood brought for the secretion of milk, might possibly exhale some product having an analogy to milk, and so might exhibit the qualities of such fluid.

We have no particular explanation to offer in respect to the male. We shall only remark, that the smallness of the hairs of the bull is the consequence of the arteries running to the scrotal regions being, with the exception of those supplying the testicles, which do not extend to the skin, exceedingly small.

Whatever may be thought of this explanation, which is far from being in opposition to the anatomical researches with which we set out, the inferences we have deduced from it are legitimate ones. It accounts for all the phenomena which have been observed, the secretion of milk being always found commensurate with the length of the inferior escutcheons, while it endures longer in proportion as the superior are more developed. Taking this for our guide, it is easy, by the inspection of the perineum, to estimate, with all the precision which marks vital phenomena in general, the activity and duration of the production of milk in milch-cows.

M. H. BOULEY questions whether the direction of the hair externally betokens the direction of the subcutaneous arterial vessels. The hair upon a horse's neck, or breast, or flank does not seem to him to mark any change in the course of the arteries. But even granting for a moment that there was truth in it, does it afford us any interpretation of that singular coincidence said to exist by Guénon between the quantity of milk furnished by the udder and the direction of the hairs growing upon it. The essential required for secretion is blood; and whether this blood is derived from above or below, or be brought by arteries running close together or far apart, running in straight lines or in flexuous ones—what signifies all this, providing only the secreting artery be of the required volume to bring blood in sufficient abundance? And, in regard to the powder produced upon the perineum being the result of blood transmitted to the part pregnant with the elements of milk, and so differing from blood elsewhere, M. Bouley likewise is a dissentient, inasmuch as he believes the blood to be in all parts homogeneous, the same in the brain as in the kidneys, in the

muscles as in the bones; the difference of the products depending upon differences of affinity in the secretory agents.

M. RENAULT quite agreed in opinion with M. Bouley. M. Magne's theory to him by no means appeared explanatory of the system of Guénon. But, the first thing to be done is to ascertain if this "system" have any foundation; and, after that, we may enter on the explanation of it.

M. MAGNE said it was his desire, in the paper he had read to the Society, to treat the question but as one purely scientific; he had no other view than to submit his explanation of the observation of a fact which, up to the present time, had remained uninterpreted. As for the objection made by M. Bouley relative to the nature of the blood conveyed by the different secreting vessels, the opinion I gave of its peculiar impregnation was not one of my own, but what has been adopted by some physiologists, with whom it had originated out of analyses made of the blood contained in various divisions of the circulating system.

M. DELAFOND observed, that if the theory was worth anything, it ought to be applicable to all cases. Now, there are cows who have the escutcheon so large that it reaches up to the vulva; so implying, according to Guénon's system, high lactiferous properties. But, by the side of this large escutcheon, there is another little ovoid body on either side of the ascending hair. This sign, according to Guénon, invariably denotes the cow to be cross-bred, prognosticating that she will give milk at her first calving, but none at her second; or if any this time, less than formerly. I ask M. Magne, if the direction of the rows of hair implies the direction of the artery, how does the presence of the little escutcheon, situated to the outer side of the former, influence the course of the blood in cross-bred cows; and whether it operates against the secretion of milk at the end of the third or fourth calvings? Another objection is, that since M. Magne informs us that the escutcheon indicates the development of the arterial system of the udder, how he reconciles this theory with the fact, that we meet with the escutcheon in bulls known to beget good milch cows? Here the escutcheon can have nothing to do with the lacteal secretion. It is also of consequence, in the resolution of this question, to know which of the two apparatus is the first-formed, the glandular or the vascular—whether the call for increased function in the gland has caused the supplying vessels to become augmented, or whether the augmentation of the latter has occasioned more secretion in the gland.

M. RENAULT observed, that there were cows who had largely developed udders, and ought to have proportionably developed

escutcheons, whereas they are limited and contracted, and such cows are generally bad milkers.

M. BARTHELEMY, senior, observed, that there was nothing to guide us as to their turning out good or bad milkers but the direction of the rows of hair; and that whatever volume the udder might ultimately acquire, the escutcheon will become developed in accordance with the form it assumes from the beginning: so that it is not the development of the udder that regulates that of the escutcheon.

M. MAGNE wished to explain what was meant by cows being called cross-bred (*bâtardes*). All cows, without exception, give more milk after their second calving than after their first, and after the third calving than after the second. But there are some which, after each time of calving, retain their milk up to the following calving time, and others which lose their milk from the moment they become in calf. Some retain it for seven or eight months after calving; others for one, two, or three months, or more. Cows giving plenty of milk, but soon growing dry, are those properly said to be *bâtardes*.

M. BOULEY stated the conclusion of this interesting discussion to be, that the *Système Guénon* still remains an enigma, of which, fortunately, we are not compelled to be in the possession of the solution to render it of service to us in practice. Through observation of the brute we acquire facts, destined to remain long, if not for ever, unexplained, which are not the less useful to us. Thus, for example, in horses, we know that certain colours are found to coincide with certain qualities. Why, we do not know. And yet, for all that, the knowledge is not the less valuable to us. So it is with the Gunéonian system. Certain directions displayed by the hair upon the perineum indicate in cows certain lactiferous qualities: this is the valuable fact; the remainder is but accessory to it.

Home Extracts.

A LECTURE ON THE DISEASES INCIDENTAL TO CATTLE DURING PREGNANCY,

AND ON THE OCCASIONAL DIFFICULTIES PRESENTED AT THE TIME OF CALVING; WITH PRACTICAL SUGGESTIONS ON THE MEANS OF RENDERING ASSISTANCE.

Delivered by Mr. T. J. Merrick, Veterinary-Surgeon, of Bridge-street, Northampton, to the Members of the Northampton Agricultural Book Club, at the Angel Hotel, on Saturday, the 14th of June, 1851.

(Printed at the request of the Club, with the consent of the Author.)

Mr. Chairman and Gentlemen,

It is a full sense of the importance of my subject to you, as breeders and agriculturists, that has induced me to trespass on your time, whilst I submit for your reflection the following remarks on the diseases incidental to cattle during pregnancy, and on the occasional difficulties presented at the time of calving.

Without alluding to the principles or art of breeding (of which the nature of my subject might, perhaps, admit), or otherwise digressing by anatomical descriptions, I shall at once proceed to the consideration of the most formidable of the affections to which the cow is subject during the months of utero-gestation, viz., abortion. Most of you, I doubt not, have been occasionally troubled by the prevalence of such cases, and have at such times, probably, experienced the difficulty and uncertainty of arresting its progress through your in-calf stock; therefore as sufferers I shall insure your interest and attention, and in my subsequent remarks, although I cannot hope to point out the means of arresting its progress in every instance, yet I trust I shall be enabled to convince you that its propagation may very frequently be prevented by paying close attention to the exciting causes, and by the application of remedies adapted to the various incentives, which at different times and on different farms are known to predispose animals to the affection.

The cow, of all our domesticated animals, is by far the most subject to abortion, yet the mare and sheep are occasionally so affected; and the period of gestation in the cow at which this most frequently occurs is from the fourth to the seventh month, but not invariably so.

Such cases are known to be far more common in some seasons and districts than in others; hence many parties have been induced to believe that it assumes an epizöotic character, and is

propagated contagiously; such, however, is by no means the generally received opinion.

The causes of abortion may be regarded under two characters; namely predisposing and exciting. Among the former I am inclined to consider severe winters succeeded by warm springs, hilly pasturage, the practice of allowing young stock and one and two-year-old bulls to run with the breeding cows, atmospheric influence, sudden changes, or a long continuance of wet weather, and, indeed, any condition likely to produce derangement of the digestive organs. As an exciting cause, mental influence is to be viewed as the most frequent. The cow, during the months of pregnancy, is a highly imaginative animal: this is established by the fact of a parturition or abortion taking place in the immediate neighbourhood being frequently sufficient to induce such a sympathetic influence in the remaining stock as in many instances to be followed by a similar result. Animals that have been much afflicted with hoose, or have been the subjects of injury; such also as have been choked or attacked with hoose are very likely to abort, the tendency being materially influenced by the existence, at the particular time, of any of the predisposing causes before enumerated. Cattle that have been once affected are very liable to be again similarly attacked, though probably at a more advanced stage of gestation: this has been observed to occur during successive seasons, abortion in each case taking place at a later period, until the animal eventually goes her full time.

The symptoms of abortion are very commonly allowed to pass unnoticed; but if the breeder be a close observer, and frequently amongst his stock, he will perceive that the cow is somewhat off her feed, rumination being interrupted or suspended, a decrease in the quantity of milk, an unthrifty condition of the skin, and in many instances the appearance of a sanguineous and glairy discharge from the vagina.

Before alluding to treatment, I must again remind you, Gentlemen, of the numerous causes which influence or give rise to this disease; and in so directing your attention, I cannot refrain from exposing the fallacy of those who believe in any specific as a preventive, alike applicable under all circumstances, whether arising from plethora or debility, from the nature and situation of the pasturage, or the result of injury; from sympathetic influence, or disease of the digestive organs. Gentlemen, it is needless for me further to refer to the empiricism attendant on the palming of such preparations upon the public; you, as educated men, cannot fail to see how utterly useless they must, in the majority of cases, prove. The only truly correct principle, and that on which we can hope to render

assistance, is by the execution of prompt precautionary measures, and the employment of remedies selected with a due regard to the several causes which, under varying circumstances, we may be induced to attribute as the incentives to the affection.

In all probability, the attention of the breeder will be only seriously directed to the adoption of preventive measures on the appearance of this disease among his stock; at such a time, then, let me suggest to him the importance, by thorough investigation, of ascertaining if there exists any predisposing causes connected with the situation of his farm or management of his cows; in this his judgment will be guided by a knowledge of there having been at any previous time a tendency to such an affection. If there has, he may reasonably hope, by changing the pasturage of his breeding cattle, or separating his young stock from them (this not having been his practice), with other precautions presently to be noticed, to succeed in arresting such a disposition.

It has been remarked that when cold winters have been succeeded by wet and forward springs, abortion has been especially common: this is to be accounted for in several ways: by the ill adaption of the digestive organs to sudden extreme changes of food, and the prevalence at such times of hoose, the distended rumen by its pressure exercising a most prejudicial influence on the uterus and its contents; also by the disposition such a change of living has to the production of plethora, and consequently to increase the general excitement of the system, in which state an animal will be more readily influenced by external agency; the condition of the uterus rendering it especially susceptible to any of the causes having a tendency to produce abortion.

The character of treatment demanded in such cases will be at once suggested. If the nature of the pasturage is evidently of too stimulating a quality, removal from it, or its counteraction by the occasional withdrawal of blood, and the exhibition of aperients: when the cause is attributed to a debilitated state of the animal, then, of course, an opposite mode of treatment is called for; such as change of food to that of a more generous character, and the frequent administration of medicines having tonic and stomachic properties.

I will now allude to the most common of the exciting causes, namely, sympathetic influence; the existence of such an influence is too generally known to every breeder to require to be enforced in the present instance; I will therefore proceed with the consideration of the means most likely to prove effectual in preventing such a tendency: let me, then, strongly urge the

necessity of immediately separating any animal that may have aborted, or be likely to, from the remainder of the breeding cows; and rely on it, Gentlemen, those of you will best study your interest who make it a rule never to allow such animals again to return amongst your in-calf stock; they should be fattened and sold with as little delay as possible, as the chances of their becoming of value for breeding purposes (at any rate for several seasons), is very uncertain. At the same time the cow is herself separated, be especially particular that the fœtal calf and all the attendant appearances be removed forthwith, and buried in some convenient spot, sufficiently distant to be beyond the sphere of influence. It is a very common practice to have the parts of the cow well smeared with tar or its preparations; and such a proceeding is certainly to be advocated, especially if the animal is not at once separated from her companions; the application, also, of chloride of lime to such parts of the cow-house or other places as she at the time may have frequented, is decidedly to be recommended.

In the foregoing remarks I have directed your attention more especially to the various causes likely to influence or induce this affection, and have endeavoured to point out the means whereby you may most reasonably hope to check such a tendency: these remarks have been made chiefly with reference to its prevention generally throughout your breeding stock; hitherto I have omitted making any allusion to the treatment required in individual cases, whether immediately prior to or after abortion, as such must be regulated by the prevailing symptoms, which will, of course, be dependent on circumstances, and be subject to variation in almost every instance. I shall, therefore, only further direct your notice to a few leading principles, the application of which will rest with the judgment of the owner or party in attendance. Should the symptoms evinced induce to the belief that the fœtus lives, the condition of the animal permitting, bleed and administer aperients, follow up with sedatives, such as opium and belladonna, have the cow secluded, and allow her to remain as quiet as possible. On the contrary, if we have reason to think that the calf is dead, our endeavours should then be directed to the encouragement of the parturient pains. In these cases stimulants are occasionally admissible, the ergot of rye with many being a very favourite medicine. It too often happens that, after delivery is effected, considerable difficulty is experienced in the removal of the placental membranes, the retention of which very frequently gives rise to a troublesome and offensive discharge, requiring the use of astringent injections, and considerable attention, ere the health of the animal be perfectly restored.

Abortion is very commonly preceded by decided inflammatory symptoms; and such cases, subsequent to delivery, are very likely to terminate in disease of the lungs or other viscera. Inflammation of the uterus is comparatively of rare occurrence as a consequence of this affection; the more usual sequela being a low febrile condition of the animal, attended with a fetid unhealthy discharge, suggesting the use of occasional aperients, with the preparations of bark, and the frequent employment of astringent injections; these means, with good nursing and attention, are generally successful in recovering the health. Yet, in concluding this portion of my subject, allow me again to remind you of the uncertainty and risk incurred by endeavouring to make a breeding cow of an animal that has once been so affected.

Dropsy of the Uterus or Womb will be the next disease to which I shall direct your attention; but as this is an affection of rather unusual occurrence, and consequently to non-professional hearers of only trifling interest, the remarks I shall have to make in reference to it will be but brief. This disease occasionally affects the cow, sheep, and dog, but more frequently the latter. In cows, old animals are most commonly the subjects of attack, and generally towards the latter period of utero-gestation. The causes operating to establish this affection are but ill-defined; injury to the uterus and fœtal membranes, through the movements of the dam, or by direct external injury, may be very likely to produce it; or it may be attributable to a debilitated condition of the system, the weakness of the circulation being unequal to the propulsion of the quantity of blood required by the uterus through the smaller bloodvessels, when a filtration of its watery parts would, as a consequence, result.

The symptoms are, an unhealthy and debilitated state of the animal; membranes of the eye pale and watery, a pendulous and much enlarged condition of the abdomen, spine curved downwards, when recumbent a difficulty in rising, and occasionally a considerable rupture of the abdominal muscles.

The treatment will in a measure depend on the period of gestation at which it is noticed, and on the general health of the animal. If the time of parturition is near at hand and the cow continues tolerably active, all I should then advise would be to keep her quiet, and await the time of calving. Should, however, the case assume a more unfavourable character, I would at once proceed to withdraw the fluid. This may be effected in several ways, but should be first attempted by introducing the hand up the vagina and dilating the mouth of the

uterus, then, either with the hand or stilet and canula, penetrate the membranes containing the fluid. This decidedly is the most advisable method, but is not in every case practicable; when not, the same end may be accomplished by tapping through the lower part and right side of the abdomen: after withdrawing the fluid apply supporting bandages, and administer tonics and diuretics.

Inversion of the Vagina, or first passage, occasionally presents itself about the time of parturition, and although it cannot be regarded as an affection of a very serious character, yet is exceedingly troublesome, and is commonly attended with a considerable amount of irritation. It is an occurrence to which both young and old cows are at times liable, but attributable in each of these cases to distinct causes: in the former it usually arises from a too plethoric state of the system; and in old animals from the placid and enlarged condition of the parts. The treatment, therefore, will be subject to variation: in young cows, when dependent on the above cause, we must endeavour to allay the irritation and accompanying general excitement by abstracting blood and the administration of sedatives, also by the use of local fomentations and the application of belladonna. Place the animal in a situation favourable to the gravitation of the parts, by keeping the fore quarters lower than the hind, and after returning the inversion, apply the vaginal truss apparatus, which should be allowed to remain on until the time of calving, and immediately after should be again adjusted, as inversion of the uterus succeeding parturition very frequently follows such cases. In old animals the mechanical assistance required will be similar to that just described; but, instead of bleeding and fomenting, we should give stimulants, and, as local applications, use lotions of a cooling and sedative nature. Many parties are in the habit of employing sutures, inserted through the side of the vulva, to prevent a recurrence of the inversion; but such a practice undoubtedly tends to keep up the irritation of the parts, and certainly cannot be considered so advantageous or effective as the truss apparatus alluded to.

Having noticed the principal affections to which the cow is subject during the months of pregnancy, and severally considered the causes, symptoms, and treatment, I shall now allude to the difficulties occasionally met with at the time of parturition. To render this division of my subject complete, I am convinced of the necessity of giving an accurate anatomical description of the various parts concerned; but as I should by such a course greatly infringe upon your time and patience, I

shall content myself by occasionally alluding to those structures, a knowledge of which will be required to render my remarks as explanatory as I could wish.

The signs of approaching parturition are, enlargement of the udder, sinking in of the muscles of the hips, a swollen and relaxed condition of the external genitals, a glairy mucous discharge from the vagina, general restlessness, and quickened respiration, such precursors being speedily followed by the true labour pains; these are evinced by the spasmodic contractions of the uterus, assisted by the action of the abdominal muscles and diaphragm; the pains continue to increase, both in strength and frequency, until the neck of the uterus (which since conception has remained closed) yields to the combined pressure, and admits of the delivery of the fœtus.

A natural presentation and labour consists of the protrusion of the placental membranes, and inclosed fluid, with the head and two fore feet of the fœtus In the act of expulsion the membranes become ruptured, the contained fluid consequently escapes, and, by lubricating the parts, tends greatly to facilitate the birth of the young animal: after delivery a few trifling pains occur, by which the placental membranes, or after-birth, become expelled; and this completes the more usual, common, but important act of parturition.

It frequently happens, in the cow especially, that the presentation of the fœtus differs greatly from that just described, and in such cases the delivery is generally attended with more or less difficulty; the assistance to be rendered in these cases will, of course, depend on the situation of the calf. This is to be ascertained by manual examination; when our endeavours should be immediately directed to the replacement of it in its natural position, or in one as favourable to delivery as possible.

The most frequent of all false presentations is, where the two fore legs are advanced into the vagina, the head being turned to one side: this was, probably, at the commencement of labour a natural presentation; but the muzzle of the calf having caught the edge of the pelvis, becomes forced, by the repeated throes of the animal, into its present position.

The sooner assistance is rendered in these cases the less difficulty will the operator experience, as each successive labour-pain tends to force the head still further from the vagina. The calf in such a case will be most usually dead; and to effect delivery by force, before the natural position of the fœtus is restored, would inevitably be attended with a fatal result to the cow. Assistance will be best afforded in these cases by attaching a cord to each fore-leg, and again forcing them back into the uterus; an assistant is then to be directed to pass a crutch,

through the vaginal passage. Its course is to be guided by the hand of the person who has returned the legs, until it is fixed against the brisket, when the assistant should, by constant pressure, resist the throes of the parent, by which means the head of the calf will most commonly be returned, if not to its natural position, sufficiently forward to enable the operator readily to place it in such; when, by the use of the head and muzzle noose, and the appliance of gentle traction, delivery may be speedily effected. With the aid of these mechanical contrivances I have, in numerous instances, succeeded in extracting calves, when in the position described, far more speedily, and with considerably less risk of injury to the cow, than could possibly be insured by the usual method of affixing a hook in the orbit, and securing the lower jaw.

A presentation of one fore-leg is also of common occurrence; in such a case attach a cord to the protruding leg, push it back within the uterus, and proceed in the same manner to secure the other leg; again return the fœtus, and endeavour to get up the head, to which, if required, affix the noose before alluded to, when the delivery may be readily accomplished, and with every prospect of bringing forth a live calf.

The head of the fœtus is sometimes forced under the brim of the pelvis, the two fore-legs being alone presented. Secure the legs in the manner before described, and then return them within the uterus; in so doing, the head will commonly regain its proper position, and the calf will generally be extracted with less difficulty than would be imagined.

At other times the head is presented, the legs being retained within the uterus. The difficulty attendant on such a case greatly depends on the time the cow has been in labour, and the advancement the head has made through the vaginal passage. If assistance is speedily rendered, after fixing a cord to the lower jaw, the head may be returned within the uterus, the legs got into their proper position, and the calf readily brought away; but, on the contrary, should the cow have been some time in trouble, and the head of the calf be completely born, no chance of saving the life of the latter then remains, as it will be quite impossible to return the head within the womb, and certain destruction to the parent to bring it away in its present position. No time, therefore, should be lost in reflecting back the skin, and removing the head with as much of the neck as possible. This being effected, attach a cord to the projecting skin, push back the fœtus, and, having secured the legs, by a steady and gentle traction proceed with the delivery.

A presentation of the head and one fore-leg is occasionally to be met with, the other leg being forced back towards the

hind extremities. If the cow has only been recently in labour, and the head has made but trifling progress, affix a cord to the leg and another to the lower jaw, then return the fœtus, and get up the other leg. This will be readily effected by an assistant introducing a metallic semicircle and rope, with a moveable whalebone staff: its course will be guided by the hand of the operator, until it encircles the limb to be brought forward. The whalebone director is then to be removed, and a noose run from one end of the rope to the other, by which means the leg will be permanently secured, and easily got into a situation for delivery. Should, however, the head have protruded beyond the vagina, the life of the fœtus ought undoubtedly to be sacrificed, as great risk to the cow would be incurred by endeavouring to bring it away in that position. The safest and correct course will, therefore, be to remove the head, dissecting back the skin as before described: if found necessary, the leg is also to be removed. This is to be accomplished by carrying an incision from the inside of the arm to the fetlock, reflecting back the integument, separating the attachments of the shoulder, and the appliance of a steady traction; the other leg is then with facility brought into a favourable position, and the remainder of the fœtus readily extracted.

A breech or tail presentation is also of frequent occurrence, and is commonly attended with some little difficulty. This is especially the case if the legs are extended far under the abdomen; the necessity of some mechanical contrivance is then most fully experienced. The mode of proceeding under such circumstances will be carefully to pass the crutch before spoken of into the uterus, against the buttocks of the calf; an assistant should then be directed steadily to push it forward, when the throes of the parent will frequently bring the hocks within reach. If this should not be the case, the ropes and metallic semicircle should be advanced by means of the whalebone director, and each of the legs secured; the assistant should still keep up a certain amount of pressure with the crutch, while the operator gradually passes his hand from the hock to the fetlock of each leg, and succeeds in getting the feet into the vaginal passage, when the delivery will be speedily accomplished. I have in several cases succeeded, after some trouble, in bringing the calf away with its hocks flexed; but this should only be attempted in a full-sized, roomy cow, and before the parts have become bruised and swollen by a protracted labour.

The calf is sometimes turned on its back. The difficulty experienced by the operator in these cases will materially depend upon the time the cow has been in pain. The two forelegs should be secured, and a cord affixed to the lower jaw, and

if the parts continue tolerably relaxed, the calf may be extracted in this position, taking care to direct its progress as much towards the tail of the mother as possible, which will give more room for the head; such a delivery is invariably attended with greater difficulty than when the presentation is naturally arranged. It is sometimes more advisable to turn the calf: this is to be effected by securing the legs and jaw, as before described; afterwards pass the cord attached to the right leg under the head to the left side, which will enable us to turn it sufficiently to direct it for birth, as it will, in its progress outwards, recover its proper position.

The foregoing are some of the most frequent cases of malpresentation to be met with in practice; there are, of course, many others, arising both from the misplacement of the fœtus, and also from congenital imperfections, such as hydrocephalus, dropsy, and general deformity; but the same principles of action will guide us under all circumstances, and with proper mechanical assistance, aided by cautious perseverance, delivery may be mostly accomplished with safety to the cow, and very frequently to the offspring.

Several diseases of an important character, and also other unfavourable occurrences, frequently follow the act of parturition. I allude especially to inflammation of the uterus; inversion of the uterus; inversion of the bladder; retention of the placental membranes, or after-birth; and to parturient apoplexy, or dropping after calving; but to fully inquire into these several affections would far exceed the limits of a single audience; they must, therefore, furnish materials for a subject for future consideration. Yet, as I am desirous of offering a few remarks of a practical nature on the retention of the placenta, and inversion of the uterus, I will, with your permission, avail myself of the present opportunity.

The cow and ruminants are far more subject to retention of the cleansing than other animals: this is, in a measure, to be attributed to the peculiar isolated and vascular arrangement of the mucous-membrane of the uterus, where it affords attachment to the placenta; it is also induced, by unequal contraction of the uterus, or contraction of the unimpregnated horn upon the membrane after the birth of the fœtus. As the result of protracted labours, it is of very frequent occurrence; in such cases, arising most probably, from a feebleness or want of power on the part of the uterus to effect the expulsion. It is always desirable that the afterbirth should be removed as soon after parturition as possible; therefore, if we have reason to believe that its retention is attributable to the latter cause, the hand should be introduced, and the umbilical cord gently pulled, when it will be

readily detached; but on no account should its extraction be persisted in if any difficulty is experienced, as nothing more than a febrile condition of the animal will result from its being withheld for a few days, which an aperient, in combination with a diuretic, generally removes. In the event of its continuing to be retained for a longer period, which occasionally occurs, a fœtid and unsightly discharge will be the consequence. This may be somewhat corrected by the use of chloride solution; but should any portion of the placenta protrude, the appliance of a constant weight is of essential service in effecting its removal: this is best accomplished by rolling as much of the membrane as can be obtained on two good-sized sticks, until it reaches the vulva, secure with a cord each of the ends, and daily, as it relaxes, take up the additional portion, until the whole of it is brought away.

Inversion of the uterus (which is the last affection to which I shall at present solicit your attention) is of frequent occurrence to the cow and sheep: it commonly takes place after a tedious labour, or when the pains have been very severe; the uterus, being suddenly relieved of the fœtus, contracts so forcibly upon itself, that its inversion is the consequence. At other times it will occur several hours after parturition, but then results from the continued contractions of the uterus to expel the after-birth. The relative position of the hind and fore extremities at these times materially influences such a tendency, gravitation greatly favouring the expulsion. The accident having occurred, it will be necessary as speedily as possible to return the inversion; and the sooner this is effected after it has happened the less will be the difficulty experienced, as, while inverted, the circulation of the blood to the part is impeded, and the viscus consequently becomes much congested and swollen. The most favourable mode of proceeding will be to have the hind quarters well elevated with straw, or if the cow is standing, which is to be desired, dig a hole for the fore-feet, then, having thoroughly cleansed the uterus with warm milk and water, carefully remove any of the placenta which may still adhere, direct a couple of assistants to support the uterus with a clean cloth: the usual method is then to grasp the upper portion of the inverted viscus, and gradually to return it until one-third is introduced, when the lower part is to be seized, and by perseveringly pushing forwards, restored to its natural position. To effect this by means of the arm alone is much more readily described than accomplished; I have, therefore, been in the habit, in such cases, of making use of a wooden bulbous instrument which I attach to my crutch apparatus, and with it carefully raise the most depending portion of the uterus; then, having

introduced it with the bulb within the vagina, by gentle pressure and manipulation gradually complete the reinversion, which, with this assistance, is to be done with comparative facility, as the straining of the animal during the process can be readily resisted, and the space occupied by the instrument within the vaginal passage being so small, the principal difficulties attendant on effecting the replacement are by its use avoided.

Having returned the whole of the inversion, and arranged it in its natural position, our object will then be to prevent a recurrence of the accident; the catheter, therefore, should be immediately introduced and the bladder relieved, as by such a proceeding a frequent source of straining is avoided. The hind quarters must be kept elevated for several days, and the truss apparatus, before alluded to, applied and retained as long as required: the medical treatment subsequently demanded will be, of course, suggested by the prevailing symptoms evinced in each particular case.

Gentlemen, in the remarks I have had the pleasure of addressing to you, I feel I have not in every instance been so explicit, or so generally avoided the use of technical expressions, as I could have desired: this I must request you will chiefly attribute to the nature of the subjects passed in review; and with my sincere thanks for the patient attention and courtesy received during this lengthy, and I fear tedious, narration, be pleased to consider me at all times your most obedient servant.

ON THE CORRECT PRINCIPLES OF BREEDING ANIMALS.

WHATEVER opinion may be entertained of the value of purely physiological science as assisting the practical breeder, or as being useless to him and his operations, there can be no doubt that most of the correct principles of breeding animals were far antecedent to the teachings of science. Bakewell, the Collings, and Cully observed and acted on strictly practical data. They had no science to teach them, and they not only laid the foundation for all the thoroughly good breeds of animals which have appeared since their days, but some will affirm that they absolutely themselves had the very best. Physiology has illustrated and enforced, has applied and built, a science on their skill and experiments, and has shewn how these agreed with, what by them they have discovered to be, the great principles of the science.

But there are many problems in breeding still unsolved. It is well understood that if we persevere year after year in selecting those animals to breed from which have certain peculiarities, we shall in time obtain a breed with these peculiarities stamped upon it as constitutional. It may also be known, that if we are to cross, we must not breed from crossed animals, but carry back the crossed blood to breed from its own original stock of the one kind or the other, or we shall have a race of the most unlike mongrels. Why this is, we know not. We may attempt to cross a small-breed pig with a large breed, in order to improve the size of the one, and the fattening qualities of the other; but we shall get a divided litter: half will be large coarse-haired animals, the other small fine-haired; the one resembling one parent, and the other the other. We cannot, by crossing these, obtain a middle breed. And yet the middle breed is forming: the large breed is disappearing as much; and is being replaced by one of finer hair and smaller bone, more resembling the small breed in quality, and the large breed in size.

How is this? Crossing is not the way to accomplish it. It must be done by selection and careful weeding of breeds. A breeder begins to select; he takes his best grazing and finest-quality sow; he seeks a boar where quality rather than size is the object; the most promising of their produce is chosen, and this again carried to the finest animal of its kind; and thus a fine breed is obtained from the original stock, without one violation of the course of nature.

Again, the Alderney cow is about—or was about, we ought rather to say—as great a violation of the symmetrical points of a well-formed animal as it is well possible to imagine. Now attempts have been made to cross this with the short-horn, in the hopes that the most symmetrical would surely correct the great failings of the least, and so produce at least a moderately-formed animal—but no such thing. The produce was an ugly useless nondescript. It had lost the beauty of the short-horn, and the milking propensities of the Alderney. If breeds are to be crossed, they must be crossed evidently by a breed within a certain range of similitude, or they will violate the principles of nature, and end in a creation of monstrosities.

It is a curious subject of investigation, whether all breeds of animals of a certain class—say cattle—were originally one. Can the long-horned Craven, and the hornless Galloway—the diminutive Kyloe and the stately Devon—the quaint and flat-shaped Alderney and the portly short-horned Durham, all have been, one day, of one common stock? The investigation is curious and attractive. It has baffled naturalists and philosophers, and is not uninterwoven with the controversies of theo-

logians. Either proposition is subject to objections, philosophical as well as theological; but the fact is yet unsettled.

We know that climate will do much: it converts hair into down—down into wool—wool into fur. There is a plasticity in nature—a tendency to accommodate herself to the circumstances in which she is placed, which, though slow and painful, is perhaps the most wonderful, if investigated with patience, of all her operations. What but climate is it that gives the curly, shaggy coat to the animal which wanders northward to the Highland top? What is this but nature's covering, to defend her from the wintry blast?

Then again, herbage and food. Take only a twin calf: give the one his mother's milk for six months; and feed the other on hay tea, and linseed: the one will be a large thriving animal; the other shrunk, and meagre, and stunted. It is the effects of its pasturage. It has not the exact food calculated to develop its qualities; and it shews its want—not by dying—but by overcoming all in an altered form. Now, take the same twins: leave one in the fertile valley of the Tees, and drive the other to the barren Jersey. The one has an alluvial soil deposited by the *debris* of a thousand generations: it browses on the grass once the bed of the wide flowing river, filled up with the finest and most soluble particles of earth washed out of the virgin soil before it was cultivated, mixed with the phosphated earth from the washings of the mountain limestone; and hence he had plenty, and slept; he had abundant in ammonia for his flesh, and phosphates for his bones; he lived luxuriously and easily, and he got somnolent, and lethargic, and fat! He grew in size and in bulk—the one as regards his height, and the other his thickness; and hence in his breed was formed the Teeswater race.

The other had to pick up a scanty subsistence on the barren rocks. He had long to browse for a scanty morsel: his grass was poor and innutritious; and he had to be roaming all day, and skipping from height to height, to attain a meagre portion. Here he was active and thin; he was small and flat in his muscles. Animals of this kind were bred from, and they became more and more adapted to their climate, and soil, and circumstances. But his young could barely live on this poor herbage: hence more milk was required to sustain them—the converse of the imaginary compeer in Teesdale; and the one is a good milker—the other a bad one.

It would seem, you can *never* violently amalgamate materials so different.

Having alluded to the effects of cross-breeding on a race of animals, and the danger of any violation of extreme tendencies

in unallied species, and shewn how varieties might easily, by accidents of climate, soil, and circumstances, be originated and multiplied, we have only to shew the effects of cross-breeding in another and somewhat new point of view, which has recently attracted the attention of breeders; and the whole embraces a subject so thoroughly novel, and so little investigated, that it deserves more than a passing mention.

Has cross-breeding any effect on the mother herself afterwards? Professor Simonds, at the lecture at York, on the Reproduction of Animals, entered upon the effect of crossing on female animals, but mainly in reference to the supposed peculiar love which a female animal might have to some particular male, which might be observed to have such a mysterious influence on the yet immature ovæ as to stamp his likeness upon them as well as upon the immediate results of the union.

This was followed up by a paper in THE VETERINARIAN, by James M'Gillavray, V.S., of Heurtley, who quoted some of the same facts, and others, to shew that "when a pure animal of any breed has been pregnant to an animal of a different breed, such pregnant animal is *herself a cross ever after*, the purity of her blood being lost in consequence of her connexion with the foreign animal." He very ingeniously argues that, from the construction of the reproductive organs of the female animal—especially in the bovine race—there is an intimate connexion between the mother and her offspring during the whole period of gestation; that the blood of the young circulates through the veins of the mother, as well as *vice versâ;* and that there is, in fact, the most complete interchange possible of the qualities of the sire with the dam through the medium of the offspring.

More recently, Dr. Hervey, in a pamphlet on *Cross-Breeding*,* says: "There is a circumstance connected with the process of breeding, in the higher classes of animals, which seems to me to merit a larger share than it has yet received of the attention of the agricultural body. It is this—that a male animal that has once had fruitful connexion with a female, may so influence her future offspring begotten by other males as, to a greater or less extent, to engraft upon them his own distinctive features; his influence thus reaching to the subsequent progeny, in whose conception he has himself had no share, and his image and superscription being, so to speak, more or less highly inscribed upon them."

Now, in proof of this position—a careful and guarded one certainly, and hard to gainsay, it must be admitted—a great

* "A Remarkable Effect of Cross Breeding;" by Alexander Harvey, M.D., lecturer on the Practice of Medicine in the University and King's College, Aberdeen, &c. Edinburgh: Blackwood.

many facts are adduced by the three writers we have quoted; and the facts are not only "stubborn," but numerous and striking. Take these as instances: In the Transactions of the Royal Society for 1821, a fact is related of a thorough-bred mare, belonging to Sir Gore Ouseley, who was covered by a zebra, and, as might be expected, she produced a striped offspring. Next year she was served by a thorough-bred horse, at a great distance, and she again produced a zebra-like striped animal. A second year the same circumstance took place with another horse, and again with the same result. A circumstance very much in keeping with this, and illustrative of it, if not so striking, is given by the V.S. to her Majesty, Mr. Wm. Goodwin. Several of the mares in that establishment had foals in one year, which were by Actæon, but which presented exactly the marks of the horse Colonel—a white hind fetlock for instance, and a white mark or stripe on the face—and Actæon was perfectly free from white. *The mares had all bred from Colonel the previous year.* Mr. Blaine's story is well known, and may suffice to shew the influence, at least, on horses. He states that Lord Morton had a mare covered by a quagga—a kind of large ass—which produced a cross between the two, and resembled both. The next year she was served by a black Arabian horse of very pure blood, but the produce had the stripe and hair and marks of the quagga. She was again served by the same horse, and the same result precisely followed—the one foal being a colt and the other a filly.

Mr. M'Gillavray mentions also how a colt of Lord Suffield's, at Newmarket, so resembled the horse Camel, that it was believed that some mistake, intentional or otherwise, had taken place in his described pedigree. The facts above were alone sufficient to account for the likeness; for the mare had been served the year before by Camel.

Passing down to sheep, Dr. Harvey relates a circumstance in point, which happened to Mr. Shaw, of Leochel. He put six pure horned and black-faced sheep to a white-faced hornless Leicester ram, and others of his flock to a dun-faced Down ram. The produce were crosses between the two. In the following year they were put to a ram of their own breed, also pure—all the lambs were hornless, and had brown faces. Another year he again put them to a pure-bred horned and black-faced ram. There was a smaller proportion this year impure; but two of the produce were polled, one dun-faced with very small horns, and three were white-faced—shewing the partial influence of the cross even to the third year.

A similar case in the pig is related by Professor Simonds: D. Giles, Esq., had a sow of the black-and-white breed, which

had produced the previous year from a wild boar of a dun or deep chestnut colour: in this cross, as is common in violent changes in pigs, some resembled the male and some the female parent; but the year afterwards she was put to one of Mr. Western's boars, and the result was that the litter had chestnut marks very distinctly upon them, which they had never had before.

Take a sample from the cow, again, in corroboration of the principle. A case is quoted of a farmer who put a pure Aberdeenshire heifer to a short-horn bull, to which she had, of course, a cross calf. The following season she was put to a pure-bred bull of her own kind, and could have had no other intercourse. A cross-breed animal was produced, having horns, though both its parents were hornless.

Several other facts, equally strong, might be quoted from one or other of these authorities, which seem to make out the proposition, if not that laid down by Mr. M'Gillavray, at least that propounded by Dr. Harvey. But there is another class of facts mentioned by the same parties, which will go further, and will render the principle much more difficult to comprehend.

How true soever may be the principle that an animal, once a mother by a male of a different breed, will herself be a cross for ever after, or how far soever it may be considered as proved by the facts adduced by physiologists, as we before hinted, there is a class of facts even still more astounding; and these not any new or recently-discovered circumstances, but as old almost as primeval history can carry us back.

They are these—that an animal may produce young unlike their actual parent-sire, and like another animal with which it is impossible that the female could have had any intercourse. This is true of cattle, of horses, and of swine. Simonds would solve it on the principle of affection for particular animals entertained by the mother; other writers refer it to an effect upon the imagination of the mother, of a very intense kind. It has long been stated that breeders of farming-horses place a painting of a piebald or skew-balled animal in the crib or stall of the brood-mare, and the foal is marked with the identical spots of the picture.

Whether it was a knowledge of this principle, arising from his skill as a shepherd, by the wily progenitor of the Jews—or whether he was supernaturally taught for the first time the wonderful tendency—whether, in fact, he availed himself of his knowledge in the same way as Bakewell and Collins—or whether a degree of special instruction in an art necessary to raise him to be the head of a selected people which should be the wonder of the world in all ages, we shall not stop to inquire.

But the fact was that a special, an uncommon, a stray kind of production was allotted to him for wages, in the lambs of the flock and the calves of the herd. The odd brown lambs, and the spotted calves dropped, were to be his; while, lest any unfair influence should act on the mother, all in the herd or flock of these colours should be separated. Here, however, he practised the art of the breeder with consummate skill. He peeled white streaks on rods of poplar and hazel and chestnut, and placed them before the watering-troughs of the cattle when they paired, and the produce was ring-shaped, speckled, and spotted. But, with the discrimination and judgment of a breeder, he was too wise to do this to all the cattle. He selected the strongest and best; and, while the produce of the strong were of the exceptional colour, those of the weak were the colour of nature. In the sheep he adopted a similar course. He turned the faces of the sheep at pairing-time towards his own brown flock, and a race of brown lambs was the result—accommodating his plans to the varying stipulations of his selfish father-in-law.

Exactly in keeping with this is the story of Mr. Daniel, related in his *Rural Sports*, of the late Dr. Hugh Smith. He had a favourite setter-bitch, Dido, travelling with him in the village of Midhurst, in Hants, who became suddenly much enamoured with a very ugly culley-dog. Provoked at these familiarities, he shot the cur, and had the bitch carried away on horseback; but she pined and fretted, and lost her appetite, and even her appreciation of scent. After this she was coupled with a well-bred setter, but the produce were a *fac-simile* of the favourite cur; and this followed in every litter of pups which she afterwards bore. This would seem to be a complete instance of the effect of the imagination alone; but in favour of Dr. Harvey's theory there is this remote possibility—asserted, indeed, by Mr. M'Gillavray to have been the fact—that there might have been intercourse between the animals, and thus the alloy have been communicated to the animal.

Of the same class is the fact related by Mr. Blaine, who had a pug-bitch, a great favourite and constant companion of a white spaniel-dog. These were kept separate at critical intervals, and she was warded by a dog of her own kind. A litter of fine puppies was the result of the union, and one was white and spaniel-like; and, though the spaniel was given away, the two subsequent litters had the same peculiarity—one slender, white, spaniel-like dog, but less and less resembling him in each succeeding litter. Here, again, there is no proof but that at some time or other an unobserved union had taken place.

But if the fact related in the *Quarterly Journal of Agriculture*, in its very first volume, be correct, it would place the

imagination theory on safe ground. Mr. Mustard, of Angus, had a cow of the polled breed, and perfectly black ; nor had he a horned, nor white, nor even spotted cow or bull in his possession. When this cow was in season, a white, horned ox of a neighbour leaped over the fence, and accompanied the cow home, till she was put to the bull—a *black and white, horned* calf was the result; and in this case it would seem that no possible union could have taken place.

But the question arises, if an adjoining neighbour could have a herd of white and horned cattle, might not a bull also have broken over the same fence either at that or some preceding period; for if it ever had taken place, according to the physiological facts previously detailed, the very effect mentioned here would have taken place.

The whole subject is enveloped in mystery. We know less now than was known by Jacob, the shepherd-king; but does it not become breeders to experiment and settle these points. If the inoculation theory be correct we must have histories as well as pedigrees of female animals; and, above all, we must be careful in spoiling them by crossing. If the mental influence, either affection or imagination, be right, we must remove all animals but the best and most perfect specimens from the gaze of the mother.

We must confess, we rather lean towards the inoculation theory, but should prefer additional facts before we pronounce with certainty. Dr. Harvey, however, has done good service so to illustrate this dark and mysterious subject.

Gardeners' and Farmers' Journal.

ON THE HORNS OF OXEN.

By Pr. Hinterberger.

At the suggestion from Liebig, the author examined the horns of oxen, and found that both by sulphuric acid and potash, they yielded leucin and tyrosin. He first repeated the analysis of horn which had been exhausted by alcohol and ether. The material consisted of horn-powder, which, after removing the surface of the horn by filing and washing, was obtained from the deposited parts. The supernatant horn-powder was collected and dried at 100° cent. After complete incineration this horn left behind 1.9 per cent. ashes, which consisted of chloride

of magnesium, chloride of sodium, phosphate of lime, oxide of iron, and silicic acid. The analysis gave the following results:—

Carbon	50.46	50.83	—
Hydrogen	6.65	6.68	—
Nitrogen	—	—	16.23
Oxygen and sulphur	26.66	26.26	—

Diluted sulphuric acid and horn.—Twelve parts of water and four parts of sulphuric acid were boiled with one part of horn filings for three days. The sulphuric acid was saturated by excess of milk of lime, the liquid boiled again for twenty-four hours with the precipitate, the latter pressed, the liquid neutralized by sulphuric acid, then filtered, and a solution of sugar of lead added, till every excess of sulphuric acid was removed. The excess of lead was removed by sulphuretted hydrogen, the liquid boiled with the precipitated suphuret of lead, and a slightly coloured liquid filtered from it, which, on being evaporated, yielded crystals. These were washed, then boiled in water with a small quantity of potash and carbonate of potash, and the carbonate of lime having been filtered off, the liquid was saturated with acetic acid, and the solution allowed to become cold. The crystals of tyrosin were purified by solution in water and spontaneous evaporation, by the aid of charcoal. When air-dry they form a coherent mass with a silk-like lustre, consisting of long conglomerated needles, which are themselves composed of small needles grouped in the form of stars. They burn on platina foil without leaving a residue, but emitting a smell of burnt hair; they are soluble in ether or absolute alcohol, with great difficulty only in cold water, rather readily in boiling water, and very readily in alkalies and mineral acids. From a solution in ammonia, they reappear, upon the spontaneous evaporation of the latter unaltered, but in a larger form. The crystals of tyrosin from horn possess the same properties as the tyrosin obtained by Liebig from casein, and by Bopp from fibrin and albumen; they were dried at 100° and analyzed, and the results agree perfectly with those obtained by Warren de la Rue in the analysis of the tyrosin from cochineal and lead, conquently also to the formula $C_{18}\ H_{11}\ NO_6$.

Carbon	59.36	18	=	108	59.67
Hydrogen	6.34	11	=	11	6.08
Nitrogen	7.88	1	=	14	7.73
Oxygen	26.52	6	=	48	26.52
	100.00			181	100.00

The leucin was discovered in the mother liquor of the tyrosin, when the above described operation was so far altered, that the sulphuric liquid, after having been saturated with excess of

lime, was not treated with a lead salt. The excess of lime having been precipitated by sulphuric acid, the slightly acid liquid was evaporated, the crystals of tyrosin, which first presented themselves in a globular form, removed, and the mother liquor further evaporated. The crystals which now appeared consisted almost entirely of leucin, but were not white. They were dissolved in water, mixed with hydrated oxide of lead, the excess of lead in the filtered liquid removed by sulphuretted hydrogen, and the liquid evaporated. The leucin was now free from tyrosin, and could be obtained perfectly white by recrystallization from water, application of animal charcoal, and repeated recrystallization. It consisted of pearly laminæ, which were readily deposited in a concentric manner, were volatilized when slightly heated in a glass tube, and floated about in the air as flocculi, like oxide of zinc. By these properties, as also by its great solubility in water, acids, and alkalies, the leucin can easily be recognised.

Albumen, fibrin, and casein yield by a similar treatment much leucin, but less tyrosin: in horn the proportion is reversed. The quantity of both substances, however, increases to a certain point by this treatment of horn, in proportion to the time it is boiled with sulphuric acid, perhaps also by the longer action of the milk of lime upon the sulphuric solution of horn; for, if horn be boiled only for one day with sulphuric acid, and the milk of lime be allowed to operate only as long as ammonia could be discovered by the smell, small quantities only were obtained. At 107° cent. the mixture of sulphuric acid and water first begins to boil. The boiling proceeds very steadily, when a few pieces of charcoal are put into the boiling liquid, and when, after the horn has been boiling for one day with sulphuric acid, the supernatant liquid be poured off from the sand and gypsum (which are deposited during the night at the bottom of the retort) into another vessel. After three days' boiling, the liquid is light brown; if then excess of fresh prepared milk of lime be added, a large quantity of ammonia is developed, the presence of which can, even after two days' additional boiling, be shewn by a glass rod moistened with muriatic acid.

Hydrate of potash and horn.—Horn chips were melted in a large iron pot, with an equal weight of hydrate of potash, until, besides ammonia, hydrogen was also developed, and the fused mass, at first brown, had become somewhat paler. This was dissolved in boiling water, acetic acid added till a slight acid reaction took place, and the liquid filtered and evaporated so as to yield crystals. After twelve hours a rather large quantity of crystals of tyrosin and some of leucin had formed, which were separated as stated above.

When the alkaline mass is saturated with sulphuric acid instead of with acetic acid, a distilled liquid of a very disagreeable smell is obtained, which contains also butyric acid and valerianic acid.

Ann. der Chem. und Pharm., and *Pharm. Central Blatt*, 1850, No. 14.

Foreign Extracts.

EXPERIMENTS ON THE PANCREATIC SECRETION IN CATTLE.

By M. G. Colin, Principal Teacher of Anatomy at theAlfort School.

[Extracted from the Report of the Transactions of the Academy of Sciences, 17th March, 1851.]

The admirable experiments which led M. Bernard to the discovery of one of the most remarkable properties of the pancreatic fluid had sufficient interest in them to induce one to institute some similar experiments on animals which, by their regimen and process of digestion, differed as widely as possible from *carnivora*, with a view of ascertaining if in all, this fluid possessed identical characters and properties.

It seemed difficult to conceive, *à priori*, how in herbivorous animals, whose aliment contains so little fatty matter, the fluid secreted by the pancreas could exhibit emulsive properties similar to what it did in carnivorous, on which it was that M. Bernard made his experiments. Nevertheless, the identity of action shewed this was not to be disputed, while its positive demonstration affords grounds for more extended inquiry. Some light was still wanted to be thrown upon phenomena so obscure and so little accessible as in this secretion, to determine the quantity secreted within any given time, and to determine whether the secretion was continued or intermittent, and whether it was more abundant at the time digestion was going on, and if its escape impeded or interfered much with intestinal digestion. With such views it was that I instituted a series of experiments which I have submitted to the Academy, wherefrom the principal results appear to me to be included in the following propositions:—

1. The quantity of fluid secreted in a cow of ordinary size is very considerable, since it amounted in the course of an hour to about two pints, a collection which need not surprise us when we remember that in the thirty pounds of food which such an animal daily consumes there exists, according to the analysis of M. Boussingault, upwards of a pound of fatty matter, which

to be rendered an emulsion of, required to be submitted to the action of upwards of three pints of pancreatic fluid.

2. The secretion, instead of being continuous and regular, manifests irregularities which give it an intermittent type. If at one moment it is very abundant, at another it lessens and soon becomes inconsiderable, or ceases altogether to resume a progressive augmentation of action, which, after having lasted for a certain while, is anew succeeded by falling off.

3. The most energetic periods of secretion correspond with the termination of rumination and the moment succeeding it. They are likewise in unison with the feeding hours of the animal.

4. The secreted fluid exhibits complete emulsive properties only at its incipient secretions. Then it is thick and viscous, and contains a large proportion of the albuminoid principle, and with one part of olive oil to three parts of it (the pancreatic fluid) forms a perfect emulsion, unchangeably homogeneous.

