a farrier to bleed them from both jugular veins at once. I have not been able to ascertain the quantity of blood they lost, because they bled on the ground; during which time I was employed rubbing their legs and belly with spirits of turpentine; a few minutes after they began to recover; an hour after I ordered them to get water gruel for a drink, and early in the morning, each a warm mash of bran. This diet had been continued about a fortnight, during which time, each of them took two doses of purging physic, which operated very well. One horse got quite well in five or six weeks, but the other remained very poorly with a hard cough, which continued very severe for about six months; nevertheless by frequent gentle bleeding, and proper administration of tonic medicine, he got perfectly sound in the course of twelve months.

CALCULUS.

Although it is an uncommon disease in horses, to find stones in the bladder, yet, from a long perseverance in dissecting a great number of horses, in the different slaughter-houses of London, Dublin, &c. &c. I have been able to discover a vast number of important facts, relative to the anatomy, physiology, and treatment
of several domestic animals; and it is partly in those places that I have collected a number of calculus concretions, both from the bladder and kidneys of horses. The same is observed in the kidneys of sheep and oxen; but calculous concretions collected in the kidneys will certainly not find their way into the bladder of horses, so easy as they do in the human subject, in consequence of the last being upright, and the others in an horizontal direction; it is on this account, therefore, that stones are generally found in the pelvis of the kidneys of horses and other animals. When horses are troubled with stone, I have observed they are frequently attacked with cholic, attended with suppression of urine; and if the animal gets relief, he very often voids a considerable quantity of gravel with the urine, but these gravels are very often to be observed in the urine of horses, where there is no stones in their bladders.

The symptoms of a stone in the bladder, or in the kidneys, is extremely difficult to ascertain, from that which is caused by cholic, or spasms of the intestines, because all these resemble one another.

In administering remedies for the relief of cholic, produced by stones in the bladder and kidneys, it should be remembered, that during the inflammatory fits nothing more is required
than bleeding, emollient drinks, with a drachm of opium, and clysters of decoction of linseed and oil; castor-oil also, given by the mouth, will be a very good remedy; but while the violence of the pain continues, with difficulty in the discharge of urine, nothing affords greater relief than emollient oily clysters, warm bathing, or constant warm fomentations, which considerably allay the pains and spasms, by relaxing the spasmotic tension of the fibres, most effectually open a passage for the evacuation of the stone or gravel. When the pain has been of long continuance, and attended with loss of strength, in such case, gentle cordial-water, as wine and water, an equal quantity of each, with an ounce or two of cinnamon powder; yet, if the loss of strength is caused by the violence of the pain alone, the emollient and mucilaginous treatment, with opium, as above recommended, will be the only necessary remedy; it will relax the passage for the calculus to pass from the kidneys to the bladder, and conduces in a peculiar manner, beyond any other medicine, particularly when it is given both by the mouth and clyster. Diuretics should never be used; such medicines would certainly increase the violence of the pain, and unavoidably produce instant death.

Purging medicines are of great service, for
they both empty the intestines and take off all pressure upon the ureters; they also moderate the heat of the body, and lessen the inflammation and the spasms that produce the pain.

During the interval of the fits we may try the use of the lythontriptic medicines.

**CANKER in the FOOT,**

Is a disease very troublesome in horses; it originates from a debilitated and vitiated action of the vessels intended for the secretion of the sensible frog, and sole. It consists of a formation of a fungous nature, resembling the inside of a mushroom, and the discharge from the adjacent vessels is so powerful, as to corrode and destroy every part with which it may happen to come in contact with the fluid that continually oozes out of the sore; and I may venture to say that, nine times out of ten, this disorder proceeds from bad shoeing; particularly by that infamous method of cutting away the frog, sole, and binders of the foot, and then rising the frog above the ground, and depriving it of its natural function, which practice has been the ruin of many valuable horses; it unquestionably produces the contraction of the hoof and frog, and when the frog is contracted
inflammation and suppuration follows, called a thrush; and a thrush neglected often degenerates into a canker.

When a canker is ascertained, let every diseased part of the foot be removed by the knife, in order to take away every fungous that are the seat of the disease; and if the lateral cartilages of the coffin-bone of the foot is found to be diseased, then an exfoliation is indispensible, and may be procured by touching the diseased bones with the actual cautery; and the wounds may then be dressed with spirits of turpentine, brandy, or spirits of wine and tincture of myrrh. In about two or three days the dressing may be removed and another applied, composed of veredegrease, a pound and a half; burnt alum, half a pound; red lead, half a pound; honey, four pounds; nitrous acid, one ounce; boil the whole to a proper consistence, and when nearly cold, add the nitrous acid; or, for want of this remedy, tar and vitriolic acid makes a very good application that will cure any canker in its recent state, provided the frog receives a constant and uniform pressure on the ground.

CAPELET

A swelling that the old school of farriery has been pleased to term Capelet, but it is nothing
more than a common swelling that takes place on the posterior parts of the hocks, and sometimes on the point of the elbows of the four legs, arising in consequence of some blows received on those parts; but in the four legs these lumps frequently take place from bad management in the shoeing of the fore feet, by leaving the heels of the fore shoes too long, by which means the point of the shoes come in contact with the point of the elbow, every time the horse lays down; and if the pressure is great, the blood-vessels become ruptured, the blood effuses itself gradually into the cellular membrane, and produces there, very often, swellings, that it becomes absolutely necessary to bring on a suppuration to cure them. At other times this kind of enlargement is formed by an accumulation of water in the aponeurotic expansion of the muscles connected with the joint; in which case, such enlargement may be properly called a dropsy of the joint. I have met with some of these watery enlargements in the elbow of a grey horse of the 12th Light Dragoons, that contained two quarts of water, and after having been tapped, and the water evacuated, in three days the swelling was as big as ever, and contained the same quantity of fluid as before. This operation was repeated four times, and nearly the same quantity was
evacuated at each time, making the whole quantity of water taken from the elbow-joint, nearly eight quarts English measure. In this case I perceived that my only method to proceed, in order to stop that accumulation of water, was to create a sufficient inflammation in the joint. Accordingly, I injected a mixture of spirits and Venice turpentine in the cavity, with a large tent of the same in it; in the course of two days the water was degenerated into a very fine laudable pus, which continued to discharge in very large quantities for about twelve days, diminishing afterwards, gradually, and the horse got perfectly well in the course of three weeks, except a hard callous substance, which was entirely dissolved by the actual cantery.

When those enlargements on the point of the hocks or elbows are very large, and taken in their recent state, they generally give way to the frequent application of strong blisters, which must be continued so as to keep up a constant discharge. But if blisters seem to fail, after a proper and judicious management of them, then you will find that the actual cautery will reduce those swellings, almost effectually, in the course of four or five months, if the operation of firing has been performed with dexterity and judgment.
As these dropsical swellings on the point of the hocks are very frequent diseases in horses, I have been induced to try to cure them by spirituous injections, as it is done in the human subject, in cases of hydrocele.