5. The fluid obtained an hour-and-a-half only after the establishment of the pancreatic fistula is less albuminous, and incapable of being formed into an homogeneous emulsion, although the proportion of it in the mixture be augmented to double or triple what it was in the former mixture. After this, these properties grow weaker according as the secretion becomes more aqueous, though it never loses them altogether at any period of the experimentation.

6. As a consequence of its contact with oil, the pancreatic fluid, which is always alkaline, turns to acid along with the rest of the mixture. This property it preserves at every stage of the experimentation, and equally so at the ordinary temperature as at that of the body of the animal; the only variation being that the acidity of the emulsion becomes developed quicker and more surely in proportion as the fluid itself is more albuminous and its temperature is higher.

M. Colin's paper, of which the preceding contains the substance, has been put into the hands of a committee, composed of MM. Magendie, Flourens, and Boussingault.

VETERINARY JURISPRUDENCE.

Dyce Sombre's Dogs.

MARLBOROUGH-STREET.—Mr. R. Vignes, veterinary surgeon, No. 1, Nassau-street, Middlesex Hospital, was summoned before Mr. Bingham for detaining two half-bred Newfoundland dogs, the property of Mrs. Dyce Sombre, widow of the late Mr. Dyce Sombre.

It appeared in evidence, that in May last Mr. Dyce Sombre returned from the continent, bringing with him the two Newfoundland dogs now spoken of, which he took with him to his apartments at Mivart's Hotel. Mr. Mivart having an objection to the dogs being in the house, they were placed with the defendant to take care of. After Mr. Dyce Sombre's death, his widow's solicitor applied to defendant to give them up, which he refused to do until 10s. per week since the 20th of May was paid for each dog. Mr. Frere, Mrs. Sombre's solicitor, considered the charge too high, and hence the present proceedings.

Defendant, in answer, said the charge included medicines and medical attendance, as well as keep, one of the dogs having suffered from the distemper. The latter dog had a pound and-a-half of meat and other food every day, and he had been at some expense in providing for the safety and accommodation of the animals.

After some arguments between defendant and Mr. Frere, Mr. Bingham said he considered that 10*s.* per week for each dog was too much, and that 8*s.* for the first two weeks, and 6*s.* per week after was sufficient.

Defendant agreed to accept this, and promised to give up the dogs on its being paid.

Morning Chronicle.

Mr. Vines' own Account of the above.

To the Editor of "The Veterinarian."

Sir,—Knowing you generally collect into your Journal any matters in law which may concern the veterinary community, and fearing lest you and your readers might be led into misconception respecting one that has gone the round of the papers, under an incorrect report regarding myself, I have to request the favour of the insertion of the following statement, which, if required, can be verified on oath.

May 31*st.*—Attended at Mivart's Hotel, according to order. Introduced to Mr. Mivart, and gave him a circular, stating, I had taken the business belonging to the late Blaine and Youatt; on which Mr. Mivart informed me; he was in the habit of recommending gentlemen who had diseased dogs to the care of the late Mr. Youatt; and, as I had taken that business, he wished to recommend me to a gentleman who had just arrived from abroad, in his own country a prince, who had a diseased dog. Would I undertake the treatment of the animal? The gentleman was from home, but would soon return to dine. Would I wait until he returned? Meanwhile I could examine the dog. I acted

according to desire, and found two large half-bred Newfoundland dogs in a room, one of them without disease, the other suffering severely from the effects of distemper. The gentleman having returned, I was introduced into two rooms on the ground floor, communicating by folding doors which were open, in one of which was a table set out for dinner. The gentleman was in the inner room, dressing for dinner; no one else was in the rooms besides him and myself. He inquired if I had seen the diseased dog. I stated I had, and asked him how long it had been in that state? He answered, "about fourteen days." The gentleman then wished to know my terms, which I stated to be 10*s.* for the first two weeks and 9*s.* afterwards (if only for a short time). He then wished to know if such charge included the keep. I replied it did. The gentleman then said, "*take the other on the same terms;*" I wish to breed again from her. Can you get me the use of a good dog?" I gave the gentleman a circular, and left the room. I received the dogs from Mivart's servant and another person, who, I understood, was in the service of the gentleman. I inquired of these the name of the gentleman, and one of them gave me a paper with Dyce Sombre upon it, as the name of the gentleman I had just seen. The dogs were then taken away by me. But I soon found one of them so much reduced in strength that I was obliged to remove them to Camden Town in a cab. The dogs remained under my care until the early part of July, in the course of which time Mr. Dyce Sombre died. On the 10th of that month, Mrs. D. Sombre's servant called at Nassau-street, and left word that his mistress wished to have the dogs brought the following day for her inspection to the Clarendon Hotel, Bond-street, at two o'clock P.M. Accordingly, the dogs were taken from Camden Town in a cab, one of them still not being in condition to walk the entire distance. After waiting at the Hotel for some time, I was at last introduced to Mrs. Dyce Sombre, in company with a gentleman. Mrs. D. Sombre inquired of this gentleman, *if he did not think* the dogs were two beautiful animals, and if *he would like them much.* The gentleman *replied he should.* Mrs. Dyce Sombre inquired the time it would take for the diseased dog to recover; and requested the other, which was Mr. Dyce Sombre's favourite, might be left with her, in order to be sent into the country that evening. On my making some objection to part with the dogs, since I had received them from the late Mr. D. Sombre, and as I understood there were other parties interested—claimants in the management of Mr. Dyce Sombre's affairs—I said I thought I should be acting improperly in giving up either of the dogs, and therefore begged a little time to con-

sider of the matter. On this, Mrs. D. Sombre said she wished both the dogs to be left with her only for an *hour* or *two*, after which she would return them to Nassau-street. I refused to agree to this. The unknown gentleman present then wrote the following, which he handed to me. "Mr. Frere, Lincoln's Inn, says there is no legal representative of Mr. D. Sombre, nor will there be for some months. Mrs. D. S. would take the dogs, pay the expenses, and give undertaking to save Mr. Vines harmless." I ought to have stated, that just before Mr. Frere wrote the above, Mrs. D. Sombre, *then introduced him as her attorney*. I agreed to give up the dogs on these conditions, and to let Mr. Frere know further particulars on the early part of the following day. Accordingly, I called at Mr. Frere's Office, 6, New-square, Lincoln's Inn, at the appointed time, and left the particulars respecting the price for the two dogs.

July 17th.—Mr. D. Sombre's servant, Mitchell, called at Nassau-street with written terms from Mr. Frere, and an order to deliver the dogs on the following day. I was willing to comply with this request; when, on inspecting the document, and just as Mitchell was about to hand over the cash, I discovered the charge for the *two* dogs had been reckoned but *as one;* and that, consequently, but *half the demand had been sent.* And beside, there was then nearly *another week's expense due*, and no notice had been taken of that *time.* Mrs. Dyce Sombre's servant left, and in about an hour returned with a gentleman in a carriage. This gentleman wished to know if I had any *agreement* from the late Mr. Dyce Sombre in WRITING, respecting the charge, as he considered 5*s.* per week sufficient. He departed, and I heard no more of the affair. After waiting for some time, not knowing exactly how to act, I requested Messrs. Jenkinson & Co., Lombard-street, City, attorneys, to write to Mr. Frere on the subject. Mr. Frere, I understand, in return, sent a very intemperate reply, stating, that he considered 3*s.* 6*d.* for each dog enough, and would not consent to more than 5*s.* for each per week. And further, that he intended to take Mr. Vines before a magistrate, and to shew him up in *his proper colour.* I therefore refused to comply with Mr. F.'s offer, the result of which was, that I was, on the 9th of August, summoned to Marylebone Street Police Office. Mr. Frere, on meeting me there, exclaimed, "*good God!* how came you here, Mr. Vines?" And, *just before* the hearing *he offered me a few shillings more*, which, as the affair had gone so far, I refused to accept.

Mr. Frere then stated before the magistrate, it would cost a mere trifle to keep a dog at any time, denying that I had either

of the dogs confided to me for medical treatment, or that either of them had even been ill. He considered 5*s.* per week each sufficient; and said he could produce a party whom he had consulted on the business to prove it was. *But the gentleman, it turned out, was not forthcoming.*

Mr. Frere then brought forward Mivart's servant to prove that neither of the dogs was ever ill. But, to Mr. Frere's great surprise, this witness gave evidence *to the contrary.* This man also endeavoured to prove there was no agreement between Mr. Dyce Sombre and myself, although he was not in the room at the time; but from the *equivocating* manner in which he gave his evidence he was desired to stand down, *and ultimately the magistrate ordered him out of the court.*

Mr. Frere then endeavoured to prove that neither of the dogs was ill three weeks before, at the time he was acting the part of a *private gentleman* as well as attorney at the Clarendon, in the presence of Mrs. D. Sombre. Mr. Kent, the veterinary surgeon, had, however, previously stated, he had examined the dogs on the 8th instant, the day before the hearing, and that the sick dog had not yet recovered. Mr. F. disputed Mr. Kent's opinion, when the magistrate remonstrated with Mr. Frere, in disputing the opinion of Mr. Kent, known as a highly respectable and qualified veterinary surgeon. Mr. Frere never offered, as the reporter stated, *a fair and just* remuneration; though the magistrate, notwithstanding he did not award the full demand, *decided in my favour against Mr. Frere,* and Mr. F. had to pay the expense of the summons.

The reporter (for *there was only one)* who furnished the papers, not only stated my name to be *Vignes* instead of *Vines,* but gave an *unjust statement,* tending to injure me in my *professional practice.* It is stated in the report, my charge was 10*s.* per week for each dog, from the end of May to the 9th of August; whereas, my charge *for medical treatment, including keep, was* 10*s.* each for the first two weeks, to be reduced to 9*s.* and ultimately to 8*s.* I should not, perhaps, have charged the same for the dog which did not require medical treatment, had I not been informed that Mr. Sombre was much attached to the animal, and therefore wished the greatest care to be taken of her, and on that account was so liberal to make me the offer himself. Whereas, Mr. Frere, on the part of Mrs. Dyce Sombre, made me an offer of reduction to 5*s.* per week, which I felt I could not, in justice to myself and honour to the profession, comply with. What, therefore, the reporter stated is not correct; and most of the papers have in part contradicted his partial and erroneous statement. The report of the matter tends to shew the way in which the London daily and Sunday

papers are furnished with information. The *Times*, *Bell's Life*, and the *Dispatch*, did not think fit to receive this unprofessional report.

RICHARD VINES.

1, Nassau-street, Middlesex Hospital, Aug. 19th, 1851.

P.S. On the week prior to this transaction Dr. Locock sent me a dog for treatment, for which, for one week, I charged 10*s*. The Doctor most handsomely presented me with a couple of sovereigns! What would Mr. Frere have done had he been in the Doctor's place?

THE VETERINARIAN, SEPTEMBER 1, 1851.

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

THE EPIDEMIOLOGICAL SOCIETY was first introduced to the readers of THE VETERINARIAN so long ago as August 1850. In our journal for that month, its origin and pretensions are set forth in a letter forwarded to us by its then *pro tem.*, but now one of its honorary secretaries, Mr. Tucker, of Berners-street, Oxford-street. In the December following, the society, in the interval formed and organized, held its first meeting; on which occasion its distinguished president, Dr. Babington, delivered an address, characterized no less by the historical learning displayed in it, on the rise and spread of epidemic disease in general, than by the interest it at the time excited, from containing some curious and valuable facts in respect to endemics in particular. In this eloquent address—an abstract of which will be found in our number for January of the present year—Dr. Babington sets forth "the objects of the society" to be, "to endeavour, by the light of modern science, to review all those causes which result in the manifestation and spread of epidemic diseases—to discover the causes at present unknown, and investigate those which are ill understood—to collect together facts on which scientific researches may be securely based—to remove errors which impede their progress—and thus, as far as we are able, having made ourselves thoroughly acquainted with the strong holds of our enemies and their modes of attack, to

suggest those means by which their invasion may either be prevented, or if, in spite of our existence, they have broken in upon us, to seek how they may be most effectually combated and expelled." In accordance with this *coup d'œil* of the "objects" of the society it is that its members have been carrying on their operations. The field of research before them is an ample and a fertile one—one necessarily divided off into parcels and portions, in the allotment of which, as will appear from the following extract out of the society's "address," the veterinary public will find they have not been overlooked:—

"In order to throw some light upon the whole question of epidemic disease, and as an object in itself of important inquiry, it will be within the scope of the society to investigate *the diseases prevailing extensively among domestic and other animals*, as well as those that affect the vegetable kingdom."

In furtherance of this, the one of their "objects" which most nearly concerns us, it is with feelings of pleasure we now find ourselves in a situation to announce the recent formation, by the Council of the Society, of an epizootic committee. To this result we have for some time past been confidently looking forward, and with more than ordinary interest; resting assured, as we all along have done, that, as soon as practicable, the inviting prospect presented to us in the above-quoted paragraph of the address would be brought closer under our view and submitted to deliberate examination.

In the face of an Address we have all read and admired, wherein we find the highly talented and esteemed President of the Epidemiological Society to have stated, that the medical professions of all nations have yet much to learn regarding the causes, the means of prevention, and the treatment of several of the most formidable of the epidemics which, from age to age and season to season, have attacked the human race, and wherein we find ourselves invited to co-operation in the working out of so important and desirable an end, shall we of the veterinary profession stand by as silent and actionless spectators? Shall we not rather buckle on our armour and rush into the contest, prepared to afford any and every auxiliary in our power in the furtherance of so noble a cause? Nay! have we not epidemics, *alias* epizootics, among our own patients to care for? And is

it not our bounden duty to learn to understand their nature better, and so the better be able to cure them, than it is very well known we do or can do at the present day? The spring which has just passed, and the summer which is but now passing, can both vouch for this in the two influenzæ that have been prevailing so alarmingly and extensively among our horses; while the pleuro-pneumonia of former years is ready to be adduced as an equally potent incentive to our exertions on the part of cattle.

While the veterinary public may with some confidence calculate on beneficial results from the labours, now about to commence, of the epizootic committee, the committee itself may reasonably look forward to essential services being rendered it by the learned Council of the Society, as well as out of arrangements which the Council have been enabled to make, through the nomination of foreign secretaries, with countries abroad.

The hand held out by the professor of the sister science in this spirit of liberality and friendship, in furtherance of objects of vital import to both professions, will be seized by the veterinarian with cordiality and pride, and by him be hailed in token of a bond which, uniting two professions engaged in common in promoting the healing art, can never suffer division or dissevernent without detriment to one or both of the bodies it holds in union. Comparative anatomy and physiology and pathology cast their lights forward and backward from object to object, in such manner, as through reciprocity of illumination, to cause the objects themselves to shine forth with redoubled brightness, while standing, as they do, in relation to one another, in a field in which the sciences enjoy so wide and unrestricted a range.

The epizootic committee held their first meeting at the residence of Mr. Tucker, on Tuesday, the 19th August: Professor Simonds, well known to all our readers for his ability for such an office, being appointed its permanent chairman The list of members, as yet imperfect, we hope to be able to give in our next Number, and at the same time to have it in our power to annex some account of the proceedings of the Committee. We need hardly add, from the interest which it must be plain to all we take in this matter, looking upon it, as we do, as one of vast consequence to us in our professional intercourse with the

animal kingdom, that the pages of THE VETERINARIAN will at all times be open to, and ourselves be happy to receive, the accounts of the proceedings of the epizootic department of the Epidemiological Society. And further, we do hope and trust, for the honour and benefit of veterinary science, that the members of our profession will, on this occasion, one and all, put their best foot foremost in administering to the culture of a branch of medical science having for its special object the overshadowing and stifling of "Invisible foes" no less "to the human race" than to brute kind at large.

Under the head of "Veterinary Jurisprudence" in our present No. appears a police report—that has pretty well "gone the round of the papers"—respecting two dogs, the property of the late Mr. Dyce Sombre, which, it appears, Mr. Vines, at the request of their owner—deceased since that request was made—took under his charge. The facts of the case, as abridged in the "report" and developed in Mr. Vines' narrative, exhibit a contrast by no means in favour of the former when the evidence produced on the occasion comes to be examined. It appears that Mr. Vines, at his interview at Mivart's Hotel with Mr. Sombre, having in the interval examined the dogs, agreed to take the one that had the distemper for 10*s.* a week, inclusive of keep and medicine and attendance; and that, although the other required nothing of him in his medical capacity, yet that Mr. Sombre begged of him to take that likewise on the same terms. Mr. Sombre dying shortly after this transaction, Mrs. Sombre desires to have the dogs. Mr. Vines questions the propriety or legality of yielding up property possible or likely to be at some future period called in question; but is at length induced to do so through the assurance on the part of Mrs. Sombre's solicitor that he (Mr. Vines) shall be held blameless. But when Mr. Vines comes to present, with the dogs, his account, made out according to what had transpired between Mr. Sombre and himself, it is objected to on the score of 10*s.* per week being an overcharge. For keep alone the charge, certainly, might have been objected to; but for keep and medicine and attendance, so far from its being an overcharge, the charge was an extremely moderate one. What! is a man in the capacity of Mr. Vines, who for fourteen years was the late Professor Coleman's assistant as a teacher of anatomy at the Royal Veterinary College, and who is the author of a "Practical Treatise on Glanders and Farcy," and of "A Critical In-

quiry into the Physiology of the Bloodvessels and Absorbents," to take and keep and treat a sick dog for 10*s.* a week, and then to be told, he is overcharging its master. Why, this is setting veterinary science and its professors at a low price indeed! How would Mr. Frere like to have his six-and-eightpences cut down? "Live and let live" is a maxim which it well becomes men in business to steer their course by, and of all men it becomes professional the worst to forget. Law, as well as other commodities, may be had cheap enough by running to "pettifogging lawyers" for it, as well as dog-medicine, when sought of dog-dealers and dog-stealers; but, when we come to deal with those who practise professions in the acquirement of an adequate knowledge of which time and money and education become requisites, let us at least deal liberally and gentlemanly with them. What did Dr. Locock do under the same circumstances? Why, instead of dreaming to bate Mr. Vines' extremely modest demand, he, with the generosity of a prince, made him a present of four times the amount!!

Voilà quelle est la difference de l'un à l'autre.

OBITUARY.

DIED on the 6th ult., at Boulogne-sur-Mer, France, after a very short illness, Mr. William Waller, M.R.C.V.S., aged 21 years.

Mr. Waller obtained his diploma at the last meeting of the Board of Examiners of the Royal College of Veterinary Surgeons for London. During his pupillage, he comported himself very much to the satisfaction of his instructors, and obtained one of the silver medals awarded to students for the best Essay on a given subject, with other expressions of approval and honour. He was about to return to India with his friend, at whose house he was staying at Boulogne, when symptoms of pulmonary consumption shewed themselves; of which insidious and fatal disease there had been no previous indication whatever; and yet within one short week he had "gone to that bourne whence no traveller returns."

Had he been spared, his intentions were to have practised the veterinary profession, not only in his father's large establishment, but also generally in the Presidency of Madras. Alas! our expectations and our hopes, like summer flowers, how soon they are blighted.

"We, ignorant of ourselves,
Beg often our own harms, which the wise powers
Deny us for our good."

THE

VETERINARIAN.

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LAMENESS IN HORSES.

By William Percivall, M.R.C.S. and V.S.

[Continued from p. 493.]

Sandcrack.

The Name of Sandcrack seems of questionable application. It is evidently a compound of the words *sand* and *crack*, as though it denoted a crack with sand in it, or a crack occurring in a sandy country, or in a dry sandy season, which several derivations have been ascribed to the term. May not the word *sand* admit of resolution into its primitive signification, and mean in this, as in other instances, a *sundered* crack.*

A Sandcrack may be defined to be, a longitudinal division in the fibres of the wall of the hoof, amounting to a flaw simply, or else to a cleft or fissure through the substance of the horn.

The Direction of the Crack is slanting, from above downward, and from behind forward, following the course of the fibres of the hoof. A sandcrack in the side of the wall slants more than one in front, owing to the greater obliquity of the course of the horny fibres as we proceed from the toe to the heel of the foot.

There are two Kinds of Sandcrack, *quarter sandcrack* and *toe sandcrack:* the former occurring in the fore, the latter in the hind foot. At least this is generally the case. It is rare to find the reverse; though there are occasions on which we meet with sandcrack in the toe of the fore foot, and the quarter of the hind foot. It is possible for cracks to occur in other parts of the hoof; but in these two situations it is that veritable sandcrack occurs, and there are here, as we shall find hereafter, special causes for their production. Let us first consider

* The Anglo-Saxon *Sundrian* or *Syndrian*, to sunder, presents an obvious origin for *sand*, which is sundered or separated into the smallest particles.—*Richardson's Dictionary.*

QUARTER SANDCRACK.

THE SITUATION OF THIS CRACK is the slanting line of the wall of the hoof, directly opposed to the extremity of the *ala* of the coffin bone; and it is oftener found in the inner than in the outer quarter. Added to which, the hoof in which such crack occurs is always a contracted one: quarter sandcrack, no more than toe sandcrack, never happening in a hoof disposed to obliquity and flatness. The same description of horse and foot which is predisposed to contraction is for the same reasons predisposed to sandcrack. There is an obvious connexion between contraction and quarter sandcrack. The light, near-the-ground stepping horse, with strong, narrow, upright hoofs, will be equally likely, under certain conditions, to have the heels of his fore hoofs becoming contracted, and exhibiting quarter sandcracks. Hot stables conduce to this; but more still hot climates. Hurtrel D'Arboval informs us, that at the time the French army was in Egypt their horses were continually having sandcracks; and he adds, that long voyages on board of ship are on occasions attended with like results.

THE PROXIMATE CAUSE OF QUARTER SANDCRACK is, then, *contraction.* The horn, from dryness or other cause rendered cracky and fragile, breaks at the quarter of the wall, from being at that part bent across the edge of the ala of the coffin bone, during the curving in of the heel, the result of contraction; and this oftenest happens to the inner quarter, from its being the thinner and weaker one, as well as from being the one which is the first and most disposed to contract. Not that sandcrack is the necessary consequence of contraction; but that contraction becomes a necessary precursor to sandcrack. If this were not the explanation of the case, sandcrack would be as likely to occur in any part of the wall as at the quarter, and on the outer as often as on the inner side of the wall. This likewise accounts for the comparative infrequency of quarter sandcrack at the present day among our nag and cavalry horses, since that which has tended to diminish the frequency of contraction has had the same effect in regard to the occurrence of sandcrack. Greater attention to shoeing, and increased care about the condition of the hoof itself, has no doubt had very beneficial effect in the prevention both of contraction and sandcrack.

THE ORIGIN OF SANDCRACK IS USUALLY SUDDEN, both in the fore and hind feet; though in the former case, from its situation in the inner quarter, a part not exposed to transient view, it is possible for a crack to exist for some time, unless

lameness happens to arise from it, without being discovered. The crack first takes place through the superior or coronary border of the hoof, that being composed of new-formed horn, and consequently thin and fragile. Quickly, it extends downwards, through the thickest part of the wall, stopping as it does in some instances, at least for a time, half way down, and afterwards reaching nearly or quite to the bottom.

SANDCRACK IS EITHER PENETRANT OR NON-PENETRANT. It is usually *penetrant;* by which we mean, the crack extends completely through the thickness of the hoof, and produces lesion of the sensitive parts underneath the horn, giving rise to some little hemorrhage in the first instance, and subsequently to more or less inflammation; occasionally, even to suppuration, depending, of course, on the extent and nature and duration of the lesion, as well as on any treatment, or aggravation from non-treatment, it may have received since being occasioned. When the crack does not extend through the substance of the wall—which it sometimes does not at first, though it may do so afterwards—it may be said to be *non-penetrant.* And this, when it happens, seems to be referrible to a sort of natural fusion there certainly exists between the solid horn as it descends from its secreting gland, the coronet—and the horny laminæ, which become glued to it in its course downwards. It is in this uniting horny medium that *seedy toe* commences and progresses.

LAMENESS IS THE USUAL ACCOMPANIMENT of penetrant sandcrack; but not the invariable one. When penetrant, it is said to arise from the sensitive laminæ getting *pinched* between the sides of the crack. However this may be, inflammation following the lesion has certainly its share in causing tenderness or pain during action. In general the lameness does not amount to much, nor is it of long duration, providing the sandcrack receive proper and timely attention; but if the crack is not heeded, action of the foot will much aggravate the malady, and end in lameness increased so much as to forbid further use being made of the animal.

Toe Sandcrack.

Occurring in the hind foot—as this crack almost invariably does—occupying a different situation in the hoof, and arising altogether from a different cause, toe sandcrack may be regarded as almost a distinct affection.

THE SUBJECT OF IT is not the light horse, but the heavy one. The cart and waggon horse, the dray horse, the latter especially, and in particular, I believe, in paved towns such

as London, are the sufferers from this disease. I say "sufferers," because it is only those veterinary surgeons whose practice lies among horses of this description that have any conception of the amount of pain and irritation to which sandcrack, simple as it may seem to those who are in the habit of meeting with quarter sandcrack only, on occasions is found to give rise.

THE CAUSE OF TOE SANDCRACK is violence: shoeing, also, may have something to do in its production. The horses who are the subjects of it are those employed in laborious and straining draft. The toe of the hind foot is the grand fulcrum through which the hind limbs, the propellers of the body, exert their power; and it is in some violent and forcible effort that the hind hoof, strained as it is to its uttermost, and in particular at the toe, splits, commonly first at the coronet, the same as in the fore foot, where the horn, but newly formed, is thin and unresisting, the crack subsequently extending gradually down the wall, even as far as the point of the toe. Digging the tip of the toe into the ground, or stamping it hard down upon the pavement, and especially when this stress upon the fore part of the wall is at all times promoted by high caulkings to the shoe, must certainly, one would think, be the main producer of toe sandcrack; an opinion still farther favoured by the observation which has been made of shaft horses in drays being more subject to the accident than trace horses. Still, however, for all this, it behoves me to say, that with the best judges of such matters, the point is one not yet set free from doubt and difference of thinking. Short and upright pasterns, with clubby prominent hoofs, indicate a predisposition to toe sandcrack, the disease being in no instances seen in flat, shelvy, oblique hoofs. It is said, sandcrack may originate in *tread*. Undoubtedly, any lesion of the coronary body sufficient to injure or destroy its secretory apparatus may occasion imperfect or morbid formation of horn, or loss of horn altogether; but I do not believe this to be a very common cause of sandcrack.

THE CONSEQUENCES OF SANDCRACK IN THE HIND HOOF are, as I have before hinted at, apt to be of a much more serious nature than any usually arising from a quarter sandcrack. Whether the crack extend to the bottom of the wall or not, being uniformly of the *penetrant* description, lameness to greater or less degree is the invariable result. And when the fissure does reach down to the toe, the wall opens and exposes the laminæ, probably the whole way from the coronet downward, the consequence of which is inflammation and suppuration of those parts, and sometimes even mortification and sloughing of them; and not of them alone, but of the bone to

which they are attached as well, which not infrequently runs into a state of caries, ending in defalcation of substance, to be filled up by the effusion of callus, which usually terminates in exostosis, coated with some tissue very imperfectly representing the original laminated structure.

Mr. BRABY, the intelligent veterinary surgeon to Messrs. Barclay and Perkins' establishment, to whom I am indebted for much of the information I possess on this part of my subject, has had many cases of this description, one of which, of extraordinary character, I shall relate here. One of his dray horses had suffered long and severely from toe sandcrack in one hind foot, but at length had recovered, and returned to work. Some time afterwards, however, during the season of influenza, he was attacked with a violent laryngitis, which increased to a degree to call for the operation of tracheotomy, to save him from suffocation. Notwithstanding this temporary salvation, however, the patient in the end succumbed to the disease. His post-mortem examination became doubly attractive, owing to the circumstance of the long-standing and obstinate sandcrack he had suffered from heretofore, and the result in this latter respect proved extremely interesting. The coffin-bone, along its front, occupying the line of surface between the coronal process and the toe, exhibited a channel of loss of substance half an inch in breadth and fully the same in depth, thereby robbing it of a quarter of an inch of its solid diameter. This, of course, left the bone considerably weakened, the result of which subsequently was, transverse fracture in two places through its body: the fractures commencing upon its articulatory surface, whence they extended directly crosswise through the middle of its body, so as to become apparent upon its concave surface underneath. In addition to this, growing from the laminated interior of the wall of the hoof, opposite to the middle or deepest part of the channel in the coffin-bone, is a projection of hard, horny, callous substance, having a covering of imperfectly formed horny laminæ. At the time this horse was suffering in the greatest degree from this extraordinary product of sandcrack; indeed, constitutional irritation ran so high as even to create alarm for the animal's life.

THE TREATMENT OF SANDCRACK, whether it be in the quarter or in the toe, will have to be conducted upon principles applicable to both forms of the disease; though one must be regarded as of much more consequence than the other.

THE TREATMENT OF A QUARTER SANDCRACK, generally speaking, is but, comparatively, a simple affair; indeed, so lightly is it looked upon by horse persons in general, that we should run some risk of their displeasure, and our own repu-

tation as well, were we to talk about laying a horse up for so "trifling" an accident. Nay, some horses, with non-penetrant sandcracks, or with sandcracks that have been penetrant but have become horned over, shewing little or no lameness, continue to work on without, at all events for some time if not for always, evincing any pain or inconvenience from them. Whether a horse be lame or not, however, should he have a sandcrack and we be consulted about it, it becomes our duty to arrest the extension of the crack so long as it be but partial; and, besides that, to take measures for the "cure" or permanent removal of such crack. The owner of the horse should be given to understand, that no flaw or crack in the hoof can by possibility unite the same as a wound in a vital part does; but must, as the saying is, "grow down," i. e. must be replaced by new horn, and be itself by degrees removed, as it continues to come under the operation of the drawing knife every time the horse is fresh shod. So that, in point of fact, the "cure" or obliteration of sandcrack is necessarily a work of some months; though the removal of the lameness consequent on it may possibly be accomplished in as many hours or days.

PARING OUT THE CRACK, the shoe being taken off the foot, is the first thing to be done. The cutting cautiously away of its rugged edges, and the scooping out with a light hand—probably with the back of the drawing knife—of its cavity, will enable us to examine into the condition of it. Should there be no lesion or exposure of the laminæ detectible, nothing further will be needed from the drawing knife than the cleaning out of the crack.

FIRING THE CRACK is the next operation. Cross-firing will be advisable below or above, or in both situations, according to circumstances. So long as the crack has not reached to the bottom of the wall, it will be requisite, with an ordinary firing iron at a red heat, to burn a deep but short fissure or "mark" across its lower extremity; and whether a similar operation be required across the superior termination of the crack must depend upon its extension or not through the horn at the coronet. If there be any interval of sound horn between the hair and the crack of sufficient breadth and substance to bear firing, a very slight burn may do good. In all cases it is the practice to finish the firing with running the sharp edge of the iron down the crack; and this certainly proves beneficial in destroying any tendency there may be—supposing the laminæ to have become denuded—to anormal action, as well to stimulate any vascular parts exposed to issue horny matter to cover in the bottom of the crack.

BINDING UP THE CRACK is a good practice after firing. With a wax-end of sufficient length—such as shoe-makers use—

bind round the wall of the hoof, so that any tar or pitch plaster it may be deemed advisable to place in or upon the crack may be maintained there; at the same time that the hoof itself is, by the tight binding, restricted in any tendency it may have to expand, and thereby open wider the crack.

A BAR-SHOE is the preferable one for a sand-cracked foot. By it, the bearing being taken off that part of the wall which is opposite to the crack, the pressure and jar—so continually splitting afresh the new-formed horn over the crack at the coronet is put a stop to: the formation of an undivided coronary horny band being the commencement of the radical cure of the sand-crack. As I said before, horn being an inorganic substance, no union whatever can take place in the crack itself: permanent cure can be effected only through obliteration by the growing out or down of the crack. This, I repeat, is the reason why a sand-crack occupies so long a time in its removal; though, by way of compensation, a horse is not kept out of work while cure is being effected; for, after the crack has been bound up, and the hoof shod with a bar-shoe, it is quite surprising to find how soundly and firmly the animal sometimes steps upon the foot of which he had but now been so lame.

THE TREATMENT ADOPTED BY THE LATE MR. READ, V.S. of Crediton, carries the same object into execution through a different method of procedure. This, as detailed in the volume of THE VETERINARIAN for 1848, consists in simply isolating the fissure within the segment of a circle, by means of an ordinary firing-iron. The best plan is to operate with the heel of the iron, beginning at the coronet with either extremity of the segment, and bringing the iron to a finish at the centre. The iron should be at a strong red heat, and be carried through the horny crust until it touches, lightly, the sensible laminæ, and so throughout the entire semicircle. As you recede from the coronet, so in proportion you will require to deepen the fissure in the crust. The iron ought to be applied every week or ten days. The first effect desirable to be produced is a bulging of the crust around the coronet within the segment, and when once this is fairly established, the cure may be said to be effected, it being seldom necessary to apply the cautery afterwards. The old method of making a line with the iron across the fissure cannot prevent the opening and closure of the fissure during the action of the foot; whereas, isolating the fissure (or part of it) within the segment of a circle, completely effects the object. No tar-cord or strapping or alteration of the shoe is required to limit the motion of the crust, all motion being suspended within the segment, and especially after bulging has commenced.

THE OBJECTS OF TREATMENT, after what has been stated,

will clearly appear to be—first, to place the hoof in such a condition as shall not render it liable to crack afresh; secondly, to remove that state of it which, in the first instance, disposed it to crack, if it were not of itself the immediate cause of the cracking. The way in which the first object is to be effected has been already shewn; and when this has become accomplished, past all risk of return, we may set about to bring into effect the second. A bar-shoe, from its taking the bearing off the quarters and placing it upon the frog, will in a measure give facility to what we now are desirous of promoting, viz., the expansion of the heels of the foot; but a tip—providing it can be worn, which it frequently may with great advantage after a bar-shoe—will bring about greater reform still; will, in fact, by persistence in its use, bring about in time that improved form of hoof which will be no more liable to quarter sandcrack.

THE TREATMENT OF TOE SANDCRACK is in some respects a different affair from that of quarter sandcrack. This disease is not only different in its relative situation as regards other parts of the foot, but it arises, as we have seen, from a totally different causation. When once it has occurred, it becomes, compared with the other, a serious affair. The horse is lame, too lame to continue his work probably; and we have a penetrant crack to deal with, extending all or nearly all the way from the coronet to the toe; discharging blood, or perhaps matter of some ichorous offensive description, plainly calling upon us for, not binding up, &c., as in the former case, but for

OPENING AND CHEANSING AND DRESSING. The shoe being taken off, let the crack be pared out and freed from all horny rags and asperities, and laid completely open to view, so that the bottom can be inspected and dressed with whatever may be deemed requisite. In fact, when once the fissure is dilated into a clean and open channel by the drawing knife, warm baths or poultices, or dressings of any kind, as may become necessary, are now applicable; the case being in this stage no more than one of dilated sinus in the foot, similar to what might in another situation be called *quittor*. As with the quarter sandcrack, the cure will, of course, be tedious in its duration, since we know that all complete repair can come only from the coronet. The sensitive laminæ having the power of secreting horny laminæ, may, as in the quarter crack, issue a sort of horny covering-in of the bottom of the fissure; but fissure or cleft will ever remain so long as an integral formation of horn does not grow down from the source of secretion.

WHENEVER THE HORSE IS IN A CONDITION FOR WORK a bar-shoe, so made that at the toe the sides of the shoe remain unjoined together, an interval being left of sufficient width to

receive the crack in front of the hoof, is perhaps the best. Binding the hoof up with circles of wax-end, as in the case of quarter sandcrack, with some plaster or dressing underneath it, will also now become advisable. It will restrict the spreading inclination of the hoof, as well as keep dirt and wet out of the crack. Repetition of this, and the continuance of the bar-shoe, will be required so long as there appears any risk of an extension or renewal of the crack.

THE SCROFULOUS DIATHESIS IN A BULLOCK.

By John Barker, V.S., Stokesley.

During a late visit to the hunting establishment of Robert Hildyard, Esq., Manor House, Stokesley, accident led me to that part where animals are slaughtered for the use of his pack of hounds. While there, a bullock about sixteen months old was brought in, the property of one of the most eminent shorthorn breeders in the North Riding of Yorkshire. A few days previous to this, my father had been requested to attend this beast, but upon doing so, gave it as his opinion that the case was one beyond the power of medicine, and recommended the animal to be destroyed. When brought into the slaughter-yard, it was very thin in condition, and was in such a debilitated state, that it had not been able to travel half a mile without lying down. This animal had been one of the most thriving in the stock, and was looked upon with no little interest by its owner; but when about twelve months old, it ceased to grow so well as it ought to have done. Castration was then performed, and the animal sent to a farm some miles distant, in hopes that a change of pasture might be beneficial.

At first sight there was nothing peculiar in the appearance of the bullock, with the exception of the attenuated condition already named. But, on attentive examination, there was a peculiar listlessness and languor which well betokened the existence of disease in some internal organ, the exact nature of which, however, I was not prepared to determine.

I shall now describe, as briefly as possible, the appearances of the different organs as they came under my observation. The first examined was the liver, which was in a peculiar condition, from the presence of tuberculous matter, of a yellow colour and dense texture, deposited in isolated roundish masses,

and developed in various parts of its surface. Otherwise, the appearance of the gland was healthy.

I next examined one of the kidnies, which was considerably enlarged. Upon passing a scalpel through a portion which seemed lighter in colour and more prominent than the rest, there was a grating sound, as if it had come in contact with small gravel, followed by an escape of a fluid, resembling pus, containing flocculi of a curd-like matter in suspension. On passing the finger into the orifice made by the scalpel, it had a peculiar gritty feel, and contained something of a seemingly calcareous nature embedded in the glandular substance.

My attention was next directed to the mesenteric glands, which were of an unusually large size, and when put into the scales they weighed $6\frac{1}{2}$ lbs. They seemed to be composed of a mass of tuberculous matter, in various stages of development. On opening some of them, they presented a dark yellow appearance, of dense consistency, and the gritty feel before mentioned. Others were of a lighter colour internally, and looked as if the matter was in a state of disorganization. Others, again, presented large internal cavities, and as soon as pricked by the scalpel sent forth a fluid resembling whey, which emitted a peculiarly faint odour.

The heart next came under my observation, as presenting a very peculiar appearance. In the first place, it was of very large size; the total weight of matter contained in the pericardium being 28 lbs.! On passing a scalpel through the fibro-serous membrane and its contents, on a line, as near as possible, with the septum ventriculorum, I was very much surprised to observe the heart itself totally enveloped, from its base to its apex, in a dense mass of tuberculous matter, varying from two and a half to four and a half inches in thickness. Unlike the other morbid products which I have described, this seemed to present one uniform state of development. There was no softening either in the centre or the circumference, but a similitude of structure throughout.

The substance of the heart itself appeared to be in a state of atrophy; the muscular fibres being pale in colour, and loose in texture. I carefully examined the tricuspid, mitral, and semilunar valves, without being able to discover any tubercular deposits; indeed, the interior of the organ was perfectly normal, with the exception of an osseous deposit in the septum auriculorum.

By careful dissection, I could separate the pericardium from the tuberculous matter, to which it seemed to be attached by a layer of areolar tissue. Probably my dissection might be faulty; but when I attempted to separate the morbid deposits from the

parietes of the heart itself, I could not succeed without injuring the muscular structure of the organ.

Between the tubercular deposit and the base of the heart there was the usual quantity of adipose tissue.

There was no fluid of any kind inside the pericardium.

I have never seen in any previous dissection the coronary arteries so largely developed.

The scrofulous diathesis is a disease, so far as I am aware, that has escaped, in a great measure, the notice of writers on cattle pathology; this may be, doubtless, owing to peculiarities of district, &c., as I have never met with it myself but on one farm and in one stock; and though I have sometimes read of a complaint called *clyers*, referring to a diseased state of the glands of the neck, yet the manner of description, and the method advised for the cure, leave us very much in doubt whether the writer, in many instances, understands the true nature of the ailment.

I have seen the glands of the head and neck very much enlarged, and in various stages of morbid development, some hard in texture, others containing a milky puriform matter, of the consistence of thick cream, and of a peculiar faint odour. Not above three months since, I was present in a butcher's shop, where a beautiful heifer, high bred, and very fat, of the same stock as the bullock above mentioned, was about to be slaughtered, and which I knew was affected with scrofulous enlargements about the head and neck; and on the butcher taking off the anterior extremity, he cut into a large tumour, containing about three pints of the cream-like matter just described.

I have also seen enlargements of the mesenteric glands, but never in any one instance observed or heard of the tubercular diathesis being developed inside the pericardium, as in the above case. And it is the more remarkable, when we reflect to what an extent the morbid growths had already proceeded, the animal not being much above half grown. The heart itself, at the utmost, would not weigh above three pounds, thus leaving twenty-five pounds weight of a foreign substance closely attached to an organ which is the centre of the circulation, and whose unimpeded action is deemed essential to the prolongation of life. It would appear almost impossible for the heart, situated as it was, so to contract upon its contents as to send the blood in a normal manner to the various parts of the organism.

I believe it is a disputed question, whether the matter which forms tubercles is *organised* or not. Hooper, after quoting Laennec on this point, says, "Tubercle is thus regarded by Laennec as an *organised* product, which undergoes changes by virtue of actions carried on within itself. This opinion, however,

is now generally considered erroneous, and tubercular matter is regarded as a mere *unorganised* deposit. The softening process does not arise from any action carried on by the tubercle itself, but from the action of the surrounding living parts. Laennec, in supposing that it commenced in the centre of the tubercle, appears to have been misled by an anatomical deception, which has been pointed out by Dr. Carswell. The softening generally commences at the circumference, and is always caused by the admixture of fluid secreted by the vessels of the surrounding texture, which are irritated by the presence of the tubercle acting as a foreign body." Now, in the case of the mesenteric glands, before mentioned, I think we might distinguish three distinct stages of development, and so far as my judgment would lead me, I should decidedly infer that the softening commenced at the centre, and not at the circumference; for whilst the glands had the same appearance externally, they presented very marked internal difference when opened.

There is one thing which I have to regret, viz. that the peculiar manner of destroying this animal prevented the possibility of my dissecting the brain. Darkness also put a stop to a minute examination of the lungs, or I have no doubt vomicæ would have been found to some extent in their structure.

Note.—I beg here to return thanks, with my warmest feelings, to Mr. L. F. Crummey, surgeon, of Stokesley, and author of "Contributions to the Practice of Medicine," for the interest he has evinced in the welfare of veterinary science, as well as for the valuable assistance afforded me on this occasion.—F. B.

THOROUGH-PIN TREATED BY INCISION AND PRESSURE.

By John Storry, V.S., Pickering.

To the Editor of "The Veterinarian."

Sir,—In your Number for August, I find a communication by Mr. J. Gloag, on his treatment of thoroughpin by acupuncturation and pressure; and, after giving a detailed account of the process carried on by puncturation, fomentation, smearing the parts with ointment, and afterwards the application of a spring truss, &c. he effected a cure of a most obstinate case of thoroughpin in about forty days; and in his remarks on the case he says "I do not think that bursal enlargements can with safety be opened in any other way than by puncturation with needles."

Having myself had considerable experience in the various stages of this disease of the hock, I have invariably, after using suitable ointments, had recourse to pressure by a truss and bandages prepared for the purpose, in the mildest cases of the disease; but in the most inveterate cases, I have always used the lance freely, and with dressings and pressure as above, I have never failed of a certain cure. One of the most remarkable cases I have had under my care, occurred several years ago, and belonged to Mr. Wilson, of the George Inn, Pickering. I will here transcribe it from my case book for 1839.

March 22*d*, 1839.—Attended Mr. Wilson's hunter (he being huntsman to the Sinnington Hunt), and found great enlargement of bursæ mucosa of the hock, forming a complete thorough-pin. Used the lance, cutting the full length of the tumour. A stream of gelatinous fluid from the orifice flowed freely, and continued until at least three quarts had been discharged. I then injected aqua alum. comp., and afterwards applied ung. hyd. pot., bound up with truss and bandages, and afterwards gave an aperient.

23*d*.—Renewed the injection, pressure, &c.

A little oozing from the orifice continued for a few days, and in three weeks the cure was complete.

EXTRACTS FROM MY NOTE BOOK OF 1850.

By R. H. Dyer, M.R.C.V.S., Waterford.

Distemper in Horses.

I was called on the 9th of June, 1850, to an aged grey gelding, the property of Mr. Bianconi, which was suffering with an attack of the so-called "distemper."

Symptoms present at half-past two o'clock P.M. were as follow; viz. Pulse 40; respiration 52; ears and extremities and skin warm; visible mucous membranes red; cough; mucous discharge from the nostrils (but slight); the horse dull, very little appetite; fæces natural, urine rather high coloured.

Treatment.—Gave an aperient sedative, and stimulated the sides.

10*th*, *Half-past Seven o'Clock*, P.M.—Pulse getting up (50); respiration 60. Repeat medicine without aperient.

Seven o'Clock, P.M.—Pulse 60; respiration same; cough worse: venesectio ad viij lbs. Lungs seem much affected—the blood drawn is very thick and black; stimulate the sides and chest; give a diffusible stimulant. In two hours after, I could

not count the pulsations of the submaxillary artery. The animal was so much excited that the pulse fluttered under my finger; the respirations at this time were 100, accompanied with a grunting cough. In the course of the evening these symptoms passed away, and left the horse somewhat relieved. He picked up some bran, and drank a little water.

11*th*, *Half-past Six o'Clock*, A.M.—Pulse down to 48, and almost of a natural beat; respiration 36, quiet, and pretty regular: there is evident improvement since last night. Continue sedative medicine, with considerable doses of pot. nitras. Ordered bran and clover.

Half-past Three o'Clock, P.M.—The day is very hot—the horse seems lively—metastasis has taken place: all the legs are affected, but more particularly the off hind leg; the cellular tissue surrounding the fetlock joint is full, swollen, hot and tender. There is much irritation now in the system, the pulse having risen to 60. Respiration 30; breath hot; eyes red; pituitary membrane tinged; much mucus from nostrils; fæces pultaceous; urine scanty and foul; appetite pretty good.

Half-past Eight o'Clock, P.M.—Pulse 50; respiration 24; breath cool; ears and extremities warm; membranes paler; inspirations as well as the expirations more regular. He seems to be doing well. Continue medicine, and increase the pot. nit. to ℥ij each dose.

12*th*.—Better. Repet. haust.

13*th*.—Much the same as yesterday. Repet. haust.

14*th*.—Pulse and respiration natural. Give no medicine; allow a liberal supply of bran, soil, and scalded oats.

16*th*.—Continues improving, and is now sent home convalescent.

N.B.—The above case did well. The animal is now at work.

June 21*st*, 1850.—An aged bay mare was brought to the establishment labouring under a complication of diseases. The following symptoms were present:—Pulse 60, and of a very irregular character; respiration 56, and laboured; ears warm, mouth hot and dry; much cough; slight discharge of mucus from near nostril; the visible mucous membranes reddened; fæces hard and slimy; urine high-coloured, and has an offensive odour.

Diagnosis.—Heart and lungs both much affected.

Treatment.—Venesection lbs. vj: had difficulty in getting as much as was required, the blood was of a purple colour, thick, and very hot to the touch. Gave the following draught: ℞ Ext. belladonnæ ʒj, spt. æth. nit. ℥ij, liq. ammon. ℥ij. M. fiat haust. s. s.

Nine o'clock, P.M.—(five hours after first seeing her). She is much worse. Blister the sides and chest.

22*d.*—Symptoms much the same. Repet. haust. bis die.

23*d.*—Mare is failing very rapidly; the pulse does not warrant again bleeding, nor does the general condition of the patient indicate it. She must die: the vesicatories have had no effect —the action of the heart and arteries seem to infer that they are suffering from irritation, and not wholly from inflammation. This mare continued standing from the time she was first brought in: it seems almost useless to administer medicine; but, while there is life there is hope. The heart is much dilated, I have no doubt; the pulsations *occasionally* intermit, depending, I suppose, upon the state of the respiration in some measure.

Seven o'Clock, P.M.—My patient has much abdominal pain; cold sweats bedew the surface of the body, &c. Her pulse is now at 100. I had the sides of the chest fomented and washed with soap and water, and administered an anodyne draught. Towards night she got relief: left her comfortable for the night.

24*th.*—She seems better. Pulse down to 60, respiration 40. Repet. haust. bis die.

25*th.*—Pulse same as yesterday. She now grunts; there is discharge from both nostrils; shivering fits are now come on, which foretel a speedy dissolution. No medicine; fæces very much tinged with bile.

Ten o'Clock, P.M.—Mare lying down for the first time; she moans a good deal; eyes amaurotic. She died at half-past 10 o'clock.

26*th.*—*Post-mortem appearances.* False membranes are thrown across the chest, attached to the heart, lungs, and diaphragm; the lungs are slightly congested; heart much enlarged, but thin; the right auricle and ventricle considerably dilated; the whole substance of the heart soft and pale in colour; spots of ecchymosis are observed in both ventricles, particularly the left ventricle. The liver is soft and granulated, and easily torn with the finger: all the other viscera healthy.

July 14*th*, 1850.—WAS requested to see an aged pony mare with symptoms similar to the case above described. My treatment varied according to circumstances; but here I considered I had a true case of *carditis*, and treated her accordingly I tried the effect of blood-letting, vesicatories and setons, sedatives of the most powerful and certain description, each of which in their turn produced relief for the time being. Sometimes for a few hours the mare would seem comparatively well, then suddenly a change would come over her, so as to make one fancy she had

not many hours to live. This state of things continued up to the 21st, when I was resolved to make a last effort. The symptoms to-day are as follow:—Ears and extremities warm; seems lively, and eats bran and scalded oats with some clover pretty freely; the pulse, that unerring guide, is standing at 80, (it never ranges more than two or three beats more or less). She has been several times bled, and was relieved each time. I therefore determined upon taking more blood, and extracting the vital fluid until the system was shaken by it. I kept my finger upon the submaxillary artery the whole time, and the following was the result:—The pulse was at 80 when the blood began to flow; in a couple of minutes it ran up to 120! and then it gradually fell back to its old pitch (80): the respiration all this time becoming less laboured. The blood which fell into the vessel was very pale and watery: I should imagine she lost about six pounds weight of blood. I could not detect much organic disease in the lungs: the heart, however, shewed *un*mistakeable signs of organic change; and I came to the conclusion that I could do the animal no good; for I had tried to the utmost of my power to abate the symptoms, and all to no purpose, which fully bore me out in remarks I have often made before; viz. that when a case can be satisfactorily demonstrated to be one of dilatation, accompanied by other changes in the circulation, and the pulse obstinately remains on the average at about 80 for some days together, it is high time to think of giving up such a case as lost. I have been led to make this statement from the fact of my having carefully watched several such cases from first to last, and having minutely examined each after death.—To return to my patient. I now advised the owner to send her away to be destroyed; which advice was acted upon, and she was destroyed. I examined the carcass, which presented the following appearances:—I proceeded first to open the abdomen, and found the intestine, stomach, liver and bladder free from disease. The kidneys were soft and whitish—the heart was nearly white on the external surface—the pericardial sac contained about eight ounces of fluid—the internal structure of the muscle was literally full of a gelatinous substance freed from its red particles: this I was certainly prepared to find. The left ventricle shewed various red spots upon its lining membrane, and otherwise denoted that most intense inflammation had existed; the size of the heart was considerably increased, and much dilated; at the origin of the aorta I found a large cartilaginous substance, half-moon shaped. The lungs on the right side were slightly congested—the left lung was partially hepatized.