The following case will be sufficient to shew the propriety or impropriety of performing such an operation in the joints of horses. At the time I was veterinary surgeon in the 13th regiment of Light Dragoons, quartered at Ipswich, a young horse bruised himself considerably, in consequence of kicking in the stable against the rails and posts behind him; the consequence was, that a considerable dropsical swelling took place on the point of his hock, that grew as big as a sixpenny loaf in less than a month, which resisted the effects of the most powerful astringents and blisters; but after a month of this ineffectual treatment, the swelling appeared to grow rather larger than smaller. I then determined on the operation of tapping, and afterward injecting wine and water; I therefore took a trocar, and let the water out to the quantity of three pints, and in the place of it I injected two glasses of port wine, mixed with the same quantity of water, made blood-warm.

This operation has been attended with the same effect as in the human subject, that is, of
producing a very desperate inflammation and fever in the course of twelve hours, which continued to increase with the greatest violence for about three days; but in order to conquer the fury of this inflammation produced by the wine, I ordered the animal to be bled very largely six hours after the operation, with constant fomentations of warm water on the place, and poultices of bran and boiled turnips at night.

These warm fomentations, and warm poultices, were continued for three weeks, during which time he took two gentle doses of purging physic, which operated very well, and in the course of five weeks, from the beginning of the operation, the horse was discharged perfectly cured of a dropsical swelling, on the point of one of his hocks, that nothing less than such an operation would have been able to succeed.

Although this operation has been attended with success, yet the inflammation is so rapid, and the danger so great, that it cannot be recommended as a safe remedy, for the removal of those large swellings situated on the joint of the hock, (called capelet).
CARIES,
OR ULCERATED BONE.

Is a disorder of the bones exactly of the same nature with a sphacelus, or gangrene of the fleshy parts. It is therefore necessary to examine strictly all circumstances, in order to discover if possible what has been the causes that have destroyed the circulation, in the whole or part of the bone: to be able to succeed, we must endeavour to find out whether it proceed from an acrid matter of an ulcer, penetrating and destroying the periosteum and the bone; or a violent blow on the bone itself; it is also of great importance to discover whether the cause be general or topical, as in the case of canker in the foot, which often takes place without a manifest cause: except, however, in case of bad greasy heels, and running thrushes, in which cases horses of this kind, often shew a natural propensity for the disorders to run into the foot, and to destroy the bones confined within the hoof.

When a carious bone is deeply situated under the flesh: this part is soft, flacid, fungous, inflated and tumid; the lips of the ulcer inverted, the sanies clear, subtil, fætid, and black, nor can the ulcer be cured, at least only superficially, and it soon breaks out again.
In this case an opening must be made in the skin, and through the muscles; sufficiently large to reach the diseased bone: if the opening has been made too small, the matter will be detained, and will form sinuous ulcers, or it will be absorbed into the circulation; in either case we must have recourse to the knife again; and taking care this time to make a sufficient opening to allow all the pieces of bones to come out without which, no cure can ever be expected.

But in order to obtain a quick exfoliation of all the rotten pieces of bone, I strongly recommend the application of the actual cauterity to the diseased bones, as a radical remedy to such a case: and to assist the discharge of matter, and rotten bone, let the whole of the carious parts, be washed with spirits of turpentine, or oil of cloves, or spirits of wine, or brandy and vinegar; and at night a tent of tow dipped in any of the spirits mentioned, and powder of euphorbium. The actual cauterity may be renewed as often as necessity requires without the least fear of doing any injury: which, on the contrary, is the only remedy to be applied; it will remove safely and speedily all the dead or decayed parts of the bone. The following case, will, I hope, convince the readers of the efficacy of the above
treatment, in carious and other diseases of the bone in horses, &c.

During my service in the 13th regiment of light dragoons, a horse of captain Bennett's troop had a broken jaw, just at the place where the curb of the bridle rests. The accident was not reported to me until the enlargement of the bone was very considerable, and attended with a very fetid discharge from a hole that communicated from under the jaw into the mouth, so that all the liquid injected below, was running out through the mouth. In this case I threw the horse down, and having him properly secured, I began to make a crural incision, and dissect the four corners of the skin, in order to lay bare the bone about two inches in circumference. I then took a scraper in order to clear off the periosteum from the diseased bone, after which I introduced a hot iron of the same diameter of the hole through it; after this I closed the four corners of the divided skin, taking care to put a pledget of tow under each corner, to prevent their uniting again. The hole and divided parts were properly injected with spirits of turpentine, and oil of cloves, three times a day.

These dressings were continued with every appearance of success for about six weeks, when to my great surprise the jaw began to swell
again, and bursting as bad as ever it was before the operation.

The horse was thrown down again, and the same operation repeated as before; (but with no better success) by this unusual failure I began to despair of success, in consequence of the bone being almost entirely rotten by the carie: having always been successful by following this treatment. I therefore repeated the same operation again, for the third time; taking care to scrape the rotten bone with an instrument I had for that purpose, previous to the application of the actual cauterity.

After which the sore was dressed three times a day with spirits of turpentine, and oil of cloves as before, and sometimes with spirits of wine and vinegar; a few days after I had the satisfaction to take out of the hole, three large pieces of bone, and in probing the wound I evidently found that several more was to exfoliate, for during a week I was able to get out one or two pieces of bone at every dressing: after which time the hole began to heal, and continued to do better and better every day: so that in a month after the third operation, and spirituous dressing, the animal was discharged from the hospital stable radically cured.

I have met with a vast number of cases of this kind during my practice, which would be
too long, and too tedious to describe; but it will be necessary to mention three horses in the twelfth regiment of light dragoons, which were equally as bad as the case above described. One of which, was the trumpeter's horse, of captain Moreland's troop, another of captain Lyon's, and the last of captain Bird's; and all succeeded by the same operation, repeated two or three times on each horse, and the same treatment continued as above twice a day, until the cure was completed; which generally takes four or five months to do it. These four cases of carious bone will convince, that the actual cautery, and spirituous applications are the only remedies to be applied in the caries of the bone.

In a slight case however where the bone has not been neglected, so far as to be allowed to become carious, or where nothing but the periosteum and even the bone is but very slightly injured; the frequent application of blisters will certainly cure without any further trouble.

CASTRATION.

This operation is sufficiently understood to need of no description, it will be enough to say that it consists on the removing the testicles of males, or females, and may be attempted at any
age on the horse, and other animals. This operation appears so very simple to perform on brute creation, that it is too often, and generally done by the most illiterate class of men, who are entirely destitute of knowing even the names of the parts they remove; by which ignorance, many valuable animals fall victims to their empirical attempts; yet I must confess that it is often performed by those common vulcans, (called horse doctors) with success: provided however, every thing go on well after the operation.

The testicles are often removed in consequence of some disease, and it will be found absolutely necessary to do it in the following cases, viz, in Shirrous, or cancerous Testicles, or in case of a large hydrocele, and even when the cellular substance about the spermatic chord, is thickened from inflammation, and a fluid in great quantity deposited in it.