Remarks.—This case presented a greater variety of changes than I have ever before witnessed: one thing deserves especial

notice, which is, the mare in question, from the time she was first attacked, used to lie down and rest for a short time. Horses generally with diseased heart do not—at least this is the result of my experience.

The above cases will give some faint idea of the nature of the so-called "distemper" which was raging in the south of Ireland in the summer 1850. The animals attacked were generally hard-worked, highly fed, and aged horses, most of them kept in ill-ventilated unhealthy stables. The majority of cases yielded to treatment when taken in hand, but they were some weeks ere they could return to their work.

[**** We shall be happy to hear from Mr. Dyer whenever his leisure may permit].—Ed. Vet.

INFLAMMATION OF THE SPLEEN IN CATTLE.

To the Editor of "The Veterinarian."

Sir,—As I am an attentive reader of The Veterinarian, I should feel extremely obliged if any of your contributors to that valuable periodical could give any information as regards the earliest symptoms and mode of treatment (if any) of that dreadful disease, inflammation of the spleen in cattle. Out of six that I have lost, death being clearly traced to inflammation of that organ, we only saved two alive; and they were suddenly taken ill, and shewed all the symptoms as described by Youatt in that complaint. The disease runs its course in a few hours, and the animal staggers and dies.

If any of your correspondents could throw light upon the subject, either as regards the earliest symptoms, mode of treatment, or any prophylactic, I should feel greatly obliged.

I am, Sir, your's obediently,

C. Laycock.

Hirst Courtney, Sept. 1, 1851.

THE VETERINARY SCIENCE AS IT IS, AND AS IT WILL BE.

The veterinary science is a glorious and noble undertaking, and deserves well of its members. What! is this to be written, and proclaimed by the press at the very time when such secrets as those pretendedly elucidated by the Sporting Surgeon

are on the wing? Yes; and substantiated, too, not merely by words, but by deeds; for a man's work is the act of his disposition, and by this rule may the veterinary members rejoice, that the expressions of the Sporting Surgeon are worthy of the man, carrying with them their own weight. A crab-tree can only bear crab-apples, and a sordid and biassed mind can only have sordid and biassed expressions. To the veterinary surgeons of this and other countries be that praise which belongs to them,—render to all that which is their due.

This science has been cradled through its infancy; it has now reached the middle standard, and looks well with the human profession. Are we not as far advanced, counting the years each have been cultivated, as the mother science? Are we not still advancing, and shall we not be so? Yes! in spite of the vituperations poured forth by the "gall'd jade," who surely "winces".

Look to the comparatively small loss of the cavalry horses of Britain now, as compared to former times, when there were no professionally educated veterinary surgeons.

Go north, east, south, and west, through the agricultural districts, and inquire of the farmers of England, whether they do not appreciate the boon offered and accepted by the chartering of the Veterinary College. Empirics are becoming suppressed, monstrosities in the name of *clever farriers* are being annihilated, and through this, hundreds of cattle are saved yearly. Soon, very soon, shall the veterinary science stand forth in its true brilliancy, in defiance of its would-be usurper. It shall and can bear the calumny of the Sporting Surgeon, or any other sporting being. It has been whipped, and can bear whipping; but the lash will recoil upon the poor disappointed sporting man. He and his evil expressions are fast sinking into oblivion.

Time shall remove him, he shall recede;
But the veterinary science shall proceed!

Sept. 4th, 1851.

E. Dyer.

INTESTINAL CALCULUS IN A DOG.

By John Jekyll, M.R.C.V.S., Lincoln.

To the Editor of "The Veterinarian."

Sir,—I have been many years a subscriber to your valuable Periodical, and have often been much interested by a perusal of its contents. I have lately seen with regret the laxity of contributions; and, as a proof of my sincerity, I send for your

inspection a brief account of intestinal calculus in a dog. I know not whether the case may possess sufficient interest to gain admission into your Journal, but I can with confidence leave the decision to your better judgment.

Sir, your's most respectfully, &c.

On the 2d of August, 1850, I was requested to attend at Burton Hall, near Lincoln, to make a post-mortem examination of a yard dog. It was remarked to me by Mr. Middleton, who kindly gave me the following short history of the case, that the dog was rather restless about two days before his death, and, about half an hour before he was found dead, he had been observed to lap an immense quantity of water. Such were the only symptoms noticed prior to death.

On laying open the abdomen, I found that fæcal extravasation had taken place to a great extent. After allowing a large portion of fluid excrement to run out by the abdominal opening which I had made, I perceived evident traces of inflammatory action on every part of the peritoneum which met my view. My next object was to search for the opening through which the egesta had passed. I found eight inches of the ileum dilated to three times its natural caliber, black and gangrenous, and its muscular coat extremely thin. At the most posterior part of this dilatation I found a large calculus, and immediately anterior to it a quantity of finely divided vegetable matter, firmly impacted together, which with the calculus formed a barrier past which no aliment could find its way. Rupture of the attenuated intestine was the very natural result. The opening in the ileum was at the most anterior part of the dilatation, and about two inches long. The above morbid appearances were quite satisfactory as to the cause of death. I, nevertheless, examined the thoracic viscera, but found them normal.

The calculus, when washed, readily separated into two. The larger one, having an irregular circular shape, was about one inch in diameter. The smaller one was of similar form, and about three quarters of an inch in diameter. They were both friable, being composed chiefly of phosphate and carbonate of lime.

RUPTURED LIVER.

By H. B. Greening, Veterinary Surgeon, Brixton Hill, Surrey.

On the 3d Sept. 1851, at 8 o'clock A.M., I was requested by Mr. Joseph Preddey, of Crown Hill, Norwood, to attend a bay gelding.

History.—The horse in question was six years old, well

bred, about fifteen hands two inches high; had been the property of the present owner about two months, and had never during that time been ailing, but was an excellent worker and a good goer. I was informed, he had the previous day performed his usual occupation, working an opposition buss to and from the Exhibition, and had been rapidly driven home: when taken off, he blowed very hard, and appeared unwell, refusing his food. No further notice was taken that night.

On my arrival the next morning, I immediately proceeded to examine him, and found the following symptoms:

Pulse 50, and small; mucous discharge from the nose; visible mucous membranes injected; nose cold; extremities deathy cold, breaking out into profuse perspirations; tremor succeeding the sweats; bowels constipated; eye bright; and great restlessness. I had him placed in a loose box, his extremities well hand-rubbed and bandaged. I gave febrifuge medicine; ordered him tepid water and bran mash. Visited him at 4 P.M.; found but slight change; pulse 54, and assuming the same character; the perspiration and tremor ceased; body warm; and he had voided his urine, which I was informed by the groom was of high colour. Ordered the same diet to be continued, then left him. Saw him again at 8 A.M. On the 4th he had taken a little tepid water, but continued to refuse food. The fæces voided in the night were kept for me to see; they were dark-coloured and hard. Pulse 76, and characteristic, small and thread-like; mucous membranes blanched yellow; mouth dry and pallid; nose very cold; extremities deathy cold; body warm; passed a small quantity of fæces in my presence, which were tinged yellow. Gave aloes ʒii, calomel ʒi, tartarized antimony ʒi, pulv. opii ʒss, nit. potassæ ʒii, in ball. I must confess I was much puzzled whether to abstract blood or not, and hesitated for a minute; but taking into consideration the character of pulse, combined with other symptoms, I ventured to abstract a small quantity of blood, though I was fearful of the result, yet I did not, at the same time, see any other resource. Syncope came on before he had lost a pint of blood, and he fell on his right side before I could close the orifice. I immediately got him up, and closed the vein. He continued very restless, frequently walking round his box; his pupils much dilated. I stood by watching him for five minutes The owner requesting my opinion, I informed him it did not leave a question of doubt in my mind that there was a rupture of some vessel or organ, and most likely the liver. While speaking, my patient suddenly fell again on his right side, with his head in the manger; then, pointing his nose to his left side, stretched out his extremities, groaned, and died.

Post-mortem.—Immediately after death the thoracic cavity was opened, which appeared in a normal state. I then proceeded to open the cavity of the abdomen, when a large quantity of black blood presented itself, which entirely deluged the abdomen. Speaking within compass, not less than five pailfuls of this fluid were removed, with pieces of liver floating in it, which crumbled to pieces on removal; these pieces varying from a walnut to the size of my hand. I then proceeded to remove the remaining portion from its attachments, and, to my great surprise, found the right lobe entirely *non est;* the left lobe presenting on its under surface a longitudinal rupture the whole extent of the inferior surface, and two inches deep; and a transverse rupture on the superior portion, six inches long and two deep: and so softened was the remaining portion, that it was easily broken down with the finger. The only portion which appeared normal could have been laid on a cheese-plate. The spleen presented a very pallid appearance. The rest of the cavity was tinged yellow.

I am, your's respectfully.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

The Stud Farm; *or, Hints on Breeding for the Turf, the Chace, and the Road; addressed to Breeders of Race-horses and Hunters, to Landed Proprietors, and especially to Tenant Farmers.* By Cecil. London: Longman and Co., 1851. Small 8vo, pp. 202.

The little work before us may be regarded as *an epitome of breeding in all its branches;* since, if we except the obstetric, there is not a department of the procreative system, so far as horses are concerned, into which its author has not extended his observation. He has discussed his subject

Ab ovo usque ad mala;—

dipped into every thing without diving deeply into any thing; and yet has he explored at sufficient depth to furnish materials for storing the mind of "the less practised" breeder of horses with knowledge that will put him in the way of producing the most remunerative stock at the least disbursive cost. Com-

mencing with the "motives for breeding," our author—well known to the sporting world under the *nom-de-guerre* of "Cecil" —proceeds to shew that horses are the most profitable *stock* a man can breed;—that the demand for them, and in particular for thorough-breds, so far from being lessened, is, taking thorough-breds and half-breds together, rather augmented; added to which, are to be taken into the account the moderate prices of hay and corn. Following this, come—"the selection of mares" for breeding, and of "stallions;" "the treatment of mares in foal and with foal," and of "foals after weaning," even to "two years old" and upwards; "breaking;" "physic;" "shoeing;" "cultivation and management of land;" "food, and its properties and effects." Let us cull paragraphs in elucidation of these various and varied topics; so that their contents may speak for themselves—perhaps better than we are able to speak for them.

"Care, attention, and judgment, during a series of years, have contributed to improve the condition of an animal above that which he enjoys in a wild or native state; and, with judicious treatment, there is ample reason to expect that the breed of English horses is still capable of improvement. What effect the present usages of the turf may have in retarding that improvement, offers an ample field of discussion. But whether the present system of racing is calculated to encourage that class of horse which is of most value for other purposes, is a question with which it is useless to deal; because all the arguments I could adduce against it, and these are many, would be of no avail, as they could not change the current of fashion. It is sufficient for a breeder, whose object is racing, if he succeeds in breeding such horses as are remunerative. If it is his intention to breed animals of another class, and he makes a profit by them, his purposes are answered."

Horse-breeding, in our northern counties where it is most and best practised, is any thing, we believe, but a profitable occupation. Even Sir Tatton Sykes himself, our king of breeders, has never been reported to have accumulated a fortune therefrom. Money made out of young stock, we suspect, has rather found its way into the pocket of the middle man, who caters for the London dealer, than into that of the breeder. Still the system may, and probably does, admit of improvement, and out of improvement it is possible greater profit may arise.

"The speculation of breeding may be divided into two classes, —the one of such horses only as may be calculated for racing or steeple chasing, when some will be found worth training, others valuable for the saddle, and some quite useless (a man must not calculate upon holding a handful of trumps every deal)—the other for hunting, road, and harness work. The ostensible motive which in either case will assuredly prevail is profit. Racing is the test of breeding, and that breeder who exercises the greatest judgment will, in the long run, obtain the greatest success. To suppose that breeding is dependent entirely upon chance, is an absurdity. Events may and doubtless will occur to baffle human foresight; but they will act as cautions for future guidance. Discrepancies, frequently set down as the caprices of Nature, may often be accounted for, if people will take the trouble to search deep enough into the mystery."—pp. 7 and 8.

"The most intelligent and able agriculturists have decided that the best system of rearing cattle is that of keeping them in yards or enclosures well sheltered with suitable buildings, where food is regularly supplied to them throughout the year, green crops being provided to be mown for the purpose during the summer months.

"I do not mean to advise that young colts are to be kept in a positive state of confinement, a course adopted by some breeders of racing stock, but which, from experience and reflection, I believe to be most erroneous. I would recommend paddocks from one to three acres in extent, in which they should be enlarged a few hours daily during fine weather. Exercise is necessary to promote the development of muscle and increase the strength of horses, although it is not essential to the well-doing of cattle, to whom quietude and repose are more beneficial, in order to promote a propensity for the accumulation of meat." —p. 13.

On the subject of the "selection of mares," we are instructed,

"When about to form a stud of thoroughbred brood mares, the first and most certain step towards success is unquestionably to purchase those which have bred good runners. Their foals, if they be the offspring of a popular sire, will always command a high price when offered for sale in the event of their not being kept on for the purpose of training; but the purchase of such mares cannot be accomplished without a very considerable outlay of capital, and such as few persons have the means or inclination to invest. Moreover, they are scarcely to be obtained at any price, unless the death of a breeder or some other very imperative event compels the breaking up of an establishment.

Mares that have been very excellent runners themselves are often sought after for the purpose of breeding at enormously high figures, and have, in many instances, proved to be the worst speculations, many of them never having produced a foal worth training; and although it is not necessary to enumerate them, a reference to the Stud Book and comparison with the Racing Calendar will bear out the assertion."—pp. 36, 37.

The reason for which appears to be impairment of constitution, which the experienced veterinary practitioner is likely to detect, if it exist, when it may pass undiscovered by the breeder.

"The most practicable, and generally the most profitable and satisfactory, course to be adopted for the establishment of a stud of brood mares for racing purposes, is that of purchasing good shaped animals, combining the most fashionable blood that can be obtained, and which has already been tried in the stud as well as on the turf. Those only should be admitted possessing the recommendation of sound constitutions and freedom from hereditary defects or blemishes, with good legs and feet, uniting the sources of those perfections with the symmetrical proportions of the body, on which is dependent the position of the legs, and to a great degree their quality."—pp. 38-9.

"The racing success of the family to which a mare is related may be looked upon as a criterion worthy of attention, not only with reference to the parentage, but also in the brothers and sisters. There are numerous examples of mares shewing very little superiority as racers themselves that have produced excellent stock; but then it will be generally discovered that their parents have distinguished themselves either on the turf or in the stud."—p. 42.

"The class of mares available for breeding hunters and hacks is not readily to be procured until they are at an advanced age. Persons do not like to part with those of a superior description till they have done their work, and none but good ones ought to be admitted. Who would be willing to give up a clever hunter so long as she carried her owner safe and well?" —pp. 43, 44.

"To obtain a good sort of mare, it is far better to give a good price for one at six or seven years old, than to attempt the speculation with one whose infirmities render it very problematical whether her produce will be worth rearing. From a good sound young mare you may expect to have some ten or a dozen fine colts, which in due time may sell for one hundred sovereigns each: an infirm, aged, worn-out animal, may favour you with foals which will not produce thirty pounds each. You have, therefore, a large margin for the contingent profit upon an addi-

tional outlay of twenty or thirty pounds for a brood mare."—p. 44.

Touching the election of stallions—

"It is a remarkable fact, and somewhat worthy the attention of breeders, that the most successful stallions of late years are descended in a direct line from one mare, the Duke of Grafton's Penelope; the most celebrated of which are Defence (dead), Bay Middleton, Sir Hercules, and Touchstone. The first seven of her produce were all by one sire, Waxy. Including a filly, which was not named and put to the stud, she produced Whalebone, Web, Woful, Wilful, Wire, and Whisker, all first-rate animals; Whalebone and Whisker not only being winners of the Derby in their respective years, but likewise the sires of many very superior horses. After having bred Whisker, Penelope was put to Walton, the produce being Waterloo, an animal of moderate pretensions. Wildfire and Windfall followed, and were the offspring of her first partner Waxy; she then gave birth to Whizzgig by Rubens, Waltz by Election, and Wamba by Merlin, the last three of which were very moderate indeed compared with the first seven of Waxy's progeny. Can this manifest inferiority have arisen in consequence of changing the sire? If so, how much more desirable it would be to continue the same stallion on all practicable occasions, rather than seek a fresh one every succeeding year, a practice adopted by many breeders. There are many secrets in Nature which we cannot comprehend, and this may be one of them."—pp. 53-4.

An extensive breeder "of keen observation, was wont to be very earnest in his declaration" to Cecil, "that mares should never be sent but to one stallion during the whole course of their career:" an opinion he followed up by a narrative of an Arabian mare, "barren on several occasions," who at last was put to a quagga. This proved of avail; and "she brought forth a mule.' Subsequently she had foals by the best bred horses, "but they were all marked with a stripe down the back similar to (that of) quaggas and mules," each foal having it (the stripe) more faintly delineated than its predecessor:" one more example of that curious fact developed of late years in the philosophy of breeding,—that hereditary impression is transmissible from the sire through the constitution of the female even after all connexion with that same sire has been long and completely broken.

"There are some curious incidents connected with the history of other celebrated sires, which bear some analogy with that of Chesterfield. The Godolphin Arabian is said to have been pur-

chased in Paris, where he had been drawing a cart. He was brought to England, and placed in the stud of Lord Godolphin, where he became the sire of Lath, a superior horse of his day: this brought the Arabian into repute, and he bears the honour of being the founder of the best strain of blood we possess. Squirt, the sire of Marske, was condemned to be shot, and, when on the road to the kennel to meet his fate, a reprieve was granted at the intercession of the groom. He subsequently became the sire of Marske. The last-named horse was sold at Tattersall's, after the death of His Royal Highness the Duke of Cumberland, for a mere trifle to a farmer, who sold him again for twenty guineas. The Earl of Abingdon eventually became a purchaser at one thousand guineas, the horse's renown being established by the performances of Eclipse, of whom Marske was the sire. Had Chesterfield survived the glories of his son, there is every reason to suppose he would have risen from his obscurity, and become one of the most fashionable horses of the day."—pp. 64-5.

"In breeding hunters or carriage horses, the selection of stallions may be less important than for the turf; at all events, different qualities are required. Symmetry is of far greater consequence than blood, good sound legs and feet than speed, lofty action more to be coveted than length of stride; colour and temper also come under the category of desiderata. When the fashion prevailed of running half-bred horses, it was discovered that those were most superior which had the stain on the mare's side,—in other words, that the sire should be thorough-bred: the same principle holds good with hunters, for, at the pace they are now required to go, every event calculated to furnish them with endurance must be resorted to in order to render them valuable; and as the worth of a horse is enhanced if he shews properties adapted for steeple-chasing, that must be another motive for attention to such qualifications."—p. 73.

To the question of what constitutes the title to the epithet *thoroughbred*, our author replies—

"He (the thoroughbred horse) is one whose genealogy can be traced in the Stud Book, or whose sire or dam is an accredited Arabian or horse of Eastern origin, represented as being of the pure blood of the country from whence he was imported. Any attempt to dive into the mysteries in which the origin of the thoroughbred horse is enveloped would be superfluous. The errors as to data or periods when certain horses are stated by some ancient authors to have existed, are so numerous as to leave the reader in much perplexity. Writers of a later date have endeavoured to explain these discrepancies, in doing which they have fallen into mistakes calculated to increase the confu-

sion. One example, which I lately saw in print, may suffice as an illustration. 'Vixen, by the Helmesley Turk, out of Dodsworth's dam, a barb imported in the time of Charles II,' some time between the years 1660 and 1685, is stated, in the publication alluded to, to be the dam of the celebrated Careless. The Stud Book informs us that Careless was foaled in 1751, a period comprising from ninety-one to sixty-six years after the above date. Careless was by Regulus, who was foaled in 1739, out of Silvertail by Whitenose, her dam by Rattle, out of the Old Child mare; the Old Child mare by Sir T. Gresley's Arabian, out of *Vixen*. Therefore Vixen was the *great great* grand dam of Careless."—p. 74.

Further in our review we have no mind to proceed. Up to this point we have turned over leaf after leaf of the work in our hand; evidently the product of a steady and intelligent observation earnestly directed upon its object, with both pleasure and interest. Nay, we acknowledge to have "culled a spray," which we shall not fail to turn to account as occasion may serve. On *veterinary* matters, Cecil would, in our judgment, have acted with more wisdom had he pursued the path Nimrod trod in former days, in his celebrated "Letters on the Condition of Hunters;" or even the same as he himself has travelled on in the section of his (present) work treating on dietetics; viz. "consulted those authors who have made such researches their particular study."

Bulletin de la Société Centrale de Médecine Vétérinaire, publié par les Soins de son Bureau, et rédigé par M. H. Bouley, *Secretaire Annuel. Année* 1849. Tome Troisième. Labé, Paris, 1850.—Bulletin of the Central Society of Veterinary Medicine, published under the Direction of its Council, and edited by M. H. Bouley, *Annual Secretary*. For the Year 1849. Vol. III. Labé, Paris. 1850.

[Continued from page 508.]

Before proceeding further with the volume before us—the same which engaged our attention last month—we deem it necessary to make an observation or two relative to the

Système Guenon,

In consequence of, in the interim, having received a visit from a French gentleman of the Veterinary School of Toulouse —M. Gourdon, chèf-de-service d'Anatomie there—who has kindly put us in possession of what we are to understand by the *escutcheon* in cows. Standing directly behind a cow, her tail being carried to one side, we perceive on either side a waving longitudinal line, consisting of a row of curled or reversed hair, which is sometimes found running along the posterior part of the thigh, sometimes down the posterior part of the udder, and, now and then, in the latter case, united by a waving cross-line of similar hair with the longitudinal line of the opposite side. Now, it is the space included between these lines or rows of hair, bounded above by the vagina and below lost upon the advancing surface of the udder, which constitutes what the French have named *l'écusson*, and the English must or do call THE ESCUTCHEON; by the breadth or extent of which, French cow-keepers, and veterinarians who are in the habit of visiting dairies, have been for many years in the habit of estimating the character of a cow as to her milking qualifications. If the escutcheon be broad, then is the cow supposed to be a good milker; if narrow or circumscribed, she is the reverse. To what extent this *système* is known or practised in our own country, or whether it is altogether a novelty to our countrymen, be they cow-keepers or cow-dealers or veterinarians, probably some of our readers, now the matter comes thus plainly before us all, will have the kindness to inform us; meanwhile, for our own part, we cannot altogether remain unsceptical.

M. Riquet read a paper to the Society

On a particular Fluid secreted within the Cavity of the Pharynx of the Horse,

From an analysis of which the results are—

1. That the pharyngeal cavity of the horse is the seat of a peculiar and very abundant secretion.

2. That, in health, this fluid passes from the pharynx into the esophagus through an act of a particular kind connected with deglutition.

3. That this fluid passes from the esophagus into the duodenum without remaining in the stomach.

4. That it has a special action in digestion.

5. That the quantity secreted amounts to *from eight to ten quarts or more* daily.

6. Lastly, that the fluid exists in greatest abundance wherever the absorption of chyle is most active.

These opinions were subjected to much discussion, in the course of which other theories were broached, resting upon former observations and some experiments of still more recent date than those performed by M. Riquet, which went to shew,—

1. That the *peculiarity* of the asserted pharyngeal secretion did not seem to be borne out, since its analysis afforded no other result than salivary fluid and mucus mixed together yielded; and that the quantity said to be produced in the twenty-four hours was not fairly calculated by multiplying by so many times the product of one hour. And, further, that it was incomprehensible how any fluid could make its transit through a loaded stomach without suffering arrest therein. And, finally, that the fluid was not the exclusive secretion of the pharynx, but was furnished by the buccal membrane and salivary glands as well.

Parallel under Parturition between the Mare and the Cow.

MARE.	COW.
1. In the mare, delivery is often followed by insuccess.	1. In the cow, delivery almost always ends favourably.
2. A wound in the genital organs of the mare is generally mortal.	2. A wound in the genital organs of the cow rarely entails death.
3. Inversion of the uterus in the mare is almost always incurable.	3. Inversion of the uterus in the cow is frequently curable.
4. Mares almost always succumb to penetrating wounds into the abdomen during parturition.	4. The same accident is not generally mortal in cows.
5. In the mare, delivery of the most simple kind is on occasions followed by evil consequences: in unnatural and laborious parturitions often both dam and foal fall victims.	5. In the cow, delivery even of the most complicated description generally proves easy, and operation ordinarily successful.
6. In the mare, difficult parturition proves an Herculean task to the operator.	6. In the cow, such parturitions are of small account to a practitioner skilled in the necessary operations.
7. In the mare, the duration of the life of the foal, in a case of unnatural parturition, does not extend beyond the	7. In the cow, under the same circumstances, the young may survive four or five days *in utero*, because its

fourth hour, on account of the young animal having to support its own life, the same as it would out of its mother.

mother supports its life. These differences are readily accounted for by any one understanding the mechanism of fœtal life in the two species of animal as well as the anatomy of the uterine organ.

Which differences M. Donnarieix explains as follows:

MARE.

8. In the mare, the neck of the foal being very long, the head is commonly found deeply buried in the flank whenever it is turned backwards. The operator has very great difficulty in reaching it with his hand—indeed, often he finds it impossible to re-instate it in its natural position: the loop slips down the neck of the lower jaw, and the operation has continually to be renewed. It is hardly possible to fix a cord there, the neck being so short, and the fœtus having no teeth.

9. In the mare, when once the amnion is emptied, the introduction of the hand becomes difficult, on account of the loss of the viscous fluid. The genitals grow dry, and a considerable efflux of blood ensues. The resistanee made by the fœtal membranes to the manipulations, either to ascertain the position of the fœtus or for the purpose of turning, together with the struggles of the dam, who now and then drops down as though she were dead, are so many difficulties one has to overcome in delivering the mare.

COW.

8. In the cow, the neck of the calf being shorter and thicker, the head is less twisted, and the operator can with greater ease bring it back into its normal position. Besides, as the lower jaw possesses teeth, and has a contracted neck, the slip knot of the cord does not slip off it, and therefore turning of the head becomes an easier affair.

9. In the cow, the genitals are continually lubricated by a viscous fluid, which, while it facilitates the introduction of the hand, renders easy any required turnings, and favours the parturient operations. Added to which, any movement made by cows during delivery are not, in general, of much consequence.

THE AMERICAN VETERINARY JOURNAL; *devoted to the Diffusion of Veterinary Knowledge.* Edited by GEORGE H. DADD, M.D. Royal 8vo, pp. 32. Boston, Mass.

ALL hail to the transatlantic veterinary sister-journal!—the first-born of its species in the western hemisphere. Through its pages we hope to be informed, from time to time, of what is, veterinarily, transacting in the new world while we sit prosing in one corner of the old. The first number, which has just reached us, may boast of the variety of articles it contains within hardly more than half the number of the pages of our own journal. It, also, has a frontispiece of an engraving of an "English

cart-horse." The medical principles it professes to be the "faithful advocate" of, are the *physiopathic*, as will appear from the following address upon its wrapper:—

"This journal will be a faithful advocate for the principles now taught in the Physiopathic Medical College of Ohio. We shall labour to shew that these principles are adapted to the successful practice of the veterinary art, and that, whether we prescribe for a man or a horse, our agents must be given with a view of aiding the vital powers.

"The principles are,—

"1. We contemplate the animal system as a perfect piece of mechanism, subject to the immutable and uncompromising laws of nature; that, while the vital power is free and unobstructed, the animal is in a physiological or healthy state; but when by any means the vital power is embarrassed, such animal is in a diseased or pathological state.

"2. That all vital manifestations are physiological; that disease is never the result of its action, but results from defective or perverted action in the various subordinate forces which the vital principle employs in the performance of its numberless labours.

"3. No matter what the nature of the disease may be, our intentions of cure are founded upon the proposition of promoting the vital integrity,—the living powers.

"4. Blood-letting, or poisonous substances, which contemplate organic destruction, or even an interruption of the normal vital functions, cannot be admitted into our collection of remedial agents.

"5. The diseased state being an embarrassed condition of the physiological, we endeavour to restore the harmony by the use of agents that are known to be innocent and sanative. Such, for example, as are compounded in the forest and the field by the Great Physician; and such only as experience teaches us co-operate with Nature and with Nature's laws.

"Lastly, our physiological system of medication proposes to restore the diseased organ or organism to its healthy state by co-operating with the vitality remaining in the organ or organism by the exhibition of sanative means. Our *materia medica* is full and replete with agents whose action upon the animal system is truly physiological; we have no occasion (as we shall hereafter shew) to use agents that act pathologically, because we do not cure by substituting one disease for another.

"We of the new school consider ourselves a part of the general profession in all things except in the features above named."

Foreign Extracts.

ALL MEDICINE USED FOR THE CURE OF DISEASE IN DOMESTIC ANIMALS SHOULD BE SIMPLE, MILD, AND CREATE AS LITTLE DISTURBANCE AS THEIR ORDINARY FOOD.

THE present period may, with truth, be denominated the age of progression. In the mechanical arts greater improvements have taken place within the few past years than at any former period. Yet, unfortunately for our domestic animals, the veterinary art, which has for its object their amelioration, has, in the United States, been most sadly neglected, thus presenting a lamentable contrast to the improvements made in other departments of science and skill.

What are the causes of this prolonged neglect of a science so eminently calculated to constitute us "ministering angels," to those who, though our slaves, have common feelings with us? It is absurd to suppose that our agriculturists have become indifferent to their own interests, for we know that they protect all other species of property, at least so far as they are able. Then why not protect our animals from the ravages of disease? Is not property invested in live stock as valuable, in proportion, as that invested in houses and ships? And if so, the present unpopularity of our art is not the result of its own want of merit, but simply that its claims have never been advocated with that degree of perseverance which its importance demands. "*The harvest is ripe, but the labourers are few.*" We want a few such men as Drs. Warren and Jackson to rescue this science from the obscurity which now surrounds it; we want, at least, their co-operation. Let them but follow the example of those indefatigable cultivators of human medicine in the old world, who have not thought it beneath their dignity to lend a helping hand to a sister science: among such men we find John Hunter, Sir Astley Cooper. These men may be classed among the brightest luminaries that ever adorned the medical profession. On their brows rests a never-fading laurel. Their fame shall linger on the tongues of men, so long as medicine shall be cultivated as a science; and although their spirits have returned to the God who gave them, they still live in the hearts of their countrymen. They explored this fruitful field of research, and, through their dissections and experiments on brute bodies, unfolded principles which rest on a firm basis that can

never be annihilated. This science received their fostering care, and grew with their growth. And now, at the present period, England can boast of an array of talent in her veterinary department which will soon outrival that of the sister science. If the medical men of this country will only follow in the footsteps of the illustrious of the old world, and use their influence to place this science in the same position that it now occupies in Europe, they will earn for themselves an undying fame. And we are sure that, if those noble creatures for whose benefit this art was first cultivated could speak, they would sing higher praises to the honour of their benefactors than human tongues ever sang to the honour of Hippocrates, Cullen, or Harvey.

But, alas! the American people have judged of the merits of this profession in exact ratio to the talents of those engaged in it, which, with a few honourable exceptions, have been of an inferior order. Then, again, intemperance, that blighting curse, which, like a dire tornado, "spares nothing," has, not unfrequently, been intimately blended in the character of the hereditary horse and cattle doctor; so that the intelligent and influential portion of this community have thought the art unworthy their attention and beneath the dignity of a gentleman. Others have supposed that almost any man might prescribe for a horse: that a knowledge of anatomy, physiology, pathology, therapeutics, and materia medica was not absolutely necessary to constitute a man a horse doctor; and thus we find an immense mortality attending the best efforts of this class of practitioners. Almost all the agents they use would at any time kill a well animal, whatever they might do to one in an abnormal state. For example, our attention was called, a few months since, to a valuable cow, the property of Mr. S., of Waltham. The cow was said to have a "stoppage." This state of things was occasioned by a suspension of the digestive function. The owner employed an "hereditary cattle doctor," who, as will be seen in the sequel, converted the poor cow's stomach into a sort of apothecary's shop. He commenced the treatment by administering one pound of salts. The next day he gave her another pound. Finding this also failed to have the desired effect, he gave her one pound eight ounces more. "She kept growing worse." A quart of urine was then given, followed by two table spoonfuls of gunpowder and a quarter of a pound of antimony; and, lastly, thirty-nine drops of croton oil were poured down the throat of the suffering animal. The cow lingered, in excruciating torment, for twenty-four hours, and then died, a victim to the treatment! The effect of such immense doses of medicine is, to impair the digestive organs,

(instead of restoring their normal condition), and to depress the vital energies.

We shall have occasion, in the succeeding pages of this journal, to illustrate this barbarous system of medication; and we are aware that it is no desirable or agreeable work to complain of the doings of others. But let it be understood that we are not contending with men, but principles; and since error and truth, good and evil, are all blended, and since error may be, and frequently is, mistaken for truth, and evil for good, we feel ourselves bound to separate the good from the bad, truth from error, and arrange them in such a manner that he who reads may learn.

We labour for a better state of things. The car of medical reform rolls gracefully on, bringing to the rescue inquiring minds. The public demand, and ere long will have, a class of talented, high-minded, and merciful men, who shall administer to the wants of our domestic animals. Already the cry is,—and it emanates from some of the most influential agriculturists in the country,—"*No more blood-letting*!" "*Use your poisons on yourselves!*' Soon the fleam and lancet will grow dull, the firing-iron and other implements of torture will be abolished, or only resorted to by those in whose bosom not one spark of mercy exists. To such we would say that

> "In that day
> When crime is sentenced, cruel man shall not
> Go uncondemned, because no tortured brute
> Stands there accusing."

For

> "Our Father careth when a sparrow dies."

We appeal to the American people at large to aid us in the glorious work of reform; they have great interests at stake. Ignorance on these important subjects has existed too long, in consequence of which, disease and death are running riot in our stables and around the barn-yard. Our best stock sicken and die, and we know not the why nor the wherefore.

Let us all bear in mind that the Almighty placed the inferior orders of creation under our protection, and that he will require an account of our stewardship. Can we render a good account? Aside from this duty, humanity calls upon us to alleviate suffering wherever it exists, with the assurance that the more friendless the sufferer, the more honour does it reflect on him who alleviates it.

OBSERVATIONS IN AUVERGNE ON THE EPIZOOTIC KNOWN BY THE NAME OF PERIPNEUMONIA IN CATTLE.

By M. Yvart, Inspector-General of Veterinary Schools and of the National Sheepfolds.

(Report to the Minister of Agriculture and Commerce.)

M. Le Ministre, Sir,—At your request I have visited the departments of Cautul, Avignon, and Lozère, with a view of collecting information on the epizootic disease of which the farmers of this country have so loudly complained; and have the honour of submitting to you the following report:—

I am prepared to prove that this epizootic, in its symptoms, organic disturbance, and rarity of curability, ought to be considered as of the same nature as that which long ago broke out in many parts of the north and east of France, and has been described under the denomination of epizootic peripneumonia. And, further, I insist on its contagious character.

All in this part of the country agree in the epizootic now raging in these mountains (of Auvergne) in the centre of France being similar to that which broke out in the east and north of our own country, in the mountains of Switzerland, in many parts of Germany, in the plains of Holland, in the cattle houses of Flanders, &c. &c. Observations of the sick and post-mortem examinations confirm this opinion. In all climates, under all kinds of feeding and habitation, it has appeared the same, baffling every sort of conjecture as to the causes giving rise to it.

The veterinarians and intelligent farmers of this part of the country have had their attention especially directed to—1. The condition of the two principal enveloping membranes of the lungs, viz. the pleuræ costalis and pulmonalis: 2dly, To the diseases apparent in the cellular tissue connecting the pleuræ to the lungs, and entering into their substance for the purpose of connecting together their component lobules: 3dly, Into the alterations undergone by the lobules themselves.

It being the custom in this part of the country not to dispose of the sick beast at an early period of his illness to the butcher, but to keep him as long as any hope can be entertained of his recovery, it not unfrequently happens that at post-mortem examinations are discovered both old and new morbid changes in the same lung, so that there appears a possibility of estimating the date of the different cadaveric lesions.

We have found a well-defined line of separation between such parts of the lung as remained sound and such parts as had become diseased. The former yielded to atmospheric pressure and to that of the finger, and was quite light, owing to the quantity of air it still contained.

By the sides of the sound lobules were others of a deeper colour, which somewhat resisted pressure; these contained new blood and less air. Oftentimes we found them surrounded by a liquid of a bright yellow colour, which was contained within the cellular tissue separating each lobule from the surrounding ones. These constituted the recent changes.

In other lobules the disease appeared of older date. These lobules were much redder, some even black, and were more solid than those which were yet but slightly reddened. Around them were some *septa*, whitish-yellow fencings formed of the interlobular parenchymatous tissue, containing but a very little fluid.

Lastly, in the advanced stage of the disease (but animals often die before they arrive at this stage) the pulmonary lobules become soft and lose much of their deep tinge; and sometimes the places where they were, become filled with a liquid, greyish, odourless matter. At this time, nothing is left of the anatomical element of the lung save the interlobular cellular tissue, now become thickened and substantial. When these lobules come to be washed, or even when we wash the portions of lung in which collections of matter appear in their places, the cases in which the lobules are contained become apparent. In these are to be seen perforations like those of a large sponge. The entire of the proper tissue of the lung has vanished—all that served to bring the blood under the influence of atmospheric air. Nothing remains but the cellular envelope, and that is thickened, hardened, and diseased.

The same changes which pervade the cells of the interlobular reticular tissue are to be found in the cellular tissue attaching the pleura to the lungs.

The pleura becomes involved in disease before, during, or after the lungs become so. A quantity of serosity may be found in its cavity, and, swimming in the fluid, masses of yellow substances, readily broken to pieces. Flocculi of the same substance are attached to the surfaces of the lungs. Bands and bridles of it are to be seen running between the pleura (costalis) and the lung, and the latter and the diaphragm. Instead of being loose within the cavity, the lung is attached to its walls.

The serous membrane of the pericardium at times contains a much larger quantity of liquid than is found in a state of

health; also flocculi of yellow lymph are to be found therein: shewing that within this serous membrane diseases make their appearance similar to those that more frequently affect the pleuræ and the cellular tissue.

Very rarely are both lungs affected alike. Sometimes the right, sometimes the left lung is affected, and very often the disease is found to be of longer standing in the inferior than in the superior part of the organ.

Sometimes, towards the conclusion of the disorder, we find collections of yellow serosity, *œdema*, under the skin at the inferior part of the thorax, at the lower part of the neck, and underneath the belly.

The sanguineous engorgement of the pulmonary lobules, the accumulations of fluid containing fibro-albuminous deposits in the cellular tissue underneath the skin, between the lobules of the lungs, within the pleuræ and pericardium; the solidity and non-subsidence of the substance of the lung, and its impermeability to air;—these morbid changes which I have met with myself, and which the veterinary surgeons of Auvergne have related to me, plainly shew that the disease is evidently the same in this country as in other parts of France.

But in one respect has any difference appeared, and that is, though to be sure it occurred very rarely, that there has been a morbid augmentation of the synovia contained within the bursæ of the tendons and the capsular ligaments of joints.

Symptoms.—The disease commences by the symptoms common to other affections, and which at any other time than that of the epizootic would assuredly not attract attention. When at such a time a beast breathes more quickly than denotes health, when his coat remains on end, and he is off his appetite, there is reason to apprehend an epizootic attack. Frequently, some days after this it happens that cough sets in, at first morning and evening, afterwards during the day, always short, but becoming shorter and shorter as the disease advances. Attentively inspected, the inspirations and expirations will be found unequal: the former are longer and require greater effort. We perceive the ribs rising beyond the level of the intercostal muscles; and the alæ of the nostrils becoming dilated through the contraction of the muscles of the face, an action hardly observable in health. When the air has thus with great labour entered into the lungs, it passes out by a short respiration. All this while the beast neither feeds nor ruminates, and its milk becomes dried up with great rapidity. Indeed, a falling off in the milk even precedes these symptoms; so that the men who milk the cows know by this sign that the cow is going to be ill.

When this is not the case, the disease comes on much more rapidly.

Neither percussion nor auscultation is of much avail in announcing the invasion of the disease. But, whenever the disease has made some advances, these means are not without their utility in informing us which side of the chest is affected or which the most so, and what progress the disease is making, or, on the contrary, whether a recovery is likely. And especially are these means of service, after apparent recovery, to enable us to ascertain how large a portion may be impermeable, and whether it be to an extent to render the animal unfit for work. The important point to be come at is, to determine if the air penetrates or not into the minute and innumerable cells of which the lung is composed.

An alarming symptom, and one that betokens a fatal termination, consists in gradual distention of the belly. Flatulent collections may take place at the commencement of the disorder, while the animal continues to feed, but these soon become dissipated. When they make their appearance suddenly, they give no cause for apprehension. The meteorisation, of which I am speaking, is different inasmuch as it comes on late in the disease, at a period when for a length of time the animal has refused his food, and as the tympanitis of the belly increases by little and little without ever diminishing. The country people were well acquainted with this. They told me that of one hundred beasts that had it, not one was saved. Many beasts, however, died without evincing any meteorisation; so that it was by no means constantly present.

I may also say as much of the odematous swellings under the belly, and of the swelling and pain of the joints, as well indeed of the offensive smell caused by the expired air; not of the air coming from the nose, but of that issuing from the mouth.

I have spoken already of the œdematous swellings of the breast and inferior part of the neck: these do not make their appearance until the disease has considerably advanced.

The swellings and pains of the joints are no doubt infrequent; nevertheless, they are not less worthy our attention on account of the nature of the membrane diseased. The synovial capsules, be they tendinous or articular, having the greatest analogy of texture with the pleural membranes, which always contain a great deal of fluid, I wish to know whether disease of the synovial capsules did not manifest itself in the epizootic under notice.

In shewing me one of his cows which had perfectly recovered, and was very fat, M. Majouene, farmer at Aurillac, remarked to me, that this cow had been lame for two months during her

malady and convalescence; and he added, that many of his cattle, cows as well as ewes, had shewn lameness (from rheumatism?) while they were ill.

M. Maret, veterinary surgeon at Allanches, has frequently observed swellings in the joints of the knee and hock in sick calves; and, moreover, he has shewn, there has been some alteration in the synovia.

I have remarked upon Faucen's farm, which was on the adjoining mountains, the same enlargement of the bursæ of the tendons in a calf; and a little farther than his farm, in the cow-establishment at Pradt, four cows, which had had the epizootic, have still shewed enlargements, some in the knee, some in the hough.

And M. Cobeal, whose spirit of observation is well appreciated, and who has had his cow-house all but desolated by the epizootic, has declared to me that the recovered beasts continued for some time afterwards affected with lameness and pains in the hip and hough, and even soft tumours in various parts of the body.

So that the disease of the synovial capsules and the serous collections which appear in different parts constitute a subject to which our attention for the future must be directed.

As to the fetid character of the expired air, we must, as was before observed, make a distinction between that expired through the nostrils and that which passes through the mouth. The denomination, formerly given erroneously, to this peripneumonia of *gangrenous*, led to a belief that the air expired from the lungs must necessarily be tainted with a bad odour.

In all the diseased beasts I have subjected to examination, I have on no occasion perceived offensive odour from the nasal cavities, though the same result has not been apparent when the mouth was opened, and the nasal cavities were plugged up. I scented the odour of the air as it issued through the mouth. The air was then offensive; but this admits of ready explanation. As soon as the animal gives over eating and ruminating, the saliva and mucus lodging in the buccal cavity will undergo a change; there can be no reason for surprise, therefore, should the air in passing through this cavity become charged with fetor. And where several sick beasts are lodged in the same stable, some of them will naturally cast saliva upon the manger, while others may have setons or blisters upon them; in which way we may readily explain how it happens that the atmosphere of the stable becomes contaminated without presuming that the lungs are in any way gangrenous.

And besides, the acuteness and rapidity of the disease are not at all equal to what usually happens in gangrenous affections;

for when cattle are violently attacked, according to M. Rhodes, M.D. and Mayer of Murat, they survive seven or eight days; and ordinarily death does not close the scene before three weeks or a month, or more. M. Maret, veterinary surgeon at Allanches, has seen the disease last a month and even two months. Other observers have known it last longer still.

I have but few words to say on the state of the pulse and the pulsations of the heart. The pulse in general is rather accelerated at the commencement of the disease, though it is rarely stronger and fuller than natural. At the closing of the disease, when the breathing has become much embarrassed, the pulse is extremely small. The pulsations of the heart are strong and tumultuous at the commencement, according to what I have received from other veterinarians; and I myself have recognised this symptom in some emaciated calves, though in larger and fatter animals I have been unable to recognise any such symptom.

The frequency of abortion in this disease is a fact which has attracted the notice both of veterinarians and farmers; and it is a circumstance which contributes to the losses arising from the epizootic. And, connected with this, it is worthy of remark, as has been observed by M. Cobrat, that cows which aborted early in their pregnancy had not been so likely to succumb under the disease as those that miscarried at a late period.

Another indisputable fact is the presence of the epizootic in the fœtus itself. M. Augsade has assured me, that fœtuses, the aborts of cows at the time labouring under the disease, presented for the most part lesions characteristic of the peripneumony, and notably in the pleural effusion and the production of plastic membranes. All veterinarians agree on this point.

In respect to treatment, it is to be remarked of this, as of most other epizootics and epidemics, that numbers of medicines and curative methods have been essayed without any satisfactory results. Some practitioners are for bloodletting; others of equal pretensions and number condemn it. One thing is certain about it, which is, that it does not answer to bleed after pulmonary œdema and pleural effusion has taken place.

M. Sage insists upon the use of bitters and diuretic drinks, forbidding venesection, on the plea of the epizootic manifesting none of the characters of inflammatory disease; in which opinion he is quite in accordance with the English veterinarian, Mr. Simonds, who has gone so far as even to complain of the name of *peripneumony* for the disease. Many Englishmen shew their good sense in not giving it a name incongruous with its nature. Indeed, I do not myself see how we can assimilate with sporadic peripneumanies a disease never commencing in irritation of the respiratory passages, never, for example, in *angina*—a disease

shewing none of the veritable symptoms of inflammation, very seldom is found curable by blood-letting, is common to the mother and the fœtus she bears, and that is communicated from one animal to others of the same species.

One more observation is worth our notice; and that is, that when the disease has proved severe, and has for some time put life in danger by rendering the lungs almost impermeable, yet may such consequences become entirely dissipated. Nay, it has even been remarked that such animals become fat afterwards with surprising rapidity.

In cows, likewise, who have completely recovered, the secretion of milk returns to what it formerly was.

Still there are beasts in which the lungs do not recover their normal condition, and that ever afterwards have a cough; though most of these may be got well enough to be sent to the butcher, when it has been discovered that portions of their lungs have remained changed and impermeable to air.

3. THE CONTAGIOUS CHARACTER OF THE DISEASE has been eagerly inquired into. All the farmers have recognised this character; and the veterinarians of Auvergne with whom I have conversed have entertained the same opinion. Some few individuals have thought differently; but even they, when the question comes to be put to them, how they would like to have diseased animals turned into their herds, uniformly answer in the negative. It becomes requisite, however, in order to communicate the disease, that the cattle should be living in the same houses or feeding in the same pastures, lying in the same fields, or having met together at some fair; whence it follows, that of two farmers whose farms adjoin, one may have the disease among his herds, the other not; or even of herds on the same farm, provided they have not cohabited or been together, some may remain exempt while others are infected.

In proof of these assertions, beasts have been known to convey the disease to localities where it was never present before, and the disease has been kept confined to the shed or house in which it broke out, by the requisite precautions being taken to prevent its spreading. There are also examples to shew that a beast is not liable to the disease a second time. These are characters which assimilate it to the small-pox in sheep, and to the contagious typhus of cattle. And whether this last stated fact be proved or not, it is notorious that farmers, when they want to recruit their decimated herds, will give more for a beast that has already had the disease than for one that has not.

M. Yvart has annexed to this preliminary statement several narratives of observations and facts in corroboration of it. He

afterwards goes on to say, that he has found the contagious character of the disease to be similar in the three provinces through which he has extended his inquiries. And when, he adds, we come to inquire further, in order to ascertain if there be any other known causes of the epizootic, we encounter nothing but doubt and uncertainty.

The production of the disease has been attributed to insufficiency in the supply of air for cattle to breathe in their habitations; but I have observed the cow-houses of those who had them constructed capacious and airy, and those of others who have allowed no more to every head of cattle than a certain area of space, the fresh air being admitted through apertures and ventilators made in the walls, and yet there has been no difference in the mortality. Changes of temperature have likewise been thought to be among the productive causes; but observation and aggregated facts do not confirm this notion. Up to the present time there is but one conclusion we can come to on this part of our subject, which is, that disease rages with much more intensity among cows in milk and among milk calves than among young beasts in their second or third year.

Recueil de Méd. Vét. for April and May, 1851.

Investigations into the Functions of Respiration and Nutrition through a comparative Analysis of Arterial and Venous Blood.

By M. Clement,

Chef de Service de Chimie à l'Ecole Nationale Vétérinaire d'Alfort.