Whether this operation is performed in consequence of diseases, or not, it becomes necessary to make some remarks on the different ways of doing it, in order to leave the public, how to judge of the best method of gelding, particularly in old animals.

Formerly this operation was very much practiced in Italy, to many young infants, of the poor class of people, in order to make them
singers (which is certainly the case) and for which purpose they had charity schools to have them educated in the science of music, and when their education was completed, they were almost sure of getting a happy situation in any part of the world, in consequence of the superiority of their voice, to any other singers; and when this barbarous operation was performed, it was done in the following manner, viz, by tying a ligature round the spermatic chord, after the integuments were open; and then removing the testicles by the knife, below the ligature. This is the very way, that it is practiced by all the horse gelders, on brute creation, most probably on account of its simplicity; and it will succeed very well provided the animal be young.

But this operation will probably destroy four horses out of eight, on account of the abdominal ring being open during life in horses: which is not the case in the human subject. This circumstance therefore, will lead me here, to give a little idea of the anatomical structure, and manner in which the testicles descend from the abdomen into the scrotum.

The testicles of the fetus of the human subject, horses, and of most quadrupeds is situated below the kidneys in the loins, and they remain in this situation in birds, during life;
and sometimes in man, and horses likewise, one or both testicles, will remain in the abdomen; when only one descends in the scrotum, in this case the horse is called a rig: but this name is very improper, because the testicles which remain in the abdomen, often secrets as well, as the one which is down. Sometimes however, it does not secret: but then the one which is down, will stimulate the animal's desires, and enable him to generate his own species; and in this we must remark, that the testicles differ from the ovaria, or female testicles: for if one of them is taken away, the animal loses all desires, and is rendered incapable of propagating her own species.

A few months after birth, the testicles begin to pass through the abdominal ring, when they are in the belly, the spermatic vessels must necessary be very short: but they begin to grow longer in exact proportion as the testicles descend; it is sometime after their descent, that they begin to secret: they generally do in horses, about eleven or twelve months old, and in the human species not till the age of thirteen or fourteen years, and they are the only gland in the body which have this peculiarity: all the rest begin to secret their particular fluids immediately after birth, as the liver, kidneys, &c. &c.
The manner in which the testicles descend into the scrotum, is extremely curious; it is worthy of remark, that it is not by gravity, at least, in the horse; Mr. Hunter was of opinion that the gubernaculum which is attached by the convex extremity of the testicle, possessed a muscular power which enabled it to draw the testicles down, when they came to the orifice of the abdominal ring; at this place they meet with the peritoneum, and carry a part of it along with them into the scrotum, (much in the same manner as the sac in herina); the testicles are originally covered with a membrane of their own (called tunica albuginea); the covering of the peritoneum which they draw with them, is called tunica vaginalis, which also covers the spermatic vessels, and adheres to them so closely in the human species that there is no opening or communication left between the abdomen and scrotum.

But it is not so exactly the case in the horse: for there remains still after their descent, a communication between the cavity of the abdomen, and that of the scrotum; so that upon opening the cavity of the tunica vaginalis, a fluid escapes, and if you inject any air, or other fluid into it, it will escape into the cavity of the abdomen: which it would not do in the human species. This circumstance therefore, ac-
counts why horses are not so subject to have a true hydrocele, but a kind of spurious one, in consequence of accumulation of waters in the cavity of the abdomen, from which it makes its escape into the tunica vaginalis. The horse is of course, in consequence of the abdominal ring remaining open during life, subject to hernia congenita, or congenial hernia.

This anatomical description will be sufficient to shew the danger of gelding an old stallion, in the same manner, as common country gellers do in young animals. I therefore recommend to divide the scrotum, and then the tunica vaginalis, after this the testicles slip out from this tunic, covered by its proper coat, called the tunica albuginea, which it is not necessary to divide.

We then divide every thing with the knife, but the veins and arteries, we divide the vas deferent as high or higher up than we do the blood vessels; we then get a pair of clamps round it with tow, and embrace the blood vessels with it near the body of the testicles; so that if an hemorrhage should afterwards arise we may be enabled to get at them with ease.

Then get the actual cautery, not too hot, and scrape the blood vessels with it, so that we may
leave their extremities ragged. The common farriers never perform this precaution, and it is for the want of this knowledge, they are obliged to tie a ligature: after we have divided the vessels in this way, we may sear their ends with a red hot iron, melting at the same time some rosin upon them with this instrument, which plugs up the artery and acts as a fluid cauterery; now the pressure made by the clamps, or tourniquet, should be very considerable to stop the circulation, and we should not remove it until we are certain of having plugged up the vessels: and this may be tried by gradually removing the pressure made by it, till we see the blood come through their extremities; and if this should be the case, we again employ the necessary pressure, and make use of the cauterery and rosin.

It is a common idea that removing more or less of the epydidimis gives more or less courage to the animal. But this is a very mistaken notion, because it is not the duct, but the gland which gives courage; we may perhaps regulate the courage, if we were to leave half the testicle, but this is impossible.

After the operation is finished, we must strictly adhere to the antiphlosistic regimen, till the end of two or three days, we should give him very little hard food, but a great deal
of mashes, and water gruel, made a little warm; if no hemorrhages have taken place: it will be necessary to take three or four quarts of blood.

When there is a considerable swelling, we may give gentle exercise to promote absorption, which will be greatly encouraged by giving gentle purgatives, and diuretics, and after the third day, when suppuration comes on, we may indulge the animal with nutritive food. But if the inflammation should continue, and be violent; in this case we must insert two rowels; one on the inside of each leg, (and not under the belly) as it is practised by farriers, &c. their intention is certainly good, but they fail of success, in consequence of rowels being applied too far off the seat of the diseased part.

Constant fomentations of warm water will be highly necessary also, as their emollient quality will greatly contribute to subdue the inflammation, which may terminate in gangrene, and mortification. This fatal termination might generally be avoided by the treatment above recommended.
CATARACT

Is an opacity of the crystalline lens, or its capsule, occasioning a loss of sight, by the rays of light being prevented from passing to the retina. Cataract very seldom takes place without a previous inflammation of the transparent cornea and conjunctiva; but this is not the case in the human subject, for they have cataracts formed without any appearance of a previous ophthalmia, and their cornea may inflame without producing cataract. The pupil, at the beginning of this disease, is very much affected, and there is some lymph at the edge of the iris; sometimes the lens escapes from its capsule through the pupil, and comes in contact with the cornea; at other times it rolls about the eye, and produces absorption of the vitreous humour, choroid, iris, and, in short, of all the globe, in consequence of the lens being thickened, and sometimes bony.

In the human subject an operation is performed for extracting the cataract, which is generally successful in giving a little sight to the patient; but in horses it is of no service, because the important functions of the lens must be supplied by two different sorts of
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glasses; one convex, to see near objects, another concave, to see distant ones. Now the impossibility of employing glasses with advantage to the horse, and without them vision is so confused, for want of the lens, that it is much better to have the animal quite blind; for he would be continually stumbling and starting at every object, that he would be of very little value to the owner. The only advantage of extracting cataract to a horse, would be when the animal is turned to grass; such as brood mares, for instance. In this case the operation should always be attempted; I say attempted, because the operation of extracting cataract in horses is extremely difficult to perform, on account of the retractor muscle drawing the eye into the orbit; so much so, that we cannot get at the cornea without a proper instrument: besides, this part is much less convex than the cornea of the human subject; which also adds to our disadvantages.

When the operation is performed, the action of the retracting muscle must be contracted, by means of double tenaculum, which is much better than any spiculum we can use. Another difficulty arising after the operation is performed, is, that the retractor muscle still continues to draw the globe into the orbit, and the aqueous humour is continually esca-
ping, and thereby preventing the union of the divided cornea, which, from the irritation produced, inflames, so does the iris and all the other parts, and the bulk of the eye is very considerably diminished. I have observed that it sometimes happens that the iris gets between the divided parts of the cornea, and prevents the escape of the aqueous humour; in this case the wound heals, and the operation succeeds. On this advantage, therefore, I recommend the operator to proceed in the following manner, viz. in cutting the cornea, instead of dividing it altogether, we must take the greatest care to leave a slip undivided, by which we are enabled to withdraw our knife with greater safety.

The same method must be attended to when the cataract is depressed, because the only difference in the two operations is, that in the one the lens is completely extracted out of the eye, and by depressing it, is sunk into the bottom of the orbit only.

Either of these operations may be performed when the lens is very white, and of a disagreeable colour and appearance; or in case of a collection of lymph behind the lens, and the vitrous humour diseased.
CATARRH, or COLD.

This is a disease extremely frequent to horses, and popularly known by the name of Cold. But as we have many examples of catarrh having terminated fatally, from having been neglected at first, or perhaps its symptoms having been mistaken for the strangles, or with some affections which are very different from one another, it will then become necessary to point out the most characteristic signs of a cold.

This disease generally begins with some difficulty of breathing through the nose, and with a sense of some fulness stopping up that passage, attended with the distillation of a thin fluid from the nose, and sometimes from the eyes; and these fluids are often found to be somewhat acrid, both by their taste, and by their fretting the parts over which they pass. Sometimes cold shiverings, and the animal is more sensible than usual to the coldness of the atmosphere; and with all this the pulse is more frequent than ordinary. The difficulty of breathing is evident by a sense of tightness in the flanks, with a cough, which seems to arise from some irritation at the glottis. This cough is generally, at first, dry and painful. With all these symptoms the appe-
tite is impaired; some thirst arises in consequence of the fever, which is generally more or less high. These symptoms mark the height and violence of the disease; but commonly it does not continue long. By degrees, the cough comes attended with more copious excretion of mucus, which is at first thin, but gradually becoming thicker, is brought up with less frequent and less laborious coughing; the febrile symptoms abating, the running at the nose becomes again less, till at length they cease altogether.

Such is the general course of this disease, neither tedious nor dangerous; but such a favourable termination is, sometimes, in both respects otherwise. If the horse has been put to work, or the body exposed to fresh cold, the disease, which seemed to be yielding, is often brought back with three times greater violence than before, and is rendered not only more tedious than otherwise it would be, but also more dangerous, by the supervening of other diseases, which often passes into inflammation of the lungs, a disease in horses attended with the utmost danger.

In horses of a phthisical or broken-winded disposition, a cold may produce tubercles in the lungs, and in horses that have tubercles already formed in the lungs, it may occasion
the inflammation of these tubercles, and will, consequently, render the horse completely broken-winded.

The causes of catarrh seem to be an increased afflux of fluids to the mucous membrane of the nose, fauces, and bronchiae, attended with a greater or less degree of inflammation; the application of cold, which operates by stopping the perspiration in the skin, and which is therefore determined to the mucous membrane of the nose.

Prognosis.—Considering the number of horses and other animals that escape quickly from a cold without any hurt, it may be allowed to be a disease commonly free from danger, but is not always to be treated as such; for it may happen to horses phthisically disposed, or having had some chronic diseases of the lungs, &c. in which case a cold never fails to accelerate the disorder, and bring on a pulmonary consumption, or death.

Cure.—In the case of a moderate disease, it is commonly sufficient to avoid cold, and keep the animal at rest for some days upon warm mashes of scalding oats and bran, with plenty of water-gruel for his drink, made warm; clysters are also very useful. But in some cases, where the fever and cough become very high, the head as well as the body should
be well clothed: we must take away more or less blood, according to the violence of the symptoms. If there is a great difficulty of breathing, a blister is to be applied to the throat and windpipe, from the jaw-bone to the insertion of the chest. At the same time we must give the following balls, viz. Take tartarized antimony, nine drachms; calomel, two drachms; sulphur, three ounces; opium, three drachms; treacle, sufficient quantity to form the mass; to be divided into six balls, one of which must be given every morning or evening. A considerable advantage will be derived from the use of these balls, which must be continued as long as they seem to be required.

CHEST-FOUNDER.

I shall not dwell any longer than necessary on this subject, to shew the mistaken ideas the ancient writers entertained of the present disease, which is as follows, viz.

Some have been pleased to say, that it was a chronic inflammation of those parts in horses, which are situated immediately external to the pleura; and some others, with the idea of shewing more knowledge, give it the name of an external pleurisy, consisting of an inflammation of the internal muscles, which compose the
fleshy parts between the ribs. And the symptoms (say they), are to be known by a stiffness of the body, shoulders, and fore legs, sometimes attended with a short dry cough, and shrinking, when the horse happens to be handled in those parts.

To these ideas I have very little to say, except that nothing can be more absurd, than to imagine that founder proceeds from a chronic inflammation of those parts which are situated immediately external to the pleura, and to give it the name of an external pleurisy; because we are now perfectly convinced that there is no external pleura: but the fact is, that this membrane lines the internal surface of each lateral cavity of the thorax, and covers its viscera. Therefore we may reasonably conclude, that when this membrane is inflamed, it does not produce a chronic, but an inflammatory complaint, which will be more properly and justly called pleurisy, or inflammation of the lungs and thoracic viscera, by modern investigators; yet, if this inflammation of the chest happens to a horse that suffers pain in his feet, from being violently contracted, the animal will undoubtedly suffer double pain, and shew the stiffness, and other symptoms above described by the ancient writers; and it is this complication, I believe, that induced them to
give the name of chest-founder to the article under consideration.

For the real cause and seat of this disease we refer the reader to the article Peripneumony, in which every satisfaction will be found; and when it is complicated with an inflammation of the sensible sole, frog, and laminæ, we refer to the article Founder.

CHOLIC, or COLIC.

Cholic is a disease extremely frequent in horses, and attended with excruciating pain, arising from a great variety of causes, which circumstance must render the veterinary surgeon extremely careful in getting every information possible of their true origin; for, according to this circumstance, a very different treatment may be required.