From a series of analytical experiments and calculations, the author of this inquiry has come to the following conclusions:—

1. That the lung is the seat of a real combustion.

2. That the constituent of the blood undergoing combustion is the albumen; and that in the combustion carbon and hydrogen are imparted to the oxygen of the air.

3. That the products of combustion are water, carbonic acid, and fibrine, or albumen altered into fibrine.

4. That if nothing but this took place, the venous blood, which in its passage through the lungs has been deprived of water and carbonic acid, ought to form an arterial blood containing less than it of these two ingredients, which is not the case.

5. That the water produced by combustion enters the arterial

blood, in order to afford it the requisite fluidity to circulate with freedom and rapidity through the different organs of the economy.

6. That the carbonic acid likewise enters the arterial blood, which, according to M. Magnus, contains more than the venous blood of it; its apparent use being, either for the purpose of forming the carbonates so serviceable to the organs, of holding salts with excess of acid, a state in which they are soluble and assimilable: hence the reason why the carbonate and phosphate of lime being particularly destined for the nutriment of bones, these salts being, as is very well known, completely insoluble in the neutral state, and therefore incapable of assimilation.

7. That what favours this view of the matter is, that carbonic acid is *the only free acid* contained in the blood.

8. The small excess of fibrine contained in the blood proceeds from its albumen turned into fibrine through pulmonary combustion.

9. That the colouring globules become loaded with oxygen for the purpose of interstitial or intra-organic combustion.

10. That this combustion serves the purpose, 1st, of setting the fibrine of the blood free, in order that it may become assimilable; and, 2dly, of assisting in promoting the decomposition of organs by burning such organic elements as have become useless, and on that account eliminatory.

11. That in this combustion, as in the former one, there is again production of water and carbonic acid gas.

12. That this water and carbonic acid gas enters the venous blood; the water for the purpose of replacing, in part, what the organs of secretion and exhalation have robbed the arterial blood of; the carbonic acid to combine with the calcareous salts remaining unassimilated; while, that which does not escape from the lungs, every time there is a fresh inspiration, produces a fresh quantity of the acid compound. The same likewise happens with the water.

13. That the azotic and oxygenous elements of organs which, in the state of solid, are incapable of being thus eliminated after being worn out, and that the oxygen which has not become, nor is able to become, combusted, undergo decomposition during interstitial combustion, and, entering into fresh combinations, become soluble, and pass into the blood; whence they are ultimately eliminated through the urinary passages under the form of urea, uric and hippuric acid, according to their nature, &c., all the products being eminently azotic and oxygenous.

14. Lastly, another purpose seeming to be served by the colouring globules, is, through their demi-solid state, to maintain in suspension and motion within the blood, the fibrine in a state of solution in the albumen, and to keep it from coagulating.

Recueil de Méd. Vét., May 1851.

Home Extracts.

THE PRESENT CONDITION OF VETERINARY MEDICINE IN ITS RELATION TO AGRICULTURE.

THERE is a short sentence in the English tongue of talismanic character in the minds of many of the present day,—"Practical experience." What is it? The words are simple, but widely significant; extensive in their application, but too commonly confined to those who least of all deserve them. With the public they are the "*sine quâ non*," the acmè of attainable greatness. Truly, as our facetious contemporary, *Punch*, remarks, "truly we are a practical people. Our naval architects launch a frigate; she floats too much by the head, so we cut down her stern. Then she floats too much by the stern, so we take off her figure-head. Then she is found to be over-masted, and we put in lighter masts. Then it is found she can't carry canvass enough, and we take them out again. Then she rolls too much, and we increase her ballast. Then her lower deck ports are under water, and we plug them up. Without her lower tier she does not carry metal enough, so we clap two sixty-fours at her bow and two sixty-fours at her stern. Then she will not make any way at all, and we are forced to begin all over again; and the account concludes with an awful bill to pay."

We should be sorry to underrate the importance of "practical experience," even to admit a question of its imperative necessity; but does it never occur to its most enthusiastic supporters, that a man may spend his threescore years and ten, practising all the time in the wrong direction? Science is an accumulation of facts and principles deduced from them, the products of numberless experiences. Is it not, then, obvious that the man who commences to practise without making himself first familiar with the practice of those who have gone before him, is attempting, single-handed, what thousands combined have hardly accomplished? Of what value are a few isolated facts, unless they illustrate or indicate a principle? Every fact is but an example of some operating law: to be contented with the fact alone, to trust solely to "practical experience," is the characteristic of the empiric, the quack—not of the man of sense.

Was it by trusting to "practical experience" that Galileo discovered the motions of the planetary system? Ages of prac-

tice had not enlightened his predecessors. Was it by adherence to a mere physical fact that Newton recognized the force of attraction? The phenomenon which roused his giant mind was familiar to every schoolboy. Was it by trusting to "practical experience" that our glorious countryman, Harvey, discovered the circulation of the blood? His progenitors had practised for centuries, and still remained in ignorance. In all these cases the reasoning faculties of the educated man were called into energetic action; the facts were observed and noted, and, further, their causes were sought out, the laws which governed them were analysed, until unlooked-for and startling consequences became apparent. From the circumstance of a falling apple was deduced the force that regulates the universe:—such is science! that science which people mock and oppose. Then talk kindly of uniting with "practice!"—"science with practice!"—as though some new combination must be effected—as though science should be honoured by the union, instead of looking on practice without science as a monster that dared not shew its front in a civilized society.

If under any conditions it is necessary to possess knowledge—correct and systematic knowledge—surely it must be where the complicated organism of the animal body requires regulation: if ever practice based on imitation becomes positively criminal, it must be where its rude hand is applied to repair a machine of whose construction it is profoundly ignorant, of whose functions it retains no conception. With the most learned, success in the treatment of disease is not too frequent;—how must it be with the ignorant? The untiring in the pursuit of knowledge are fain to confess that much is still beyond their ken; the man who combines all the requisites of his art observes with pain that his remedies too often fail: what shall we say of him who, armed with his musty prescriptions, the property of his father's father, strong in an experience of twenty years spent in the pursuit of error, rashly offers his assistance? How true it is that "fools will rush where angels fear to tread!" But we are told, the man is frequently successful—of course he is; animals will live sometimes, in spite of all we can do to prevent them. We know instances where exposure on a frosty night has cured a dying horse of inflammation of his lungs; but a cold night is not therefore hailed by practitioners as a sovereign remedy. A case is recorded where an unsuccessful blow from the knacker's pole-axe restored an animal suffering from the last stage of lock-jaw; but concussion to the region of the brain is not, at present, much in favour as a curative agent for that disease. Because a case recovers under a certain plan of treatment, it by no means follows that the remedy is discovered: it is only by the

aggregate of results that any reasonable conclusion can be arrived at.

What a significant tale is told by the records of animal mortality. Examine the slaughterman's receptacles in the neighbourhood of populous cities; find that in one yard alone an average of three hundred horses per week, for months in the year, is not considered remarkable; pursue the inquiry, and learn the vicious system of management that leads to this; observe how much science is mixed up with it; note how far the science of ventilation is carried out; see how the food is proportioned to the digestive functions; question the amount of knowledge of the influence of noxious gases on the respiratory organs; and then answer, why has "practical experience" tolerated all these evils, till they threatened universal destruction?

The preservation of health must, in the mind of the true follower of his art, stand infinitely higher than the cure of disease; it may be adverse to his interest, to the interest of the profession to which he belongs, but the argument is childish, if nothing worse, that protests against the advantage of the many being consulted at the expense of the few. If the ultimate object of medicine be to support those who practise it, it becomes the duty of every one of its professors to keep the people in ignorance; the man who expounds the functions of digestion to the masses becomes a dangerous member; the individual who insists on ventilation, a traitor to his cause. The total eradication of disease is synonymous with the anihilation of medicine; nevertheless, he is no true disciple who does not aim at such an end.

We are glad to quote from an opening lecture delivered by Professor Spooner, in 1849. Speaking of the contract system, he remarks, "The further this system is carried, the more it will lead to a very broad development in both the veterinary and medical professions—public health, as maintained by the adoption of prophylactick measures, is that to which I allude; and the preservation of health ought, I think, be considered by us as a nobler art than the cure of disease. The rapid strides which agriculture is making, in the draining of lands, the knowledge of crops, &c. all lead to this consideration. The flocks and herds that adorn our landscapes, are as much crops, as far as their growth is concerned, as are the ears of wheat or blades of grass that flutter in the breeze. An extension of the same science that fattens the corn will fatten the cattle. The vegetable kingdom, also, has its diseases and its cures, equally with the animal; but it is art and science on a large scale alone that can by combatting with the one, furnish the other. I look

upon the veterinarian as the inseparable companion of the farmer, in the grand matter of the preservation of the health of his live stock; and the contract system must ultimately, I think, lead to his being paid rather according to the health, than according to the disease, of the animals placed under his care." It is to the scientific investigator, not to the cowleech or the farrier, that the agriculturist must look for the attainment of so grand an object. We trust the prediction of Professor Spooner will, ere long, be fulfilled.

Up to the present we have dealt with generalities, which, though useful, are not sufficient. If they are not easily opposed, they may be to some not convincing; our subject requires us to enter into details—to expose, by reference to constantly recurring instances, the mal-practices of those who, professing to alleviate animal suffering, do frequently but contribute to its increase.

Cirencester and Swindon Express, Sept. 1851.

ON WARTS

WARTS, or as they are commonly called *Angleberries*, are excrescences often found on the skin in horses and cattle. They sometimes attain an enormous size: we have seen them suspended from the lower surface of the belly so as to cover it almost completely, and weighing when removed many pounds. Occasionally they occupy very inconvenient situations, being found on the lips, eyelids, teats, and organs of generation.

Warts are of two kinds; one of these makes its appearance upon, and consists in part of an increased development of, the outer scurf or scarf-skin; the other kind is contained under, and while it elevates, does not grow from, the scarf-skin. As it frequently becomes desirable to remove these growths, and to counteract that condition of skin on which their reproduction depends, we shall briefly describe them. The most common kind of wart and that called the true angleberry, is the first of the two to which we have alluded. It has always a hard, horny sort of investment externally: this is formed of scales of scarf-skin matted together in great quantities, and prolonged from the true skin, to which they are attached. As this outer covering increases in growth, it dries and splits up into shreds or fibres, which generally become more or less pointed at their free ends. Many of these shreds may grow from one common stock or pedicle, called the "*neck*." In other cases there is no well-defined neck, and a large surface will be covered with a coarse,

rough, and horny crop of warts, all, as it were, united where they originate from the skin.

Warts are always produced from what may be considered as greatly developed knots or papillæ within the true skin. Blood in greater quantities than natural is sent to these, and the papillæ continuing to grow, forms perceptible tumours which are somewhat sensitive, painful if exposed to friction, and form, or throw off the scaly covering which eventually forms the main part of the warts. We see many instances of warts on the human hands and other parts of the body, and always find that the dry horny part grows from skin somewhat thickened and increased in vascularity. So great, indeed, is the quantity of blood which some warts receive, that they bleed much more profusely than other portions of skin when wounded.

The other kind of wart to which we alluded does not cause any external roughness or scaly appearance. It is formed within the outer skin, and commonly appears as a circumscribed round tumour; on being examined by the hand, it is felt to be contained in a sack or pouch, within which it is easily moveable. It is almost insensible, and consists of a quantity of white fibrous, and sometimes gristly, substance, which does not possess blood-vessels in its interior. We often meet with this kind of encysted wart near the outer organs of generation in the horse and mare.

The horny wart which we first noticed is common in both horses, cattle, and dogs; the encysted wart is comparatively rare in cattle, it is more common in dogs, but is most frequently found in horses. In treating warts with a view to remove them and prevent their reproduction, it becomes necessary to destroy, in a measure, the surface from which they sprout. When an angleberry has a "*neck*," this should be cut off flat and close with the skin, and the raw surface thus made should be touched occasionally and freely with caustic or a heated iron. If the neck be so large as to endanger much bleeding if divided at once, a ligature of thin strong string may be tied round it very tightly, in order to cut off its supply of blood: the ligature should be applied frequently, daily if convenient.

Where a large surface is covered by warts which do not possesss any definite necks, their horny parts should be cropped or cut closely down to the true skin with scissors or other convenient instrument, and the surface thus exposed should then be touched with a hot iron, or rubbed with caustic potass. Such application is to be continued till the horn ceases to grow. Encysted warts are removed by cutting the skin of the sac and squeezing them out. The exposed cavity should be dressed daily with digestive ointment.

North British Agriculturist.

LORD SPENCER'S RULES FOR THE SELECTION OF MALE ANIMALS FOR BREEDING.

THE first things to be considered in the selection of a male animal are the indications by which it may be possible to form a judgment as to his constitution. In all animals a wide chest indicates strength of constitution, and there can be no doubt that this is the point of shape to which it is most material for any breeder to look in the selection either of a bull or a ram. In order to ascertain that the chest of these animals is wide, it is not sufficient to observe that they have wide bosoms; but the width which is perceived by looking at them in the front should be continued along the brisket, which ought to shew great fulness in the part which is just under the elbows; it is also necessary that they should be what is called *thick* through the heart. Another indication of a good constitution is, that a male animal should have a masculine appearance: with this view a certain degree of coarseness is by no means objectionable, but this coarseness should not be such as would be likely to shew itself in a castrated animal, because it thus might happen that the oxen or wethers produced from such a sire would be coarse also, which in them would be a fault. Another point to be attended to, not merely as an indication of a good constitution, but as a merit in itself, is, that an animal in itself should exhibit great muscular power, or rather that his muscles should be large. This is an usual accompaniment of strength of constitution; but it also shews that there will be a good proportionate mixture of lean and fat in the meat produced from the animal, the muscles being that part which in meat is lean. A thick neck is, in both bulls and rams, a proof of the muscles being large; and there can hardly be a greater fault in the shape of a male animal of either sort, than his having a thin neck. I am inclined to say, that in the new Leicester breed of sheep, which is the breed to which I am accustomed, a ram's neck cannot be too thick. Other indications of muscle are more difficult to observe in sheep than in cattle. In a bull there ought to be a full muscle on each side of the back bone, just behind the top of the shoulder blades; he ought also to have the muscles on the outside of the thigh full, and extending down nearly to the hough. It will seldom happen that a bull having these indications will be found deficient in muscle. As I am writing for the use of farmers, it is quite unnecessary for me to attempt to give a description of what is considered a well-shaped bull or ram; it is also obviously impossible to express in words what is meant by

good handling: it is sufficient to say, therefore, that no small animal is fit to be used at all as a sire whose handling is not good, and that the more perfect his shape is the better.—*The Farmer's Herald, Sept.* 1851.

HORSE SURGERY.

In Acre there is a plentiful supply of Turkish veterinary surgeons, and about the most curious sight I ever witnessed was a horse under treatment by these practitioners. First, they threw it on the ground by tying its fore feet or hoofs so closely together, that it became as helpless as an infant. Then, a tight bandage was placed over the nose and mouth, leaving only sufficient space for the animal to breathe. A Turkish pipe containing tobacco, bang, hashbish, cuscout, and other narcotics, was inserted into one of the nostrils, and, a spark being placed upon the bowl, the horse involuntarily inhaled the stupifying smoke, which had the effect, after a very short period, of rendering it unconscious of what was going on. Then the skill of veterinary surgery was brought into play, and, the fetlock of the poor brute being laid open, a perfect hive of worms deposited by a fly, common in some parts of the desart between Damascus and Bagdad, was duly extracted. The wound was closed up with pitch sticking-plaster, and, the bands being unloosed, buckets of cold water were thrown over the horse, which quickly revived. *The foot was placed in a sling*, and a few days afterwards, so effective had been the operation, the horse was fit to pursue his daily avocations.—*Neale's Syria.*

*** The "hive of *worms*" consisted probably of a nest of the *larvæ* of the *œstrus cuticolens equi*. What is meant by the foot being "placed in a sling" is not so intelligible.—Ed. Vet.

USE OF ANÆSTHETIC AGENTS IN ANCIENT CHINA.

Stanislas Julian has found, in examining the Chinese books in the National Library of Paris, the proof that the Chinese have been long acquainted with the use of anæsthetic agents during surgical operations. The extract which he gives is from a book published about the commencement of the sixteenth century, in fifty vols. quarto, and entitled "Cow-Kin-i-tong," "General Account of Ancient and Modern Medicine;" and

refers to the practice of a celebrated physician, Ho-a-tho, who flourished between the years 220 and 230 of our era. It states, when about to perform certain painful operations, "he gave the patient a preparation of hemp" (hachich), and that at the end of a few moments "he became as insensible as if he had been drunk or deprived of life." After a certain number of days the patient was cured, without having experienced the slightest pain during the operation. In a subsequent notice he also adds, that the same physician used the hydropathic system as a cure for certain diseases, among others chronic rheumatism. —*Edinburgh Philosophical Journal.*

SYPHILIS IN ANIMALS.

THE highest authorities have always considered syphilis as a disease peculiar to man, and incapable of being communicated by inoculation to animals. Hunter and Ricord were both of this opinion. In 1844, however, M. Turenne informed the Academy of Sciences that he had succeeded in inoculating a young monkey, and even presented the animal to the Surgical Society. The medical public ridiculed the assertion, and, even so late as the present year, M. Ricord professed his belief that it was impossible to transmit the malady to animals. M. Turenne, not discouraged, continued his experiments. On the 5th of June last, some virus was obtained from Ricord's Hospital, and a monkey inoculated with it in the presence of several members of the German Medical Society of Paris. Ulceration was soon produced, and to test its nature, Dr. De Welz, agrege of the Medical Faculty of Wurzbourg, resolved on inoculating himself with some pus taken from one of the sores on the monkey. This was done on the 9th of June. On the 13th, M. Ricord examined the sore produced, but declined pronouncing on its nature. On the 14th, M. Ricord himself inoculated Dr. De Welz a second time, and on the 15th recognized the first sore as a true venereal chancre. On the 18th, the characters of the sore were so well marked, that M. Ricord presented M. De Welz to his class, confessing that the experiments of M. Turenne had fully confirmed the fact of transmission to animals. MM. Velpeau, Cullerier, and other medical men, examined the sore, and agreed that they were true chancres. The question, then, appears to be decided.— *Western Lancet and Hospital Reporter.*

ADULTERATION OF CANTHARIDES CHRYSOMELA FATUOSA.

EMMEL detected fifteen per cent. of chrysomela fatuosa in catharides obtained from a commercial house, and he has no doubt that it was intentional.—*Central Blatt*, 1851, No. vi, p. 96.

THE PREDOMINANCE OF WATER IN THE COMPOSITION OF VEGETABLES AND ANIMALS.

POTATOES contain 75 per cent. of water (by weight), and turnips no less than 90 per cent., which explains, by the way, the small inclination of turnip-fed cattle and sheep for drink. A beef steak, strongly pressed between blotting paper, yields nearly four-fifths of its weight of water. Of the human frame (bones included) only about one-fourth is solid matter (chiefly carbon and nitrogen); the rest is water. If a man weighing ten stone were squeezed flat under a hydraulic press, seven and a half stone of water would run out, and only two-and-a-half stone of dry residue would remain. A man is therefore, chemically speaking, forty-five pounds of carbon and nitrogen diffused through five-and-a-half pailfuls of water. Berzelius, indeed, in recording the fact, justly remarks that "the living organism is to be regarded as a mass diffused in water;" and Dalton, by a series of experiments tried on his own person, found that of the food with which we daily repair this water-built fabric, five-sixths are also water. Thus amply does science confirm the popular saying, that water is the "first necessary of life."

Quarterly Review.

MECHANISM OF EMPHYSEMA.

EMPHYSEMA of the lungs was said by Laennec, in one of the most original and accurate of his descriptions, to have two varieties: the one being a dilatation of the air-cells, and finally a rupture of them one into another by removal of their septa; the other, a rupture of the air-passages directly into the interlobular areolar tissue. It is needless to repeat these descriptions, the distinction of vesicular and interlobular emphysema being well known to every one, or at least accessible to all, in words which cannot be improved. It is only necessary to add,

that the microscope and other modern means of investigation, which have done so much for morbid anatomy, have scarcely availed here to augment our knowledge; having only succeeded in demonstrating more clearly the fact, known to Laennec, of the gradual breaking up of the vesicular septa, and the obliteration of their capillary network.

Emphysema, therefore, is an abnormal distention of the pulmonary tissue with air. In its earliest stages, whether interlobular or vesicular, or, as frequently happens, both combined, nothing can be more certain than that it is essentially a mechanical lesion: in fact, the distention of the air-cells, giving the peculiar cushion-like and pale appearance to the lung, can be exactly imitated by inflating it with undue force artificially. Moreover, the whole of the subsequent structural changes implied in the gradual removal of the septa and obliteration of the capillaries, are readily explained by the mechanical effects of distention. Upon this subject M. Poiseuille, to whom we owe so many interesting facts in mechanical physiology, has a very beautiful experiment.

An instrument being adapted to the pulmonary artery of an animal, by which a given quantity of liquid was propelled with a given force through the capillaries of the lung, he found that this was effected, in the normal condition, in 29 seconds. M. Poiseuille now inflated the lungs so as exactly to fill the cavity of the chest; the time was still 29 seconds. On distending the lungs, however, farther, so as to produce the appearance of a partial emphysema, the time required for the passage of the fluid became lengthened to 62 seconds; when the emphysematous appearance was increased, 95 seconds; when it pervaded the whole lung in consequence of excessive distention, 129 seconds were required, and the fluid returned from the pulmonary veins mixed with some bubbles of air. From these results, it is evident that whenever the air-cells are distended beyond the amount required or possible in the healthy condition, the flow of blood through the ultimate capillaries of the lung must be retarded or obstructed; a condition not only corresponding with the appearances observed in emphysema, but readily accounting for the structural changes, the absorption of the walls of the air-cells, and the tension and obliteration of vessels observed in the latter stages of the disease.

It is, therefore, nearly certain that the source of emphysema is to be sought in a derangement of the mechanism of respiration, and not in any previously morbid condition of the affected part. Every thing denotes that the emphysematous parts of a lung are usually free from all diseased changes, with the exception of those which are the result of inordinate distention.

The freedom from œdema and from morbid deposits, when other parts of the lung are so affected; the absence of accumulation in the bronchi, or, at least, its comparatively slight character, allowing of the perfect and easy inflation of the emphysematous parts when others are collapsed; finally, the habitual seat of emphysema in those parts of the lung which are usually most exempt from other disease,—all tend to prove what I have now stated. The diminished elasticity, the dryness, the anæmia, which have all of them been supposed to be the predisposing cause of this lesion, are manifestly nothing more than the effects of the distention with air upon the circulation and nutrition of the compressed walls of the delicate pulmonary air-cells. Even the small accumulations of granular deposit found by Mr. Rainey may be accounted for by these secondary nutritive changes.

But emphysema is not merely a lesion resulting from inordinate distention of previously sound portions of lung; it is, as we have already seen, the product of mechanical derangement in the *sound parts* of lungs *otherwise diseased.* The existence of bronchitic condensation, of induration, of concretions, &c., if not a necessary cause of the production of emphysema in the sound air-vesicles, is at least in some way related to it. The theory of emphysema by Laennec, besides the objections offered to it in the former part of this memoir, in no way accords with the facts now adduced. Mucous obstruction of the bronchi, even if proved to exist, cannot determine, *directly,* both condensation and rarefaction of the lung; and we have already learned, from unquestionable and multiplied evidence, which of these two is its real result. The opinion of Louis, derived, apparently, chiefly from a consideration of the seat of election of emphysema as compared with that of bronchitis, is opposed to the idea of any precise relation between these two affections; but this negative opinion would appear to be sufficiently answered by the numerical facts above adduced.

Some writers, conceiving, like Laennec, that emphysema is produced in the act of expiration, believe it to be the result of violent efforts of coughing, or other forcible expiratory acts. But have we really any direct proof whatever that cough, however violent, or any similar act, can produce emphysema, apart from the other accidents of bronchitis? In croup, in laryngitis, in aneurism of the aorta, we have cough even more violent and distressing than that of bronchitis; yet these affections are not known usually to cause emphysema, and I have repeatedly seen cases opposed to the idea of their having any such influence. The alleged unusual frequency of emphysema among players of wind-instruments is likewise totally devoid of proof, and rests

upon one unsupported assertion by Laennec; whereas, if the real cause of emphysema were such as above described, no singer or wind-instrument player could, in all probability, remain long exempt from this disease. But it would require further to be known, whether an increased liability to emphysema in this class is not accompanied with a similar proclivity to other pulmonary affections, before the question could be decided on such grounds.

But the most serious objection to the expiration-theory of this disease is, that the expiratory act is *mechanically* incapable of producing distention of the lung, or of any part of it The act of expiration tends entirely towards emptying the air-vesicles by the uniform pressure of the external parietes of the thorax upon the whole pulmonary surface; and even when the air-vesicles are maintained at their maximum or normal state of fulness by a closed glottis, any further distention of them by the expiratory force is as much out of the question as would be the further distention of a bladder blown up and tied at the neck, by hydrostatic or equalised pressure applied to its entire external surface. The air-vesicles can sustain no distending pressure from the column of air *within* the tubes, as that air only becomes compressed in virtue of a force acting on the *exterior* of the lung, which opposes exactly as much resistance without as it creates pressure within. It is singular that a theory so radically unsound, and so devoid of direct proof, as this of the production of emphysema by expiration, should have been allowed to maintain a place in medical literature.

The only theories of emphysema which remain, are those which refer it to the act of inspiration. The most usual form assumed by these theories, is the supposition that emphysema of the lung is a physiological *compensation* for the occlusion of a diseased portion of lung;—a view not only giving no real explanation, but totally inconsistent with the fact, that in truly morbid emphysema there is always a diminished respiratory surface, and consequent dyspnœa. Dr. Williams, however, and some others, have placed the inspiration-theory in a more tenable position,—supposing that, when certain portions of the lung are occluded, the air is brought by inspiration to penetrate with greater force, and in greater volume, into the remaining parts.

This view is certainly near the truth, and is quite consistent with clinical stethoscopic experience. But it is clogged in Dr. Williams's work with a reference to the incompetent expiration-theory of Laennec, as if the author did not see his way clearly to the explanation of all cases of emphysema by his own. Moreover, it is not the whole truth; because certain obstructive lesions have, as we have seen, no appreciable influence in causing

emphysema; and also because it is evident that the inspiratory or expansive power of the chest is exactly limited by its capacity, and that even when a portion of lung is impervious to air, as in hepatization, the inspiratory force can no more distend the air-cells to the degree observed in emphysema than it can do so in the normal state. The fact will appear more clear from the following observations.

It appears to me that none of the writers on this subject have clearly apprehended, or at least clearly expressed, the single obvious condition which is necessary to the mechanical completeness of the inspiration-theory of emphysema. Emphysema is, according to this theory, a *complementary* lesion, dependent upon the previous existence of some form of occlusion of the vesicles, and invading the remaining sound portions of lung. Thus far it corresponds with all that we have hitherto seen, to an extent certainly not anticipated by Dr. Williams, when, after enunciating his own view, he brings forward Laennec's theory to account for residual unexplained cases. But there is yet another condition necessary, besides mere occlusion of the air-vesicles in a part of the lung: this is *partially diminished bulk;* —in other words, collapse or permanent atrophy of a portion of the lung.

From Dr. Gardiner on the Pathological States of the Lung connected with Bronchitis.

THE VETERINARIAN, OCTOBER 1, 1851.

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

GRAND as the "Great Exhibition" is, admirable as it is, and even useful as it may turn out to become, medicine can boast but little of the part it has played in the Crystal Palace, and veterinary medicine still less. The professions, it is true, as contra-distinguished from the trades, are not of a nature to admit of their science being displayed to much advantage in a public show; though the branch of medicine we call *surgery*, from the hand being the agent through which, with the aid of instruments and appliances of various kinds, operations are performed of vital service to mankind, creates an interest in the arts which the public, as well from curiosity as from sympathy, evince by their encouragement of it. People are curious to see the instruments used in amputating limbs, and extracting stones, and trephining,

&c.; they likewise look with interest on the productions, natural and chemical, out of which the doctor culls remedies for those ills which so easily beset them. In veterinary surgery, displays may be made of cauterizing and other instruments, as well as of apparatus used for casting and securing horses and other animals in order to render them subservient to operations deemed necessary for the removal of their infirmities or deformities. But, in the veterinary line, few things are apt to create so great an interest in the public mind as *horseshoes*, of which some of the best make of our own, and some few of rougher manufacture, American, appear in the Exhibition. Both in instruments and horseshoes, indeed, something has been done for veterinary science, but it has been very moderately done. The instruments are but few, and the horseshoes are but old acquaintances with brightened faces or in handsome cases.

There is, however, an article of exhibition in the French department which may well lay claim to our attention. If not quite new in its design, it is at least of novel character with us, and will, if we are not mistaken in our estimate of the merits of the ingenious fabric, elicit—if it have not already elicited—from veterinarians greater admiration than any thing immediately in their province which the Crystal Palace contains. A Dr. Auzoux has brought with him from Paris, for exhibition, wax models of the human and equine bodies, so constructed that, like a child's puzzle, admitting of being taken apart, piece by piece, they display to the spectator—first, the body, as it appears after being flayed or stripped of its skin; secondly, the superficial muscles and faschiæ being removed, the deep-seated muscles and bones; thirdly, the cavities being opened by opening of the body, after the manner of a box, into two hollow compartments, the viscera and the principal bloodvessels, the branch vessels, and nerves being apparent through each stage of the dissection, in their proper relative courses. Besides the two entire models of man and horse, there are several others of separate parts of the body, among which one of the foot of the horse is particularly curious and interesting. There is also a series of models of the jaws of horses representative of age, from birth to the twentieth year. We have, we believe in error, called these, *wax* models: they are made of some "composition,"

into the ingredients of which we are told wax does not enter. Whatever the plastic material may be, it is exceedingly firm and durable; for the doctor's nephew, who took the work to pieces for our information and amusement, threw the layers and plates, as he unbolted them off the structure, upon the table with perfect *nonchalance*, assuring us, that, in casting them so about, *il n'y avoit point de danger* of their breaking. We do not mean, in awarding Dr. Auzoux very great credit for his ingenuity in this industrial performance, to assert that his work is calculated to supersede examination and dissection of the dead body. We should be wanting, indeed, in our estimate of surgery to make any such a statement; but we do think that, in a national veterinary museum, or even in a private one boasting of being open to the admission of the public, such a preparation would, to say the least of it, prove attractive and command admiration. To our Royal Veterinary College, or to any large veterinary institution, the cost of the curiosity—between one and two hundred pounds—could be no great consideration. It might even be purchased by some individual for the purpose of illustration of popular veterinary lectures. It is a pity, we think, such a work should be suffered to leave our country.

We have, by the last mail from India, received a letter from Mr. Hurford, veterinary surgeon to the 15th King's Hussars, stationed at Bangalore, Madras, in which he speaks, in bold and confidential language, of the advantages to be derived from the combination of gentian root with our common cathartic mass. He says, his ordinary "purging ball" is composed of aloes and gentian, of each ʒijss; and that this comparatively small dose of the cathartic ingredient generally produces a commencement of purgation in ten hours from its administration. This "fact" Mr. Hurford states he has communicated to the persons in charge of the H. E. I. Company's stud at Opoor, and that they have become from experience so well pleased with it, that since then they have used no other purging ball. On more accounts than one it is deserving of our attention; and, for our own part, we shall lose no time in giving the novelty a trial.

MISCELLANEA.

A HORSE FRIGHTENED TO DEATH.

ON Thursday morning, as a wagon laden with coals, drawn by three horses, was waiting for passage at the Bobber's Mill Gate, whilst the great up-train of coal waggons to Mansfield passed by, the middle horse of the team became so much alarmed, though without displaying any extraordinary violence of manner, that before the whole train, which consisted of upwards of thirty carriages, had passed by, he dropped down and instantly expired.—*Notts. Mercury.*

DEATH OF A WOMAN FROM GLANDERS.

A SHOCKING case of death from glanders has occurred in Carlingford. The victim was a remarkably fine, healthy woman, named Ann Mackerel, wife of the postman who carries the mail between that town and Newry. How she caught the disease has not been clearly ascertained; but it is supposed that it was by handling either the horse-cloth or bucket. She lingered upwards of fourteen days, enduring great agony. She was attended by Dr. Massy, who paid the utmost attention to her; but, notwithstanding that he did all that human skill could do, she expired on last Friday. Before her death, she was greatly swelled, particularly her feet; and from head to foot she was covered with tumours. The horse from which the disease was communicated died before her. This is another instance of the great care that ought to be observed when a horse has got this dreadful disease.—*Newry Telegraph.*

PRODUCE OF COWS.

I HAVE a cow, five years old, of the Sussex and Devonshire breed, that with a small quantity of hay, and about six gallons of mangold wurzel daily, with the run of one and-a-half acre of meadow (a large portion of which, owing to the late rains, has been of little use) has for these five weeks produced twelve pounds of butter of superior quality weekly.—*R. Newman, Stedham Hall, Midhurst, Sussex, May* 10.

THE FOXHUNTER AND FARMER.

In Yorkshire there are ten packs of foxhounds, one pack of staghounds, and five or six of harriers, equal in all to sixteen or seventeen packs of foxhounds. Thirteen packs of foxhounds, of fifty couple each, or 1300 hounds, consume annually 200 tons of oatmeal, at a cost of £2600, besides the carcasses of 2000 dead horses, worth nothing if no hounds were kept. There are at least 1000 hunting men in Yorkshire, keeping on an average four horses each; 4000 will cost them £200,000, at £50 each, and their keep £50 per annum each, making £200,000 more; 4000 horses employ 2000 men as grooms (generally the offspring of the agricultural population), and consume annually 40,000 quarters of oats, 2000 quarters of beans, and 8000 tons of hay and grass. Every tradesman is also benefited by hunting, tailors, shoemakers, saddlers, blacksmiths, druggists, veterinary surgeons, &c. If fox-hunting were given up, where would the farmer find a market for the above produce, or for a well-bred horse of four or five years old? Foxes are the farmers' best friends, and they ought to use every exertion to preserve them, and prevent them being stolen to be sent where masters of hounds are unsportmanlike enough to purchase them, no matter from whence they come.—*Yorkshire Gazette.*

EXTRAORDINARY FEAT.

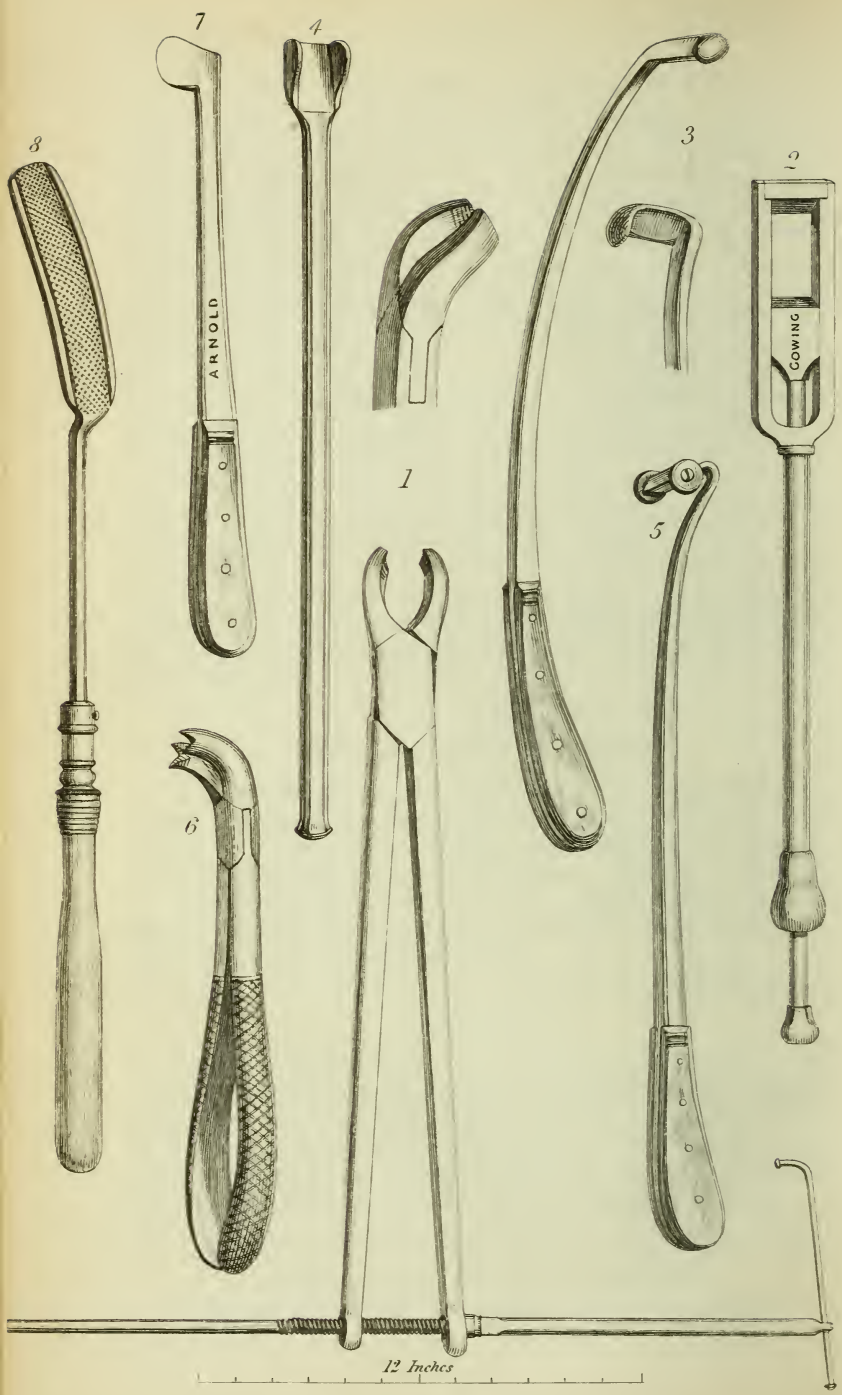
On Wednesday last, Mr. Toke Simmons, of Canterbury, for a wager, gallopped his celebrated brown horse, "Walter Gay," twenty miles, leaping in the first seven miles twenty hurdles, within two minutes and a-half of an hour. Previous to starting, at the request of Mr. Simmons, two veterinary surgeons were appointed to see no cruelty was exercised towards the horse during the race.—*Weekly Dispatch.*

OBITUARY.

Died, 31 July, 1851, Mr. G. Bainbridge, aged 54 years. The deceased practised the veterinary art at Saffron Waldon, Essex, upwards of five and thirty years, much respected by all who knew him; and in the course of his practice sent several valuable communications to The Veterinarian. By his numerous patrons and employers his loss is universally deplored.

ERRATA IN THE LAST NUMBER.

In Mr. Merrick's "Lecture," at page 510, line 19 } for *hoose* read *hove.*
and — 511 — 23 }



Gowing's Dental Instruments for the Horse.

J.Py C. Sewerby sc.

THE

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LAMENESS IN HORSES.

By William Percivall, M.R.C.S. and V.S.

[Continued from p. 549.]

Corn.

WE have seen that *contraction* is a product of shoeing: another disease ascribable to the same cause is *corn*.

The Name of *corn* no doubt has been borrowed from human medicine; perhaps because *pressure* was found to be the cause, or, it might be, because there are corns in the horse over which the horn grows exceedingly thick, the same as the cuticle does over our own corns. So far identity of name is warranted; but, if the comparison be carried further than this, misconception will certainly result; corn in a horse being, pathologically regarded, a different disease from human corn.

Definition.—A corn consists in contusion of the sole of the foot, producing *ecchymosis* or extravasation of blood, which permeates the pores of the horn, and turns it red; or it may consist in a collection of purulent matter in the part, in which case it is denominated a *festered corn*.

The Seat of Corn is commonly the angle of the sole of the *fore* foot;—the *angle* meaning the part included between the heel of the wall and the bar;—and the *inner* angle is more frequently its seat than the outer; reasons for which predilections will be given hereafter. A contusion in any part of the sole is, pathologically speaking, a *corn*, though we are not in the habit of so calling it. The French veterinarians have different names to denote the two kinds of corn: they call our proper corn *bleime*, while the other they designate *foulure*. In fact, altogether, they distinguish *four* different corns:—the *foulure*, or bruise from tread; the *dry*, the *moist*, and the *festered corn*.

Predisposition to Corn exists in broad, flat, weak feet, with heels so low or curved in as not at all or hardly to project beyond the level of the sole. In such feet there is a great

tendency, from obliquity and weakness of foot in the wall, to spread at bottom, and over-shoot, as it grows down, the heels of the shoe;—unless those parts are—as they ought to be in this kind of foot—made wider than the hoof, to allow for such spreading. The result of this over-shooting, or, as it is called by the smith, "eating of the shoe into the foot," of necessity is, to bring the heels of the shoe opposite to and down upon the sole of the foot, and this, especially when the horse is "shod short," is likely to end in contusion of the sole and corn. Indeed, from the sparingness and thinness in such feet, and from the growth of the wall hardly exceeding its wear and tear, considerable pains in shoeing are frequently required to keep them free from attacks of corn, and particularly when once they have suffered from the disease, and are in the habit of experiencing relapses. After a statement of this kind, we shall not be prepared to find corns coming in feet of the very opposite character, viz. contracted feet. Such, however, is the case; though in them corns must certainly be ascribed to another class of causes.

THE CAUSE OF CORN is any impediment to the yielding or elasticity of the sole of the foot, whereby the sensitive tissue becomes contused or bruised between the coffin-bone above it and the horny hole below it. The shoe is usually the offending body; though it is possible for a stone, or dirt, or gravel, or any thing else, by lodging between the shoe and the sole, to produce the same result. A shoe, from being of improper shape or make, or from being improperly put on, in time "eats its way into the foot," and gives rise to corn, by lying against the sole, and so proving an impediment to its yielding or "descent" during action, under the weight or force applied to it. If the horny sole cannot yield, the organic tissue must suffer compression, if not actual contusion, every time the coffin-bone is forced down upon it; and this is likely to occasion rupture of some of the delicate bloodvessels distributed through its papillary texture, whence results extravasation of blood (*ecchymosis*) and consequent staining of the portion of horn opposed to the bruised part. This is the ordinary simple origin of corn. It is a rare occurrence in the *hind* feet, because hind shoes are made long and substantial at the heels, have, indeed, often calkins worked upon them; and because horses tread with more force upon their toes than upon their heels behind. The fore feet, on the other hand, are the peculiar, almost exclusive subjects of corn, because in them the shoes, being apt to be short and close fitting, are more liable to eat their way into the sole, and because their soles yield or "descend" more at the angles, in consequence of the fore feet having to support more weight than the

hind, and having in action greater force thrown upon them. The same reasoning will apply to the inner heel of the fore foot, as accounting for its being oftener the seat of corn than the outer. Also, the inner heel of the shoe is usually made a closer fit than the outer, and consequently, in the case of any dilatation of the hoof, it is more likely to slide inward upon the sole; added to which, the inner heel is weaker and less able to bear weight than its fellow, although it frequently has to support more.

That faulty shoeing is the chief and predominant cause of corn cannot any where receive more satisfactory demonstration than in the Army. Corns and quittors and contracted feet were, in former days, as rife in the cavalry as in other places; whereas, at the present day, these diseases are all but unknown to veterinary surgeons in the army. And all is owing to an amended practice of shoeing. In the late Professor Coleman's Lecture on the subject, delivered in the year 1809, I find the following passages:—"There are very few horses that are not attacked with corn"—"This is so common a disease, that nine hundred horses out of a thousand have it." What would be thought of a veterinary lecturer making such observations at the time present? Proof as this is of the share bad or improper shoeing has had in the production of corn, it is not to be denied that

OTHER CAUSES exist. Contracted feet are known on occasions to generate corns, and in them corns cannot be said, but by accident, to owe their production to shoeing. In these cases, it would appear that the sole, from growing thick and unyielding, or possibly from its becoming anormally concave at the angles, offers the impediment to the descending tendency of this part of the foot, and thus occasions, the same as the shoe would, a bruise, between the horny sole and the coffin-bone, of the sensitive sole. Most writers, however, attribute this to *lateral* pressure, resulting from contraction; which, in fact, is making contraction a cause of corn. Both Blaine and Youatt ascribe it to what they term "wiring in" of the heels of the wall; though Coleman never attributed any other ill effects to contraction of the hoof beyond that of compressing the laminæ at the heels.

THE PATHOLOGY OF CORN will vary with the stage it happens to be in at the time. A recent corn consists in no more than an *ecchymosis* or extravasation of blood, the consequence of violent compression or contusion of the villous tissue of the sensitive sole. Should the blood have transuded, as it commonly does more or less into the pores of the horn, whenever the shoe is taken off the foot, redness of the part will render the corn apparent; though now and then the corn place requires

to be scraped or pared out with the drawing-knife before the discolouration is made visible. The red stain may amount to a broad patch, or only to a spot or marbled surface; and the dye, though ordinarily red, may assume a brownish or even a blackish cast; or, it may so happen that there is hardly any or no blush at all to be seen. But, on the contrary, there may be softness or bogginess of the horn over the part, owing to a serous or ichorous issue from it: this constituting a *soft corn*, in contradistinction to the other, which may be denominated a *hard corn;* since in the latter the horn is not only often thick, but dry and hard over it.

A FESTERED OR SUPPURATED CORN ordinarily indicates an advanced stage of the disease, though it is possible a corn may take on suppuration from the very beginning. In the usual course, in consequence of inflammation, serous issue succeeds to extravasation, and afterwards pus is secreted; or the two effusions may be present together, producing a sero-purulent discharge. This condition of corn is commonly owing either to neglect, or to aggravation of the primary stage of the disease. The horse, though evincing tenderness or even lameness, has not had, as he ought to have had, his ailing foot attended to; and the consequence is, abscess of a part which would but for this negligence or aggravation have remained in the state of ecchymosis. When this is the case, the shoe is no sooner pulled off, and the pincers, or even the thumb of the smith, applied to the site of the corn, than the animal flinches to that degree that he quite rears up with the exquisite pain the pressure gives him: an expressive act which at once reveals to the veterinarian the true nature of the case. He feels quite assured there is matter present, and he insists on the corn being pared until vent be given to it. In doing this, discovery is commonly made of the pus having, to a greater or less extent, under-run the horny sole at the angle; and the horn being required to be taken away on account of its being detached, leaves exposed the surface of the living tissue, more or less altered in character according as the matter has been long pent up or not, and according as the corn be a recent or a chronic and relapsed one. Indeed, when matter has been long confined from being unable to obtain any outlet below, it has been known to make its way upwards, contrary to gravity, and break forth at the coronet, and in this manner turn to a quittor.

LAMENESS is commonly the symptom which leads to the discovery of corn. A horse is found going gingerly upon one or both fore feet, or actually lame; and this induces an examination of his lame foot, when the heel of the shoe is detected pressing upon the sole in the seat of corn. Or, the lameness

may arise from the horn growing thick and hard over an old corn. Or, lameness on a sudden may become excessive, in which case we may expect, knowing the horse has corns, to find a festered one. Lameness arising from corn is known to be at once relievable by removal of the exciting cause, as in the case of the pressing shoe; or by the liberation given to the matter collected, as in the case of festered corn; though, in the latter instance, some continuance or relapse of it may not be unexpected during the healing and horning-over process.

THE TREATMENT OF CORN is as much an affair of the farrier as of the veterinary surgeon; indeed, in its unsuppurated condition, and especially in its chronic stage, it may be said to be more within the province of the former. Supposing the corn to be recent, and pressure from the shoe to be the occasion of it—which may be reasonably inferred to be the case if the heel of the shoe be found lying upon the corn-place—simply taking off the shoe, and replacing it by another of suitable make, so applied that it will not only not take any bearing upon the corn-place, but will protect it from future pressure and injury, will be all that will be required to cure the ailment, or, in other words, to restore the horse from a state of lameness to one of soundness.

PARING OUT THE CORN, as farriers phrase it, becomes the first requisite operation as soon as the shoe is removed from the foot. The thumb of the smith, sometimes his pincers, is applied upon the corn to ascertain its condition—hard and unimpressible, soft and boggy, or springy and fluctuating, as the case may happen to be; and if it be found in a state in which no impression can be made upon it by the thumb, from the horn upon it being thick, or dry and hard, *the paring*, consisting in skilfully shaving the horn away in as thin flakes as possible, so as not to endanger cutting through the corn, commences: the operation being ever and anon suspended for a moment to admit of the re-application of the thumb, to ascertain what substance of horn may still remain. In a corn in a strong narrow foot, having a thick coating of horn, a good deal of paring will be required before this effect is produced; on the contrary, when the foot is a flat and weak one, with sparingness of wall and sole, the utmost caution in paring, and frequent thumb-feeling, will be demanded, lest the drawing-knife should slip through the substance of the corn. When extensive ecchymosis is present, so that the flakes of horn come away deeply stained red, we may expect, in recent corn, on occasions to find some soft or boggy condition of the bottom of the corn, where the extravasated blood has not yet soaked through, or become inspissated and dried. Should this be found to be the

case, the paring must be suspended, and the foot, after being immersed in a warm bath, be dressed with some astringent or mild escharotic—such as a solution of alum, or the sulphate of copper—for a day or two, which will dry the corn up before the shoe is re-applied. The paring of the corn being completed, it is mostly advisable to generally thin the contiguous part of the sole as well, which will likewise tend to give it ease, though in the case of the flat foot but very little, and perhaps no such reduction of substance may be called for.

THE SHOE PROPER FOR A FOOT WITH CORNS must be made to serve the purpose of protection to the corn-place, while it bears upon parts of the hoof which in no wise, either directly or indirectly, cause pain or uneasiness to the corn from the pressure they receive from it. A shoe may not positively press upon the corn-place, and yet occasion tenderness or lameness by bearing upon the junction of the wall and bar at a time when these parts are not in a condition, from their contiguity to the corn in the sensitive state it is left in after being pared, to endure it. At the same time, a shoe, having this unoffending bearing, must be so shaped that it defends the corn-place from contusion or other injury, from stones, gravel, dirt, &c. Providing there be solidity and thickness and depth of wall enough to give it firm bearing, I know of no shoe better adapted to answer our purpose than Plomley's broad-webbed one, made flat upon the foot-surfaces of the heels, or, if required, chambered out there. This shoe will afford the broadest cover and protection, and at the same time take such flat and solid bearing upon the heels as will render it impossible for the corn-place to sustain any pressure from it in the course of the limited time—say three or at most four weeks—any shoe ought to remain on a foot with corns. But when the heels of the hoof are weak and low, not projecting perhaps beyond the frog, while that body remains sound and prominent, a bar-shoe is to be preferred. This shoe will, by taking a bearing upon the frog, not only save the heels from wear, but at the same time tend much to relieve the corn —or corns if there be two—by bearing but comparatively lightly upon the parts—the junction places of the wall and bars—so immediately contiguous to the corn-places. In fact, in a case where an ordinary shaped shoe does not relieve tenderness of going, a bar-shoe, of all others, is the most likely to answer. Be the horse, however, shod how he may, no shoe should be worn by him longer than he appears to go soundly, or at least painlessly in: from the moment any lameness or even tenderness becomes apparent, more than existed formerly or than we have reason under the circumstances to expect, the shoe ought to be taken off, and the foot inspected. The shoe may be found

pressing unduly upon the parts near to the corn, or even upon the corn itself, or some dirt or gravel may have worked its way underneath the heel of the shoe, and that be irritating the corn. When this latter accident seems likely to happen, some soft stopping, mingled with tow, will be found of advantage, inserted underneath the shoe, so as to give a cover to the corn place; and now and then a leathern or gutta-percha sole under the shoe has been found serviceable. Such expedients as these must, of course, depend for their employment on circumstances, and be regulated by the judgment of the veterinary practitioner. All that I have hitherto said on treatment supposes that the horse having corns is to be returned—or rather is in a condition to be returned—to his work. This may not, however, be the case.

THE CORN MAY NOT ADMIT OF RETURN TO WORK.—The horn may prove to be under-run, serous or purulent fluid may have collected, and this will necessitate the exposure of the morbid secreting surface. Instead of being simply thinned by paring, the horn in the corn-place will have to be cut out with the drawing-knife—re-union of horn once detached being what never happens—so as to admit of dressings being applied to the exposed tissues. Generally, however, in such cases it is advisable, particularly if there exist any signs of inflammation, to place the feet in a poultice for a day or more, according as the corn shews a disposition to assume healthy action, and to continue the poultice so long as the secretion of horn thrives under it. From the moment, however, that the surface of the sore loses its ruby granulating character, or that serosity in place of horn issues from it, the poultice should be discontinued, and slightly escharotic dressings substituted, such as solutions of the sulphates of copper, zinc, and alum, &c., which, should stimulants appear called for, may be succeeded by the compound tincture of benzoin or myrrh. As soon as we have succeeded in permanently drying up the surface, and have established a normal secretion of horn, at the time that we are still applying dressings to complete the cure, the patient will benefit by being sent to work: pressure upon the corn doing good so long as it is of the kind tow or any other soft material will give, providing dirt and wet be kept from it. To this end, after placing upon it a dossil of fine tow, dipped in the dressing, lay another thick dossil of dry tow over this, then nail the shoe on over all, the broad heel of which will give the requisite support. A leathern or gutta percha sole may be used if deemed serviceable. In either case, care should be taken to remove the shoe, during the first week or so, every third or fourth day, in order to ascertain the state of the part, and renew

the old or apply some fresh dressing, according as may seem to be indicated.

SUPPOSING THE CORN TO BE IN A CONTRACTED FOOT, and there be reason for believing that it is anywise connected, either in causation or in duration, with the state of contraction the hoof is in, no shoes will prove so beneficial, when once the corns, supposing them to be in a state of sore, are horned over and able to bear pressure, as *tips*, the heels of the hoof being left during exposure at their full height.

PREVENTION OF CORN. After what has been stated, it must be obvious that the prevention of corn is to be sought in the forge —that, in fact, it consists in proper shoeing. Coleman, in his "Lecture" on the subject, from which I have already made an extract or two, virtually acknowledged shoeing to be the producer of corn when he said to his pupils—"But I will venture to say, if a horse continue to be shod under your care, he wlll never have a corn." The shoeing, therefore, which gives rise to corn is faulty, and the correction of its faults has proved the prevention of corn. No great heed has been taken of either the morbidly thick sole or of contraction as causes of corn, and yet has corn been got rid of. This is tolerably convincing proof that shoeing, if not wholly, at least in the great majority of cases, was in fault. Therefore to shoeing let us look for our prophylactic. To shoeing, indeed, we have looked, and in shoeing we have found our remedy: the main consideration being, that no shoe should be of a shape, or be so nailed upon the foot as, to endanger its heel coming down, presently or remotely, upon the seat of corn.

THE RECENT INFLUENZA AMONG HORSES.

By J. W. GLOAG, M.R.C.V.S., 11th Hussars.

To the Editor of "The Veterinarian."

Sir,—IF you should consider a short account of an epidemic which has lately affected the horses of the 11th Hussars at this station, interesting to the readers of THE VETERINARIAN, it is much at your service.

I am, Sir, your obedient servant.

Nottingham, Oct. 10, 1851.

In the middle of August of this year, an influenza broke out among the horses of the 11th Hussars at head-quarters, and for a time raged with considerable violence. Our strength was

ninety-four troop horses, and out of this number sixty-five were affected, of which two died. The disease may be said to have commenced at the date above named, and to have ceased the latter part of September. During this period I could not ascertain that horses in the immediate neighbourhood were affected, although I was aware that through nearly every part of the country influenza had been or was more or less prevalent. I believe it has proved to be the case universally, that where many horses have been kept together, there the disease has more generally appeared, and with greater violence; and this we would naturally expect from the impurity of the air arising from animal exhalations, where numbers are standing together. I cannot attribute the complaint to any cause, excepting I be allowed to suppose some peculiar atmospherical agency. When once produced, I believe it to be contagious; in support of which opinion I may state, that the horses in one wing only of the barracks were first affected, and that the disease seemed to expend itself there before any in the opposite wing became diseased; and also, that although the complaint did not exist in the immediate neighbourhood, yet in the case of an officer who kept his horses in a detached stable out of barracks, where one of them was in the daily habit of attending riding-school, this horse became badly affected, and three other horses in the same stable very shortly afterwards became similarly diseased. In like manner, our young horses were for a long time exempt from it, they being worked separately, and kept by themselves; though no sooner did one take the disease, than it gradually ran through them all.

EPIDEMICS GENERALLY COMMENCE WITH THE YOUNG HORSES; but it was not so, as I have before observed, in this case; and I can only account for it by their numbers being few, and by their having been long stabled, and therefore could hardly be regarded as raw horses.

THE WEATHER, during the period of the disease, and for some time antecedent to it, had been very unsettled, with great and sudden changes from heat to cold; while increased predisposition to disease doubtless existed in the horses, from its being about the commencement of the moulting season, when they are always in a weakly state, and more ready to take on disease. Sudden alternations of temperature alone are far from sufficient, in my mind, to account for the peculiarly depressing character of this complaint. Although it may have been assisted by these and other causes, yet do I consider there must have existed something peculiar in the atmosphere, of the nature of which I am ignorant, to account for it: doubtless, it must be allied in its nature and character to those mysterious causes

which operate in producing cholera and typhus in man, &c. If it were merely produced by changes of temperature or the prevalence of certain winds, when should we be free from it? The stables had not been unusually crowded, and up to the period named the horses of the regiment had been in the best health. The only thing that could possibly be said of them was, that the horses looked too well; they were, perhaps, rather too fat, and had not had so much exercise as usual during the summer.

THE SYMPTOMS were in all similar in character, varying only in intensity in the several cases. The treatment, likewise, was uniform. The present influenza possessed, in most of its features, a great similarity to the common form of the disease so familiar to us many years ago, and did not shew those anomalous symptoms peculiar to the influenzæ of late years. In the early stages, I consider it a disease principally attacking mucous surfaces, arising from a poisoning of the blood, depending on some inexplicable atmospherical influence. I may here mention an observation often made to me by our surgeon, that, during the prevalence of this complaint amongst the horses, cases of wounds in hospital were very apt to take on an erysipelatous inflammation, and become very unmanageable. The early symptoms varied considerably. More generally, it was ushered in by debility and loss of appetite, or a slight weeping from one or both eyes, or swelling of the legs, or a varied state of heat of the body and legs; the legs becoming hot and cold alternately; or there was drowsiness and hanging of the head; dung-balls small and coated with slime; often a pustular eruption over the body; perhaps slight shiverings. These symptoms gradually increased, or gave way to others. The throat becomes sore, with more or less cough of a suppressed nature; the head is poked out. As the disease advances, indeed, these latter symptoms become always present. The upper part of the throat is often much swollen, and very tender from inflammation of the glandular structure. The mouth is at first hot, but after a few days, as the disease progresses, there is no unnatural heat, and the buccal membrane becomes quite pallid, inclining to a buff colour. The Schneiderian membrane is, in like manner, at first slightly injected and dry; it then becomes pallid, inclining to a yellow tinge; and, in cases that die, gradually assumes a congested leaden hue. The tongue becomes frequently very much furred, and in some instances I have seen the skin completely peel off this organ. I have not detected any unnatural smell in the breath, except in the latter stages, when a faint unhealthy odour is to be noticed. The pulse is at first simply accelerated; it then becomes quick

and irregular; indeed, this latter character of pulse, namely its irregularity of action, has been constantly marked, an intermittent pulse being very common with, in bad cases, increasing frequency and debility of tone. If the pulse becomes more regular in its action, I always consider it a favourable symptom, and in that case its frequency is only a secondary consideration. Should the pulse, however, remain somewhat about 80 for many days, and withal feel corded and wiry, though the other symptoms appear ever so favourable, we must hesitate before we give an opinion of convalescence—deep-seated mischief being likely to be going on. The general lively appearance of the animal is, however, a pretty safe guide in common cases, and there is something in the whole appearance of the patients which, to those used to watch them, tells pretty correctly at a glance how matters stand. The appetite is at first only slightly affected; but, as the disease progresses, all food is refused. Debility also comes on very quickly, and in some cases to a surprising extent. When the animal is made to move, he straddles with his hind legs to increase his base of support, or even totters about his box. The legs and sheath sometimes swell very much, even to an alarming extent; and frequently in mares, the udder and along the belly. The eyelids also are at first slightly tumefied, and the conjunctiva injected; they then become much swollen, and when inverted shew that their lining surfaces are pale and swelled out, as it were, in a bag, from infiltrated serum. These swellings, however, are by no means dangerous, and cases tending to a fatal termination do not usually exhibit them—the mischief is then deeper seated. The eyes are at first hazy and dim, and weeping; but as the disease progresses the anterior chamber becomes filled with lymph, and in bad cases with effused blood, and I have seen them apparently to be one mass of blood; and this is no deception, since such has really proved to be the case in my examination of them after death. In bad cases, the head is usually pendant, with the eyelids closed and very much swelled. Altogether, indeed, the animal looks wretched, quite the "picture of misery." The dung is voided in small quantities, and is round and knobby, and generally more or less slimy, and sometimes covered with mucus. The urine is pale, and voided frequently and scantily; but as the disease progresses it becomes high coloured, and in bad cases tinged with blood and mucus. The breathing is, fortunately, very little accelerated: I only found it violently affected in two cases, which will hereafter be noted; and they both died from attacks of *laminitis*, after all danger from the original disease had, to casual observers, passed away. The animal is not disinclined to lie down;

indeed, horses are very frequently found lying down in the ordinary cases of the disease, apparently from sheer debility.

THE COMPLAINT USUALLY LASTS, in an aggravated form, about five or six days, when re-action takes place, and it is surprising how soon the patients rally.. Delicate horses suffer most, and are much pulled down by it. Horses that have had old wounds or swelled legs from any causes have very generally exhibited the disease, when first affected, by a swelling or breaking out in these diseased and weakened parts. It is a fact worth noticing, that there has scarcely in any case been a discharge from the nose; its occurrence may be looked on as a favourable symptom.

IT IS EVIDENTLY A DISEASE OF A LOW TYPHOID CHARACTER, in which, if re-action does not soon take place, every organ will quickly run into decay. The vital powers so quickly fail, that active treatment seems to be out of the question.

ON THIS PRINCIPLE, BOTH BLEEDING AND PHYSICKING seem to be contra-indicated. At the same time, the state of the bowels, which are inclined to costiveness, together with the swelled state of legs and eyelids, evidently demand a something to be done to relieve them, by acting upon the absorbents; and the difficulty consists in just doing sufficient, and not too much, merely to keep up a drain on the system without producing exhaustion. The simplest forms of the disease require but little aid in the way of medicine from the veterinary surgeon, and unnecessary treatment will do harm. My intention would evidently be to produce a pultaceous state of dung. From the symptoms above described, it will be inferred that there is a great susceptibility to the action of purgative medicine, and so it is. Where the dung does not shew slime, or only to a trifling extent, I venture upon aloes in small quantities in the first instance. I give a ball composed of aloes, resin, and nitre, of each ʒij. This generally has produced all the effect desired; but I must confess sometimes it has acted stronger than I wished, though never to a dangerous or alarming extent. I have never dared to repeat this ball; but should sufficient action not have been produced, have trusted to the frequent use of injections, assisted, in a few cases, by small doses of oil. When the dung has been slimy, I have not ventured on aloes in any shape; but have given half-pint doses of linseed oil until the required effect has been produced. After the bowels have been opened, with a view of keeping up a gentle drain on the system, I have been sometimes in the habit of giving daily, or as discretion may dictate, the following ball, which, from its slightly diuretic and alterative qualities, I have found very useful:—

℞ Hydrarg. Chloridi ..... ℥ij
Antim. Oxy. Sulphuret ..... ℥ss
Gum Guaici Pulv..... ℥j
Farinæ Avenæ ..... ℥iv
Terebinth q. s. to make 12 balls.

In other cases I have given occasional doses of nitre in mash; though in cases where but little œdema is present, medicine hardly seems to be required, further than to keep the bowels loose. After the commencement of the attack, more usually the bowels are inclined to be lax. Towards keeping them in a pultaceous state, and at the same time to avoid as much as possible the use of medicine, nothing is more beneficial than a change of food, from hay and oats to green diet and bran mashes. Clover was therefore substituted for hay, and bran for corn, and cold water always plentifully supplied to the animal by a pailful being placed within reach. The animal, even if inclined to eat, for the first two or three days was kept stinted; warm bran mashes only being allowed, with a small quantity of clover. The bran was more generally refused, while grass and hay would be taken. The grass was placed in the manger or on the ground, so that the animal could more readily eat it without putting his neck on the stretch. As convalescence returned, the grass was gradually withdrawn, and the usual food substituted. I have mentioned that the throat always became sore and tender, with sometimes a short suppressed cough. I looked upon this symptom as so certain to occur, that, even if it were not detectibly present, I commenced my treatment by having the throat and upper part of the neck well rubbed with a liniment composed of two pints of spirits of turpentine and oil, and one part liq. ammoniæ; and during the progress of the disease the throat continued afterwards to be rubbed with this mixture. When there was great swelling and tenderness, I had hot cloths frequently held up to the parts in addition, and afterwards applied the infusion of cantharides.

THE ANIMAL, WHEN FIRST ATTACKED, is at once put into a loose box or a well ventilated place, and, as a first principle, the greatest attention paid to the purity of the air. Chloride of lime has been constantly sprinkled through the sick stables. In cases where the breathing has been violently affected, I have used blisters extensively to the sides and front of the chest; but in the two cases mentioned only, in the present influenza, have I found it necessary to use them. I cannot speak very confidently as to their good effects, and think it probable that, by preventing lying down, they may have induced the disease of which these animals at last both died, viz. *laminitis;* although they seemed to act most beneficially in the first instance.

THE TREATMENT ON WHICH I MOST DEPEND is the frequent

steaming of the head held over scalded hay in a bucket, which I have found of the greatest service. It very quickly relieves the eyes and head, and the animal generally likes to eat the hay out of the bucket, and by that means imbibes the warm and humid air; and if the disease in the first instance principally attacks mucous surfaces, we may expect that the steam of water may exercise (which it undoubtedly does) a great influence in relieving the inflamed surfaces, one which no other means could so readily effect. Discretion must be used in steaming the head. As a general rule, so long as the case continues urgent, I wish the animal to get as much steaming as he will bear without evident distress. The relief obtained by it in bad cases is wonderful. The greatest amount of steam is obtained by enveloping the head in a large hood or cloth, and confining it closely round the bucket; but some horses will not bear this; then the external air must be let in proportionately to the effects produced; and when faintness or hurried breathing comes on, it is often sufficient merely to hold the head over the bucket without any confinement to the nostrils. When the disease is complicated with symptoms of greatly quickened breathing, the inhaling of the steam usually produces distress, and must be abandoned.

When the head seems much affected, evidenced by its pendant position and heat of forehead, I have found frequent cold bathing by a damp sponge over the temples very useful. Doubtless, the horse is subject in disease to distressing head-ache, which would ensue in this case from the inflamed state of the membrane lining the frontal sinuses and ethmoidal cells.

When chilliness and shiverings are present, I have the body warmly clothed, and the legs doubly bandaged and covered with haybands. But far more generally the legs are tumefied and hot, in which case they are not bandaged; and when they are much swelled I have them occasionally sponged with tepid water, and afterwards well dried.

I think it advisable to apply a cloth over the body, so as to maintain an equable heat of surface, as the animal is more exposed to the air, from the stable being kept so much cooler.

When very great Debility is present, or during a shivering or griping fit, which are not uncommon, I give occasional doses of spts æther. nitros, from ℥j to ℥jss with liq. am. acet. ℥ij; but, as a general rule, if a case is going on favourably, although perhaps slowly, I prefer leaving it to quietude and careful nursing rather than giving medicine. A good nurse is invaluable in this disease. It is unnecessary to treat in this paper upon the many ways in which his service can tend to the comfort and relief of the sick animal.

When the Legs remain swelled, after the active symptoms have passed away, I give diuretics combined with vegetable tonics, as gentian and ginger; and I have the legs frequently hand-rubbed, and order exercise, according as the strength will admit; but usually as the appetite returns the legs become fine.

Exercise is, of course, inadmissible so long as the symptoms are urgent, or while the breathing is disturbed; but as soon as this is on the decline, it becomes of great advantage.

With respect to the general Treatment of such horses as were not sick, most particular attention was paid to ventilation, and the numbers were reduced in each stable. All bedding was often exposed to the air. The stables were often sprinkled with a solution of chloride of lime, and the diet of the horses changed to bran, in lieu of corn, twice a-week. I think nothing is more imperative in these cases than thinning the number of horses in the stables. Long walking exercise was also given; but the horses were not allowed to be sweated. I have heard in some places that, with a view of prevention, they are in the habit of smearing the wall in front of the horse with tar; but I cannot speak of it from experience.

In the above general description of symptoms and treatment I have been obliged to describe the disease in its worst stages. I have had many cases, however, that were very slight, and needed more the aid of the nurse than the doctor.

Among the cases entered, I have had two malignant ones, in which the disease assumed a different type, and wherein the diaphragm and lungs appeared to be primarily affected, and they both proved fatal. I shall in brief detail them:—

The first Case was a mare fifteen years of age, admitted with, apparently, every symptom of broken wind. Indeed, the mare when first noticed had been feeding, and was then doing so, as usual, at the time I happened to notice her when looking carefully round the horses. I never before saw any thing so like broken wind; and had I not known the animal perfectly, I should have thought it was so. Indeed, so like was it, that I could not then tell whether or not it was a sudden attack of that complaint. There was the same peculiar short suppressed cough; the same double heave of the flanks; the same asthmatical expiration; while, by placing my ear to the chest at any part, I could detect the peculiar asthmatical râle which I have always found present in that complaint. The animal was at once taken to an airy loose box; on the way whither, but for the choking fits of coughing produced by the exertion, it was found she could walk very well. I watched her very closely. She seemed to be in an excited state, her eyes exhi-

biting wildness and distress. The pulse was about 55, soft, and compressible; the extremities comfortable; the appetite at first good; the membrane lining the nose, mouth, and eyes, pallid; the dung quite free and natural. The breathing evideatly was nervous and spasmodical, and I thought it was in some way or other complicated with the influenza. I considered the diaphragm might be affected. Willing first to try the effects of a sedative, I gave spts. æther. nitros. ℥jss, liq. am. acetatis ℥ij, in a pint of water. I also gave a warm injection, and rubbed the throat, neck, and chest, with the compound liniment of turpentine, and repeated it in a few hours. I found no change resulting from this; so in the evening gave a simple alterative ball, resolving to see what the morrow would bring forth. The mare was, therefore, left clothed up, with her legs doubly bandaged, in an airy loose box.

In the morning I found no change; the lining membranes of the nose, mouth, and eyes, still pallid. I gave an injection; as the mare was taking which she broke into a sweat. Taking every thing into consideration, I felt satisfied that the lungs could not be the seat of mischief—that it must be the diaphragm. It was plain something must be done. I deemed it most advisable to apply extensive blisters to the sides. This was done, and towards night there was a decided improvement in the character of the breathing. The mare was debarred from food; at least only allowed a handful of mash at night. On the following morning I found the symptoms of broken wind had altogether vanished; but that, in their stead, my old enemy, the influenza, had begun to appear. The pulse had increased in frequency to about 70, and was very weak. It is unnecessary to take up time by following the treatment of influenza throughout; suffice it to say, that it proved one of the worst cases I had had. The eyes became perfectly red, the colour of blood. Nevertheless, in about eight days, the disease apparently had yielded, and the animal was recovering her appetite, and the lymph and effused blood were gradually becoming absorbed, and the breathing was perfectly calm and natural, and the blisters had acted well, and the cough had vanished, and to casual observers, a desirable change had taken place. There were some symptoms, however, which boded caution on my part. One was, the pulse had continued between 70 and 80, and felt small and wiry. Another, the membrane lining the nostril had gradually assumed a congested leaden hue, and, although this was not always present to the same extent, yet there was evidently a disposition to assume that colour. The animal heat had fallen below the standard; the mouth felt cooler than natural; and the mare had not lain down. Though, the latter symptom we might account for by

the effects of the blister. On the evening of the eighth day, it was reported that the mare was very uneasy. On visiting her I was mortified to find her labouring under an acute attack of laminitis in both fore feet. In her weakened state I knew all chance of saving her was hopeless. I could, indeed, attempt but little for her relief. All had been done that humanity suggested. During the night the hind feet became similarly affected, and the sufferings of the poor animal were now dreadful. No longer able to stand, she lay down to rise no more: she remained in excessive torture for twelve hours, and for some time before death appeared gradually to become paralyzed, without power longer to lift her head, in which deplorable state she died. From the period of the attack of laminitis, the eyes assumed the appearance of one mass of blood. On opening the body a few hours after death, I found the lungs gorged with black currant-jelly-like blood, and they were apparently considerably increased in weight. On cutting into them, I found the structure consolidated in several parts, with various shades of inflammation present; but the organs were not broken down. The lining membranes of the trachea and bronchial tubes were, here and there, of a dark damask flush. The surface of the diaphragm towards the chest was extensively spotted with large ecchymosed patches of inflammation, as if those parts had become abraded, or as though they were so many points of adhesions to the lungs, which was not the case. About a gallon of serum was found in the thorax—the heart was pale when cut into, though filled with black blood—the liver very pale and soft — the kidneys large, soft and pale—the intestines apparently healthy. I examined the eyes, and on cutting into the anterior chamber, found them filled with clots of effused blood.

THE OTHER FATAL CASE I had was an aged bay mare, admitted with extremely quickened respiration and a small quick pulse, mouth hot, and tongue furred. She was placed in a cool box, her body clothed, and her legs bandaged. On further observation, I found the dung very slimy, and small and knobby; and I conceived the state of breathing might be the result of nervous irritation existing in the bowels. A warm injection was administered, and twelve ounces of linseed oil given. As a sedative, I gave of spts. nitr. æth. ℥iss, and tinct. opii ℥j in a pint of water. In the evening there was no change whatever in the mare, although the case had been going on eight hours. I had not bled in any case before, and was very fearful of doing so here; yet I saw no choice between doing that and suffering her to die. I therefore cautiously abstracted four quarts of blood. It proved black and thin. She bore the loss of it with great difficulty. After being pinned up she became

greatly exhausted, and in a very short time afterwards fell backwards; but immediately jumped up again. The legs now became cold, and the breathing very quick, and she broke out into a cold sweat. I had the legs well rubbed and bandaged, and covered with hay bands. I gave spts. æther. nitr. and liq. am. acetatis, of each ℥ij in a pint of water. I was very fearful she would not rally; but she did. The following morning the breathing was a little easier, and the mare was picking a little grass. I now blistered both sides extensively, and allowed her to have a little grass and a small quantity of bran mash, and a constant fresh supply of cold water. On the following day, the influenza appeared in all its violence. The eyes were badly affected; the legs much swollen; the throat very sore and swelled; head poked out; the tongue much furred and very dry; the dung very slimy. I need not follow the daily treatment of this case. The breathing became perfectly tranquil—the skin completely peeled off the tongue—the animal after a hard struggle for life had reached the ninth day, and had been feeding, and was apparently doing pretty well. Still there remained some symptoms which rendered her recovery doubtful. The pulse had never declined in number and had now decreased below 75, and was wiry. About the sixth day, great lameness appeared in the off hind leg. This continued without, on the closest scrutiny, my being able to discover a cause for it; added to which, the animal had not lain down. On the ninth day, lameness suddenly appeared in both hind feet, and on examination, it was very plain it was an acute attack of laminitis. The mare had, however, rallied so much from her original disease that I was not left without hope of saving her. All that I could do was to apply constantly warm poultices and fomentations, and give doses of oil. To attempt active treatment, by throwing her down and passing setons, was, I knew, more than she could bear. After she had suffered twenty-four hours, I saw all chance was gone Debility increased wonderfully, while the pain from constitutional irritation became quite dreadful. In forty-eight hours she fell, and after lying in acute pain for twenty-four hours more, died.

The heart was softened in its structure, and pale and filled with black blood. I found the lungs as in the foregoing case, while they appeared to be nearly double their weight from consolidation of structure. The trachea and larynx shewed traces of inflammation of a dark tinge. In the chest I found a large quantity of coagulated blood which had been poured forth from the vessels, but no serum; the liver was pale, and easily lacerable by the finger; the intestines appeared healthy. At the base of the right kidney there was a large quantity of black

extravasated blood (about one quart), which had been poured out into the enveloping membranes. The kidneys were flabby, soft, and pale, and filled with glairy fluid. On examining the hind feet, I found that there was a perfect separation between the sensible and insensible laminæ. Every organ seemed to be in a state of decay. The brain and spinal marrow I did not examine. In both of these cases, although I gained apparent relief by the use of blisters, yet do I not feel satisfied whether they may not possibly have been the cause of the supervention of laminitis on the original disease. Although, at the same time, I may say, I felt certain from the nature and intensity of the post-mortem appearances, that even had laminitis not occurred, yet must the original disease have terminated in death.

PLEURO-PNEUMONIA IN COWS—EXTRACTS FROM MY NOTE BOOK OF 1850-1.

By R. H. Dyer, M.R.C.V.S., Waterford.

Pleuro-Pneumonia in Cattle.

In the month of June in the above year (1850), I was requested by a farmer and breeder to go into the country to inspect his stock, of which he said he had lost sixteen in number in "distemper." They were chiefly milch cows, and in very fair condition. The weather was very sultry, and had been so for some time. I first examined the cows and heifers which were supposed to be free from disease: these were twenty-two in all. I could detect no symptom to lead me to infer they had been attacked; but, in consequence of his severe loss, I recommended that each and every one of them should have a seton introduced either in the dew-lap or between the front legs, to act as a counter-irritant, by way of prevention. This was readily assented to. I accordingly placed a seton in the breast of each cow, and directed that the tape should be dressed with ung. ves. once every day.

Having completed the examination, &c. of the healthy stock, I proceeded to examine those diseased. I found the owner had wisely kept them at some distance from the others. The following is the result of that inspection:—They were four in number, each one being about fifty yards from the other, and all lying down upon their right sides, with their heads turned towards their flanks, and appearing somewhat comatose. I

quietly approached one cow and observed its symptoms. The pulse was 84, thin, and very weak; respiration 24, and rather laboured. On auscultating the chest, I could distinctly hear the mucous râle in almost every part of it. The coat was rough. She, of course, had no milk nor appetite; nor did she ruminate. The fæces were pultaceous, and rather slimy; urine scanty and deep-coloured; visible mucous membranes a little injected; ears, nose, and legs warm. The animal did not seem disposed to rise: she was compelled to get up and walk about; she walked with some difficulty, with a roached back.

The next beast presented similar appearances; if any difference, she was rather worse looking than the former.

The third was a degree worse still; but the symptoms did not say much.

The fourth cow looked more lively, was up and eating grass. Pulse and respiratory organs not so much affected as either of the above cases.

The fifth cow (which, by the way, I was not required to look at) I saw out of curiosity. A more miserable looking animal I never beheld! She had much the appearance of a glandered horse in its last stage. The beast died in the course of a few hours, and was buried.

The owner of these cows is a very respectable and intelligent man. He is a dealer in cattle, and regularly attends the fairs, and therefore has an opportunity of culling a little from every flower, and, with the aid of Clater's "Every Man his Own Cattle Doctor," may be termed *a very good quack*. The treatment adopted by this person consisted of bleeding and "physic;" after which small doses of ant. pot. tart.—hyd. chlor., &c. &c. were given; but he did not succeed very well. I apprehend he reduced the system too much.

I felt rather reluctant to prescribe for these poor brutes, although I saw a chance of saving one or two if properly attended. However, I gave the owner as many hints as were consistent under the circumstances, and left him. It only remains for me to state, that in a few days three out of the four died, one was saved, making a total loss of twenty cows in a few weeks. Farmers in the same and other parts of the county lost a great number of cows about that time.

The same month I went to see a cow in the co. Kilkenny, which was labouring under the above affection. This cow had been unwell for some days, was a good milker, and was four years old.

Symptoms.—Pulse 78, and full of tone; respiration 36; she grunted and moaned a little; cough very bad; no milk; rumination had ceased; wiry coat; no appetite; fæces natural;

urine also natural; mucous discharge from both nostrils; membranes red; muzzle moist and cold; mouth warm and moist. On auscultating the chest, I could hear the respiratory murmur pretty clearly, shewing that the lungs were not in a state of organic disease: at least, such was my conviction. She was very tender between the intercostal spaces, especially on the right side.

Treatment.—I had her housed, and gave a mild aperient conjoined with an aromatic. On the 24th, two days after, I called to see her again. The medicine had had its proper effect, but she was much worse. I introduced a seton between the front legs, and dressed it with ung. vesicat.; and gave stimulating tonic draughts, turned her out in the field for the day, and directed she should be housed at night. Morning and evening she was to have a mess of oatmeal, potatoes, and stirabout. This day I was asked to see another cow, the property of a neighbour. She had the distemper. The symptoms and treatment were so similar to the case above alluded to that it is unnecessary I should relate them. The agents employed were sol. cup. ammon. combined with pulv. gentianæ, zingiber, &c. They progressed very slowly at first, but in the course of a few days their appetites, spirits, and condition, were soon manifested. The pulse and respiration, after persevering a fortnight with this plan of treatment, arrived at their natural standard, and the animals did well.

PLEURO-PNEUMONIA has not raged so frightfully this year, 1851, as it did the last year. It has, nevertheless, been very prevalent. I was called to a young dry cow, the property of a gentleman, which was said to be labouring under a *liver* disease, for which presumed complaint he had been treating her. Not thinking, however, he should succeed in combating the enemy, he wished me to see her. I saw her on the 18th of July last. After a careful examination, I concluded that she had *pleuro-pneumonia,* and not hepatitis. The gentleman, not liking her condition, only half an hour prior to my arrival, had bled her, and directed her to have four ounces of mag. sulph. The pulse at the time I saw her, after the loss of about two pounds of the vital fluid, was 130, so weak as to be scarcely felt at the jaw; respiration as near 130 as possible. I advised she should be killed out of her misery, which was speedily done.

On the 31st of the same month this gentleman had another two-year-old sick. He desired I would go immediately, and do all that was necessary.

SYMPTOMS.—Pulse 80, and small, and the artery had a double action; respiration 40, and rather catching—a sort of spasmodic breathing, as I think Professor Simonds describes

it; coat hard and dry; rumination had ceased; frequent cough, with much pain; looked exceedingly dull; mucous membrane injected. She was standing alone in the field.

DIAGNOSIS.—Pleuro-pneumonia.

TREATMENT.—I gave mag. sulph. et pulv. zingib.: half pound of the former and half an ounce of the latter; this to be repeated in twelve hours.

August 1*st*.—Much the same.

2*d*.—Symptoms a little abated. Pulse 72; respiration 32.

3*d*.—Improving. Pulse 70; respiration 28, and quieter. Give sol. cup. ammon. et pul. zingib. et gentianæ, as in my former cases.

4*th*.—Still improving; pulse 68; respiration 20. Continue medicine.

The case was persevered with for a week longer, and did well. The above cases, imperfect as they may be, go to shew that venisection is not called for in every individual case; and I am convinced that if bleeding be not had recourse to almost *as soon as the animal is attacked*, it will be better to leave it alone. It is a singular fact, that, notwithstanding there are thousands of cattle in this country, it is quite a rare thing to hear of a practitioner being called to attend one when diseased. The custom of this country is to procure a "*charm*." If the people here would take a hint from the English agriculturists, it would be the means of lessening some of their distresses, while it would most assuredly put a large sum of money annually into the pockets of cow-keepers. This year I have found "*mammitis*" very prevalent amongst stock, in consequence of the "custom." I meet the cases when they become "*chronic*," and necessarily troublesome.

Should these observations be worth recording, they are at your disposal.

N.B.—I had no opportunity of making any *post mortem* examination of either of the cows.

R. H. D.

POISONING FROM COPPER ORE.

By Mr. YOUNGHUSBAND.

October 4*th*, 1851.—I WAS requested to visit a two-year-old heifer, the property of a Mr. Wilson, a gentleman in my neighbourhood, which was taken (as described to me) "suddenly ill," and was getting "rapidly worse." On my arrival, I found

her presenting the following symptoms:—She stood with her head extended, breathing most laboriously, with a peculiar moan, something similar to the attendant of that direful disease, pleuro-pneumonia; pulse weak and wavering; but as the beast had been bled before my arrival, I am not able to give an account of its state previously. Ears and legs cold, attended with a general chilliness all over the surface of the body; dung hard, black, and in small lumps. After viewing the case. as it thus presented itself, I was rather puzzled to give an opinion, but felt inclined to say, it was inflammation of the lungs; still there were certain appearances wanting to confirm that belief; viz. the cough, as a general attendant; shivering; and the ropy discharge from the mouth. Well: if not inflammation of the lungs, what was it? There I was nonsuited. Suffice it to say, the animal had been bled, and that largely; and now, the pulse not warranting the abstraction of more, I administered an active purgative, combined with tartarized antimony, &c. I also inserted setons in the breast, gave orders for future proceedings, and left to call again in a few hours. In the evening I paid her another visit, and found her in a state pitiful to behold; she was laid down, suffering severely, and breathing more laboriously than at my first visit: in fact, she appeared to be in the agonies of death. Seeing now all hopes of recovery at an end, and death near at hand, I left, with a promise to call again next morning, for the purpose of making a post-mortem. I did attend, and found, as I expected, that she had paid the debt of nature shortly after my last visit. The body had become enormously swollen. On opening it, a great quantity of air escaped with much force. The heart, lungs, liver, mesentery and bowels, were in a state of intense inflammation, and the gall-bladder distended almost to bursting; the liver was soft, and easily torn. From a question accidentally put to the owner, it struck me, the beast might have received some poison, or otherwise might have been in the neighbourhood of mines (both lead and copper), and so might have had some of the ore so plentifully scattered about those places. On this supposition, I made as minute an examination of the stomach as the time and place would admit. Beginning with the first, I examined its contents throughout, but found nothing to confirm the suspicion. So with the second and third, nothing particular shewing itself, save the inflammation, which presented itself everywhere. But on laying open the abomasum, there became presented to our view some very suspicious appearances, viz., a quantity of copper ore, covering a surface of about a hand-breath; the quantity I cannot state, as

we neglected to collect it; the stomach was in a state of most intense inflammation throughout.

Now it appears remarkable (at least so to me), that it was at this part only that any of the poison (if so it may be called) could be detected; not a particle being found mixed with the aliment in the other stomachs. Am I right in conjecturing that the symptoms were caused by the copper ore, or were they the effects of disease of another type? This beast, with others, was kept on a common contiguous to where copper mines have lately been wrought, and cattle have free access to the place. I have known cattle die from the effects of lead ore in the same neighbourhood; but I believe this to be the first case where copper ore has been detected on dissection.

THE GENTIAN PURGE.

To the Editor of "The Veterinarian."

SIR,—I HAVE tried the "purging ball" recommended in your last number by Mr. Hurford, and find it, besides being quicker in its operation, not to continue the purgation so long; neither does it take the animal off his feed, nor produce that debility which the common carthartic ball generally does.

I am, Sir,

Your's respectfully,

JOHN BROWN, V.S.

23, Whitefriar Street,
Oct. 12, 1851.

INFLAMMATION OF THE SPLEEN IN CATTLE.

Sir,—IN reply to Mr. Laycock's queries respecting inflammation of the spleen in cattle, I beg to refer him to an account of some cases of disease of that organ recorded by me in THE VETERINARIAN for 1844, being then practising in Gloucestershire. They are also more fully recorded in the *Veterinary Record and Transactions for* 1845, p. 129.

I am, Sir,

Your's obediently,

JAS. HOWELL, V.S.

Rochdale, Oct. 14, 1851.

P.S.—I have been making trial of the "purging ball" recommended by Mr. Hurford, the results of which I will forward for early insertion.

To W. Percivall, Esq.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

Traité de l'Organization du Pied du Cheval, comprenant l'Etude de la Structure, des Fonctions et des Maladies de cet Organe. Par M. H. Bouley, Professor de Clinique et de Chirurgie à l'Ecole Nationale Vétérinaire d'Alfort, Secretaire General de la Société Nationale et Centrale de Médecine Vétérinaire. Avec un Atlas de 34 Planches Lithographiées, desinées d'après Nature par M. Edm. Pochet. Paris, 1851.

Pas de pied, pas de cheval.—*Lafosse.*
No foot, no horse.—*Jeremiah Bridges.*

Treatise on the Organization of the Foot of the Horse, comprising the Study of the Structure, Functions and Diseases of that Organ. By M. Bouley. With an Atlas of 34 Lithographic Plates. Paris, 1851. Parts I & II. Fcap. 8vo, pp. 32.

On no subject have veterinary writers in general spent so much thought and study and time—on none have veterinary surgeons, in the course of their practice, bestowed so much casual observation and experiment—as on the foot of the horse. Nor is the reason for this concentration of time and talent difficult to be understood when we come to consider the value—the *sine quâ non* utility, indeed—of the foot to such an animal as the horse. Of what use is a horse that cannot "go?"—"No Foot, no Horse," was the title given by Jeremiah Bridges, to work "on the Anatomy of the Foot;" *Pas de pied, pas de cheval,* said Lafosse after him. And even supposing there were not contained in this quaint truism ample apology for the bestowal of so much reflection and pains-taking, yet, when we came to take the foot to pieces, might enough that was curious and attractive be found within the casement of the hoof to induce any philosophic mind to set inquiry on foot with a view of investigating the structure and economy of parts to appearance so novel and interesting. Certainly, no organ surpasses the foot in beauty of adaptation and variety of appliances to the several purposes required of it. It has to sustain the weight of the body; to move under that weight; to act as a spring every time the weight comes upon it; to feel the ground it treads

upon; to provide itself with a cover; and to renew this covering as oft as it wears away by use. And withal, the foot is small and compact, and single to view; while the horny case of it is susceptible of a polish hardly inferior to that of the finest Spanish mahogany.

Considering that the subject of the foot has employed the pens of the most distinguished veterinarians, both of this country and abroad, and that, of some, we could name, it seems to have been the study almost of their professional lifetime, we can scarcely regard the appearance of such a work as the one before us as any thing short of an epoch in our professional history. In our own country, reckoning the number of years since Coleman's work made its *début*, and the number of years Bracy Clark's work has been, part by part, coming to a conclusion, and that no work of any magnitude on the subject has during this period come into existence besides—we repeat, looking at these facts, it may strike some of our good readers that it is no easy or trifling matter to produce a comprehensive work of science on the foot. M. Bouley, however, has brought—or rather is bringing—one out, and bringing out such a work as, in one respect at least, has not had its parallel before, inasmuch as it not only surpasses its predecessors in comprehension and detail, but places in felicitous apposition, side by side, the doctrines and opinions both of French and English veterinarians. How far the two sets of national theories and practices will go hand in hand together remains to be seen. The "Preface" thus commences—

"The book which I (M. Bouley) this day venture to submit to the judgment of the public constitutes the First Part of a work intended to embrace, as a whole, the complete study of the Organization of the Foot of the Horse, considered under the three-fold relation of *anatomy*, *physiology*, and *pathology*. In selecting, in my turn, as the theme of my studies, a subject already treated in so superior a style by the pens of Bourgelat, Girard, Bracy Clark, and Perier, it has been less my design to compose a work professedly original than to present, in a novel form, one more ample and extended, embracing the accumulated knowledge our science at the present day boasts of in this important department."

Why, we ask, was the name of COLEMAN omitted in this chosen list? Was it that M. Bouley was not in the possession

of our *ci-devant* professor's works on the foot, or is it that he has searched those works and found nothing in them, in his estimation, worthy of notice? Or has he taken Girard's word that there was not? who said, in a preface to a work published by him many years ago on the same subject, entitled *Traité du Pied des Animaux Domestiques*, that in Coleman's work *there was nothing original.* Or has he chanced to have seen the complimentary advertisement inserted loose into one or other of the Parts issued of Bracy Clark's works, and by it been actuated to the undeserved exclusion?—an advertisement which, for fear some of our readers may not have met with it, we deem it worth while to copy into this place:—

"In purchasing this volume (of Mr. Bracy Clark's works) with its many discoveries, and numerous and excellent plates, even for ten pounds, you gain more insight into all that is necessary to be known and is really useful in veterinary practice than for the nine-and-thirty pounds you will have to pay to that foolish college of Coleman's, whose plans and patent absurdities have been nothing but a delusion; a system of blunders and mistakes from beginning to end, not one of which will hold water, yet still impudently foisted upon the unsuspecting part of the public. In obtaining these works, on the contrary, many of which are becoming scarce and truly difficult to be got, the most certain reliance may be placed upon them, as no page of them has ever been refuted; so also in reselling them, if required so to do, they will always fetch a valuable consideration on account of their intrinsic merits and sterling value; whereas Coleman's nonsense, or the trumpery flash publications got up for sale by the bookselling trade, will sell again for just nothing at all."

We can hardly imagine any person silly enough to be led astray by such egotistical bombast as this. Lest, however, M. Bouley, as a foreigner, should fancy it breathes the sentiments of English veterinarians, we tell him, once for all, that no name stands higher, even on the present veterinary Parnassus of Britain, than that of Coleman; and that his works, though they be here denounced as "a system of blunders and mistakes, which will not hold water," are not merely "scarce and truly difficult to be got," but are not to be had at any price, "for love or money." These are two notorious and uncontradictable facts, which of themselves, one would think, might have been

sufficient to have induced M. Bouley, to whose ears they cannot be strange or unheard-of, to have placed Coleman by the side of his own revered ci-devant professor, Girard, or even on the same level with Bracy Clark.

In vindicating Coleman's posthumous character as a professor, a teacher, and a writer on veterinary science, we are swayed by no personal or private feelings whatever; neither are we putting this forth with a view of shewing that his works were as meritorious as Bracy Clark, or some person for him, has represented his (Clark's) to be. Whether what Coleman has written on the foot be original or translated matter is not now to our purpose; but, whatever it be, this we do and will affirm—that he has handled his matter with a philosophy and an ingenuity evinced by no writer before him, and with it has constructed theories which for beauty, strength, and consistency, will vie with any on record in the annals of veterinary physiological science. That his theories were *all* doomed to stand the searching test of time was not likely; but that some of them have stood unshaken, down even to the moment we are writing, and still appear likely to stand, is a fact too notorious to need demonstration. We, therefore, cannot but repeat our surprise, and we may add, our sorrow, that in a work such as the present, professing to comprise "toutes les connoissances acquises aujourd'hui à nôtre science sur cette importante matière," the name of Coleman has been, it would seem, *purposely* omitted. We do hope that M. Bouley will bethink himself of the omission, and yet find space and opportunity to repair the breach by at least granting our late Professor an "honourable mention."

The plan of the work is as follows:—

The First Part is devoted to the Anatomy of the Foot; the Second to the Functions of its several component structures; which two parts together constitute the present *livraison* or section of the work. The Second section will comprise Pathological Anatomy and Physiology, the Etiology of the diseases of the foot, their prognosis and their treatment, generally considered. The Third will exhibit special descriptions of the Diseases, and in this M. Bouley will lay down general principles for directing the shoeing of the horse under both physiological and pathological conditions.

Furnished with the work is an atlas of thirty-four plates, which M. Bouley has considered requisite for the due understanding of its anatomical and physiological descriptions. This has unavoidably, and very unwillingly on the part of its author, enhanced the price of the work, and he the more especially regrets this, as it is written purposely for *veterinary* circulation.

First Division—Anatomy.

"The region of the members of the horse to which, in ordinary language, we give the name of FOOT, is, properly speaking, but the extremity of the *toe* (or metatarsus), since the foot, considered in a zoological point of view, extends from the carpus or tarsus to the last of the phalanges. Usage, however, has established the application of this denomination to that part of the limb exclusively which treads the ground; and whatever objections might be urged against this, more inconvenience than advantage would result were we to refuse the adoption of it in our scientific descriptions.

"The foot of the horse is remarkable for an anatomical disposition so exceptional that naturalists have selected it as a zoological prototype, characteristic of a family altogether distinct, to which the horse belongs:—his toe is unique, his foot consequently undivided. Whence the names of *monodactyles* and *solipedes*, by which the individuals of this family are often designated.

"Such simplicity of anatomical arrangement in the foot of the horse has, however, not shut out richness and complexity of organization. On the contrary, formed as it is of a single toe, developed to a vast extent in comparison with the toes of other animals, the foot displays, on a magnified scale, all the constituent parts of such an organ, while it unveils, through the grandeur of its dimensions and the finish of its structure, the mysteries of an organization less easily discoverable in the other families of digital animals.

"The horse's foot is composed of two orders of parts:—one INTERNAL, *organized* and *sensible;* the other EXTERNAL, formed of an organic *horny* matter, entirely destitute of the properties of life.

A. The Internal Parts are:—

1. The bones, in number three:—the coronet, the coffin, and navicular bones, which by their union form the articulation of the foot.

2. Special ligaments, which maintain these bones in their relative places and positions.

3. Tendons, which answer the three-fold purposes of agents for the transmission of motion, of articular ligaments, and of organs of suspension of the weight of the body.

4. A *fibro-cartilaginous elastic apparatus*, superadded to the coffin-bone, completing, as one may say, the deficiency at its posterior part, and enlarging its surface of bearing upon the hoof, through which it transmits its pressure to the ground.

5. *Arteries, veins, lymphatics, nerves*, equally remarkable for their number, their development, and their flexuous and anastomic disposition.

6. *A tegumentary membrane* belonging to the region of the foot, differing from the general integument, with which it is continuous, by its exterior characters, its notably modified texture, and its special functions.

B. The external parts of the foot, in number four, *the wall, the sole, the frog*, and *the periople*, form by their union a horny box, *the hoof*, whose interior cavity is moulded exactly to the contours of the external surface of the sub-ungulous membrane, with which it contracts intimate adherence through reciprocal dove-tailing, and completes the general structure of the foot through furnishing its sensible parts with a dense covering, hard and resisting, and yet elastic; making one with them, and protecting them against injury from bodies with which the foot, by nature of its office, is destined to be in incessant relation.

[To be continued.]

Home Department.

AN ESSAY ON THE DISEASES OF THE TEETH OF THE HORSE:

FOR THE INSTRUMENTS RECOMMENDED FOR THE SURGERY, OF WHICH A PRIZE MEDAL HAS BEEN AWARDED AT THE GREAT EXHIBITION.

By Mr. T. W. Gowing, M.R.C.V.S.

[Read before the Members of the Veterinary Medical Association.]

To the Members of the Veterinary Medical Association.

Gentlemen,—I am induced to bring this paper before you, because, having been now in practice for several years, I have, during that time, experienced great difficulties in many required operations on the teeth from the want of proper dental instruments: I have also been informed by some of my profes-

sional friends, that they, too, have had the same difficulties to contend with. These circumstances have led me to invent a set of instruments, which, I flatter myself, will be found useful. I have tested them in practice, and found them bear out my most sanguine expectations; and all the accounts I have received from those members of the profession to whom I have lent them have been highly satisfactory; and therefore I think I may venture to recommend them to you with confidence.

It is not to be expected that we shall find in the shop of the instrument-maker the many articles we require in practice; for although the cutler may possess mechanical genius, most commonly he is deficient in anatomical knowledge, and that knowledge, to a certain extent, must necessarily be coupled with the first named, to produce such instruments as are adapted to our purposes. We alone are able to judge of the length and proportionate bulk, as well as the peculiarities of construction, which the tools we are to use should possess. As illustrative of the foregoing remarks, I will just allude to the tooth-key which is in general use. It is copied from the human instrument, and, on account of its enlarged size and increased strength, at first sight appears to be all that we could desire. When, however, it is practically tested, its deficiencies become at once apparent; for there is so much greater distance to the posterior teeth of our patients than exists in the human subject, that the claw and bolster of the old instrument cannot be adjusted and retained in their situations.