The different causes that may produce this disease may be referred to the following, viz. the exhibition of too large doses of purgative medicines. 2nd. Cold water given in a state of profuse sweating, or letting a horse stand in the same state in a current of cold wind. 3d. Sand and earth, which accumulates and forms large balls in the intestines; this is frequent to horses in camp. 4th. When the mesentery gets broken, and the bowels go through
it, forming the circumvolution of a figure of eight, and of course nothing can pass through it, nor can any medicines save the patient's life. 5th. Diseases of the bladder and kidneys. 6th. Schirrous tumours and ulcers in some part of the abdomen. 7th. Worms of all kinds. 8th. Strictures in various parts of the intestines. 9th. Injudicious healing of cutaneous disorders; such as the grease and mange. 10th. Ruptures.

From all these different causes that may produce cholic or gripes in horses, the reader will perceive how important it is to find out the cause that has given rise to this disorder; for want of this knowledge the animal's life may be saved or lost.

When the horse is griped from the exhibition of too large doses of purgative medicines, we must endeavour first to remove the irritation and cause of the disease, and till this is effected, we should by no means employ astringent medicines to stop the purging; we therefore employ large clysters of starch, or linseed, boiled in water, and linseed oil mixed in the clysters; as such glutinous substances will foment the inflamed intestines, and get rid of the purgatives contained in them; bleeding to the quantity of three or four quarts will be of great service. Also give the following drink:
Take mutton suet, one pound; milk, one quart; boil them together till the suet is dissolved; then add starch dissolved in mucilage of linseed, or of gum-arabic: or,

Take isinglass, or fish glue, boiled into a jelly with milk; liquid laudanum, half an ounce, or more. These receipts are both admirable good remedies in diarrhoea, and weakness of the bowels.

After the irritation is removed, we may give opium, which certainly possesses an astringent quality, though it does not relieve pain in horses, as far as we can perceive; it may be given from fifteen grains to a scruple, twice a day; for though, in health, the horse would bear a much larger quantity, yet, in this disease, the irritability of the bowels is so great, that it might be attended with danger to hazard a larger dose.

The four legs should be well rubbed, and a great deal of friction employed, with oil of turpentine, in order to determine more blood to the lower extremities. If this does not succeed, ligatures should be passed round the legs, to retain the blood in the remote parts. Exercise should on no consideration be made use of; for although it very much quickens the action of purgatives, by encreasing the peristaltic motion of the intestines, yet, after purging
begins, the horse should be kept at rest, more especially in this instance, as it would tend very much to exasperate the disease.

Cholic, brought on by giving cold water in a state of profuse sweating, or letting a horse stand in the same state in a current of cold wind, &c. The animal expresses great pain, by striking his belly with his hind-feet; he lies down frequently, and rolls on his back; gets up again; the pulse is hard and frequent, from fifty to ninety pulsations in a minute; the extremities are cold.

In spasms of the intestines the animal rolls upon his back also; but he endeavours to remain in that position, which is not the case in any other inflammation of the intestines; and another remarkable symptom which exists in the spasms of the bowels, is, that the pulse is not so hard, nor so quick.

Inflammation of the intestines principally affects the muscular and peritoneal coats of the bowels: we must bleed immensely, to the quantity of five quarts of blood at once, which is much more efficacious than the taking away a small quantity at different times.

We should, indeed, bleed till the horse is almost disposed to reel. We must be very attentive not to mistake this disease for spasms, as each of them require different treatment.
Inflammation produced by cold water, or by letting the horse stand in a current of cold wind, in a state of profuse sweating, requires no other treatment than that recommended for gripes produced from the exhibition of too large doses of purgative medicines. Bleeding largely, as above recommended, with the administration of emollient and mucilaginous drenches, and clysters of the same.

But we must be very attentive not to confound inflammation with spasms of the intestines, because they require a different mode of treatment: in inflammation of the bowels, cordial medicines must be carefully avoided, as such remedies not only aggravate the disease, but often destroy the patient.

As the action of cordials is quite contrary to the purpose for which the bleeding is employed, we must use all the variety of external stimuli, besides the internal treatment recommended. The belly and legs must be well embrocated with spirits of turpentine, or else firing under the belly, in order to produce an external irritation, and sending more blood to the skin, is also recommended: friction produced by the curry-comb, and warm clothing, is of particular advantage, and clysters must be used in very large quantities. We should give no medicines whatever:
and avoid purgatives particularly; for aloes would increase the irritability of the intestines, and produce instant death. Very little food should be given, except water-gruel diluted with water made warm, and repeated as often as possible.

Spasms of the intestines, or dry gripes, as they are called, more frequently take place than inflammation, and generally attack the animal very suddenly: they most frequently arise from drinking cold water while hot. Riding hard is generally employed by dealers, &c. to cure the disease, which succeeds sometimes by increasing the peristaltic motion of the bowels. The seat of this disease is most commonly in the small intestines, seldom in the large; their muscular fibres contract so much as to diminish the intestines to half their diameter; and this arises sometimes in several places, not being confined to one. The duration of the pain, before it makes a favourable, or fatal change, is various, according, perhaps, as there may be a small portion of one, or large part of several of the intestines inflamed, and according to the greater or less influence of the causes which retard or hasten the progress of inflammations towards a cure or gangrene.

The state of the pulse is of great importance
in ascertaining the nature of those symptoms: in the spasms it is not so hard, or frequent, as in inflammation of the same viscera.

Symptoms.—The animal lies down frequently, and more so than in inflammation of the intestines, rolls upon his back, and endeavours to remain in that position as long as he can; then he gets up, runs and lies down again, strikes his belly, and is very restless.

Cure.—In the first place, we must take away four quarts of blood, and then give inwardly three ounces of spirits of turpentine, mixed with some gruel, and repeated an hour after, if required. If the symptoms are abated, you may administer a cordial in a solid form; for though the effects are not so speedy, yet they are more permanent. In short, spasms of the intestines, are the only cases in which cordial medicines are attended with a salutary effect, and the only remedy to be employed against such a dreadful disorder. Accordingly,

Take Venice turpentine, one ounce; opium, a scruple; ginger, half an ounce; oil of aniseeds, half a drachm: the whole to be mixed into one ball, which may be repeated four hours after, if the urgency of the case should render it necessary. Laudanum may also be given with success. Let the belly be well rubbed with spirits of turpentine, so as to determine
an external irritation as soon as possible, while, at the same time, the internal inflammation will be subdued by the plentiful administration of large elysters of warm water, or those recommended in inflammation of the intestines. This must be punctually attended to every two or three hours, whether the animal void his faces or no; because the dung is very frequently voided in this disease from the increased contraction of the intestines.

The next cause that produces cholic in horses, is when the mesentery gets broken, and the bowels go through it, and are entangled in it, forming the circumvolution of a figure of eight; and of course nothing can pass through it, nor can any medicines save the patient's life; in which case death is inevitable. This is a disease of the small intestines, which may be properly termed, *Intus-Susception*, another disorder of the bowels, which commonly takes place in the army when horses are in camp; in which they are apt to eat sand and earth, which accumulates, and forms large balls in the intestines. I have opened horses who died from this cause, wherein I found nearly two buckets of sand in the colon and cæcum; to prevent this accident, every horse ought to be muzzled, and if it is so that they have been eating sand, they must be purged with aloe,
given in a dose of seven or eight drachms at a time.