Finding this to be the case, I have caused a pair of forceps to be made, of considerable magnitude, and on this account called by me the LARGER FORCEPS. These I now exhibit to you (*see plate*,* *fig.* 1). The two beaks of the instrument are serrated or notched for the purpose of giving them a firmer hold of the tooth; the handles are 21½ inches in length, with an eye at the extreme end of one of them; and a female screw, as you see, contained within the other. Through the eye is passed a shaft or lever, which, in its centre, has a male screw that fits the female one just alluded to, and which also, near to one end, has a shoulder that prevents the shaft passing through the eye. There is likewise attached to one end of the shaft or lever a smaller handle, to give additional power when screwing up the instrument; thereby enabling us to obtain a secure and firm hold of the tooth we are desirous of extracting. It will be seen that, when we have such an additional leverage at command, caution will be necessary in the use of the screw, lest, from the tooth not being in a normal state, we should merely fracture that

* Forming the frontispiece to the present Number.

which it was our intention to extract. Neither must it be supposed that at all times we shall be enabled to extract the tooth, although it should be diseased, because its peculiar situation and length of fang may render vain all our efforts; therefore, taking into consideration the power that you possess in such an instrument as this is, such force only should be applied as in the judgment of the operator would be sufficient to draw the tooth: for otherwise fracture of the jaw might ensue. Having tested the tooth, and found its immediate extraction to be an impossibility, with the use of so much force or power as he may deem it prudent to apply, the operator must, nevertheless, not despair; neither must he blame the forceps as being inefficient, but he must leave disease to work further havoc on the tooth, and then he will find that no difficulty will arise. But, as veterinary surgeons, it becomes our duty to alleviate the sufferings of our patients; and while decay and absorption are going on, we should recommend our employers to give the animal aliment of the most nutritious kind, and in such a prepared form as will not require the full work of the masticatory apparatus. By such means we may support the animal through the progress of disease, without allowing him to be reduced to that state of emaciation in which we sometimes behold him.

And now, with your permission, we will consider some of the causes likely to produce disease of the molar teeth. To the anatomy of the teeth I shall not allude, or to the structures which compose them, but rather refer you to that excellent and recent work lately published by Mr. Mayhew, "On the Age of the Horse."

I am aware that the cause of disease of the teeth, to a certain extent, must always remain a mystery; yet, from observation and reflection, we may be able to deduce conclusions which practice will confirm. First, we must consider the two classes of horses that we are principally called upon to attend, namely, the cart or draft-horse, and the hack or carriage-horse. The latter animals, so far as my observations have led me, appear to be less liable to diseases of the teeth than those of a coarser breed. Now, may not this be caused by the better attention which they meet with in stable management?—for we may observe that the good and efficient groom regularly sifts the provender previous to feeding his animal, and any foreign matters, such as stones, &c., are rejected, thereby preventing unequal concussion to the teeth. But the cart-horse, and the machine-horse of our London omnibus proprietors, not receiving this attention, we find that they are more subject to diseases of the teeth: may not this, therefore, be one of the causes? Also, as the animal becomes aged, we find that we get divisions or inter-

stices between the teeth, wherein the food that he has had for mastication becomes lodged and impacted, and is there left to undergo decomposition. Absorption of the gums may thus be produced, and the crusta petrosa exposed, which, being the most highly organized of all the structures entering into the composition of the teeth, will be the first to yield. I believe it is a fact which is generally admitted, that disease begins either at the neck or the fang of the tooth in our patients, and not usually at the crown; although there are some cases on record where the disease has first shewn itself on the last-mentioned part. These cases, I consider, are of rare occurrence; therefore it would, to a certain extent, go to shew that the causes I have enumerated would be likely to produce the injuries named.

It is also a common practice with carters to sprinkle the provender with sulphuric acid, and we well know what action the acids have on the teeth. If such practices be allowed, disease may be very readily accounted for.

Moreover, the teeth being lowly organized, they quickly lose their power of self-preservation, should the function of the stomach or alimentary track be deranged, from the general health of the animal being then interfered with, and through such local functional derangement the teeth, of all parts of the body, are the first to suffer or decay.

The symptom that would indicate disease of the teeth to be present would be imperfect mastication; in consequence of which the stomach would have more to do, and, the food being then retained for a longer period in that viscus, its appropriative powers would be enfeebled or deranged, which would speedily be shewn by portions of the aliment passing through the digestive track entire. Associated with this would sometimes be a staring coat, with a harsh and unthrifty appearance of the animal; and what is designated hide-bound might also be present, accompanied with more or less emaciation, and a low febrile disturbance of the system. Besides all this, in some instances we shall have a portion of the corn, in a half-masticated state, from time to time thrown out of the mouth into the manger, mixed with a quantity of saliva; also, the animal, if watched narrowly, would be observed suffering much pain during mastication, and suddenly stop and rest for a time, and then begin again to eat. Fœtor, likewise, when the mouth is examined, will be found present to a greater or less extent. Who that has witnessed these symptoms, and seen the horse hang his head by the side of the manger, with saliva dribbling from his mouth, can hesitate for a moment to acknowledge that the poor brute is suffering pain; which, if we were to call tooth-ache, would not be believed by our employers?

The next thing that I beg leave to draw your attention to, is *the elongation of a tooth.* Sometimes the tooth will grow to such an extent that it projects considerably above the other molars. Now this is produced by the want of resistance of the opposing tooth, death of which has taken place, and loss of substance has naturally resulted from the absence of that power of self-preservation natural to living structures; therefore it has no power to meet by growth the opposite tooth, and consequently the attrition necessary to keep those teeth on an acting level is lost. This overgrowth of the tooth has been for some time past a difficulty to remove, through the want of a proper instrument. The tools usually employed have been the ordinary smith's hammer and chisel, rude instruments for such a purpose, while their use is not unattended with danger; for, the shock being received upon the posterior tooth, this it must be self-evident would have a tendency to produce disease, and perhaps even a more serious injury. For the same purpose the saw has also been used, but it has proved alike ineffectual; for who, having toiled with a saw, rubbing against the hard enamel of a horse's molar, making little or no impression, has not wished for an improvement in his instrument? To meet those difficulties, I have invented this which I now exhibit to you, designated by me the DENTAL SLIDING CHISEL *(see fig.* 2). It consists of a cylindrical tube, which is attached to a guarded frame with an opposing or cutting chisel at the extremity, so placed as to receive the concussion; so that when the working chisel is struck, it prevents the shock from being felt or sustained by the posterior teeth. The acting chisel, as you perceive, moves within the cylindrical tube which forms the handle, the cutting part of it being guarded and protected by the frame of which I have spoken. The round part of the chisel plays or works through the cylinder, and to it is attached a steel head or button for the receiving of the blow or force necessary to be given. When we desire that it should cut through the hard and solid tooth of the horse, it will be seen that the rod of the chisel, working through the cylinder, would fall from any situation in which it might be adjusted, on account of the elevated and standing position in which the animal's head would necessarily be held by the operator. To guard against the chisel slipping backwards, and to render it steady, but not fixed, I have attached, as you will perceive, at this end of the cylinder a brass bulb, which gives to the hand-hold of the operator more security. The inside of the brass bulb, first mentioned, is hollow, so as to allow of some packing being placed within: when pressing upon the rod of the chisel, it acts on the same principle as it does in the piston box of a steam engine. To make this more clear, the brass bulb is

screwed down upon the cylinder, thereby causing the packing to be so compressed as to retain the rod of the chisel in its desired situation. The mode of operating with this instrument will require some explanation from me, for I have been asked by some gentlemen whether the chisel is to be drawn back to the utmost range of the guard? I mention this, that others may not fall into the same error; for if it were so placed before the chisel reached the tooth, the force of the blow would be expended to a great extent, on account of the distance it would have to travel and the resistance it would naturally have to overcome. For these reasons we should, probably, be foiled in the performance of that which we were desirous of accomplishing, and the tooth would, in all likelihood, remain entire.

After a due examination of the mouth has been made, and we have selected the tooth to be operated upon, the animal should be restrained by means of a twitch, and a balling-iron ought then to be placed in the mouth. The common open balling-iron will answer the purpose, but the one I would recommend you to use is that invented by Mr. Varnell. It has a shifting bar, which is regulated by a screw nut at the bottom, that allows of its being readily adapted to any sized patient. And, for a better protection to the mouth of the horse, Mr. Varnell has caused the bars of his instrument to be covered with vulcanized Indian rubber.

The balling-iron being retained in its situation by an assistant, the chisel is to be drawn sufficiently back through the cylinder to allow the frame to be placed over the tooth, surrounding that portion we are desirous of removing. This will be better accomplished by the operator grasping the cylinder firmly close to the brass bulb, at the same time employing so much traction as will suffice to keep the chisel at the posterior part of the frame close to the back of the tooth. The tooth being closed in, laterally by the guards and posteriorly by the passive chisel, the active chisel is then to be brought in contact with the anterior part of the tooth. It will thus be seen that the tooth is imprisoned on all sides, and a hammer of about two and-a-half pounds weight is to be selected to give the blow with. The ordinary smith's hammer will answer if of sufficient weight, should expense be a consideration; though I think, as a general rule, *perfect instruments will pay for themselves in the long run, by a saving of much time and trouble, and also by causing us to be properly esteemed by our employers.*

Having grasped the cylinder in the manner before described, a sharp blow is now to be given to the button or head of the chisel. But division of the tooth will not take place always at the first percussive action of the hammer. The blow will some-

times require to be repeated, and that once or even twice, so as to cut through the enamel. When that has been accomplished, with a good smart blow the cutting edge is driven right through the tooth. You will not have occasion at all times to repeat the blow, for I have often been successful at the first time.

This instrument I can recommend to you with perfect confidence, having not only tested it well myself, but I have also obtained a good character of it from my friends. The value of this instrument to us as professional men must be great, but it must be used for its worth to be appreciated.

Sometimes it will be necessary to cast the animal for the purpose of examination, and also for operation; but where we can accomplish our object, and the horse will submit to it, I prefer the standing position; for it is mostly aged horses we have to operate upon, and in such horses the joints have lost their yielding action, and sometimes ossific depositions have taken place, causing union of some of the bones of the spinal column. Although casting our patients for operations may be much safer to ourselves, it does not always conduce to their well-being. My observations more particularly allude to the heavy horse; for it is a well-known fact that some of that breed of horses never lie down voluntarily, but even sleep standing. By some accidental circumstance they do occasionally fall, and frequently after such an occurrence we are consulted professionally, on account of contusions which have been produced by the struggles the animal makes to regain his feet; therefore, inquiry ought generally to be made by us before we cast those horses for any minor operations. We should ascertain whether the animal duly takes his rest in the ordinary manner, lying down and getting up without difficulty; and if the reply is satisfactory, we may venture to cast the horse. But if, on the other hand, the owner informs us that he never willingly lies down, then we should proceed with caution. *To exculpate you from any blame, the proprietor should be apprised of the probable cause that keeps his horse standing, and that you cannot be answerable for the injuries that might ensue from the restraint that you would have to subject him to.*

Also, after removing the elongated portion of the tooth by means of the improved chisel, if the horse be cast, the hand should be inserted into the mouth, of course guarded by the balling-iron, and the excised part of the tooth removed; as otherwise it might be swallowed, and become the foundation for future intestinal disease. If it cannot be readily removed by the hand, your assistant should elevate the poll or back of the head, thereby bringing the animal's nose in apposition with the ground, when the piece of the tooth will readily escape. It

is necessary sometimes to replace the balling-iron after having brought the head into this position, as often the portion of the tooth will be forcibly retained between the other molars, but which will be effectually separated by a second application of the iron. Having removed the piece, the head may again be elevated, and any irregularly fractured edges levelled by means of the flat rasp.

It cannot be expected that all the irregularities we meet with in the teeth can be overcome with one kind of instrument, as, owing to the peculiarities of situation and of growth, no one tool could always be brought to bear; therefore, I have invented another instrument, to which I now beg leave to direct your attention It is an instrument which, you perceive, is rather longer in the handle than the former one. It consists of a solid or entire piece of steel. At one end is the handle, which is encased on either side with pieces of wood, retained in their situation by rivets. The other end is shaped into a hook-like form, flattened and bevelled, with a guard on one side, for the purpose of retaining the instrument in its situation, and preventing its being displaced from the tooth. It possesses some of the advantages of the former sliding chisel: but this instrument is not meant to be used by itself; it is intended to prevent the concussion on the jaw, while the operator, with a chisel, strikes off any projecting angle of the tooth. The chisel I have employed is like the one I now exhibit, the GUARDED CHISEL (*see fig.* 4), which is of sufficient width or space to cover the table or upper surface of the molars. For the purpose of enabling it to pass readily over the teeth, without danger of its being dislodged by the motion, I have caused two guards to be made, by having a portion of the steel turned down on either side, in the form of lips. These effectually prevent the instrument from being thrown off the teeth during an operation, or by any struggles that might ensue when the blow is given, thereby anticipating even the possibility of injury to the mouth.

As I feel I shall be getting into difficulties in my description for want of names to carry me on, and being at a loss for a better term, I have designated the first of these instruments a LATERAL REPELLER (*see fig* 3). It is necessary for me to make this distinction, as I intend explaining to you the use of another instrument which bears some resemblance to the one I have just laid down, and which possesses some advantages in its construction, inasmuch as it can be used when the other could not be (*see fig* 5). You perceive in the handle and shaft it is like the lateral repeller, but at the operating end it is turned down or necked; while on either edge it is bevelled

and guarded on the sides by two circular shields, which, when used, will entirely prevent its displacement. This is intended to be used principally for the back or posterior teeth, the angle formed by the upper and lower jaw becoming less, as you are aware, towards the back of the mouth, and consequently any instrument requiring more space could not be so well applied.

In some instances, where necrosis has taken place, and the forceps cannot be used, and the tooth is sufficiently loose to allow you, with such an amount of traction as can be made by the aid of this instrument it may be displaced. This may also be applied, with the guarded chisel, for the reducing or chipping off of those irregularities which interfere with mastication. By its use much labour is saved, and the labour which is necessarily exerted when the rasp only is used is thus happily avoided. This instrument I have termed a POSTERIOR REPELLER.

It must not be supposed, although I am giving a code of instructions as to the manner in which those instruments ought to be applied, that they will all be able to be brought to bear in strict accordance with my explanations; for, of course, the irregularities encountered in the diseases and growth of the teeth will be various, and the instruments, therefore, must be selected by the operator for the required purpose, and his own judgment or tact must be exercised. But I have no doubt that, with the instruments I have this evening laid before the Association, you will be able to contend with, and to operate upon, such forms of disease as have hitherto baffled us. You will recollect I have before stated that it is necessary, in the removal of any portion of a tooth which has become elongated, to get a bearing or force behind; and it has been my particular study to make such instruments as would enable us to effect this object. The purpose of my present inventions is to prevent any injury or pressure being conveyed to the bloodvessels supplying the tooth, for without this precaution the vessels of the pulp might be so lacerated, that necrosis or death would follow. Such serious injury as this adverted to might be done not only to the tooth we are operating upon, but also to any other tooth that might receive the shock; inflammation, followed by suppuration and absorption of the alveolar process, would be likely to ensue, and consequently a loosening of the tooth.

The next instrument is a chisel, to which I lay little claim for merit, as it is like the common or ordinary one in use, with this slight difference,—it is somewhat longer and stronger than the common chisel known to veterinary practitioners, and is bevelled only on one side, so that its flattened surface is brought in contact with the tables of the teeth, thereby enabling us to make our fracture the closer. This chisel, however, must be

used in conjunction with either of the two last-named instruments.

Having before explained the use of the large forceps, and their application, I now claim your attention to a pair of smaller dimensions (*see fig.* 6), which, although not so powerful in action, are, nevertheless, capable of doing good service. They are a pair of hand forceps, comparatively small, and yet of considerable size. They have not the cross lever the larger forceps possess, and they are billed or necked with a deep fossa or notch, which will enable the operator to get a firm hold of the tooth close to the gum.

Scarifications having been previously made with the gum lancet, such as the one I now exhibit (*see fig.* 7), which, as you see, is of considerable length, and has a handle of the same description as the other instruments. Now, from its length it will enable you to scarify the gum without inserting your hand through the balling-iron, and thereby obstructing your view of the part that you are desirous of cutting, which advantages would not be gained if a shorter instrument were employed.

The small forceps may now be applied and the tooth extracted; but you will not be enabled to use them for such a purpose unless absorption has taken place to a very great extent; nevertheless, they will be found serviceable when the larger ones have been employed and the tooth displaced, but left partly adherent. The small forceps may also be used to extract those teeth that, in the stable, are termed capped teeth, which are the temporary molars, the fangs and bodies of which have not been sufficiently absorbed so as to allow of their being shed, and which, if not extracted, may interfere with the masticatory process, and thus bring about debility in the animal.

There are instances where we find the teeth loose, although caries may not have gone on in the fang, but death of the more vascular parts and absorption of the investing membranes have occurred. This may arise from some remote cause, and, by the extreme length that they possess in their cavities, such teeth cannot be at all times extracted in the ordinary manner. It will be seen, by the great depth of the alveolar cavity, that an obtuse angle will be formed if the leverage be applied in the usual way; therefore, it will be found necessary to lift such teeth into an horizontal position previous to the turn being given for extraction. This may be done by locking the forceps upon the tooth and steadily raising it upwards, thereby forming a much shorter angle, and then no difficulty will present itself. There is, however, another thing we must take into consideration; that is, the position of the posterior and anterior teeth. The anterior teeth have a backward inclination, while the pos-

terior ones incline forwards; these, therefore, will require to be raised in an oblique direction; and on account of the length of fang, should there not be space between the upper and lower jaws when the molars are thus lifted for extraction, the sliding chisel may be applied and the tooth shortened, after which we can effect our purpose. The only alteration I have made in the tooth-rasp (*fig.* 8) is the addition of a shifting handle of some length, whereby greater power is gained, besides the advantage of our being able to add a new rasp or any other instrument to it that the veterinary surgeon may deem expedient.

With this I conclude my brief and cursory remarks on Dental Surgery in the horse, sincerely hoping that the instruments thus laid before the Association, and through it before the profession, will be found by its members both useful and profitable in practice; this being the object I have constantly had in view.

EXPLANATION OF THE PLATE.

Fig. 1. The larger forceps to be used instead of the old key-instrument.
" 2. The dental sliding chisel.
" 3. The lateral repeller.
" 4. The guarded chisel.
" 5. The posterior repeller.
" 6. The smaller forceps.
" 7. The gum lancet.
" 8. The tooth rasp.

The dotted lines (Figs. 1 and 3) direct to larger and other views of those portions of the instruments.

ROYAL VETERINARY COLLEGE.

THE sessional Course of Lectures at this institution commenced on the 20th ult. The Inaugural Address was delivered by Professor Morton to a very large audience, among whom we observed the President of the Royal College of Veterinary Surgeons, and several members of the Council and Board of Examiners. Rarely, indeed, have we had the gratification of seeing so many of the older members of the profession met together. The class, too, was numerous, and highly respectable. After the lecture, the majority partook of refreshments in the Board-room; and here, and in the Museum, groups were seen in friendly conversation, interchanging those kindly sentiments which tend firmly to unite together the members of a common profession. *Esto perpetua.*

The Lecturer commenced by facetiously alluding to the *tact* of his colleagues in inducing him to give the Introductory Lecture, his divisions being the least esteemed, although he would not allow they were the least important. "They were not," he

contended, "the mere acanthus leaves of the capitals, but necessary and integral parts of the edifice, although the Sciolist might say they could be done without, and the Iconoclast denounce them: the simple fact being, that the several divisions of medical science cannot be isolated, since each, as it were, holds the other by the hand, giving mutual support." Having adverted to the advantages derivable from the adoption of method in study, he proceeded to say that "anatomy, or the natural structure of parts, may be safely designated the foundation stone of medicine. This necessarily leads to the uses of those parts, or *physiology*. Now, since abnormal, or an altered condition of parts, induced by disease, constituting *pathology*, cannot be understood without a previous knowledge of the healthy or normal state of the tissues, no more can derangement in function be appreciated where ignorance of the use of an organ prevails; and much less can it be hoped that right principles will obtain in the application of means to restore lost or impaired function, which constitutes *therapeutics*. With these are intimately associated chemistry and materia medica; for, although chemistry is placed nearly last on the list, yet will it be found that its principles entwine themselves among all the other divisions, contributing to the perfecting of the whole, and rendering that clear which otherwise would be altogether incomprehensible: indeed, we can hardly set a bound to its influence. When we survey the material universe, and take cognizance of the wondrous and multiplied forms in which bodies exist, it seems a bootless task to set about the inquiry of *what* and *how* they are constituted, and to trace their mutual dependencies. Yet the torch of science discloses much that otherwise would have remained for ever hidden, and developes laws imposed by the Creator on matter, which have remained in force since from out of chaotic confusion beauty and order first came. It is the uneducated only that perceives not the truthfulness of the position, "Nothing was made in vain." A mind rightly instructed

> "Finds tongues in trees, books in the running brooks,
> Sermons in stones, and good in every thing."

And dark indeed must that mind be which perceives not proofs of wisdom and design in all the Creator's works. Around and above us we are environed with wonders! The sun as he traverses the heavens, in the effulgence of light, glorying in his strength—the milder moon, and the star-bespangled sky—this earth, the temporary abode of man, clothed with fertility and teeming with myriads of inhabitants subservient to his will—the mighty ocean, girt with the everlasting hills, and pregnant

with life—all bespeak the wisdom, the power, and the beneficence of Him who, having made all things, pronounced them to be "very good."

"There can be no questioning the fact of Chemistry having done much for physiology, since with every change in the construction of an organ or a tissue a corresponding change in function must ensue. This clearly points out the necessity of the two being studied in union, while it also shews the value of anatomy as the foundation of both. The peculiar nature of vitality may for ever be hidden from the ken of mortals, and its abstract essence elude detection. We know not how it is that even plants grow, or the flowers unfold their petals, diffusing those odours around, the elements of which were derived from offensive and putrifying matter: nevertheless, chemical laws are, doubtlessly, in operation here, but, as he believed, controlled and influenced by those designated *vital.* That this last-named *is* a controlling force or power, seems to be proved by the changes which take place in an organic body when it has ceased to live; for then it is that the chemical forces come into operation, and, meeting with no antagonism, give rise to various compounds altogether unlike the original mass, although their elements were derived from it."

The improvements that of late years had been made in the curriculum of the student were pointed out and commended: the number of teachers having been considerably increased, and some very important divisions, which but a comparatively short period since found no place, being now duly recognized. Nor would it stop here, the present being a progressing age. The value resulting from co-operation having been also expatiated on, it was remarked that two great agents are in operation at the present day in medicine—chemistry, and the use of the microscope. Proofs of the advantages derived from the use of the latter, were adduced from several works recently published; and, as illustrative of the former, the Lecturer selected for consideration the function of Digestion, with the derangements that take place in it, which receive elucidation from chemical laws; as well as the remedies to be had recourse to so as to bring about a restoration to health.

On the microscopic examination of morbid products, to the formation of a correct diagnosis, Mr. Bransby Cooper, late President of the Veterinary Board of Examiners, in a *brochure* recently published by him, says "I am now convinced, that the microscope is as necessary to the anatomist and pathologist, as the scalpel to the one, and bedside observation to the other."

Further on he observes, "The examination of the various products which result from inflammation, is a most laborious

task, even for an individual wholly devoted to the elucidation of the subject. Such, however, is neither my intention nor desire, my object is only to point out the practically important services that may be rendered by the microscope, and by the science of chemistry, in the examination of the various fluids in the body, whether in their healthy or diseased states. The relation of this inquiry to the science of pathology is, I think, beyond question. It is evident that healthy secretions can only be formed by the organs of a healthy being, and it is, therefore, a matter of great interest to be able to discover, whether or not the variations met with in these secretions are of a nature which will permit of our establishing any connection between them and peculiar diseased conditions of the constitution, or in the nature of the tissue affected; there can be no doubt, that the integrity of the blood, bloodvessels, and tissues, is essential to the due performance of healthy action, and it becomes a special object to discover, in case of local disturbance, the seat of error, that the appropriate remedies may be applied, in the one instance, through the constitution, and, in the other, locally to the affected tissue. It is well established, that so close a connection exists between the vital powers, which may be considered as the centre or focus of the animal economy, and the tissues or periphery of the body, that scarcely any disturbance can occur to the one without the other becoming simultaneously affected. Sometimes, however, it is extremely difficult to discover from which source the first cause of the diseased action arises; for instance, a local injury may prove an exciting cause of a malignant development, and yet it is well established, that such a disease can only be excited in a constitution already predisposed to it, and that no isolated local malignant action can exist; so that a blow, or any other local exciting cause, can only be looked upon as the source of the development of a disease already inherent in the constitution. Another instance may be given of the difficulty which may arise in attaching the source of the disease to the constitution, or to the local injury. A person may receive a blow on the back, which may give rise to the formation of an abscess; if such an accident happen to a patient of a strumous diathesis, the bones of the spine are liable to become affected, and lumbar abscess will be the consequence. Without any such exciting cause, however, a lumbar abscess may form from an idiopathic deterioration of the spine. Now it becomes a matter of the greatest importance to ascertain, whether the abscess in question results from the mere local injury, or from an inherently defective constitution, as, in the former instance,

the prognosis would be favourable; while, in the latter, the disease must be considered of a most dangerous character. The microscope and chemistry will almost invariably decide this question, by rendering the phosphate of lime evident in the case of diseased spine. So also with respect to the deposits from urine, which are so various in character; yet, at the same time, in many instances, a judgment may be formed from the examination of the nature of the constitutional disturbance which led to the deposition, as some of them indicate organic constitutional deterioration, others merely functional disturbance, and some of them only resulting from slight physical causes. Many other instances might be brought forward to prove the comparative facility with which an accurate diagnosis of disease may be arrived at by the aid of microscopic examination, and the chemical analysis of the products of diseased action; but it will be sufficient for my purpose to instance the advantages gained in such like investigation in the diseases to which I have already alluded."

And in conclusion he adds, "I must beg leave to impress upon my readers, that by this commendation of the use of the microscope and chemistry, in relating to diagnosis, I have had no intention whatever of inculcating any neglect of the usual means which are employed in the investigation of constitutional symptoms, the due performance of the natural functions, and local appearances, as a means of detecting the sources of disease; but would merely shew, that as the sound in the detection of a stone, and the stethoscope in the examination of the diseases of the chest, are the physical means of improving the sense of touch and hearing, so may the sense of sight be exalted by the microscope, while the science of chemistry is competent to the development of facts which the senses themselves are totally incapable of arriving at. I remember when the stethoscope was first introduced in this country, an excellent physician, although perhaps an old fashioned one, ridiculed the use of the instrument, and said, 'I never could be an advocate for the introduction of an instrument as an aid to the practice of medicine, which has a tendency rather to substitute the senses for the sense of the practitioner;' but this was, indeed, a short-sighted view, as the stethoscope is only intended to be employed as a means of extending the sense of sound, thus rendering that avenue to the brain more susceptible to the impressions arising from the morbid indications, than the unaided ear could ever be. Such, indeed, is the only use I would wish to propose of the microscope and chemistry in medical practice, not with a view, indeed, of shortening the road to the formation of a just diagnosis, but to render its discovery more certain and unerring; and as the

mathematician employs certain formulæ in proof of the correctness of his calculations, so may the use of chemistry in many cases be called in aid by the pathologist, as the test of the accuracy of his previous deductions."

Professor Paget, in a lecture very lately delivered by him at the Royal College of Surgeons, "On the Progress of Anatomy, and its Influence on Surgery," says, "The recognition, by the microscope, of the nature of tumours, is at once applicable to practice, by the determination which it may give for or against operations, when portions of the tumours can be removed beforehand. So the examination of discharges from ulcers may be decisive of their character and suggestive of their appropriate mode of treatment. The examination also, by microscopic aid, of the contents of abscesses and cysts, may assist in the diagnosis of cases which, but for this microscopic help, would be yet more obscure. Again, the fact of the ordinary growth of bones by the ossification of fibrous tissues (which could not be proved without the microscope), is applicable in surgery, by assuring us of the utility of periosteum in the repair of the diseases and injuries of bones; of its utility, I mean, for its own sake, as well as for the sake of the bloodvessels which it contains, and by means of which alone it was supposed to administer to the nutrition of bones. So, the microscopic proof of the muscular structure of the arteries and veins (though it has only confirmed the truth maintained by Hunter), and the proof of the proper character of their muscularity, and of their relation to various stimuli, have made us more sure of the natural means for the arrest of hæmorrhage, and of the methods by which we may assist them."

This much will at least be conceded. The microscope has demonstrated the existence of structures which before had escaped the notice of anatomists, and thus a knowledge of function is more readily arrived at; since wherever the same tissue is met with in the organism, the same use may be attributed to it.

And now let us hear what Baron Liebig has to say in reference to *Chemistry* as applied to Physiology and diseases:—

"Is it not obvious where the defects of physiology lie? Do we not perceive the internal conviction of our greatest physiologists in every experiment they make, in every word they utter? The mere knowledge of external forms and physical properties no longer satisfies them; they are deeply impressed with the importance, nay the indispensable necessity, of a more profound, more intimate, more *chemical* insight into the composition and changes of organic bodies. But is such an insight possible without the knowledge of the chemical language?

"If other and less highly-gifted physiologists maintain that chemistry is incapable of any useful application to their science,

this is a most unjust reproach, since they understand neither the meaning nor the value of chemistry. They can no more read its language than they could a work written in Hebrew characters without having previously learned those characters.

"It is not unworthy of remark, that many physicians profess to hold chemistry in contempt, exactly as they do with physiology; that medicine reproaches physiology, and with equal injustice, as she reproaches chemistry. The physician who has learned medicine, not as a science, but as an empirical art, acknowledges no principles, but only *rules* derived from experience. The object of his inquiries is only whether a remedy, in any given case, had a good or a bad effect. This is all the empiric cares about. He never asks *why?* He never inquires into the *causes* of what he observes!

"From what a different point of view should we contemplate the abnormal or diseased conditions of the human body, if we were first thoroughly acquainted with its normal conditions, if we had established the science of physiology upon a satisfactory basis!

"How differently would the treatment of diseases be conducted if we had perfectly clear notions of the processes of digestion, assimilation, and excretion. Without just views of force, cause, and effect—without a clear insight into the very essence of natural phenomena—without a solid physiological and chemical education, is it to be wondered at that men, in other respects rational, should defend the most absurd notions; that the doctrines of Hahnemann should prevail in Germany, and find disciples in all countries?"

The function of DIGESTION was viewed as a complex rather than a simple process, and the change that amylaceous matters undergo in the mouth, through the influence of saliva, by which they are converted into imperfectly formed sugar, the principal agent effecting this transmutation being an albuminous principle designated *salivine*, and which acts as a ferment, while the caseous and other allied bodies are merely dissolved by the alcali of this secretion, was dwelt upon. This change was said to be brought about in an incredibly short time. The presence of the sulpho-cyanide of potassium imparts to this secretion its great peculiarity; and it has been conjectured that this salt being in excess in the saliva of some animals, gives to this secretion its poisonous properties. The food being thus insalivated, is passed into the stomach, and there it is further acted on by a peculiar acid. What this acid really is has called forth much difference of opinion. For a long time it was accepted as being the hydrochloric, derived from the common salt of the blood by electrical action; and most writers allow that there is always a

small quantity of this acid free in the stomach. Others contend that it is the *lactic* acid, the result of a change induced in the amylaceous matters by the contact of caseine, and which for a long time was confounded with the *acetic;* but very lately, M. Blondlot has asserted that the acidity of the stomach is owing to the presence of the *biphosphate of lime*, obtained by the action of common salt on the phosphate of lime existing in the blood. This he shews by the following DIAGRAM:—

Neutral phosphate lime. + Hydrochloric acid.
$2\,Ca\ O_1\ P\ O_5$ $H.\ Cl.$

= Biphosphate lime. + Chloride calcium. + Water.
$Ca\ O\ P\ O_5$ $Ca.\ Cl.$ $H.\ O.$

The soda, he states, is retained by the blood.

Liebig is of opinion that the most active agent, effecting the most important changes in the food in the stomach, is a principle designated PEPSIN, formed by the action of the oxygen taken in with the saliva on the epithelium of the mucous membrane of this organ. The action induced is termed CATALYTIC, or decomposition by contact. A change constantly taking place in nature, and due to the presence of a certain class of bodies called *ferments*, which are universally distributed. Thus, in vegetable fermentation the gluten is transformed into a principle denominated *diastase*, which sets up those molecular transmutations that characterise the change there going on.

Dr. Thomson, speaking of digestion, says, and says truly, "the most superficial observer must have noticed that digestion is something more than a mere chemical action, and * * * "I regret," he adds, "to be obliged to infer that the commonly received view of it is scarcely admissible. It is, perhaps, safer to conclude that there is a deficiency of knowledge on this important subject; and that not only do we require to possess a few facts additional before we can be said to understand the process, but we want an entirely new basis on which to found a theory of digestion." He conceives that the starch of food is first coverted into sugar, and this again into simpler forms, as alcohol and acetic or lactic acid; this last being most commonly found by him in the stomach to the exclusion of the hydrochloric. The digesting principles, called *pepsine, gasterose*, &c. he considers to be albumen modified by the action of solvents. The process itself he rather refers to some nervous action, as Dr. Wilson Philip, indeed, had done before him; who considered electricity conveyed by the gastric nerves to be the operating cause.

The acid chymous mass is now passed onwards into the duodenum, and here it meets with two secretions, both of which

are alkaline; and the first chemical change effected is necessarily that of neutralization.

To the pancreatic juice has lately been given emulsive properties; its use, therefore, is to combine with and render soluble the fatty matters of the food. This view, however, is not concurred in by Dr. Bence Jones and others, who consider the pancreas as supplementary to the salivary glands, as taught by Lassaigne, and its secretion for the purpose of effecting the full change of the starchy matters into sugar, which does not take place in the mouth. The pancreatic fluid has been found to vary in the amount secreted, and the flow to be intermittent. In the ruminantia it is greatest after rumination. Two pints were collected from a cow in an hour. M. Colin, Professor of Anatomy and Physiolgy in the Veterinary School at Alfort, has found that in the horse it is not so abundant as in the ox. In the pig it amounts to about one-fifth of that of the horse. In the sheep it is thick and very rich in albumen, readily forming an emulsion with fatty matters. This secretion, he adds, presents certain peculiarities in each animal that has been examined by him.

The uses of the biliary secretion are, perhaps, not more satisfactorily defined than those of the pancreatic. Some physiologists consider it to be the principal solvent of the albuminous parts of the food. Bernard has ascertained that sugar is taken up and carried directly to the liver; and in the bile, by means of the ordinary tests, this principle has been demonstrated by him to exist. This being the case, it is fair to infer that alcoholic fluids, and the allied substances, are similarly determined, and then we can easily account for the peculiar condition of liver called "drunkard's liver."

That the removal of bile from out of the body is of considerable importance is unquestionable, since by its withdrawal the blood becomes depurated. It is formed from the effete nitrogenized tissues, and is often found very complex in its nature. Tiedemann and Gmelin enumerate no less than twenty-three different substances met with by them in ox gall. How many of these were formed by the processes of analyzation resorted to, being products rather than educts, possibly cannot be told. But this complicity will not so much surprise us if we view the liver as an *ex*cretory as well as a *se*cretory organ. It aids in the elimination of carbon and hydrogen from the system. These elements are naturally given off from the lungs in the form of carbonic acid gas and watery vapour; but if the lungs from disease are unable to perform their healthy office, the liver is then called into increased action, and, having more than its ordinary duty to perform, this organ, too, becomes implicated.

In this way, possibly, its fatty degeneration may be explained—from the accumulation of the elements of fat—carbon and hydrogen—in it. Also its condition in the first stages of rot in sheep, and many of the other changes to which this gland is obnoxious. That the deposit of fat is in some way or other connected with bile is proved by the fact, that if it be prevented from flowing into the intestines, animals soon become emaciated, and die of marasmus.

The power of neutralization which it possesses depends on soda, this base being in association with a peculiar animal acid, the *choleic*. As soon as this action takes place, the chymous mass is split up into two portions—*chyle* and *excrementitious matter*. The first of these—the truly nutrient principle—is taken up by the lacteals, conveyed into the receptaculum chyli, and subsequently, on being passed through the lungs, and acted on by atmospheric air, it becomes the newly-formed blood.

Thus has been shewn how, by a beautiful series of changes, in which, doubtlessly, chemical laws obtain, the amylaceous, saccharine, fatty, and albuminous parts of vegetables are converted into that fluid upon which the life of the animal depends, and from which all other parts of the body are formed. A few elementary substances were pre-existent in the air, the earth, or the water: these were taken up by vegetables and assimilated, whence resulted certain compound bodies, designated *proximate* principles. On these the herbivora feed; these, in their turn, become food for the carnivora; and, therefore, the animal organism generates not a single principle, nor need it do so.

Referring to the derangements that occur in digestion, the Lecturer went on to say, that from the non-assimilation of certain constituents of the food, when given in excess, or from its innutritious nature, or from an animal being a foul feeder, intestinal concretions have their origin. While from the changes induced in vegetable substances, when the function of digestion becomes impaired or is interfered with, we have flatulent colic or tympanitis; the treatment of which would depend upon the length of time the fermentative action had been going on. The early stages call for the use of the compounds of ammonia, the later those of chlorine. Mow-burnt hay was stated to be often productive of disease of the urinary organs by generating the acetates in the system, these being carried to the kidneys for elimination; since in the urine the soluble salts of the effete materials are found, while the insoluble matters are expelled with the egesta.

It has been calculated, that from twelve to sixteen hours elapse before the refuse of alimentary substances passes off as egesta; it therefore follows, that digestion is going on all this time.

The period, however, will vary; depending, in all probability, on the complexity of the digestive organs, and the length of the intestinal tube. This in man, and other carnivorous animals, is said to be intermediate between that of the carnivora on the one hand and the herbivora on the other, being about six or seven times the length of the body. In the carnivora it is only from three to five times the length of their bodies. In the herbivora, as sheep, twenty-seven times; and in others it varies from twelve to sixteen times. In some we find the deficiency in length made up in breadth; for instance, in the horse, in whom the intestines are not remarkable for their length, but the cæcum and large intestines are enormously expanded in diameter, and these have been by many physiologists supposed to perform the office of a second stomach.

Horses long kept in marshy districts contiguous to the sea are frequently known to be the subjects of nephritic affections, and œdema, general or local, these being, in all probability, caused by the saline substances there existent. And kiln-dried oats, after having become wet by a sea voyage, are often productive of *diabetes*.

Wheat and barley, it is well known, *unless they are caused to undergo germination*, frequently become the source of disease, the one producing laminitis as a sequela of gastritis, and the other giving rise to depilation of the skin. This last-named admits of an easy solution, if we view the lining of the stomach and the envelope of the body as a continuation merely of one and the same membrane. The former, perhaps, cannot be so easily traced.

But he feared diseases of the skin had not received that attentive investigation which they merit, and we are too apt to jumble them together under two general heads—mange and surfeit. He had, however, reason to believe the subject has been taken up by one of his colleagues, Mr. Simonds; and he doubted not, from his well-known perseverance, he would not leave it until he has by his researches thrown some light upon it. 'Twill well repay him for his labours.

Under this head he was anxious to point out an error that exists respecting germination. 'Tis one of some importance, and chemistry alone enables us to demonstrate the fact.

Exciting of the fermenting process in grain DOES NOT increase its *true* nutritive property, as is commonly thought. Professor Thomson found the soluble salts to be much diminished in malt as compared with barley, and also the quantity of nitrogen and carbon to be lessened. The bulk, it is true, becomes increased, but not the weight. He says, "If we consider 100 parts by weight of barley are converted by the process of malting into

eighty parts by weight of malt, we shall have the following formulæ:—

	C.	H.	N.	O.	
Barley	123	106	2	82	
Malt	90	85	0	69	
	33	21	2	13	loss.

The carbon has disappeared in the form of carbonic acid gas, and the nitrogen, probably, in that of ammonia. It is true, that during malting water has been taken up, but this has gone to convert the starch into sugar.

From the comparisons instituted by Professor Thomson, in feeding of cows on malt and barley, this was the result:—"In every point of view malt is inferior to barley as an article of diet for cattle, as it gives less milk and butter, and diminishes the live weight instead of increasing it, which barley does under the same circumstances."

The formation of urinary calculi was traced to the metamorphosis *urea* undergoes when in contact with water and mucus, by which it becomes converted into the carbonate of ammonia; which compound acting on the lime salts, excreted by the vessels of the kidney, a carbonate of lime—the general constituent of these concretions in the herbivora—is thus formed. As a solvent for these, hydrochloric acid may be either given or injected into the bladder; while lactic acid must be employed for the phosphates; and should the urates be ever met with, the alkalies must be resorted to for their solution.

Enough, he felt convinced, had been advanced to prove the influence food has in the production of disease. And here he left altogether unnoticed DYSPEPSIA, with its consequences, having preferred confining himself to those maladies the cause of which may be traced to chemical changes going on in the organism, or the food taken into the stomach. And it would have been easy to add to these. Of this he felt assured, that DIETETICS, in common with HYGIENE, or the regulation of external conditions, demands more attention than is commonly given to it by the practitioner of veterinary medicine.

Adverting to the remedies employed, the Lecturer said the days has passed by when the right eyes of hedgehogs fried in oil, and roasted toads, were extolled as specifics. When the warm blood of a recently slain gladiator was esteemed a remedy for epilepsy; the thigh bone of an executed criminal a cure for dysentery; and three scruples of the ashes of a witch, well and carefully burnt at a stake, proved a sure catholicon against witchcraft. When the spittal of a fasting man was held to be good against the bites of serpents and mad dogs; and the cut-

tings of his nails, bound to the navel, would remove dropsy. When the gall of a hedgehog mixed with the brain of a bat was resorted to as a depilatory; and the filth of the ears and dried bees, with a recently killed chicken, or urine and soot, were the remedies for colic; or a tarred red-herring a cure for red-water in cattle. When boiling oil or molten lead was poured into fistulous wounds, and open joints were plugged up with plaster of Paris. Yet this boiling oil—like the farrier's boasted DIAPENTE, the receipt for which we have had handed down to us from the Centaur Chiron, who was the instructor of Esculapius in the art of medicine, both human and veterinary—can boast of its antiquity, it being used by the native doctors of India. Major Edwards, in his account of the war in the Punjaub, states that "if a man's arm was carried off by a musket shot at the elbow, he was made by his 'medical adviser' to plunge the stump into a cauldron of hot oil, salt, and blue-stone, whereby the flesh shrivelled up like the end of a leg of mutton!" *Now* in the treatment of wounds we almost leave Nature to her own resources, merely assisting her when we perceive it to be necessary. We shield the wound with a layer of collodion, and keep the surrounding parts wet, so as to prevent too much irritation being set up. Of course, the knife of the surgeon is not withheld when there is a needs-be for it, and the state of the system is most carefully attended to.

But while these absurdities may be said to have passed away, others, not in the least degree less reprehensible, have taken their place in the minds of the vulgar, of which several instances were brought forward. Under the same category—charlatanism—he was inclined to place many of the modern systems advocated for the removal of diseases, such are Homœopathy, Hydropathy, Mesmerism, metallic tractors, and galvanic rings and chains! These are merely a love for the marvellous, a belief in incredulities; or, at best, the influence of mind over matter; mere vagaries of the imagination: or, if it be liked better, they are a verification of Ben Jonson's satirical definition of physic—"The art of amusing the patient while Nature cures the disease."

On this subject Roger Bacon, in his discourse on 'Art and Nature,' is very plain. He writes: "Knowing that the raising of the imagination is of great efficacy in curing diseases of the body; raising the soul from impurity to health, by joy and confidence, is done by charms; for they induce the patient to receive the medicine with greater faith. They excite courage, more liberal confidence, and hope. The physician, then, who would magnify his cure, must devise some way of *exciting*

faith in his patient; not that thereby he would cheat, but that he may stir up the imagination of the patient *to believe he will recover*." This philosophic monk also believed in an invisible fluid which gave men power over other persons—the mesmeric force of the present day.

To prevent diseases, a pretender in Germany has been very lately advocating a diet of bread and water, going barefooted, and letting the hair and beard grow. Furthermore, he recommends making a nearer approach to man's original state in costume than the decencies of modern society will altogether permit. It is said the bread and water regimen conjoined, to nudity, is not much approved of. Another system, we are told, is just now coming into vogue in Prussia;—it is the cure of diseases by muscular exercise. Thus cripples from rheumatism are to go through a course of gymnastic exercises, and dancing is the remedy prescribed for the gout! Where and when will the absurdity of extremes end? "The uncertainty of cures," says John Hunter, "both of physic and surgery, gives the hardy and ignorant empiric frequent opportunities of exulting over science. Ignorance is rash and fearless; knowledge is always cautious and circumspect. The first, amidst much mischief, now and then boasts a random cure; the other, though active where there is a prospect of success, is frequently restrained by the fear of doing harm. At the same time, by this caution, and a proper view of the bounds of the art, the rational practitioner enjoys much secret satisfaction, and has frequently in his turn ample cause of triumph over empiricism."

Reference was next made to the adulterations of drugs, and how this could alone be demonstrated by chemistry. At the same time, the practitioner was advised to use only the genuine or pure article, discarding all the trashy compounds of the farriers. Speaking of the combination of medicinal substances, the Lecturer said he feared that this was too little thought of, since an ignorance of chemical principles here might be attended with the most serious consequences, or, the compound obtained would be a perfectly inert one. Thus it is not consistent to combine alkalies and acids together, nor the alkaline carbonates with the acid salts, as alum and the sulphates generally. Equally injudicious is it to mix soap with the chlorides of mercury; opium with the salts of lead or the alkalies; the potassio tartrate of antimony and the salts of iron with the astringent barks; the acetate of lead with the sulphate of zinc; all these being what are designated incompatibles, because, on admixture, decomposition takes place. On the other hand, we may often advantageously combine therapeutic agents. Thus, calomel promotes the action of many of our purgative, diuretic, and dia-

phoretic agents; the vegetable bitters, emetic tartar, and the sulphate of iron, will increase the effects of aloes as a purgative. Croton, in like manner, may be advantageously added to other purgatives, whether they be employed for the horse or cattle, thus lessening very considerably the bulk of the latter: moreover, it has this advantage,—its purgative action is not lessened by unition with soap or the alkalies. This is not the case with aloes, as these substances both lessen and change its activity; for it ceases to act on the larger intestines specifically. And to this must be added the well-ascertained fact, that therapeutics of the same class do not produce their effects in precisely the same way. Take our more generally employed agents—cathartics—as illustrative of this. Aloes causes action by operating on the lower bowels principally; croton and saline purgatives through their influence on the mucous surface of the intestines generally; the one by irritating it, and the other by the withdrawal of a watery secretion from it; and calomel operates through the medium of the liver.

With reference to vegetable bitters increasing the action of aloes, he had received a communication from Mr. Hurford, V.S., 15th Hussars, stating that he had found the combination of the gentian root in powder most effectual for this purpose. The plan adopted by him was to withhold a portion of the aloes and substitute for it gentian. "The evacuations were plentiful, nor were the animals put off their feed in the least," he adds. These statements may not be undeserving our notice, and the experiments are surely worthy of repetition. The number of instances in which the plan had been eminently successful, as given by Mr. Hurford, was eight; and the largest amount of aloes administered by him was two drachms and-a-half, combined with the same quantity of gentian. In two other cases but little effect was visible.

Having thus shewn the advantages derivable from an application of chemistry to veterinary medicine, and offered some further advice to the student as to the manner in which he should pursue his studies, Mr. Morton, in conclusion, stated his object to have been to excite in the minds of those beginning their studies a desire for the acquirement of principles, by shewing how science comes to our aid, and removes the seeming difficulties that present themselves, and how each division assists the other. And he urged upon them diligence in the use of the means now afforded them, by which they would become not only well acquainted with their profession, and advance its interests, but also useful members of society at large, and esteemed by their fellow-men. The present was the most momentous period of their lives, and, depending on their employment of it, so

would be the estimation in which they would be held hereafter. Knowledge has been aptly compared to light, and none covet darkness but the evil and designing; and he who contemns knowledge loves not power, for "knowledge is power." Remember, too, that the moralist has poetically and truly said, "If the spring put forth no blossom, in summer there will be no beauty, and in autumn no fruit: so, if youth be trifled away without improvement, manhood will be contemptible, and old age miserable."

THE VETERINARIAN, NOVEMBER 1, 1851.

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

WE feel unwilling to allow the dying embers of the influenza among horses of the past summer and passing autumn to go quite out without a remark or two from us in addition to some we have already made: any we may submit on this occasion having reference in particular to the excellent practical paper on the subject in our present Number by Mr. Gloag. The paper professes to be no more than an account of symptoms, presumptive causes, and results of treatment, as they severally occurred under Mr. Gloag's steady and intelligent observation; and, as a plain narrative of facts, carefully collected and faithfully reported, the account is a very valuable one to us; but it is rendered of more value still by being interspersed with deductions which it will become our duty to examine.

So all but universal was the prevalence of the disease in the barrack in which it broke out, that out of ninety-four horses in previous health but twenty-nine escaped; and we quite concur in the observation this has led Mr. Gloag to make—that the disease prevails with more generality, and we may add, intensity, in situations where numbers of horses are congregated together: the state of the atmosphere of the locality or stable being one apparent cause for this.

Another cause, according to Mr. Gloag's conceptions, is to be found in *contagion;* a point on which we must pause awhile, since we cannot refrain from entertaining doubts in our own mind,

of the validity of this doctrine. Mr. Gloag conceives that he has had, occurring under his own immediate observation, facts which could lead to no other conclusion than contagion; while we, reasoning from what has happened to us in our practice—and our medical charge, be it observed, is very similar to that of his; nay, even we believe our stables are somewhat alike—cannot help thinking that the point of contagion is by no means yet satisfactorily established. Among some others we could mention, we will adduce one strong case to the contrary, and it is this—that a horse about eighteen years old standing in a stall between one twenty-three years of age and another six, escaped the disease, while both the latter took it; though they were not removed for some days out of their respective stalls after they had become affected with the disease. Still, analogy, and certainly public, if not professional opinion, are, we believe, against us. Epizootics are, most of them, or are thought to be, contagious. The pleuro-pneumonia among cattle is said to be. The sheep-pox is eminently so. Nor do we mean *positively* to deny that it is so in the case before us: all we say is, that, to our mind, the facts hitherto brought in support of contagion have as yet failed to convince us of its truth.

Spring and fall, the seasons of change from cold weather to hot and from hot to cold, the seasons of the greatest vicissitudes in the weather, the seasons of the prevalence of north-east winds and hot suns, the seasons, in fine, of moulting with animals, are the seasons of eruptions of influenza. Still, influential as any or all of these asserted causes may be in the production of the disease, do we discover in any one of them or all put together the actual producer or excitant of the disease? For our own part, we most unhesitatingly declare, *we do not.* We believe, with Mr. Gloag and others, that atmospheric causes are in operation; but of what nature, or to what extent, or in what manner they effect their agency, we profess to know nothing.

Next, in regard to the nature or pathology of the disease. This, whatever it may be in essence, appears in kind and character to be specific—one *sui generis.* Mr. Gloag calls the blood *poisoned.* We should be glad to have this tested by transfusion. The disease shews itself to be of the *adynamic* class, hence it has has got the name of *low fever,* and with some is considered, in certain stages, to partake of the nature of *typhoid.* There is evidently a deranged, there may be an *infected,* state of system, under which is generated *fever,* which has more or less disposition to fasten upon—if I may be allowed the expression—certains organs or systems of parts in the constitution. The serous and mucous structures are the first to

succumb to its influence. Febrile action, ushered in by dejection, loss of appetite, and hot and cold states of skin, &c. commences, and at first dries up the ordinary secretion of these organs, though subsequently it causes augmentation, perhaps alteration, of them. The mouth is hot, the tongue dry, the Schneiderian and conjunctival membranes injected and secretionless, the latter, perhaps, intolerant of light, the former susceptible to a degree to cause sneezing or blowing, with occasional dry cough. The pulse becomes quickened, and the body and extremities now grow hot. This stage is succeeded by one of secretion and tumefaction. The serous and mucous tissues relax, and exhale or secrete; sometimes the serous first, sometimes the mucous. Either the horse begins running from the nose and eyes, or the eylids and legs and sheath become filled. There are differences observable in the affection of these two structures which have seemed to us, heretofore, to warrant a division of the influenza into two distinct diseases: on mature reflection, however, we would rather ascribe these apparent divisions in the disease to difference of age and condition of subject, season of year, &c. But what is remarkable in all subjects, and at all times, is, that, should there be any organ or part of the body at the time of attack which from previous or existing disease, or other cause, is "weaker," or in a state of greater susceptibility than the other parts or organs, that one will be sure to suffer from influenza, and suffer to a greater extent, probably, than any other. This is a fact to which we have had occasion already to draw attention; indeed, among practical men it is one too notorious hardly to need mention. And knowing this, we should be very careful how, in the course of treatment, we irritate or annoy any part in particular, so as to run the risk of bringing upon it the infliction of influenza. In this way is it, in our opinion, that aloes, drastic purge as it is, not infrequently lays the foundation for a fatal termination by superinducing upon the influenza an attack of gastro-enteritis. We feel ourselves twitched in conscience in our practice on this score. In Mr. Gloag's two fatal cases, likewise, it may, we think, fairly become a question, how far the blistering the sides led to the attacks of pleuritic and pneumonic disease; and, indirectly, through the horses standing continually, to the sequel of laminitis.

Although the influenza gives some indications of sthenic action at the commencement, this proves but transient; for it quickly manifests, most unmistakeably, the opposite character. Prostration of power is sometimes a very early, sometimes even an incipient, symptom. Adynamia evidently prevails. The

horse walks with unsteady wavering gait; and with difficulty rises after lying down: the pulse, though it may be quick, indicates weakness rather than strength; there is a general disposition to *œdema*; the mucous surfaces become exsanguine and leaden-hued; the appetite continues bad; and there is apt to be an excitable state of bowel present which lacks but an irritating cause to run into diarrhœa. The blood when drawn exhibits diminution of *vis vitæ*. It no longer coagulates as usual, but congeals only into a soft clot, of the consistence of currant jelly, which readily breaks down under slight pressure of the finger. And in this state of body it is that extravasations, ecchymoses, and petechiæ occur.

To add a few words on the subject of treatment. Many unprofessional persons, who are engaged about horses, fancy it an easy matter, to use their own language, "to cure influenza;" and, no doubt, in various simple and empirical ways, sometimes with and sometimes without medicine, or with such medicine as is tantamount in efficacy to none at all, this is frequently done; the disease being one which, uninterfered with, will frequently, through the powers of the constitution, work its own cure: so that, instead of there being any credit due to such self-instructed doctors, no more is to be said for them than that they have the wisdom, either purposely or incidentally, not to interfere with the *vis medicatrix naturæ*, or, in other words, to employ means so inefficient that no harm is done by them. Professional men will, while they are giving the natural powers every scope and facility, watch the progress of the disease stage by stage, so as to be ready to step in at the critical moment their services may be called for. The grand point is, to avoid doing too much. Let well alone; and take care not to offend "well" by interposing an irritation which may prove the beginning of evil.

It will be in the recollection of some of our readers, that Mr. J. T. Hodgson presented to the London Veterinary Medical Society, in 1836, samples of Thibet sheep and goats' shawl wools. He has contributed similar samples in the Indian Department of the Great Exhibition, as well as some samples of experiments on wools when removed from the animals. It is stated by an author of our own profession, that "hair or wool is of two kinds: one permanent, the other deciduous," and that "both kinds of wool or hair are characteristic of breed, existing separately in animals, or both together on the same animal." Thus we have all coarse gelatinous wool in some sheep, or all fine albuminous and gelatinous wool in others, as the merino; or we have both

kinds existing separately in the same animal, as in Thibet shawl wool goats and sheep.

Permanent hair or wool is oftener gelatinous. Though the other is sometimes permanent also, as well as deciduous. Fine hair or wool is always most abundant and most albuminous as animals are exposed to cold. Wools, the greater bulk of which is gelatinous, become similar in texture to finer wools when deprived by chemical processes of part of the gelatine, not only in the raw state, but when made up into yarn or cloth, &c.; and this in as many days as it would take years to effect the same alterations in the qualities of wools by breeding. For obvious reasons, however, the processes were not given into the Exhibition along with the samples. Fine wools are now so abundant that this process is, perhaps, hardly desirable. We refer, only as physiologists, to the facts here brought forward: we, as veterinarians, being practically acquainted with the summer and winter coats of asses, horses, and cattle: a subject that has always been of great interest to horsemen, and which, in these experiments, is chemically demonstrated to arise from difference in the component parts of hair or wool at different seasons.

PROCEEDINGS OF THE COUNCIL OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

Sitting of October 8th, 1851.

Quarterly Meeting.

Present—The President (in the Chair); Messrs. Braby, Cherry, A. Cherry, Dickens (Kimbolton), Ernes, Henderson, Stockley (Royal Artillery), James Turner, Wilkinson, Professor Spooner; and the Secretary.

Mr. A. Cherry read the following report from the Exemption Bill Committee:—

(REPORT).

Report from the Committee for obtaining an Act for Exemptions and Privileges for Veterinary Surgeons.

The Committee, under the direction of Mr. Jagoe, placed in the hands of Lord Beaumont the Bill as assented to in Council. Petitions were also prepared and sent to different members of

the body corporate for signatures, which, being returned, were presented in due course.

The bill was introduced into the House of Lords, read a first and second time, passed through Committee, read a third time, and passed without opposition.

The Bill was sent from the House of Lords to the House of Commons, and, by the advice of Lord Beaumont, was placed under the charge of Mr. Hume. The Bill was read a first and second time without opposition, and sent into Committee. After several adjournments, it was brought forward; "but almost immediately, *Mr. Bouverie* moved, that the Chairman should report progress.

Mr. Newdegate said a few words in favour of the Bill.

Mr. Henley objected to the principle of the exemptions included in the measure.

The Committee then divided,

For reporting progress	24
Against	13
Majority .	11."

Times 22 *July*, 1851.

From the feeling manifested by a large number of members of Parliament, your Committee are of opinion that if the subject was again brought forward at an earlier period of the session, there seems to be a reasonable probability of an Act being obtained.

They, therefore, suggest that application be again made to Parliament to grant to the veterinary profession the same exemptions and privileges which were set forth in your late rejected Bill.

The Committee beg to acknowledge the very efficient and laborous services rendered by Mr. Jagoe.

The Committee also beg to acknowledge the zealous services of those gentlemen, members of the body corporate, to whom petitions were entrusted.

The Committee beg leave to state that the whole of the expenses they have incurred amount to £78..11*s*..6*d*.

WILLIAM ROBINSON
ALEX. HENDERSON
E. N. GABRIEL
CHARLES SPOONER
ARTHUR CHERRY, *Sec. to Committee.*

ACCOUNT OF EXPENSES *incurred by the Committee appointed to obtain an Act for Exemptions and Privileges for Veterinary Surgeons, June and July*, 1851.

	£	s.	d.
Mr. Jagoe for Fees, Copying, and incidental Expenses, cash out of pocket	15	0	0
Ditto, for Fees in House of Commons	5	5	0
The Secretary to Committee, for Stationery, Postages, and incidentals, as per Account	4	5	2
Mr. G. J. Collins, for engrossing Petitions, Circulars, &c. as per Account	54	1	4
	£78	11	6
By Cash, as per order on Treasurer	25	0	0
Balance due	£53	11	6

WILLIAM ROBINSON, *Chairman.*
ARTHUR CHERRY, *Sec. to Committee.*

He expressed his belief that the measure was not defeated upon its own merits, but through the opposition of the Government; and

The President stated that the Government had declared its opposition to the Bill; and that it was through Government influence alone that the Bill was rejected. He read several letters from members of Parliament relating to the division on the Bill, and recommended another effort to be made to obtain the measure next session. It was unfortunate that the Bill had been placed in the hands of Mr. Hume, who was ill and unable to attend to it; so that there was no one to support it when it was first proposed. Mr. Bass was kind enough to move it in Committee. He could not understand why the Government should oppose the Bill: seeing that its object was recognized in the preamble of the Charter.

Mr. Wilkinson thought the labours of the Committee had not been well directed. He complained that they had not communicated with the members of the Council, to inform them of the progress of the Bill through Parliament, so that they might exert themselves in procuring votes when the division took place. At the last meeting the Treasurer stated that the probable expenditure of the Committee would be £25. Instead of that, however, it appeared that £70 had been expended. He thought they should not throw away such a sum every year for a Bill about the benefits of which all were not agreed. Some

persons did not wish the exemptions sought by the Bill, considering it an honour to serve on juries and perform parochial duties.

A letter was read from *Mr. Pritchard*, in which that gentleman took the same view of the labours of the Committee as Mr. Wilkinson; but most strenuously urging that every exertion should be used to secure the ultimate success of the measure.

Mr. A. Cherry stated, that the greater part of the additional expenditure of the Committee arose out of the opposition from the north, to defeat which very prompt and energetic measures were required. As to not communicating with the members of Council, they found it impossible to do so, owing to the rapidity with which the Bill passed through its several stages—a rapidity which took every one by surprise.

Mr. Dickens said, that the feeling of the profession was universally in favour of the Bill, and that there was now a greater liability than ever of being called to serve on juries, owing to the existence of the County Courts.

Mr. Stockley believed it to be most desirable that every endeavour should be made to obtain the Bill, and that the language made use of by those who opposed it made it imperative on them to uphold the respectability of the profession by obtaining the object sought in this instance, as by so doing they were bringing themselves more on a parallel with what they were pleased to term the sister profession.

Professor Spooner, in reply to Mr. Wilkinson's strictures on the proceedings of the Committee, urged the expediency of taking further steps in promotion of their object, and leaving no stone unturned till it was attained. He had heard of some few persons who did not desire the passing of the bill; but on inquiry he had found that the boot had not pinched them, seeing that they were not on the jury list. There could be no question that the vast majority of the profession were most anxious for the measure.

On the motion of *Mr. Ernes*, seconded by *Mr. James Turner*, the report of the Committee was adopted.

Mr. Braby moved the re-appointment of the Committee, with the addition (at Professor Spooner's suggestion) of Mr. Wilkinson. He thought every effort should be made to obtain a bill so much desired by the profession at large.

Mr. James Turner seconded the motion, which passed unanimously.

Mr. Braby then proposed, and *Mr. James Turner* seconded, a vote of thanks to the Exemption Bill Committee for their labour.

The motion passed unanimously.

Professor Spooner suggested the propriety of making some acknowledgment to Mr. Jagoe for his valuable services in the promotion of the bill.

A brief discussion on the subject ensued, in the course of which the President and several members of the Council bore testimony to the untiring energy manifested by Mr. Jagoe throughout all the proceedings connected with the bill; and on the motion of *Professor Spooner*, seconded by *Mr. James Turner*, it was resolved that a cheque for £50 be presented to him, as an acknowledgment of his services.

The *Secretary* read the following letter from Mr. B. Cooper, resigning his office as a member of the Board of Examiners, on account of professional avocations:—

"New Street, August 10, 1851.

"My dear Sir,—After having performed the office of an Examiner at the Veterinary Board for so many years, and with so much gratification to myself, I cannot give up the duty without feelings of deep regret; but my own professional avocations occupy so much of my time as to prevent the further performance of the duties of that office, either with credit to myself or with advantage to your pupils. I can, therefore, no longer hold so responsible a situation, especially as I find it impossible to keep pace with the rapid advancement which your own profession is daily making both in science and practice.

"I can only say, I shall ever feel a deep interest in the progress of veterinary surgery, and feel confident that the steady pursuance of the present adopted system will surely secure its ultimate success to the utmost of your wishes.

"Yours, very sincerely,

"Bransby B. Cooper.

"*E. N. Gabriel, Esq.*"

Mr. Ernes moved that the resignation be accepted.

Mr. Dickens seconded the motion, which was agreed to.

Mr. A. Cherry proposed, and *Professor Spooner* seconded, a vote of thanks to Mr. Cooper for his valuable labours on the Board of Examiners.

The motion passed unanimously. It was communicated to that gentleman as follows:—

"Rolls Buildings, October 9, 1851.

"Dear Sir,—I am directed by the Council of the Royal College of Veterinary Surgeons to inform you that it is with much regret they accept your resignation as a member of the Board of Examiners. For your zealous and untiring support of and assistance to veterinary science, and for your indefatigable and

most valuable services as a member of the Board, they beg to tender you their best and warmest thanks.

"As Secretary to the Board, with ample opportunity of witnessing the dignity, consistency, and urbanity with which you presided over it, I beg most cordially to join in the regret and gratitude of the Council.

"I have the honour to remain,
"Dear Sir,
"Very truly yours,
"E. N. GABRIEL."

"*Bransby B. Cooper, Esq.*"

Mr. A. Cherry gave notice that, at the next meeting, he would move that Mr. Richard Quain be elected to fill the vacancy caused by the resignation of Mr. Cooper.

Cheques were ordered for several amounts, as voted by the Council.

The *President* named Messrs. Ernes, Braby, and the Secretary as the Committee of Supervision.

The proceedings then terminated.

WM. ERNES.
EDW. BRABY.
E. N. GABRIEL.

OBITUARY.

WE have the melancholy duty of recording the death of Mr. John Tindall, late of Glasgow. On the 29th of September, while driving a young and restive horse, he was thrown out of his gig, and killed instantly. He was never conscious after he fell, and there would appear to have been a rupture of one of the sinuses of the brain, as the blood flowed freely in a large stream, and of a dark colour, from one of the ears—the skin was unbroken, and there was scarcely any appearance of injury.

Mr. Tindall obtained his diploma from the Edinburgh school in 1837, and immediately after commenced practice at Dunrobin Castle, where he remained up to the time he left for Glasgow, about eight years ago.

He was universally respected in the profession, and was appointed one of the first members of the Board of Examiners of the Royal College of Veterinary Surgeons; and, in 1850, he filled the office of Vice-President. He had just completed a first-rate veterinary establishment in Glasgow, and has left a wife and child to lament his untimely loss, at the early age of forty-two.

THE

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DISEASE OF THE PLEXUS CHOROIDES.

By WILLIAM PERCIVALL, M.R.C.S. *and* V.S.

A GREY mare, ten years of age, belonging to the First Life Guards, was admitted under treatment on the 23d September, 1851, on account of having "broken" one of her knees (the off) from a fall in watering order. The wound, which amounted at the time to little more than an abrasion of the skin, of the dimension of a crown-piece, was treated in the simplest manner; while a dose of physic was given, not more for the sake of counteracting any inflammation that might arise from the contusion of the fall than by way of improving the condition of the mare, who was looking rough in her coat.

On the morning of the 27th—the fourth day from her admission—the very day I had in my own mind resolved to send her out of the infirmary stable, I was unexpectedly called to her between six and seven o'clock A.M., in consequence of her having been "suddenly seized" with alarming illness. I was shortly in attendance, but on my arrival found her dead. The account given of her was, that at the morning stable-hour—six o'clock—she was found "all of a tremble" in her stall;—that in a few minutes afterwards she fell down, but, lying in great apparent uneasiness, she was roused up again. She, however, continued in a state of such excessive tremor that she soon, from utter inability to maintain the standing posture, fell a second time. Once more she was, from appearing in more pain lying than standing, got upon her legs. All to no purpose, however. She again shook and fell, and after a few struggles expired. She had eaten every blade of the hay with which she had been overnight supplied, and almost all of a bran mash which had been given her at the same time.

Anxious to learn all I could by way of throwing some light on the extraordinary case, from inquiries I made I collected that last summer, while at squadron drill on Wormwood Scrubs, she had fallen on one occasion on her head with her rider. And when she fell this last time, and broke her knee, she was said

by the man who was upon her, to "come down like a shot." Added to which, the mare was a "*weaver*" in her stall, and was known to be of that nervous temperament to cause her to be, without warning, dangerous of approach.

Post-mortem examination.—The abdominal and thoracic cavities were searched, and their several viscera examined, after a cause of death, to no purpose. Every viscus and part bore the aspect of health.

THE BRAIN, however, afforded evidence enough of disease, to which, in the apparent absence of all other, was ascribed her dissolution. Its meninges were surcharged with blood, and had a dark—a sort of dirty green—aspect. The cerebrum, sliced through the *centrum ovale,* presented numerous red points, some of unusually large size. There was no augmentation of fluid in the lateral ventricles; neither were there any perceptible changes in the parts within, save and except the *plexus choroides.*

At the bottom of each ventricle lie a red conglomerate fleshy-looking body, about the size of a hazel-nut—one being rather larger than the other—having its surface granulated as though it were a warty substance such as we see sometimes upon the human hand or finger. It had a solid uneven feel; and, when cut into, proved to be of darker red colour inwardly than outwardly, though still appearing to be made up of granules, which, on close examination, seemed to be clusters of vesicular eminences or corpuscles containing a fluid resembling serum. These were rubbed between the fingers without detection of any osseous or calcareous ingredient. The venous vessels leading to and from the plexuses were much enlarged in their caliber, and their coats were thickened: in fact, the veins were in a condition denoting impediment to the flow of blood through them, and so far accounting, in some measure, for the congested state of the brain and its meninges; and this congestion it was, together with any pressure the weight or bulk of the enlarged plexuses might occasion against the walls of the sinuses, that appeared to be the immediate cause of the paroxysm of symptoms which ended in death.

EFFECTS OF CASTRATION.

By EDWARD CRUNDALL, V.S., 4th Regt. of Madras Light Cavalry.

To the Editor of "The Veterinarian."

Sir,—I BEG to offer a few remarks on the pathological effects of castration. Preliminarily, it may, perhaps, be as well to mention the operation as practised generally here, and make some remarks on its success in old horses.

I am aware in England there is some risk attributed to the castration of an aged animal by the old and almost universal method of cauterization; but I have found the method adopted here to be, without exception, successful in old horses, as well adults, and I doubt not would be equally so with colts. I have never lost one from the operation itself. It is simply exposing the testicles, cutting through all the constituents of the cord but the artery, which must be separated from its surrounding tissue by manipulation with the finger and thumb, and a few rubs with a scalpel scrapes through it. No hæmorrhage of moment follows. The scrotum is generally filled with a coagulum, which is removed on the second or third day, and simple dressings applied to promote suppuration, which generally takes place from the fifth to the eighth day, and in about twenty days the animal is almost invariably fit for work; although I have used one of my own twelve days after the operation, on forced marches, without any ill effects. The loss in condition is very trifling, in many cases not perceptible.

The pathological effects I allude to are these,—thickening and suppuration of the cord, and scirrhous growth. I can relate one case of each, and state that, after having operated on above 300 horses, the greater part of which were in some way diseased, about ten have done badly, and five died. They were officers' chargers, light cavalry and artillery horses, from adultism up to fifteen years of age, the greater part of them stale worked horses. In explanation of the diseased testicles, I imagine the horses, being used in rapid movements of cavalry or artillery draught, are liable to injury from concussion when in a relaxed condition from the heat of the climate; or the testes become abnormally large from an irritable condition of the parts consequent on high feeding and excitement, and the constant emission of semen. Few horses are altogether exempt from this habit, and to such an extent is it sometimes carried, that so much emaciation and debility ensues as to render the animal worthless; and these cases, if of long standing, generally do badly if castrated. The abnormal condition of the organs of generation are enlargement of the testes, a thickened and cartilaginous state of the constituents of the cord, as well as serous effusion into the faschia, and dropsy of the scrotum; also adhesion to the tunica vaginalis; but this is not generally found in connexion with dropsy.

Case 1.—A white Arab horse, about nine years old, the property of an officer, who consulted me as to the propriety of castration.

The animal appeared in tolerable condition. The testicles were twice the natural size, and hung down nearly to the hocks,

and in rapid motion were not drawn up, but swung backwards and forwards in a relaxed condition. I think the animal had been in training as a racer.

On examination, I found the testes enlarged, the cord hard and thickened, and slight effusion into the scrotum. There was little or no tenderness, and the case was evidently chronic. I hesitated not to operate, but pointed out the diseased condition of the testes, and the probability of some longer period than ordinary being requisite to enable him to resume work; also a risk of supervening disease. He had a preparatory purge, and on casting him I found my prognosis correct. The effusion was not great: an ounce or two of serous fluid escaped from each sac, but the testes were adhered to their adjacent tunic by cords similar to the chordæ tendineæ, and the spermatic cord itself was hard and cartilaginous. I operated in the usual manner: the patient was allowed to rise, and all went on well for about ten days, suppuration had been established, and I was in no care for my patient, when I perceived the scrotum (which from having been primarily much swollen and reduced) become again swollen and thickened; and on examination of the near side I found a morbid growth of some magnitude from the cord, and, this continuing rapidly to increase in size, he was again cast, the scrotum freely laid open, the fungus enclosed in clams as near the ring as possible, and removed by the cautery: the base of the tumour and the side of the scrotum afterwards being cauterized, a profuse suppuration and sloughing followed, but the morbid growth again went on. Three several times was this treatment repeated, and growths as large as a cricket-ball removed. I must mention, that I endeavoured to apply ligature, but was unable, from the obtuse character of the tumour, to get it to remain so high up as I could remove it with the cautery. After the scrotum had been well opened, and finding the tendency to morbid deposit was gaining on my practice, I administered mercurial alteratives, made an examination per rectum, but failed to detect any tumour internally. The appetite was good, but the horse was getting thin and emaciated. The scrotum was plugged around the morbid parts with bichloride of mercury, confined in moist tow, in fine powder, and repeated as soon as a slough had been effected. An immense quantity of morbid growth was thus from time to time removed, and by steady perseverance for about two months the whole was sloughed away, and, no further tendency to deposition appearing, the scrotum was allowed to heal. I was frequently obliged to lay open the scrotum, as the orifice became in a few days so contracted that the finger could be scarcely introduced. An occasional laxative was given, and alteratives of calomel and

hydriod. potass, with moderately nutritious diet; a fair allowance of chenah (a kind of pulse, the only grain here given to horses), and lucerne grass. The horse is now well, and has been doing his work as a hackney in good condition since discharged from the hospital. A year since I had a similar case in an officer's charger in the 1st Light Cavalry, at Arcot, which, under similar treatment, was equally successful; but both were long standing cases, and gave great trouble.

Case II, one of five, all terminating fatally.

A grey troop horse, belonging to the 1st Light Cavalry, at Arcot, discharged from hospital fifteen days after castration, had not been worked, admitted five days after with swelling of the scrotum and stiffness and dragging of the off hind leg. I have no record if the testes of this animal were particularly diseased, as, from the number of cases while the whole of the horses of the regiment were being operated on, I could not without notes call every individual one to mind. I operated on twenty in a morning about twice a week; time occupied, one hour. On examination I found the scrotum hard and swollen, but no appearance of pointing or pus detectible; and as there was little or no constitutional disturbance, I ordered simple fomentations of hot water frequently, a liberal diet, and green grass to keep the bowels lax. This went on for some days with no appearance of softening or maturing of the tumours. I made an examination per rectum from the spine. Extending downwards towards the ring was a tumour, which appeared hard and consistent, as large as a man's arm at the wrist.

The symptoms became aggravated, the animal lost appetite and spirits, the leg was advanced and held in one position; the external abdominal veins distended with blood, the muscles of the abdomen contracted, the flank tucked up, considerable pain evinced in moving, and much constitutional irritation. I resolved on an operation, and opened the scrotum with a lancet, eventually more freely with a bistoury, until I could introduce the fingers: no pus or fluid escaped, and the scrotum was simply swollen and thickened. I then cast the animal, and, having secured him as for castration, explored the parts by manipulation as high up as the ring; but there was no tumour externally. I endeavoured to make a passage up the ring, but it appeared to be plugged up and obliterated. The animal was allowed to rise, and prepared for physic. A purge operated moderately; the scrotum was dressed with digestives, and a profuse discharge of pus ensued for a week or ten days. Iodine ointment was applied daily from the flank to the loins above the tumour, and small doses of calomel administered till

the system was affected. The horse appeared to improve for a short time under the treatment; he had the liberty of a box, and moved about without much apparent inconvenience; and from the profuse discharge I was inclined to hope that an outlet had been established for the contents of the tumour at the ring, although I could not detect it. From this time the animal continued to fall off; the discharge ceased from the scrotum, rapid emaciation followed, and, after lingering about a month, he died.

Post-mortem.—A large tumour or sac from the internal ring, or a little above it, around the pelvis to the spine, as far forward as the right kidney. An opening into the sac at the spine, from which a few ounces of fœtid bloody pus had escaped into the cavity of the abdomen. The lower portions of the sac were filled with pus of a cheesy consistence; large vessels in a congested state were around the cord; and the surrounding parts, as well as some of the subjacent intestine and peritoneum, were gangrenous.

Did the abscess of the cord arise from any neglect in the dressing, the scrotum not being properly cleansed from the coagulum in the first instance, or pus being allowed to accumulate? or from an inflammatory condition of the cord at the time of castration? I am inclined to imagine the latter, as the tumour commenced evidently internally, and no connexion existed through the abdominal ring.

I have had many cases of worm in the eye, which are readily removed by the evacuation of the humour; but I have observed that, at some stations where the horses drink at a tank, they are more numerous. At Arcot and Bangalore the horses drink tank water, and worm in the eye is not uncommon. I had four cases at Arcot in the 1st Light Cavalry in nine months: here, at Kamptee, the water is drawn from a well into a trough; and I have not had a case for a year and a half, either in the horses of the 4th Light Cavalry or Horse Artillery. I do not pretend to offer an opinion on this somewhat obscure affection; I only state this as fact.

Should these or any cases of interest be acceptable as a contribution to your periodical, I shall be happy to give you them as they occur; and am, Sir,

Your's faithfully.

Kamptee, Aug. 25th, 1851.

*** Mr. Crundall's cases will be at all times acceptable.—Ed. Vet.

ESSAY ON THE DESCRIPTIVE ANATOMY OF THE ABDOMINAL VISCERA OF THE HORSE.

By Mr. Gamgee.

[Read before the Members of the Veterinary Medical Association.]

A DUE consideration of the subject proposed for the Annual Prize Essay, at the Meeting of the Council of the Veterinary Medical Association on the 25th September, 1850, made me at first doubt as to whether the terms "abdominal viscera" implied all the organs contained within the abdomen proper and pelvic cavity, or simply those occupying the former situation. My hesitation arose from the fact, that the term abdomen is by all used both in a general and a restricted sense. After due reflection, it appears probable that the intentions of the Council would be most completely fulfilled by treating the question in the most comprehensive manner, and accordingly I deemed it advisable to describe the viscera contained in the pelvis, which are both anatomically and physiologically related to the contents of the abdomen proper. Thus, making mention of the alimentary canal without rectum and anus, or of the kidney without alluding to the bladder and urethra, would rather have tended to make any treatise on the subject more incomplete and disinteresting than if a different course had been pursued.

To any anatomist, the description of the contents of the greatest splanchnic cavity of the body must be a task of difficulty almost commensurate to its importance. To a student of anatomy it is easy to comprehend that, while the idea of prosecuting so vast and fine an inquiry should be replete with the greatest interest, it must also be the prompter of humbling feelings. True it is, that in anatomical description things are treated of which admit of ocular demonstration; but as I feel it to be equally true that before one can describe the truth it must be learned, and, before it can be learned, long time and labour are needed, I do not presume to offer the contents of the succeeding pages either as the sole fruits of my own inquiries, or as a complete exposition of the subject under consideration. For the vast majority of facts that I have stated I am responsible, because it has been my duty to ascertain that they are facts. On other points of doubt it is but just to state that I have preferred drawing materials from the general store of anatomical science. When I have done so, I have endeavoured to quote my authority; if ever I should have omitted doing so, or if perchance I may appear in some places to assume as my own what may belong to others, I can only state that the omission has been either unintentional, or its correction would have been

impracticable; so difficult is it to bear in mind the precise sources whence is derived much of the knowledge contributed by individuals for the benefit of mankind.

In the following pages I intend restricting myself to a special plan of writing, so that I shall first indicate the parts to be described, beginning by that portion of the alimentary canal situated within the abdomen, in the widest acceptation of the latter term, and then consider the other viscera, one by one, according to their proximity with the latter. I then intend to describe each viscus, both generally and specially—generally, including definition, position, attachment, shape, and relation to other organs; specially, restricting myself to the exposition of all such facts as I can appreciate by the naked eye in dissection; thus considering the external and internal aspect of each separate organ, with other specialities proper to its external and internal configuration.

The organs of the abdomen are the stomach and intestine. Nearest the stomach we have the spleen and liver, and in close proximity to the intestine we have the pancreas. We may then take the kidneys, supra-renal capsules, bladder, and urethra; also the vasa deferentia, vesiculæ seminales, prostate and Cowper's glands.

It may be well to preface the description of the individual organs by the remark, that the great importance of perspicuity and precision in anatomical detail has urged the necessity of dividing the abdomen proper into certain regions. This essentially consists in drawing two imaginary lines, the one from the last false rib on the one side to the same one on the other side of the abdomen; the second, from one antero-inferior spinous process of the ileum to the other, so as to divide the abdomen proper into three zones, i. e. into an anterior epigastric, middle umbilical, and posterior hypogastric. These are again divided by two parallel lines drawn from the cartilage of the eighth rib on either side back to the inner side of the thigh, so that the anterior one is divided into a middle epigastric and each lateral hypochondriac region; the middle one consists of the central umbilical and right and left lumbar regions, and the posterior one is constituted of the pubic and the right and left iliac

Peritoneum.

The whole of the viscera contained within the abdomen proper, including the anterior part of the rectum, bladder, and vasa deferentia, are either entirely or partially covered by or in contact with peritoneum. This is a serous membrane reflected also over the parietes of the abdomen, so that a parietal and visceral or reflected portion require notice. Like other

membranes of the same nature, it forms a closed sac, which, however, is not the case in the female, as its cavity communicates with that of the uterus, owing to the open state of the Fallopian tubes at their fimbriated edges.

It is loosely connected with the abdominal parietes by subserous cellular tissue, and the same obtains with regard to its connexion with the viscera. But we find some parts more adherent than others, such as along the linea alba and cordiform portion of the diaphragm. Also on the organs it is but loosely connected with them at their attached border, where it forms generally a triangular space, occupied simply by vessels, nerves, and cellular tissue, and allowing of their distention and alteration in figure. On the other hand, it is more adherent as it extends over the free surface or margin of the various parts it is in contact with.

The peritoneum being considered as extending from the umbilicus over the abdominal parietes towards the median line of the diaphragm and spine, is found there to fold on itself, and proceed from the latter on to the intestine, forming the mesenters; and from the former on to the liver and stomach, constituting ligaments. These folds of peritoneum are also seen extending from organs to other parts of the abdominal parietes, and these also constitute ligaments. Then they may be traced from one organ to another, giving rise to the several omenta; all of which we shall more especially allude to as we speak of the peritoneal coat of each separate viscus.

Stomach.

The stomach is the dilated portion of the alimentary canal, intermediate between the œsophagus and small intestine: through the former it receives the ingested aliment, for which it acts as a reservoir during the process of chymification, the active agent in which is the gastric secretion.

In the horse, as well as all other solipedes, this viscus is exceptional in not being the most capacious dilatation of the alimentary canal. M. Colin, in a paper published in the *Recueil de Médécine Veterinaire Pratique for June* 1849, states that the capacity of the horse's stomach is very variable. He says, that in a very small horse he found it only nine quarts (according to his evaluation by litre, which may be considered as thirty-four fluid ounces), while in one of colossal dimensions it was as much as $33\frac{3}{4}$ quarts, both having died at the college (Alfort) infirmary. He gives the average as being from $13\frac{7}{10}$ quarts to $14\frac{3}{5}$. Then, considering the capacity of the stomach in relation with that of the intestines, he found it in a very small

horse as one to thirteen, while in other two cases it was as one to ten. He takes the latter as the standard relative capacity between the two.

The stomach is situated transversely to the long axis of the body, in the left hypochondrium, extending into the epigastrium and during repletion into the right hypochondriac region. However, its size and situation vary under different circumstances, as to whether it be full or empty, adapting itself generally to its contents.

The stomach is fixed on its left side to the diaphgram by the œsophagus, having the spleen attached to it as well. The duodenum then, by means of the lesser or gastro-hepatic omentum, suspends the pyloric end by getting attached to the concave surface of the liver.

The shape of the stomach might be expressed as being that of a tube bent on itself, and dilated along its convex border, so as to form two cul-de-sacs; i. e., a right and a left one, whilst it has two borders or curvatures, distinguished as a lesser concave and a greater convex one. The stomach has two smooth surfaces, the anterior one being in contact with the liver and diaphragm, whilst the posterior one corresponds to the convolutions of the small intestines and gastric flexure of the colon. It has two orifices, i. e., a left œsophageal, or commonly called cardiac, and a right intestinal or pyloric one; the latter taking its name from the valve by which it is guarded.

A circular depression round the stomach, midway between the cardiac and pyloric orifices, most visible when the organ is replete, marks the external division of the stomach into a cardiac and pyloric portion, corresponding with the point where the mucous membrane varies in character internally. The saccular projection at the cardiac portion takes the name of fundus, owing to its greater magnitude as compared with a smaller cul-de-sac at the pyloric end, the analogue of which in human anatomy is characterised by the appellation of antrum pylori.

Having thus briefly described the striking peculiarities of the stomach, I proceed with more detail to the consideration of its constituent parts, such as its coats, nerves, and vessels.

The coats of the horse's stomach having been generally described as four, it appears needless to alter their nomenclature, although the one which I shall allude to as third might quite as justly be described as second, or merely spoken of as connecting cellular tissue, without regarding it as a separate coat.

The external peritoneal tunic is found proceeding from the diaphragm on to the cardiac portion of the stomach, surrounding the œsophageal opening, where it is tough, and forms the gastro phrenic ligament. Thus we follow it on to the corre-

sponding surface of the viscus, and, firstly, more especially on to the lesser curvature, where it is loosely connected with the other coats, and, the middle portion being more adherent, gives rise to two folds laterally, which seem to stretch from the cardiac to the pyloric orifices, to bind the two together, necessarily leaving a pit or cul-de-sac between them. At the pyloric end the peritoneum comes off from the concave surface of the liver on to the stomach, constituting the gastro-hepatic or lesser omentum, the anterior layer of which comes from the anterior part of the concave surface of the liver, whilst the posterior layer comes from the posterior part of the same, so that the two enclose the vessels going to and from the porta.

Having formed a covering to the corresponding surface of the stomach, the layers of peritoneum meet at the greater curvature. In following them from this point the description will be facilitated by alluding to the two separately, as they meet to form the gastro-splenic and gastro-colic omenta, as well as the omental sac. In forming the latter, they so blend as merely to constitute a fine reticulated vascular layer, inseparable into two, except near the margins of the viscera. Distinguishing the anterior or external layer as *A*, and the posterior or internal one as *B*, their arrangement admits of exposition in the following terms:—

A passes from the anterior surface of the stomach, forms the loose omentum, and gets on to the transverse colon and spleen. Reaching the latter, it is reflected over its superior surface at the posterior margin of the hilus, so as to contribute to the formation of the gastro-splenic omentum, and extends round the free posterior margin of the viscus on to the inferior surface, passing to the right on to the left kidney, and, anteriorly reaching the supero-anterior part of the spleen, is reflected from it so as to continue as the outer layer of the loose omentum. Further to the right, *A* is traceable on to the inferior surface of the transverse colon, and, extending round the posterior part of the latter, is found to ascend up to the spine, and then turn backwards and downwards to form the mesentery.

B, or the internal layer of peritoneum, passes from the posterior surface of the stomach till it reaches the infero-anterior border of the transverse colon, as well as the hilus of the spleen. After covering the anterior surface of the colon, it ascends up to the pillars of the diaphragm clothing the anterior part of the pancreas, which is thus held between *A* and *B*, or layers of the transverse meso-colon. A little to the left of this, *B* passes on to the anterior margin of the hilus of the spleen, forming the inner or posterior layer of the gastro-splenic omentum.

From this arrangement it results that the peritoneum, in form-

ing the lesser or gastro hepatic, the greater or gastro colic, and the gastro splenic omenta, closes in a space termed the omental sac, the interior of which is inaccessible except by an opening at the posterior part of the gastro hepatic omentum, whose free margin at the right side marks the point where it may be penetrated : this passage is termed the foramen of Winslow. It is bounded anteriorly by the lesser omentum, above by the liver, and posteriorly by the transverse colon.

Thus, supposing the inner layer of the omental sac to be separable from the outer, and drawn out through the foramen of Winslow, the following parts would be deprived of peritonæum, i. e., the posterior surface of the stomach, the gastro splenic omentum of its posterior layer ; so that the vessels going to and from the stomach and spleen would remain uncovered, the anterior part of the transverse colon, the anterior surface of the pancreas, and inner or posterior layer of the gastro hepatic omentum.

Next to be described to the serous coat is the muscular one, which is constituted of involuntary plain fibres, whose thickness is very variable in different subjects, as well as in different parts of the same stomach. The cardiac end is more muscular than the pyloric, except at the right margin of the latter, where it is very powerful and thick, as it surrounds the pylorus. The thinnest part of the stomach is unquestionably the convex border of the lesser cul-de-sac.

The muscular coat of the stomach is intricately arranged, and authorities differ vastly from each other in the description of the several layers constituting it. The number of layers entering into its composition is three : the outer and inner ones are mostly continuations of the inner layers of the œsophagus, while the middle one is proper to the stomach.

The outer layer is composed of the longitudinal fibres of the œsophagus : as these reach the cardiac end of the stomach, they form a peculiar turn, whereby the distribution on the surfaces as a flat layer is facilitated. Some of the fibres of this layer dip down to join the deeper ones, while others continue onwards as the longitudinal fibres of the duodenum. As to the fibres which proceed on to the curvatures, they are not so intricate, as they descend directly from the portion of the œsophagus opposite the part they supply, so that the only alteration in direction is that of diverging a little from each other, and pursuing the bent course of the corresponding gastric curvature. On the lesser one they soon become scanty, and are lost in the circular fibres of the body of the stomach : very few of them are traced on to the pylorus. The fibres proceeding on to the greater curvature are mingled with other considerable bundles taking the same

direction, but which are not traceable on to the œsophagus, as they seem to pass round each side of the cardia, and blend with the circular fibres on the lesser curvature.

The middle layer consists of annular fibres, which, though scanty as they encircle the extreme left end of the stomach, increase in bulk towards the middle part of the organ, and are especially developed at the lesser curvature. They again decrease over the antrum pylori, but are ultimately greatly developed for the formation of a powerful sphincter at the pylorus.

The internal or oblique fibres of the stomach have somewhat the same arrangement as the deep layer of fibres of the œsophagus, although not perfectly identical, as they are arranged like hoops placed one within the other; but while in the former the one set enters the other without intersection, in the latter there is a partial decussation by separate bundles. Thus, in reality, the oblique fibres of the stomach are constituted of two layers, the one proceeding from the left end of the stomach on to the right, which pass internally to the next layer: this one proceeds from the right of the cardia on to the fundus. Owing to the scantiness of circular fibres at the base of each cul-de-sac, the fibres are here in contact with the superficial longitudinal ones. The oblique fibres are best studied by dissecting from within, and, after removing these, the circular fibres come into view with greater ease than by attempting to expose them from without.

The third coat of the stomach consists merely of the cellular tissue existing between the muscular and mucous coats, as well as connecting the former to the outer serous tunic, in which case it is more abundant and firm nearest the curvatures. There it is situated between the muscular and mucous coats: it was named by the ancients, on account of its white aspect, the Tunica Nervosa. It is loose in some parts and firm in others; not only serving to connect parts together, but also to form a medium in which vessels ramify for the supply of the organ.

The internal or mucous coat of the stomach differs in the cardiac from the pyloric end, as in the former it is but a mere continuation of the unmodified mucous lining of the œsophagus, being characteristic for its scantiness in glands and but limited supply of blood. The most marked feature it possesses is that of being covered by a cuticular layer of extreme thickness, easily separable from the basement structure beneath after slight maceration or boiling. The cardiac portion of the gastric mucous lining is, in a healthy stomach, of a dirty white, bedewed by more or less mucus, and thrown into folds which have a radiated arrangement at the cardiac orifice, whilst at the

fundus they are concentrically arranged. This portion of the membrane is also furnished with papillæ; and Sprott Boyd, in an Inaugural Essay on the Structure of the Mucous Membrane of the Stomach, published in the *Edinburgh Medical and Surgical Journal* for 1836, describes a very marked peculiarity of an interposed layer between the epithelium and papillated surface of the mucous lining. This intermediate layer, he says, has a smooth equal surface. perforated by numerous foramina about the 600th of an inch in diameter, or perhaps a little smaller, the margins of which are slightly thickened. He afterwards states that he has not been able to trace in the epithelium of any other animal a structure similar to that existing in the horse. These peculiarities in the left pouch of the stomach cease abruptly midway the length of the viscus, where the cuticular lining terminates by a serrated edge.

The mucous lining of the right end of the stomach is normally of a reddish colour, and presents a villous glistening aspect, coated thickly with mucus, and also possessing a high degree of vascularity; the epithelium is here scanty, but nevertheless tabular. The villous appearance above referred to suggests itself also when the surface is examined by the naked eye and by the aid of a lens; but it is deceptive, as has been already remarked by Sprott Boyd, who correctly refers it to the raised margins of the areolæ which stud the surface. This portion of the gastric mucous membrane is also thrown into folds, which become gradually more marked towards the pylorus; whereas they are susceptible of obliteration by distention, there is one circular fold at the pylorus which is permanent, and so disposed as to fulfil the office of a valve.

The arteries of the stomach are derived from the cœliac axis, whose three divisions, i. e gastric, hepatic, and splenic, all contribute to supply blood to the viscus; but the first is specially destined to that office. The gastric artery, being the smallest of the three divisions, takes a course downwards, forwards, and rather to the right, across the pancreas, getting between the layers of the gastro-hepatic omentum. Being then directed to the left towards the lesser curvature, it divides into an anterior left or smaller branch, and a posterior right and more capacious as well as longer one. The anterior division is destined to supply the anterior surface of the stomach, and more especially the left cul-de-sac, anastomosing with branches (sometimes called vasa breva), coming on to the stomach from the splenic. This division of the gastic also anastomoses with œsophageal twigs, which are occasionally of considerable size. The posterior or right division of the gastric artery, destined for the pyloric end of the stomach, anastomoses with some splenic

branches, but more especially with the pyloric branches of the hepatic artery.

The veins returning the blood from the stomach are the gastric and splenic, which anastomose with the duodenal veins. These all have a few valves, but they may be easily injected from the porta into which they empty, owing to their very free anastomosis.

The lymphatics of the stomach are numerous, and in some parts very apparent, entering the lymphatic glands situated along the greater curvature and around the cardia, where they are numerous and large.

The stomach is supplied with nerves from both the cerebro spinal and sympathetic or ganglionic system. The pneumogastric or par vaga nerves, arising from the medulla oblongata, are the main conductors of nervous influence to and from that viscus. Their arrangement is simple, as, after they have formed various plexuses within the thorax, in which they mutually interchange fibres, they reach the diaphragm, and here are arranged as two nervous branches, i. e., a superior and an inferior one. The former is principally destined for the fundus, whilst the latter supplies the pyloric end, and sends branches off to the duodenum, with one or two to the solar plexus.

The sympathetic fibres destined for the stomach are derived from the solar plexus descending on to the viscus in company with the vessels.

Intestine.

This term is applied to that portion of the alimentary canal extending between the pylorus and anus, destined for the temporary retention of the chymous mass, so that its nutrient parts may be absorbed, whilst its more solid indigestible constituents are collected for excretion.

The intestine in all monogastria, but especially in solipeda, occupies by far the greatest part of the abdominal cavity. The bonds of attachment to the various parts of the latter are contracted by the intestine through its peritoneal investment, more especially to the spine, constituting mesenters, which I shall especially allude to when describing with more detail each portion of this capacious tube.

Not only the attachments, but also the shape of the intestine, vary at different parts of its course, so that it has been deemed necessary to divide it, either arbitrarily or at natural demarcations. Thus we speak of the small and large intestine, the two being separated naturally by a marked change in direction, size, and conformation.

It is also obvious that, as situation, attachment, and shape of each portion of the intestinal canal differ, so must the relations be equally distinct, and further mention of them will therefore be reserved for fuller exposition elsewhere.

Small Intestine.

This, the smallest although longest, is also the first portion of the intestinal tube, extending from the pylorus to its sudden termination into the large intestine. In it the chymified mass is subjected to the modifying influence of important secretions, whereby its nutritive parts are fitted for absorption by the vessels which for this purpose are arranged in this portion of the intestinal track.

The small intestine has been divided into three parts: this classification is, however, purely conventional. Since it does not recognize anatomical differences for its basis, it might justly be presumed that this distinction of human anatomists exhibited traces of imperfection, even when applied to the frame of man. Such being the case, it is no matter of surprise that, in referring the distinction to the intestinal canal of animals, the incongruities of the system should be still more apparent.

Extending from the pylorus, the first portion is termed the duodenum, from its being considered as twelve fingers' breadth in length: it is, however, extended round to the left side of the spine, posteriorly to the anterior mesenteric artery. The middle or floating portion of gut takes the name of jejunum, and the third or cæcal portion is distinctively designated ileum.

The duodenum forms a wide curve from the pylorus round to the right, being situated under the concave surface of the liver, passing above the transverse colon, so as to attain the posterior part of the mesentery, and, reaching the left side of the spine, comes in contact with the colon, where it is said to end in the jejunum. The duodenum is fixed by the gastro-hepatic omentum to the concave surface of the liver, the layers of which enclose the biliary and pancreatic ducts, whereby this bond of union is still further strengthened. The peritoneum coming from the right and spigelian lobes of the liver, as well as from the right kidney, forms a loose attachment for the duodenum by extending on to the hepatic flexure of the colon after it has surrounded the first-named gut. The next portion of intestine is attached to the spine transversely to the long axis of the body; winding round the mesentery to the left of the aorta, it gets attached to the gastric flexure of the colon, and here it proceeds, under the name of jejunum, along the free borders of the mesentery.

As to the shape of the duodenum, from the pylorus to the right of the porta we find its dimensions so very great as to have suggested to the ancients the similitude between it and the stomach, of which they regarded it in some degree as an analogue, as testified by the appellation "Ventriculus Succenturiatus" given to it by them. Further from the pylorus we find it constricts and assumes a certain caliber, which it maintains till it loses its name for that of jejunum.

With reference to the relations of the duodenum, it may be stated that they admit of detail on account of the fixedness of that portion of the gut, an attribute with which it is endowed in contradistinction to the jejunum and ileum. In the first portion of its course, i. e., from the pylorus to the posterior part of the right lobe of the liver, the duodenum by its upper surface is in contact with the concave surface of the latter organ crossing the vena portæ, near which it is pierced by the biliary and pancreatic ducts, which enter it at about five or six inches from the pylorus, forming an acute angle with each other. The inferior surface of the duodenum rests on the transverse colon, and its superior margin is in close contact with the anterior part of the head of the pancreas.

Round to the right, the duodenum is in contact with the hepatic flexure of the colon, right and Spigalian lobes of the liver, as well as the right kidney. To reach the spine it has to cross the direction of the right flexure of the colon, getting behind the mesentery and gastric flexure of the colon, where it is connected with the left kidney.

Alluding next to the general anatomical facts as applied to the jejunum, so called on account of its usual vacuity after death, the limit between it and the ileum is defined by imagining the small intestine, with the exception of the duodenum, divided into five equal portions, of which the first two take the name of jejunum, whilst the last three-fifths receive that of ileum.

The jejunum is suspended superiorly from the spine by an extensive fold of peritoneum, termed mesentery, which serves also as a medium for the passage of the mesenteric arteries, veins and nerves, as well as for chyliferous vessels, to take their course towards the receptaculum chyli, situated to the left of the aorta.

The width of the jejunum is far from being uniform, it being more constricted at some points than at others: its narrowest part is that which is contiguous to the ileum.

The ileum is the terminating portion of the small intestine, so called from the tortuous course it takes, emptying itself into the

large intestine at the junction of the cæcum and colon, by an orifice provided with a valve.

The first portion of the ileum is simply attached by mesentery to the spine; but in addition to this, in the last part of its course, the gut is connected with the cæcum by a fold of peritoneum, which is not large enough to prevent them deviating more than an acute angle from each other.

The ileum is, on the whole, the narrowest portion of the small intestine, but the thickest in its coats.

Having now specially to describe the structure of the small intestine, it may be taken as a whole, merely alluding to local peculiarities.

This portion of the alimentary canal has four coats, to be described in the same order as those of the stomach, i. e. peritoneal, muscular, cellular, and internal mucous.

The first, or peritoneal, has nothing of peculiar, beyond its enclosing a little triangular space all along the upper attached border of the gut. The looseness of the peritoneal folds attaching the small intestine is very marked; and Colin (Soc. cit.) notes, that the mesentery is proportionately larger in young than in adult quadrupeds, so that the gradual shortening of this explains the spontaneous reduction of exomphalus or umbilical hernia.

The second, or muscular, coat is mostly developed at the commencement of the duodenum and terminating portion of the ileum. It consists of white involuntary fibres, arranged so as to form an outer longitudinal layer and an inner circular one, both of which completely encircle the gut.