The stones formed in the intestines, whatever is the cause of it, are of two sorts, one hard and the other soft, which difference must proceed from the variety of earths which they eat, and sometimes the nucleus is a nail, formed into different strata.

N. B. Cholic of the kidneys and bladder; schirrous tumours; and ulcers in any part of the abdomen; or injudicious healing of cutaneous disorders; or worms, &c. the reader will find their symptoms and treatment sufficiently explained under their proper head.

Case of a Sudden Death, produced by the Rupture of the Vena-Porta, and Liver.

The 19th of January, 1808, I was called at six o'clock in the evening to see a horse of Captain Rich's troop, that was taken very ill with a violent cholic, or gripes, as it was supposed by the dragoon that was stable-guard and farrier, who saw the horse fall down and rise up suddenly, in a state of convulsion, the farriers came for me to see the horse. Being on the spot I soon got into the stables, and immediately perceived that a
few minutes would put an end to his suffer-
ings; which was immediately the case, be-
cause, in attempting to bleed him, he drop-
ped, and expired in less than ten minutes.

In opening the body, the abdominal portion
of the vena-porta, which carries the blood from
the stomach, pancreas, spleen, omentum, mes-
entery, and all the intestines, into the sinus of
the vena-porta, was ruptured; which accident
poured above two gallons of blood into the
abdomen.

The right side of the liver was torn in two
places, the length of six or eight inches in each
place, greatly diseased, and containing several
large tubercles, and calcareous matter. The
left side of this viscus was very flaccid, soft,
and containing varix of considerable sizes in
several parts of the hepatic veins: therefore,
by the description of these symptoms, it will
not be difficult to judge, that the principal
cause of this accident was a rupture of the
vena-porta and liver, which had produced a
considerable hæmorrhage, and, consequently,
instant 'death, which in the cares of many far-
riers, this accident may have been mistaken for
a cholic or gripe.
CONCUSSION,

Is an accident produced by blows, or falls on the head, by which the brain receives more or less injury, the dura, and pie matter, occasioning a sudden distention of their blood vessels; and thereby depriving them of performing their functions as before. If the concussion be very great, all sense and power of motion, are immediately abolished, and death soon follows.

When a horse has received a blow on the head as to render him senseless or stunned; the head must be carefully examined, in order to find out if possible, whether the concussion is attended with fracture, or fissure, this is so much of importance, that fracture is less dangerous than fissure. Because in the first case, the extravasation of blood is less. This accident is more common than it is often imagined, particularly in the cavalry regiments; in which they are often exposed to be kicked, by lying down one behind the other; in this situation, the head is often the place that receives the blow.

The symptoms attending a concussion are generally in proportion to the degree of violence, which the brain itself has sustained. If
the animal survives the blow; he will reel, and will be ready to fall at every step he attempts to walk, and as he recovers, he remains as horses generally are in that disorder, called the staggers; his eyes are inflamed, and continually kept shut; the secretion of dung and urine are also less, than before the accident.

The case discovered, whether it proceed from brutality of man exercised on these unoffending animals; or whether it proceeds from accidental cause, &c. bleeding largely, antiphlogistic remedies should be used to prevent or remove the inflammation when present; if the animal appears costive in the body, in this case gentle doses of purging physic should be given at proper times. The diet must be of scalding mashes of bran and water, made white with the same, and very little hay.

Case of a Concussion with Fracture.

In the year 1797, I was doing duty as veterinary surgeon, in the late 5th, royal Irish, quartered at Laughling Town, near Dublin. The charger of lieutenant Stephens, received a kick from another horse, just on the front of his head, which fractured the frontal bone; the case was not reported to me until a week or ten days after the accident happened, at which time
the lump on the side of his head was as big as a pint pot; and the animal received but very little nourishment, nor could he receive any for several days before I took him in hand, in consequence of the impossibility to move his jaw. The concussion and inflammation was so great, that every one thought I had a great deal of presumption, to undertake the treatment of such a desperate case, as the horse was in the same state as if he had been lock jawed.

I first made a longitudinal incision from the top of the head to the lower part of the orbit. This done, I dissected all the fat that filled the eye-pit, which fat was then converted into a pus of a very yellow colour, and somewhat of a bad quality. Having examined the bone, I then clearly saw that the os-frontal was cracked, in consequence of this symptom, I washed it well with spirits of turpentine; and the hollow made by the operation, and the eye-pit, with a mixture, composed of venice and spirits of turpentine, equal quantity of each; and at the same time the animal was fed with the horn, with boiled gruel every hour, night and day, as above mentioned; and at the end of six weeks, the horse began to pick a few oats itself; and by degrees a little hay, and at the end of ten weeks, he was discharged from the hospital sta-
bles perfectly sound. It will be necessary to observe that the head was constantly fomented with warm water, from the beginning of the treatment to the time the animal was cured. Concussions from gun-shot wounds require remedies that dissolve coagulated fluids, and that restore the tone of the vessels.

For external use, where the skin is not much destroyed, a mixture of spirit and vinegar, equal quantities, will make a very good dressing on the first reception of the bruise; or lime-water and spirits camphorated. If the bruise is considerable, and particularly if any internal part is affected, bleeding very largely is absolutely required, if the constitution of the animal will admit. Direct a cooling diet of water-gruel and mashes of bran: let clysters be injected twice or thrice a day, if the lower belly be the seat of complaint; and in all cases, repeated gentle purging is of the greatest advantage; in the interval of which calomel and tartar-emetic will be of very great advantage as an exceeding good alterative medicine. If, on account of a tumour, or wound, a poultice is applied, the common poultice of bran and boiled turnips is the best, which is to be kept night and day moderately warm, by throwing warm water over it every two or three hours.
Another Case of Concussion, with Fracture.

A horse of Captain Stamer’s troop, 12th Light Dragoons, received a concussion in consequence of a blow on the head, which fractured the scull, and was attended with inability, or a total palsy of his neck and one side of his body; and on the least attempt to raise the animal’s head, he instantly tumbled upon his back, with terrible convulsive motions, rolling of the eyes, &c. and often incapable of rising up again without help.

This symptom resisted all kinds of treatment during about three months, before it was possible to find out that the bone was fractured, at which time I determined to examine the place where the animal felt pain, in order to discover whether or no there was any bone pressing on the brain; for which I made a triangular incision sufficiently large to see that the bone was actually broken, to the length of about an inch.

Having separated the rotten pieces of flesh with the knife, I then applied the actual cautery to the fractured and carious bone, taking the greatest care the red iron should not get too near the brain; after which the wound was
CONSUMPTION.

cressed with spirits of turpentine alone, and the whole of the dressing properly secured; the animal was then allowed to rise, but this he could not effect without the help of several men; and when he was up he could not support himself, having apparently lost the use of the affected side; in consequence I ordered the men to keep him up against a wall for about an hour; after which he recovered, and could walk about without help. In this state he was dressed every twenty-four hours, as above, during which time I have been able to extract several large pieces of bone and ligaments, with every appearance of performing a radical cure. But the regiment receiving orders to march, the animal was shot by order of Brig. Gen. Bolton.

CONSUMPTION.

Consumption, Atrophy, and several other wasting disorders, are too manifest in horses, as well as in the human subject, to be in the least doubted by any one that is tolerably acquainted with the animal, economy, and diseases of horses; yet I must confess that I have known some of them declining and wasting away by some other distemper charged to this article, though the lungs were not at all diseased; nevertheless, the causes of a pulmonary consumption frequently proceed from inflam-
mation of the lungs, cold, strangles, farcy, &c. that have never been thoroughly cured, but have left some chronic affection to the lungs and pleura.

The symptoms of this dangerous disorder begin with a dry cough, so slight and inconsiderable that little or no notice is taken of it, till its continuance and gradual increase begin to make it regarded. Such a cough has lasted for a few months without any farther inconvenience: at other times it has wholly ceased, and returned alternately; and after frequent recoveries and relapses, the cough returned again, in the most alarming degree, with shortness of breath, wasting of the flesh and strength, sometimes with a running at the nose, but not always, cold shiverings succeeding a great heat of the skin; at which time the pulse is generally above sixty in a minute; and in the last stages of this disease a diarrhœa often takes place, which helps to waste the little remainder of flesh and strength. This last symptom, when united with some of those mentioned, will be of great importance to determine the true seat of the distemper.

It is a very common case, in horses that have died of a consumption, to find their lungs extremely disordered; yet they very sel-
dom shewed any running at the nose during their illness.

The following symptoms are those which are almost invariably observed, viz. the lungs full of glandular swellings, some of which are generally found in a state of suppuration; one lobe, and often both, entirely annihilated; the cavity of the chest full of coagulated lymph, of a very thick consistence, the pleura rotten and ragged in some part, and in some other considerably increased in thickness, and firmly attached to the ribs, the diaphragm almost in the same state, the pericardium and the heart itself so much decayed, as to render it impossible for this viscus to exert its functions any longer.

It is common to have very bad consumptive symptoms abate, and keep in a tolerable state, during twelve months, and longer, by keeping the animal at constant rest and well nursed; but if he is put to any work that requires the least exertion, or exposed to cold weather, or catching cold, or any other neglect, the disorder is sure to terminate fatally in the course of a few days, and often suddenly.

A vast number of prescriptions have been recommended in all farriery books, ancient and modern; but I am very sorry to say, that a fair trial has proved them of very little use.
in this case, therefore, as in all others, where proper remedies are not ascertained, all we can do is to avoid employing medicines that will aggravate the distemper, and at the same time endeavour to put the general health into the best possible state, that the natural powers of the body may be able to exert themselves with the greatest vigour; and this will be done by beginning the cure in the following manner, viz.

When the horse is troubled with a very sharp cough, by fits, and has an uneasiness and quick motion in the flanks, the principal thing is bleeding often, but in a small quantity at a time; one quart, or three pints, from some horses, is sufficient, which may be repeated as often as there is any difficulty in breathing*; then the diluted acid of vitriol, in a strong decoction of bark, is a very effectual remedy, when given with the horn to the quantity of a pint, two or three times a day; or give the following balls:

Take blue vitriol and tartar-ematic, six oz. of each; anisated balsam of sulphur, sufficient to make the whole into a proper consistence.

* The cough may be so high as to justify the losing of a little blood; but frequent bleedings, though small, have appeared to injure some horses when they were too far gone, by robbing them of their flesh and strength.
and rolled in linseed powder, to be divided into fifty balls. These balls may be given, one every evening, and, if they are found to do good, they may be continued till the horse recovers his natural strength, which will be in about three or four months; but this depends on the state the animal is in at the time he begins with the medicines. It is often found necessary to stop the balls for a few days, particularly if the horse refuse his food, or stale too much. But if neither of these symptoms appear, they may be continued, every morning and night. I recommend frequent applications of blisters, on each side of the chest, just opposite the lungs, so as to keep a constant discharge from it; that is to say, when one gets dry, and has done running, another must be applied, until the cough subsides, and the breathing is relieved. Gentle exercise in a good wholesome air will be extremely beneficial also.

CONVULSIONS.

We read in the books of every old farriery writer, some long and erroneous descriptions of convulsions; but experience and observation has proved, that the disease under consideration, in respect to horses and other quadrupeds,
is nothing more than spasms and inflammation of the bowels, staggers, or apoplexy, &c. but not forming a disorder of a peculiar nature in itself; therefore the reader will find the causes, symptoms, and treatment, fully described under their proper heads.

**Corns**

Is a disease arising from an inflammation of the sensible sole near the heels, which makes it appear of a red or brown colour, from an effusion of extravasated blood.

If the inflammation be not early attended to, suppuration soon takes place, which either insinuates itself between the lamina of the hoof and foot, which often bursts open at the coronet, or from its long residence in the foot, acquires a corrosive quality, which discharges at the bottom of the sole, and often produce a very obstinate disorder to cure, called a Canker. Therefore, as corns are very troublesome when their progress is not prevented, or when they are neglected, it will be necessary to explain the causes of this disease, which generally takes place at the heels; in the first place, the sole is liable to be injured from a too hard pressure of the shoe. But particularly at the heels, from the extremity of the horny sole,
between the bars and the crust, having more motion than the sole at any other part, is more liable to have that motion impeded by the shoe, and consequently the sensible sole at this part is more likely to be bruised. Where the horny sole is in contact with the shoe, every step the animal takes, the sensible sole, at the heels, will be liable to receive a blow; for, as the horny sole will be fixed, and prevented from descending, and as the small pastern bone will still continue to convey its weight to the coffin, and navicular bones, the sensible sole must be crushed, between the coffin bone above, and the horny sole below.

This disease, called Corns, takes place much more frequent on the inside of the heel, than the outside, from the inner heel of the coffin bone supporting more of the weight of the animal, than the outside. By this principle, the readers will perceive that in proportion to the extent of motion, the horny sole will be more or less liable to pressure, and the sensible sole to be more or less bruised.

There is another cause beside the pressure of the shoe on the sole, that may produce corns; which is in consequence of allowing the horny sole to grow too thick, concave without, and convex within; and so morbidly thick and
hard, as to lose its elasticity, and obstruct the
descent of the sensible sole, and coffin bone.

The horny sole then becomes a fixed point,
and the sensible sole is liable to be jammed by
the coffin bone pressing down the sensible sole
against the immovable horny sole, as if the
shoe itself had rested on the horny sole. Any
cause, therefore, that deprives the horny sole of
motion, deprives both the lamina and the horny
sole of their functions; and it is a very frequent
case to see horses lame to a very great degree,
from the neglect of allowing the sole to grow too
thick and inelastic, and not sufficiently re-
moving the superfluous and dead part of the
horny sole at every shoeing.

Horses that have naturally flat feet, and thin
soles, are commonly subject to corns, running
thrush, sand-crack, &c.