The third, or cellular, coat is similar to that of the stomach, in being disposed in two layers, so as to connect the three coats together. It is especially condensed on the inner surface of the muscular coat, so as to take the appearance of a fibrous tunic attached to the mucous lining by loose cellular tissue.

The fourth, or mucous, coat is thin, having a velvety appearance, due to villi, peculiarly small in the intestines of the horse, but remarkably developed in other animals, especially carnivora and fishes. The villi may be seen by a pocket lens, on a well-washed piece of intestinal mucous membrane, and between them are seen numerous foramina, which are the openings of tubular glands, known as the crypts of Lieberkuehn.

In addition to the tubular glands, by dissecting, from without, the muscular from the mucous coat, lining the commencement of the duodenum, we find clusters of vesicles similar to the vesicular structure of the salivary and pancreatic glands. These form distinct layers provided with ducts which open

on the free surface of the membrane; and Dr. Todd states that Brunner's glands, or, as he calls them, the *duodenal*, are more developed in the horse than in any other animal he has hitherto examined them in.

We have next to treat of the solitary glands—glandulæ solitariæ—peculiar and rather scanty bodies, visible at various parts of the small intestine. These are vesicular, and without any opening when in the perfect state, surrounded by villous processes and Lieberkuehnian follicles. Some of the villi also project from the surface of the so-called glands, which are most apparent when distended with secretion.

About the second half of the jejunum, and along the whole of the ileum, we see longitudinal patches, varying from half an inch to even three inches in length, scattered all over, but more especially situated near the superior or attached border of the small intestine, which is contrary to the faulty description of some recent authors. These patches, distinguished as Peyer's glands or patches, also as Agminated glands—Glandulæ agminatæ seu aggregatæ—consist of an accumulation of small bodies, each resembling a glandula solitaria in miniature, being also destitute of a natural aperture. Colin (loc. cit.) states that they are first seen at a distance of about six feet and a half from the pylorus, and the least number of them he has ever counted has been 102, whilst the utmost has been 158.

The mucous membrane of the small intestine is thrown into folds at different parts, which are transverse, and scalloped near the pylorus, whilst in other parts they are mostly longitudinal; these are all temporary folds. There is no such arrangement as the valvulæ conniventes in the small intestines of the horse, though recent writers of great eminence have described them. About five inches from the pylorus, at the superior border of the duodenum, is a semicircular fold, which, if elevated, admits of the finger being thrust behind it into the wide biliary duct. The opening of the pancreatic duct is also visible beneath this fold, but it is not so capacious as the one last mentioned.

[To be continued.]

REMARKS ON DRENCHES, AND THE INFLUENZA.

By R. H. Dyer, M.R.C.V.S. Waterford.

To the Editor of "The Veterinarian."

On looking over the fifteenth volume of The Veterinarian, I read with much interest some remarks written by the late Mr. Price, of Cork, relative to the dangerous mode of giving medicine to horses. That gentleman stated, that he had known several horses destroyed by the administration of drenches, and he honestly acknowledged having caused the death of two in a similar manner. Having seen but one case in the course of my practice which I could conscientiously own to be such as Mr. P. described, I will relate it.

On the 2d January, 1851, G. Courtney, Esq. requested me to send a few powders for his bay horse, which had a cough. I made up a half-dozen, composed as follows:—℞ Ant. pot. tart. 3j, pulv. digital, 3j, pot. nit. 3ij, M. fiat. pulv. j, to be given night and morning in a bran mash. The horse ate two powders; the third he refused. On the following morning the man in charge asked me if he might mingle the powder with a liquid, and drench the horse with it. I recommended him to mix a powder with but half a pint of water, and then drench him with it. This he attempted to do. The operation produced much coughing. The man persevered in forcing down the potion, and the consequence was, the greater part of the mixture went into the larynx and trachea, and produced very alarming symptoms. My presence was immediately sought. I saw the suffering patient within a few minutes afterwards, and found him coughing violently, and portions of the powder trickling down the Schneiderian membrane. I confess I was puzzled for the moment, knowing what aversion the owner had to bleeding: I therefore contented myself by giving a dose of ol. lini combined with pulv. opii. At this time the horse was suffering the most intense agony. I believed all the internal structures of the chest and abdomen were more or less affected. I administered soothing medicaments, and made attempts to produce counter-irritation. All to no purpose, however: the horse continued to get worse up to the 6th, when he suddenly fell down in his box, and died without a struggle.

The following morning, eight hours after death, I examined him, and the result proved as follows:—The viscera of the abdomen much inflamed; the lungs, heart, and pericardial sac,

and the pleura-costalis most intensely inflamed; almost, indeed, of the colour of blood itself; the bronchi and trachea filled with frothy spume, the larynx ulcerated; in short, the mucous membranes, both visible and invisible (in life), were the seat of most severe inflammation.

It will, doubtless, be stated that this does not occur once in a thousand cases, and this may be true; at the same time, it must not be said that such things are impossible. I have seen men administer common colic draughts through the nostrils, and no evil to result therefrom.

I read with much pleasure the interesting account given by Mr. Gloag of the Influenza among Horses, in the last Number of your Journal. That gentleman has so well described the complaint, that it will suffice for the present if I state that the influenza, which was so prevalent last month in this and the adjoining counties, in certain localities, is the identical disease so ably penned in THE VETERINARIAN, and that the opinions entertained by the writer are in accordance with my own. There is but one exception—and that is in reference to the form of prescription—aloes were not used by Mr. Gloag. The form of medicine I employed was this:—℞. Ant. pot. tart. ʒij, pulv. gentianæ ʒij, aloes Barb. ʒj. Massæ diuretic. ʒij, ammon. sesquicarb. ʒj; fiat bol.; omni die sumendus.

The throat, neck, and *forehead* were stimulated. This latter part of the head I think a good place to stimulate in the disease under consideration. The diet consisted of bran, potatoes and hay, with as much chilled water as they could drink. In all other respects the treatment was the same as adopted by the writer of the account referred to. As to bleeding in this complaint, it would, I think, be sealing a death warrant for those operated upon, so rapidly would debility and exhaustion make their appearance. All my patients recovered in from four to ten days, and resumed their work. I cannot look upon the present influenza as infectious for very obvious reasons. I should rather think the sudden change of the atmosphere, acting upon horses at a time when they are peculiarly liable to take on disease, as the most reasonable cause one can assign; it being well known how delicate horses are at this season of the year, or rather, I should have written at the time they are shedding their summer coats, to take on their winter ones. Should these rough remarks be admissible, they are truly at your service.

Remaining, Sir,

Your obedient servant.

Waterford, Nov. 8, 1851.

CALCULI IN THE STOMACH OF A HORSE.

By H. B. Greening, M.R.C.V.S., Brixton Hill, Surrey.

On the 24th Oct., 1851, at eight o'clock, A.M., a messenger was dispatched for my immediate attendance to a black mare, the property of Mr. Thomas Bunell, brickmaker, Norwood-lane.

On my arrival I immediately proceeded to examine my patient, being informed the mare in question first shewed symptoms of indisposition on returning home from Camberwell, where she had taken 500 bricks, and near the owner's residence had fallen in her harness, and with some difficulty was got to the stable. On pursuing my examination, I found the following symptoms: Pulse slightly accelerated, mucous membranes highly injected, breathing laborious, profuse perspirations, extremities very cold, bowels constipated, and when in the act of progression would drop on the fetlock joints of her hind legs, and at intervals would crouch her haunches under her as though attempting to lie down.

Treatment.—Ordered her to be placed in a loose box, and the extremities to be hand-rubbed and bandaged during the time I returned home to prepare what I deemed would be necessary for my patient; though I did not return as speedily as I could have wished, in consequence of another employer requesting my attendance immediately. I did not see her again until 12, A.M., when I found her prostrate: the pulse rose to 55, and full; bled to the extent of four quarts; gave aloes ʒv, sp. nit. ether. ℥ij, tartarised antimony ʒj, tincture opium ℥ij, in draught; back-raked and threw up enemas. Ordered her tepid water and bran mash. Saw my patient again at 6, P.M.; pulse 48, other symptoms much the same as before. She ejected a quantity of hardened fæces in my presence; I gave febrifuge medicine, combining aloes ʒiij; repeated the enemas. I saw my patient again on the 25th, at 6 A.M.; she was down; pulse 95, and small, still perspiring profusely, breathing much distressed, mucous membranes intensely injected. She had voided her urine, but no fæces, and was unable to rise. I advised the owner to have her destroyed, as I saw no hopes of recovery, which he consented to.

Post-mortem Examination.—The abdominal cavity was opened; the peritoneum was much inflamed. I then commenced examining the large intestines, beginning at the rectum, where I found some hardened fæces, likewise in the colon; the

mucous coat much inflamed. I then opened the stomach. The mystery was at once unravelled; I removed two immense calculi, the outer layer resembling a honeycomb; they were each the size of a Dutch cheese; the villous lining of that organ much inflamed. I have had one sawn through, and found it to be composed of earthy matter, with a piece of lead forming the nucleus, nearly an inch long, in the centre of each half.

*** This is a very extraordinary case.—Ed. Vet.

SEEDY TOE.

To the Editor of "The Veterinarian."

Sir,—With respect to the cause of seedy toe, I believe that in all cases it arises from pressure of the sole of the foot against the shoe.

Most farriers, when they draw out a clip to the shoe, leave a bulge on the under side, which, pressing against the sole of the foot, while the clip in the front of the shoe is not allowing the toe of the crust to yield, by its unnatural pressure on the sole produces what is called a *seedy toe.*

When we consider that the toe of the foot, and especially of the hind foot, is more used in draught horses than any other part, and that if the shoe has not a level surface, or if the sole of the foot is not sufficiently pared out between the toe and the shoe, this pressure is increased, we can easily understand how such a thing is likely to happen. I have had some experience among heavy draught horses, and I believe that in all cases where seedy toe has occurred, I have been always able to trace its cause to *the pressure of the shoe against the sole of the foot.* If, Sir, you should think these few remarks worthy of a place in your periodical, you are welcome to them.

I am, Sir, yours respectfully,

John Brown,

23, Whitefriars Street,
Nov. 5, 1851.

M. BOULEY'S LETTER TO THE EDITOR, IN EXPLANATION OF THE OMISSION OF COLEMAN'S NAME IN THE PREFACE TO HIS WORK ON THE FOOT OF THE HORSE.

Alfort, le 9 Novembre, 1851.

Mon cher Monsieur,

LE numero de Novembre de votre très estimable journal, que je reçois à l'instant, renferme quelques reproches à mon adresse, auxquelles je suis trop sensible pour que je ne me hâte pas de m'en justifier.

Dans l'article que vous voulez bien consacrer à l'examen du livre que je publie sur *l'organization du pied du cheval*, vous vous étonnez, à bon droit, je l'avoue en toute humilité, de ce que je n'ai pas inscrit le nom de COLEMAN dans ma préface, à côté de ceux de Bourgelat, Girard, Bracy Clark et Perier, et vous vous adressez ensuite ces questions: à pourquoi cette omission? "Serait-ce que M. Bouley n'avait pas à sa disposition les ouvrages de notre maître sur le pied? ou bien est-ce que, après les avoir examinés, il n'y a rien trouvé qu'il ait jugé digne d'être cité? ou, s'en est-il rapporté à cette parole de M. Girard qui, dans une préface de son traité du pied des animaux domestiques, a déclaré qu'il n'y avait rien d'original dans les ouvrages de Coleman? ou bien, a-t-il eu la bonne fortune de lire dans l'une ou dans l'autre des livraisons des ouvrages de Bracy Clark, le *respectueux* avis au public, où il est question de Coleman et serait-ce cet' avis qui l'avoit assez influencé pour le determiner à frapper le nom de Coleman de cette exclusion immeritée?"

De toutes ces suppositions, mon cher Monsieur, une seule est vraie, c'est que je n'ai pas à ma disposition les ouvrages de Coleman, et j'ajouterai que je n'ai pas pu les avoir. Si votre mémoire est fidèle, vous vous rappellerez que, dans une de mes lettres particulières, je me suis adressé à vous, pour tâcher de me procurer ses ouvrages, en vous priant de me les acheter, s'ils étaient dans la libraire, ou de me les prêter pendant quelques mois; vous m'avez répondu, qu'il n'était plus possible de les trouver aujourd'hui, à quelque prix que ce soit, dans le commerce, et que, quant à l'exemplaire que vous possédiez, il était actuellement entre les mains d'une personne tierce, trop éloignée de vous pour qu'il vous soit possible de le lui redemander dans un bref délai.

Je n'ai donc pas pu, à mon grand regret, juger pour moi-même les ouvrages de Coleman, et m'en inspirer pour la rédaction du mien. Ce maître qui est chez vous en si haute estime, je n'ai pu le connaître que par quelques citations errantes des auteurs

qui sont venus après lui. Elles ne me devaient pas me suffire pour que je me permisse de le juger. Dans le doute, j'ai du m'abstenir. Voilà pourquoi je n'ai pas inscrit son nom dans le petit groupe des hommes hors ligne que j'ai cités en tête de mon travail. Mais, croyez le bien monsienr, il n'y a rien dans cette omission qui soit malveillant de ma part, quand il s'agit de prononcer un jugement sur la valeur des travaux des hommes qui m'ont précédé dans la carrière difficile, où, à mon tour, j'ai essayé d'entrer. Je dois voir pour moi-même, et je ne veux pas m'en supporter exclusivement à l'opinion des autres, quelle que soit, du reste, l'estime que j'attache à leur manière de voir. Ce n'est donc ni M. Girard ni M. Bracy Clark qui m'ont influencé par les jugements qu'ils ont prononcés eux-mêmes sur Coleman. J'ai un profond respect pour ces deux maîtres vénérables de notre art ; je dois beaucoup à leur travaux ; mais *je ne crois en eux* que dans les questions de science. Pour les appréciations des œuvres individuelles, je conserve complètement mon libre arbitre.

Si j'avais eu le bonheur de savoir ce que votre dernier article m'apprend, que Coleman occupe dans l'opinion de vos compatriotes le rang élevé auquel vous le plaçez (chose que nous ne savons pas en France, tant nos deux pays sont restés longtems étrangers l'un à l'autre pour ce qui concerne les relations vétérinaires) je me serais fait un devoir d'exprimer dans ma préface mes regrets de n'être pas encore en mesure de parler, avec une connaissance personellement acquise, d'un homme aussi distingué. Mais nous ignorons Coleman ici. Son nom dans l'esprit de mes compatriotes ne se rattache guères qu'à une invention qui ne nous parait pas heureuse, celle de son fameux fer *compresseur de la fourchette.*

Croyez, mon cher monsieur, que je vais faire mon possible, pour réparer, dans ma prochaine livraison, une omission que je dois reconnaître injuste, puisque vous l'affirmez avec tant de chaleur de conviction. Je vais tâcher encore de me procurer, ne fut-ce que provisoirement, un exemplaire des œuvres de votre maître, et lorsque je l'aurai, ce sera pour moi un devoir bien doux de rendre justice au mérite d'un homme qui doit être bien considerable, puisque vous, juge si compétent, l'avez en si grande estime.

Veuillez recevoir, mon cher monsieur, l'assurance de mes sentiments bien sincèrement dévoués.

M. BOULEY.

REVIEW.

Quid sit pulchrum, quid turpe, quid utile, quid non.—Hor.

Traité de l'Organization du Pied du Cheval, comprenant l'Etude de la Structure, des Fonctions et des Maladies de cet Organe. Par M. H. Bouley, Professor de Clinique et de Chirurgie à l'Ecole Nationale Vétérinaire d'Alfort, Secretaire General de la Société Nationale et Centrale de Médecine Vétérinaire. Avec un Atlas de 34 Planches Lithographiées, desinées d'après Nature par M. Edm. Pochet. Paris, 1851.

Pas de pied, pas de cheval.—*Lafosse.*
No foot, no horse.—*Jeremiah Bridges.*

Treatise on the Organization of the Foot of the Horse, comprising the Study of the Structure, Functions and Diseases of that Organ. By M. Bouley. With an Atlas of 34 Lithographic Plates. Paris, 1851. Parts I & II. Fcap. 8vo, pp. 320.

[Continued from p. 630.]

We stated on a former occasion that the "First Division" of the work before us is devoted to the *Anatomy* of the Foot, comprehending under this general heading two orders of parts, *internal* and *external*, the former comprising:—I. the osseous apparatus; II. the articular; III. the vascular; IV. the nervous; V. the tegumentary: while under the latter is considered the horny covering of those parts or *hoof*, which is described, firstly, as consisting of several parts, and afterwards regarded as an entire and indivisible body; the anatomical section of the work concluding with "a general view of the alterations of form and structure presented by the foot at different periods of life."

We do not remember encountering so elaborate a veterinary performance as the present one: it is quite a new style of writing to what we are accustomed; it looks almost like a new era in our literary annals dawning upon us. Anatomical portraits, such as the ones before us, will indeed raise our "art" to something like a level with that of the sister science.

The only thing that can be said against minute anatomy—if aught can be said against it—is that description is apt to be over-wrought. And yet, in the case before us, attention to minutiæ is, if anywhere, not only allowable, but well bestowed; since the *foot*, of all other parts, demands our profoundest consideration and study. In order that we may convey to the mind of our reader some notion of the length to which the anatomical detail is carried in the present treatise, we may mention, that the description of the coffin-bone alone occupies *fourteen* large 8vo pages. The nomenclature adopted draws largely upon the one introduced many years ago by Bracy Clark; and we are pleased to see this, because the new names given to parts are purely of scientific derivation, though some of them be used to express their author's peculiar views and opinions, in *all* of which we do not profess to be, for our own part, true believers; though, we may add, they appear to have made considerable way in France. If we follow up these remarks by stating that M. Bouley has everywhere observed that order and method in his descriptive accounts for which the continental writers in general are so superior to our own, we shall, we hope, have imparted some idea of the anatomical section of the work before us. The subjoined extracts, taken, *passim*, from the account of the *Third Phalanx* or Coffin Bone, will bear us out in the remarks we have made:—

"The third phalanx, *ungual phalanx* of Rigot, *Coffin-bone* of the English (literally, bone of the coffin, in allusion to the box or hoof in which it is enclosed), more commonly, *os pedis* or bone of the foot, forms the base or first layer of the divided column represented by the limb.

In an anatomical view, we look at it in its double relation to physiology and surgery with an importance which the details into which we are about to enter will sufficiently explain.

The third phalanx is a short bone, which, though of extreme irregularity posteriorly, partakes of the form of a cone in its general curvature, and in the circumferent segment of its base.

According to the happy expression of Bracy Clark, the coffin-bone constitutes the *nucleus* of the foot.

Around it we find disposed, after the manner of the pericarp of fruit, the vascular and nervous parenchyma, the continuation within the hoof of the general tegumentary covering; it serves

also the purpose of a support to the column of the limb, while it furnishes points of attachment to the longest tendons, with the advantage of leverage in their action.

For facility of description and precision of language, we recognise in the bone, *three surfaces, three borders.* and *two extremities.*"

These all, separately, receive minute and faithful descriptions. Under the heading of *faces* or *surfaces* we have the *pantilobe eminences,* or *pantilobæ* of Bracy Clark described; while the parts which we denominate the *alæ* of the bone are named the *basilary processes.*

Quitting the "osseous apparatus," and stepping over, without further notice than the passing remark that each successive subject is treated on the same principle of systematic division and scrupulous attention to minutiæ as we have endeavoured to shew in the short extract we have just made has been the case with the coffin-bone, we come to, as next most worthy of our attention, an account of the laminæ.

"The number of laminæ varies from 550 to 600, inclusive of those continued upon the sole. The extent of surface occupied by them, supposing them unfolded and spread out upon a plane, amounts to six or seven times that of the exterior superfices of the cylinder of the foot. This calculation makes them less than that of Bracy Clark, who reckons the podophyllæ unfolded and spread out would extend over a surface twelve times the size of the one they occupy in the state of laminæ. But, in our opinion, the English veterinarian has magnified his results of calculation.

"Notwithstanding this difference of opinion, it admits of sufficient approximation to convey an idea of the perfection in the horse's foot of the faculty of touch, of which this vast podophyllous membrane is one of the principal seats."

We have now arrived at the "*Structure of the podophyllous tissue.*"

"The podophyllous tissue consists of a thin, but extremely resistant and tenacious membrane, possessing a degree of elasticity in the longitudinal direction of its laminæ. Bracy Clark is mistaken in supposing it to be cartilaginous. It has a thin fibrous base, something like fine well-knit canvass, which bears the same relation to it that the fibrous corium of the skin does to the entire structure. It is upon the surface and within the

meshes of this corium that the terminal divisions of the plantar and pre-plantar arteries ramify, in order to form that magnificent network or veritable vascular membrane whose presence in the natural subject strikes the naked eye by the lively red colour so characteristic of the podophyllous tissue, and which in feet that have been successfully injected shews itself in beautiful arterial arborizations, whose extreme divisions seem to blazon forth like stars, as though they were fireworks.

"Out of the substance of this membrane spring capillary arteries which enter the bases of the laminæ, and, running parallel with them, send off within their folds multitudes of infinitissimally small divisions, which quit the parent branch at right angles, in the same way as the feathers issue from a quill, and ramify in arches upon the free borders of the laminæ.

"Besides these arterial structures, the podophyllous corium supports a nervous network, a necessary element of the laminæ, with papillary tufts (or *villi*) which terminate in thin lower extremities, though in what manner even magnifying glasses fail to disclose to us.

"This nervous network is constituted of the terminal divisions of the cutaneous and other branches of the plantar nerve, which accompany the pre-plantar artery in the fissure of the same name.

"There probably likewise exists, within the web of the podophyllous tissue, a special apparatus for the secretion of horn (the keratogeneous apparatus), the same as exists in the skin, according to Buschel, and Roupel, of Vauzème, for the secretion of the epidermis. On this score, however, we are reduced to mere conjecture, strict observation nowise furnishing us with any material evidence thereof.

"The podophyllous structure has for its substratum a fibrous reticulated membrane, the meshes of which afford a bed for the venous podophyllous plexus, whose description has been already given.

"This *reticulum*, whose substance is thickest over the central and lateral parts of the foot, establishes between the bone and laminated tissue such direct relations that it is difficult to say whether it belongs to the bone as periosteum, or to the podophyllous tissue as a continuity of the corium. Perhaps it answers both purposes.

"Bracy Clark has given to this re-inforcement of the podophyllous tissue the name of *reticulum processigerum*, meaning literally, laminæ-bearing membrane."

Our space reminds us we must not dwell longer on the

"internal parts," but at once proceed to notice th e "external" or corneous apparatus—the hoof.

"The geometrical figure to which the hoof most nearly accords is that of a truncated cylinder, cut at its base and summit by two planes running oblique to its axis, but not parallel, the inferior converging, backwards, towards the superior with a marked inclination towards the axis."

No exterior figure, however, can give any adequate idea of the hoof. To thoroughly comprehend its nature it must be resolved into its component parts:—

"1. The *wall*, or *crust*. 2. The *sole*. 3. The *frog*, with its *periople*, which is nothing more than a circular continuation of it."

The discovery of the *periople*, or frog-band, M. Bouley assigns, without dispute, to Bracy Clark.

"It was Bracy Clark who first discovered and described it, and gave it the two names (periople and coronary frog-band) by which it is known at the present day.

From the description of the hoof in its divisional form, in the examination of the several component parts of which M. Bouley has at great lengths entered with his usual accuracy and precision, we arrive at the "chapitre" devoted to the consideration of the *hoof generally* i. e. re-instated, after having been taken to pieces, in its entirety of form.

"The horny tissue is inextensible, little pliable in a body, though very flexible when sliced into thin lamellæ. To the naked eye it appears to be composed of an assemblage of fibres or filaments in juxta-position, firmly united by an agglutinative substance of the same nature. It was the learned Professor Gurlt, of the Veterinary School of Berlin, who demonstrated, through microscopic examination, that these apparent fibres or hairs were, in fact, a system of *tubes* open at their superior extremities in order that they might receive the villous prolongations from the keratogeneous surfaces for which they were so many sheaths. According to M. Gurlt, these tubes are formed of concentric lamellæ, joined together by an amorphous horny substance, spotted with punctiform corpuscules, of which (substance) there are marks upon the outer covering of the hoof and in the intervals between the villosities. M. Delafond agrees in opinion in his views of the tubular structure of the

hoof with Gurlt; and this opinion of the Professor of Berlin is perfectly correct.

"In order to have a just conception of the disposition of these tubes, we must consider as belonging to them:—1. Origin, direction, and termination. 2. Form. 3. Longitude. 4. Diameter. 5. Arrangement."

To accompany M. Bouley through the interesting detail into which he is now about to enter would lead us quite out of the pale of our legitimate boundaries. We trust we have exhibited already enough of his anatomical labours to shew that they have been wanting neither in amplitude nor accuracy;—that, in fact, they are all that can be desired to prepare the mind for the more enlivening study of the physiology of the foot; while the monotonous dryness which is but too apt to cling to anatomical accounts in general is in them much relieved by the illustrative plates connected with the work, of which we shall have something to say hereafter.

[To be continued.]

Home Department.

THE EPIDEMIC IN STOCK.

(From the Government Gazette.)

To the Honourable the Colonial Secretary.

Sydney, May 12, 1851.

Sir,—We, the undersigned members of the Commission appointed by his Excellency the Governor to inquire into the prevailing epidemic amongst stock, beg to state, for the information of his Excellency, the result of our latest investigations on this subject.

At the commencement of our inquiries, our first object was to ascertain the nature of the disease. After numerous examinations of cattle and sheep that had died of the malady, and of others that were slaughtered while labouring under it, we found it similar in nature to a disease long known in France under various names, of which the most common is the *maladie du sang*, which has not, to our knowledge, been hitherto noticed by English authors.

In our last report, published March 13th, as a Supplement to the *Government Gazette* of March 11th, we stated that we had invariably found the spleen enlarged, gorged with dark purple blood to such an extent as sometimes to increase its weight from one and a half or two pounds, which is the natural average, up to twelve and even to twenty pounds. We also invariably found marks of inflammation in the shape of specks, spots, and patches, and ulcers prevailing more or less throughout the inner or mucous coat of the stomach and intestines. In all cases the blood presented a diseased appearance, being dark purple coloured, thick, and not coagulating in any part of the body. Other appearances of disease were observed, but they were not invariable, except that in sheep we always found some bloody urine in the bladder, and evidence of inflammation in the kidneys.

Our next inquiry was as to the origin or cause of the disease. We ascertained that it had first made its appearance amongst cattle and horses not far from Liverpool, and that it had spread thence, as from a nucleus, to other parts of the county of Cumberland, to which district it seemed, until very lately, to be almost entirely confined; that wherever one died, others died shortly afterwards; and that till within the last year and a half sheep seemed to be exempt from its attack.

From the first appearance of the disease up to the present time, it has been attributed to various causes—to over driving, to hot weather, to bad feed, to bad water, to want of salt, to want of cultivated grasses; and it is a very general opinion that some poisonous plant is the sole cause of it.

But all our inquiries have failed to trace the disease to any of these causes; and it is our opinion that, whatever tendency any of them may have to predispose to disease, they have no power to produce it in this particular form.

To one source, and to one source only, have we been able to trace it, and that is to contagion. We hold it to be established beyond doubt, that the sound get the disease from the unsound, either alive or dead; but whether it is communicated by the breath, or by contact with the secretions or excretions, we have not been able to discover. But the instances of disease appearing amongst the sound soon after contact with the unsound are very numerous and well authenticated. Some of them have been the result of direct experiments to try the fact; others have been the result of accident; but all have tended to prove the fact. In three instances we have produced the disease in sheep by inoculation with blood taken from subjects that had died of it. Even the ground on which the dead body of a

diseased animal has lain seems to be capable of producing the disease; and this is, probably, the reason why some paddocks seem to be so very dangerous to travelling cattle.

Many cases, and, of course, the earliest, cannot be traced to contagion, so that there must be some other cause or combination of causes. To discover these would be of the highest importance, since it would, in all probability, enable us to suggest some means of prevention. But we have not discovered them; and we must add this to the list of diseases, such as influenza, cholera, the plague, &c., which seem to be caused by some atmospheric influence originally.

In regard to the proper treatment of the disease, we can offer no useful suggestions, and we are even less sanguine than we were of being able to discover any. For as it is next to impossible to say whether any animal has the disease or not till it is almost dead, so the treatment of animals which are only suspected of being diseased can lead to no useful result. In several instances we employed skilful persons to pick out from a flock in which some were unsound a diseased animal, but in no instance did we discover after death that a diseased one had been pitched upon. Now, if we had put these animals under treatment, guided by the opinion of men who were really well qualified to judge, we should have attributed their recovery to treatment, and not, as in fact it would have been, to their original freedom from disease. And the duration of the disease is so short, and the attack so sudden and fatal, that after the disease has shewn itself, there is no time for curative means. We have constantly found that deaths occur within four days after exposure to contagion; and as there is always some longer or shorter latent period, this proves the extreme rapidity of its progress. In the case of the horse, given in the Appendix, it seemed well and was at work at nine o'clock, and was dead at half-past eleven.

As cure seems almost beyond hope, it is the more desirable to limit the spread of the disease as much as possible, and for this purpose we recommend—

1. That sheep, cattle, or horses which have travelled through or rested in places where others have died of this disease, be kept separate from all others for a few days, say fourteen, in order to discover whether any have caught the contagion.

2. That when any one dies, its body should be consumed by fire on the spot on which it is found.

3. That if moved for the purpose of being more conveniently burnt, the body should not be dragged along the ground; and the spot on which it has lain should be chopped up and scorched, by making a fire on it.

4. That consuming the body by fire is better than burying it.

5. That travelling stock should, if possible, avoid every resting place where any animal has died of this disease.

6. That some means should be devised to keep the highways clear of dead bodies, as—

First,—That it should be compulsory on the tenant of lands fronting the road to burn dead bodies.

Second,—That persons who permit any dead carcass to remain on or near a highway through their lands, without at once proceeding to burn it, should be liable to a penalty.

7. That a place should be provided in the suburbs of Sydney, to which animals dying in the city of disease or accident could be taken and burnt.

We regret to have to report that the disease is no longer confined to the district within the ranges which we mentioned in our last. It has spread about twenty-five miles south of the Razorback to Bargo, and has also appeared near Dapto, in the district of Illawarra, where there is excellent water, where cultivated grasses abound, and where the vicinity of the sea supplies the air and the herbage with saline particles.

We have great pleasure in stating that we have met with every assistance from parties to whom we applied for information, and that in particular very valuable information has been given us by Messrs. Cleeve, Argent, Bloomfield, &c.

Mr. Moore, of the Botanic Garden, has favoured us with a report of his examination of the herbage of various places and districts where the disease has been fatal. This report we beg leave to subjoin as a valuable document: it shews the innoxious nature of the herbage, and may act as a guide to future botanists.

We cannot conclude this report without stating, that by the kindness of the Honourable the Attorney-General, we have been furnished with the reports of two inquests, in each of which death is reported to have been attributable to the absorption of animal matter, and in each case the appearances were those of malignant pustule.

These fatal cases are confirmatory of opinions we have advanced, and with others which have been made known, lead us again more particularly to recommend the greatest caution in handling diseased animals.

R. GREENUP
CHARLES NATHAN
JOHN STEWART, V.S.
JNO. INCHES
B. O'BRIEN.

[Appendix A.—This contains reports of examinations of diseased animals, in all of which the symptoms were the same as those previously reported].

Appendix B.

Botanic Gardens, Sydney, 10th March, 1851.

Dear Sir,—In accordance with your request on behalf of the Board appointed to inquire into the cause of the prevailing cattle disease, I have examined the vegetation of the following paddocks in which cattle have died, viz.: Ryan's and Cleeve's paddocks, on Grose Farm; Hearn's paddock, part of Petersham Race Course; and Fullager's paddock, on the Penrith Road, and the plants observed growing in each paddock are as follows:—

Cleeve's and Ryan's Paddocks.

(The vegetation in both being similar).

Cynodon Dactylon; Poa plebia; Poa annua; Hypoxis pratensis; Plantago varia; Oxalis corniculata; Trifolium repens; Carex cœspitosa; Malva sylvestris; Lavatera species; Kennedya parviflora (?); Erythræa australis; Wahlenbergia gracilis; Lobelia alata; Anagallis arvensis; Isolepia prolifer; Potamogeton natans. The two last named in water holes.

Hearn's Paddock.

Cynodon Dactylon; Billiardiera scandens; Clematis coriacea; Goodenia ovata; Lobelia alata; Erythræa australis; Kennedya parviflora (?); Ranunculus acris; Hypoxis pratensis; Hypericum pusillum: Plantago varia; Annagallis arvensis.

Fullager's Paddock.

Cynodon Dactylon; Agrostos decipiens; Anthistiria australis; Poa plebia; Goodenia ovata; Hypericum pusillum; Wahlenbergia gracilis; Oxalis corniculata; Gnaphalium cephaloideum; Hypoxis pratensis; Billardiera scandens; Kennedya parviflora (?); Angallis arvensis; Trifolium repens; Lobelia alata; Jacksonia spinosa; Viminaria denudata; Bursaria spinosa; Acacia decurrens; Callistemon viminalis; Eucalyptus, several species.

It will be observed that only certain plants are common to the whole of the paddocks, viz.: Cynodon Dactylon *(Couch)*; Trifolium repens *(Clover)*; Lobelia alata; Anagallis arvensis *(Pimpernel)*; Hypoxis pratensis; Erythræa australis *(Centuary)*; Kennedya parviflora (?); Oxalis corniculata *(Sorrel)*; Plantago varia.

As the whole of these are of very common occurrence, and with the exception of the "*Couch*" observed to grow most sparingly, I trust I shall not be considered presumptuous in expressing my firm conviction *that no disease of a fatal nature* could result to cattle from grazing in any one of the localities referred to.

Believe me, dear Sir, very faithfully yours,

Charles Moore.

B. O'Brien, Esq., M.D.

THE IMPROPRIETY OF MUZZLING DOGS.

To the Editor of the Shrewsbury Chronicle.

Sir,—ALTHOUGH the subject which forms the heading of this letter is one that, to the distant reader, will seem of but little importance, it is, nevertheless, one which at the present moment excites much public interest in Shrewsbury; and moreover it is, in reality, as I think I shall be able to prove, one of great general importance. I trust, therefore, that you will spare me a corner in the forthcoming number of your paper for the few remarks which I have to make on the subject.

It is now several weeks since the inhabitants of this town, or at least that portion of them who keep dogs, were not a little excited and astonished by an order from the mayor, that no dogs should be allowed to go in the streets unmuzzled; and this excitement has been kept up by the occasional infliction of fines on some few who neglected to attend to the order, and was, on Friday last, brought to a climax, when a distinguished medical gentleman, and late a prominent member of the Town Council, boldly and firmly denounced the spirit, and publicly questioned the legality, of such proceedings. With these things I have nothing to do; but, as a member of the veterinary profession, and therefore one whose studies and experiences and avocations have given him peculiar advantages for judging of such matters, I trust I shall be excused if I venture to inquire how far such an order as the one in question is calculated to effect the grand object for which it is generally resorted to, namely, the prevention of that mysterious malady, canine madness.

There is no disease amongst those to which the lower animals are liable about which so many fallacies prevail as that which veterinary pathologists have denominated rabies; for I need scarcely remark that the term "hydrophobia," which signifies a dread of water, is altogether inapplicable to the dog, since when affected with this malady he will drink with avidity. It is not necessary that I should enter into any description of the disease further than to state that it is, fortunately, exceedingly rare, much more rare than is even generally supposed, and that it is essentially a disease of the nervous system. The dog, in a state of perfect health, is by nature of a temperament highly nervous, easily excitable, and impatient of constraint; and air and exercise are absolutely necessary to the preservation of his health and utility. Under the slightest exertion his breathing becomes exceedingly rapid, his tongue is protruded, and his mouth hangs open that the passage of the air to his lungs may

be as free as possible. To deprive him, then, of this faculty is both unnatural and cruel; and, what is still more to the point, a most likely means of producing disease. Long continued irritation is amongst the most prominent causes of rabies, that is, when rabies is generated spontaneously. The quietest dogs may be made savage by keeping them continually tied up; and the use of the muzzle alone will, in most cases, make them snappish and ill-tempered. Nor is this to be wondered at, when we consider the excitement and annoyance which they suffer under its constraint. What, then, can be more likely to produce "disease of the nervous system" than such treatment? If I were consulted by some one anxious to experiment on the most likely plan for the generation of spontaneous rabies in the dog, my advice would be brief and emphatic, in two words—"muzzle him!"

It has been asserted, and indeed it is insisted on as rather a strong point by some who object to the mayor's order, that it would be just as reasonable to muzzle dogs in December as in May. But the fact is—and it is of the utmost importance that this fact should be as extensively known as possible—there is no reason to suppose that dogs are more subject to rabies in hot weather than in cold. The thermometer has nothing at all to do with the matter. The circumstance of the disease being unknown in the hottest climate ought, long ago, to have disproved this fallacy. And yet it is remarkable with how much tenacity people cling to it; and it is curious to observe with what timidity and distrust many intelligent individuals regard even their own canine favourites during the so-called dog-days.

The dog-days! In those little words lie nearly all the mischief. I am satisfied that if the phrase "dog-days" could be expunged from the calendar, we should hear much less of canine madness than we now do. Even in man it would be more rare; for it must be borne in mind, that even hydrophobia is sometimes spontaneous, and may occasionally be referred to extreme nervous irritation, arising from terror and apprehension. I find, by reference to notes taken at the veterinary college some ten years ago, of the lectures of Professor Sewell—a gentleman, who I may remark, has had more extensive opportunities of becoming acquainted with this disease in man, and the lower animals as well, than perhaps any other individual living—that, in several cases which had come under his observation, the dogs whose bites were supposed to have produced hydrophobia had never manifested any symptoms of rabies whatever, or, if any, such as yielded readily to treatment. And he further stated, that in no instance had he

succeeded in producing disease by inoculation with the saliva of these dogs, although he had tried it repeatedly. Is it wise, then, in the municipal authorities to call forth and foster fears and prejudices that may occasionally lead to consequences so serious? To revert, however, to the dog-days. Woe be, then, to the poor animal found abroad without his master, and particularly should his appearance be at all singular. He is suffering, it may be, from excessive heat or fatigue, with tongue protruded and the foam dropping from his lips, or from some of the many nervous affections that occasionally accompany distemper, as chorea or epilepsy; and somebody who has the fear of the dog-days before his eyes fancies the poor creature rabid. There is a cry of "mad dog," and the whole parish is in a state of alarm. Should the poor animal be unable to get away, he is brutally and savagely destroyed at once; and even should he escape from the crowd a similar fate awaits him. He is pursued by the mob, who, armed with all sorts of weapons, and gathering strength and numbers as they proceed, at length overtake him, and he is put to death, his valiant destroyers doubtless pluming themselves on having "done the state some service." But the evil does not end here. The local newspapers report the destruction of a rabid dog, and caution the public. The whole country is alarmed; every parish has its so-called "mad dog," and hundreds of valuable and faithful and harmless animals are thus sacrificed to a popular error. This is no imaginary case. It is one which occurs every year in nearly every town of England. I have myself frequently witnessed the destruction of dogs under these circumstances, and am satisfied that in no such case has there been the slightest reason for supposing the animal to be in reality rabid. I protest, therefore, against such senseless cruelty.

And now I shall, probably, be met by the grand argument—"But no matter whether rabid or not, he is muzzled, and can, therefore, do no harm." Let no one entertain even this delusion any longer. Where the law has no foundation in reason, depend upon it some means will be found to evade it. A simple examination of the dogs to be met with in any street will explain how this is done. In some cases it will be found that the mouth-strap of the muzzle is elastic, so as to admit of the free motion of the jaws; in others, so slack as to be of no avail; and in none tight enough to prevent the animal from inflicting a wound with his teeth. The dog is merely annoyed, whilst it is presumed that the mayor is conciliated. The letter of the law is observed, and no more. And this is well; for if it were otherwise the consequences might be more serious.

One word in explanation; for I am anxious that my object in writing this letter should not be mistaken. It has been simply to disabuse the public mind of some of the many fallacies which it holds in connexion with the subject of canine madness. It is no presumption, I think, in one whose profession peculiarly qualifies him in such a matter to attempt the task. And more; feeling, as I do, warmly and earnestly on the subject, I cannot conclude without tendering my thanks to Mr. Keate for his able advocacy of a cause which I believe to be alike that of public safety and humanity.

I am, &c.,

W. Litt, V.S.

Claremont-street, June 10th, 1851.

*** Sent to us by Mr. Cartwright, V.S., Whitchurch.

THE VETERINARIAN, DECEMBER 1, 1851.

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

In our impression for this month will be found a letter addressed to us by M. Bouley, the Professor of Surgery and Clinique at the Alfort Veterinary School, and author of the work at the present time under our notice, on the Foot of the Horse, on the subject whereon we took occasion to remark in our last "Review," viz. the omission or exclusion of Coleman's name from the Preface to his said work, wherein he has recorded those of Bourgelat, Girard, and Perrier of his own country, and Bracy Clark of ours.

M. Bouley does not pretend to deny that we have a right to express surprise at what appeared to us to amount to either an unpardonable omission or an undeserved exclusion, while he alleges certain reasons in explanation, to which it becomes us, in justice to him, to give every publicity in our power; to which end we purpose here translating such passages of his letter into English as bear immediately on the points in question; a procedure that will serve to render the affair intelligible

to those who may not happen to be conversant in the language of M. Bouley's letter.

In answer to the conjectures thrown out by us at page 626, commencing with the words, "Why, we ask, was the name of COLEMAN omitted in this chosen list?" M. Bouley says—"Of these several suppositions, My dear Sir, one alone is true; and that is, that I was not in possession of Coleman's works, nor, I may add, was I able to procure them. You will recollect that, in reply to a private letter of mine, addressed to yourself, with a view of procuring those works, by purchase, if they were to be bought, or by loan for some months, you informed me they were not to be had at any price, and that your copy of them being in other hands in the country, was not at the time available.

"Thus was I, to my great regret, without the means of judging for myself, and of taking advantage, in the compilation of my own, of the works of a man held by you in such high esteem. I had no means of learning any thing about him save through some chance quotations in writers since his time. These were not sufficient to warrant me in hazarding an opinion. In doubt, I deemed it best to pass him over without mention. Hence the reason of my not inscribing the name of Coleman in the little knot of *distingués* I have enumerated in the Preface to my work," &c.

We have reason to congratulate our professional brethren at home, as well as ourselves, on the issue of this correspondence with our French brother veterinarian, since it promises to be the means of rescuing the name of one from oblivion, and from worse than oblivion—depreciation, who in his day had no professional superior among his compatriots. Those who have never personally known Coleman, who have never heard him in the lecture theatre, but whose knowledge of him is limited to what they may have derived from his works alone, can, after all, form but an imperfect estimate of the man; and we only regret that our friend M. Bouley can but stand in this position. We could shew him—one day, it is possible we may have an opportunity of shewing him—transcriptions of "lectures" delivered by Coleman at the time he stood at his height as Professor at our Royal Veterinary College, of a character likely to elicit from him regret that Coleman had not lived in a time when he might

have made acquaintance with so much talent, combined with so happy a gift of imparting knowledge in its plainest and most pleasing forms. Coleman's work on "Suspended Animation" gave happy omens of his talented mind while he yet continued in the profession (medical) in which he was reared; and considering how scanty his veterinary knowledge must have been at the time he accepted the professorship, jointly with Moorcroft—likewise a great authority on *foot* matters—he made in a short period such surprising progress in the acquisition of veterinary science that he soon became a match for any old or "born" veterinarian that might present himself. The reforms he brought about in the veterinary department of the army, and in the construction of cavalry stables, are enough of themselves to place the name of Coleman on an eminence of distinction. After reading this we feel quite certain M. Bouley will do Coleman posthumous justice. Indeed, the following passage from the concluding part of his letter assures us that he will—would, in fact, before have done so, had he been but apprised of the professional worth of his subject;—one who, before he died, was made a *Fellow of the Royal Society*.

"If I had had the happiness of being acquainted with what your last article (the "review") has taught me, that Coleman stood among your countrymen in the high position in which you have placed him (things we know nothing about in France, such strangers have our countries so long remained to each other touching veterinary matters), I should have considered it incumbent upon me to express in my preface my regrets at not being prepared to speak, of my own acquired knowledge, of so eminent a man. But we here (in France) know nothing about Coleman; or, at least, my countrymen attach little else to the name save an invention, which has not appeared to us as being of the most happy description, of a famous shoe, a *frog-squeezer* (compresseur de la fourchette.)"

It is not difficult to divine whence this *petit morceau* of information was derived. But let us pass on to the conclusion of M. Bouley's letter.

"Believe me, my dear Sir, it is fully my intention to repair, in the next issue of my work, an omission which I ought to re-

gard as unjust, since you with so much assurance affirm it to be so. I shall try again to procure, if it be but for a time, a copy of your master's works, when it will become my pleasing duty to render justice to the merits of a man who must be confessed to be great, since you, so competent a judge, hold him in such high consideration."

MISCELLANEA.

PREVENTION OF CRIB-BITING.

FEW of our readers are ignorant of the hitherto incurable defect of crib-biting in a horse, a practice so injurious in its effects to the constitution of the animal as to constitute legal unsoundness. A crib-biter derives its name from seizing the manger or some other fixture with his teeth, arching his neck, and sucking in a quantity of air with a peculiar noise. This habit, which is common in young horses and those over-fed and under worked, *is very infectious*, and unless the offender is secluded all his companions, in a short time, curiously enough, become crib-biters. Patent muzzles, neck-irons, neck-straps, and various ingenious contrivances have been tried, but have been attended with very moderate success. Feeling the importance of some remedy for such an evil, our attention has been drawn to a very simple but efficacious cure. It has been discovered by Sir Peter Laurie, and is now in use at Sir Peter's stables. Some months since, Sir Peter bought a valuable horse through a highly respectable dealer, Mr. Sheward, of Green-street, which was sold by his owner solely on account of his being an inveterate crib-biter; and who, for a time, set all means and appliances at defiance. But in order to arrive at some cure for so serious a defect in an otherwise valuable horse, Sir Peter directed that the space between the bottom of the back-rack and the outer edge of the manger to be boarded over, forming a steep inclined plane, leaving in this way no edge or point on which the horse can fix his bite. Attached is a flap or slide, open only at feeding time, so that then the manger is used as formerly. Mr. Field, the eminent veterinary surgeon, Captain Hall, the riding-master, and many other competent judges, have pronounced it a perfect cure; as, indeed, it has been proved after the trial of some months. The expence of alteration is only a few shillings, and

its adoption in other stables will lead to similar cures in many an invaluable hunter or hack. Sir Peter Laurie kindly allows any one to see this most useful arrangement, any day, at his stables, Park-square Mews, Regent's Park. — *The Illustrated London News*, 15*th November*, 1851.

*** The above reminds us of a man who professed to "cure crib-biting" by having the horse, the subject of it, for some time in his own stable; the manger of which was so contrived that the moment the crib-biter seized hold of it, it fell, or sprung from his grasp, to the ground. This so alarmed the horse that he became afraid to repeat the act, and thus for a time had the appearance of being "cured" of his evil habit. The objection to Sir Peter Laurie's device is, that it is at the very time when horses are eating their corn that they are apt to crib-bite the most, which, we apprehend, his horse must do whenever the shutter is withdrawn. This is enough to keep the bad habit in memory, so that the animal does not lose although he cannot practise it as usual.—ED. VET.

ON THE EXISTENCE OF SUGAR IN THE URINE OF A HORSE.

By Dr. X. LANDERER.

DIABETES is a very rare disease among horses. The animals which are affected with this disorder pass much more urine than they do in a state of health, and even more than the quantity of water which they drink. The urine is almost colourless, as clear as water, and throws down no precipitate. It has not the usual characteristic odour. The animal loses flesh from day to day, his appetite fails, and he wastes away. Having observed that this disease very much resembles diabetes in the human subject, I subjected the urine of a horse thus affected to chemical investigation. The specific gravity was 1.048. By evaporation I obtained a thick syrupy mass. With yeast it commenced to ferment briskly, and disengaged carbonic acid. The other re-agents used for the detection of sugar, namely, sulphuric acid, chromic acid, the method of Heller with caustic potash, &c., convinced me of the presence of sugar, and I am sure that the malady of this horse was a true diabetes mellitus.—*Pharmaceutical Journal.*

MYLABRIS CHICHORII A SUBSTITUTE FOR CANTHARIDES.

THIS is a blistering beetle—the mylabris chichorii, used in China. A few weeks ago the cantharis vesicatoria was very scarce, and we were informed that it was likely to be replaced in the market by the Chinese variety, of which a few were imported. The colour of the body and head is dark brown, the wings light brown, with dark brown bars. They are said to be as efficacious as the cantharis vesicatoria.—*Pharmaceutical Journal.*

HARD SWEARING IN HORSE MATTERS.

INSOLVENT DEBTORS' COURT. *In re G. R. Glenie.* This insolvent, who had been an omnibus proprietor, was opposed by Mr. Cooke, for Mr. Warwick, horse-dealer and agent, at the Waterloo Station. Mr. Sargood supported. This case, which occupied some hours, was a most extraordinary instance of hard swearing. There was scarcely one sentence sworn on one side but what was denied on the other. The insolvent had purchased four horses of Mr. Warwick, at Robinson's repository, for £42, and had given his acceptance. The insolvent affirmed that the horses were glandered, or, as professionally termed, had "the guitches" *(snitches?)* The allegation was denied, and the foreman of Mr. Robinson denied that they had any symptoms of disease when they were sold. The insolvent said, two days after he had them he told the creditor they were glandered. This was also positively denied The insolvent detailed, as he alleged, a conversation between them, which conversation was denied, and so often were the contradictions repeated, that the commissioner repeatedly expressed his astonishment. The complaint in the case was a vexatious defence. In addition to the loss of the debt, Mr. Warwick was saddled with an expense in law of about £30 in the action. As the case proceeded, the hard swearing seemed to increase. Mr. Commissioner Phillips declared that he had never heard such swearing in the whole course of his life. There was scarcely one word said by one side that was not contradicted by the other. He had seen black perjury enough; "but," added the learned commissioner, "in the whole course of my life, I never heard any thing like this. It is truly shocking." After an investigation of nearly four hours, the case was adjourned for further witnesses, and the insolvent was remanded to prison.

Weekly Despatch, March 9, 1851.

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