The cure consists in removing all the diseased
parts with the drawing-knife, taking care not to
injure the hoof. If suppuration has already
taken place in the foot, the wound must be
bathed in warm water three times a-day, for
three or four days; in the interval of which,
the sore may be dressed with an ointment, com-
posed of Venice, and spirit of turpentine,
honey, and hog's lard, equal quantity of each;
the foot well covered with a common poultice
of bran every night, which must be continued
as long as necessity requires; afterwards the foot may be dressed daily with the following, viz. Take common ointment and tar, of each equal quantity, mix them well together; when the disease is removed, care must be taken the foot should be carefully prepared at the shoeing, and, according to the old saying, preventing is better than curing the disease, for which see the article Shoewing.

COSTIVENESS.

It is extremely seldom that horses are troubled with this complaint: it is true that the faces are sometimes voided hard, but I have universally observed, that it is only in consequence of the want of a due and proportionate exercise only, or perhaps from standing too long fed upon dry meat, without grass or any other cooling diet; therefore, that sort of costiveness in horses which is so often taken for a disease, is nothing more than natural to the constitution of the animal; in consequence I do not see that farther remedies are wanting besides exercise and mashers of bran; but if this should grow into an obstinate costiveness, so as to be attended with inconvenience, as scabby eruptions over the skin, heat, and dryness of the constitution, gripes, &c. it
will be then easily remedied by an open diet of plenty of water and bran, as to make his drink as white as milk, and mashes of bran and scalding oats. In this case, the medicine will consist in giving the horse one or two drachms of aloes, mixed with half a drachm of calomel, every day until it operates, or according to its effects, which will be greatly promoted by giving one or two clysters every day, until the aloes operate; and a future costiveness will be prevented by keeping on a proper and regular exercise, and scalded bran and oats every day, or every other day also, until the body is thoroughly opened, and will continue so without any medical assistance.

Yet the bowels of horses being extremely subject to be disordered, it therefore becomes necessary to introduce here the following case, being a death produced by costiveness; it will shew how important and necessary it is to make anatomical researches, as the only means of getting a real knowledge of the disease, and the surest method of guarding against future errors or mistakes.
Case of a sudden Death produced by the Rupture and obliteration of the intestine Rectum.

In the beginning of January, 1808, a horse of Captain Rich’s troop appeared so very costive that it was impossible for him to void his faeces without help; therefore it was found necessary to introduce the arm into the rectum*, in order to unload this intestine from a considerable quantity of dung; after which a clyster of water and oil was injected three times a day, and to prevent inflammation the animal was bled, but without any appearance of relief, as no dung could be voided, except in a very small quantity, and on introducing the hand into the rectum a second time, it has been found considerably enlarged, and apparently forming two bags, one on each side of the pelvis, capable of containing nearly a bucket of dung. In consequence of this extraordinary costiveness and symptom, a mild purgative was administered, and the three clysters a day continued, but without success; the animal died the third day from the beginning of the attack.

On opening the body, the intestine rectum was found considerably enlarged, and effectually

* This operation is called by common farriers, Racking the Horse,
forming two large bags, of about twenty inches in length, filling the whole cavity of the pelvis, resembling those which monkeys have on each side of their jaws when they feed; these bags were of a cartilaginous substance. At their extremity, there was a stricture of a bony consistency, hardly large enough to admit a man’s little finger, by which the faeces have been entirely intercepted in their course, which case had caused the animal to die in spasms, and mortification of the bowels.

On inquiring as to the former state of this horse’s health, I found that eighteen months or two years previous to his death, he was extremely subject to be costive, and when the faeces were voided, it was sometimes with great deal of difficulty, and in hard small lumps, not near so large as an ass’s dung. But the animal appeared in every other respect in health, until the two or three last days of his life.

By these symptoms, we may therefore conclude, that the intestine rectum must have been wounded, lacerated, or received some injury of that kind, at some periods, perhaps by forcing the hand, or a clyster-pipe into his bowel, with too great violence, or in any improper direction, which has torn a piece out of its internal coat, and afterwards got well of itself, but imperfectly, and has remained in a
morbidity, until a complete stricture above has been formed, which process took place, but very slowly, consequently the feces were voided with more difficulty every day.

As the abdominal muscles and diaphragm had no longer the power of forcing out the indurated feces through such a small passage; they were consequently obliged to accumulate behind in the two bags, near the fundament, by which residence they acquired a state of putridity, which at last produced inflammation; and when the stricture had been completely formed, death was unavoidable.

COUGH

Is an exertion of the muscles used in expiration, excited into more violent action, by the power of sensation, in consequence of something which too powerfully stimulates the wind-pipe or lungs, or perhaps both at a time. A cough is often occasioned, either by an acrimonious, or a too great defluxion on the trachea, without any material or permanent injury of the lungs; or when the saline part of the secreted mucus becomes absorbed or impeded, or too great viscosity of it, when the absorption is increased; or the too great quan-
tity of mucus; all this produces the same effect.

I have frequently observed on dissection, that worms and swelled mesentric glands, cutaneous disorders improperly cured, or polypuses filling up the large blood vessels of the lungs, have been the causes of long and tedious coughs; but in cases where the lungs have been diseased, it is observable, that they are sometimes disposed to let the disorder spread in a rapid manner all over them, which frequently terminates in consumption; while in other instances the injured part of the lungs has seemed to remain in the same state, for two or three years, with very little inconvenience, beside the cough. Even in ulcers of the lungs, as was adjudged, from the purulent matter thrown out by the nose, has for a considerable time kept itself confined within the same bounds.

There have been so many examples of coughs remaining in a tolerable state, for several years, with proper care and treatment, which have, by mis-management, or catching cold, &c. been joined by all the symptoms of a quick consumption, soon terminating in death. Hence, as most coughs have a tendency to degenerate into pulmonary phthisis, or atrophy, and the difficulties of pronouncing the event of it, I therefore recommend that all
possible care should be taken to discover the seat, and the cause of the disease, that characterizes the difference between a continual cough, that increases to violence upon the least motion, and the other short dry cough, preceded by a kind of wheezing, as if respiration was obstructed; an attention to this is so necessary, that it is almost impossible to prescribe a proper remedy for each cough without it. In the first, bleeding must take the lead, followed by mashes, compounded of equal parts of bran and scalded oats, and water-gruel for his drink three times a-day, without intermission. The following will be given once or twice a-day, with very great success, viz.

Take tartar emetic, three ounces; flower of sulphur, three ounces; gum ammoniac, four ounces; calomel, an ounce; ginger in powder, and oil of aniseeds, of each twelve drachms; anisated balsam of sulphur, sufficient quantity to make the whole into twenty four balls, of which give one every morning. These balls are powerfully tonic, cordial, and restorative; they promote glandular excretions, warm and stimulate the stomach, and strengthen the whole animal frame.

The other cough that appears to have a tendency to degenerate into asthma, or pulmonary
consumptions, bleeding must be first performed also, and may be frequently repeated, but it must be in small quantities at a time, never exceeding one quart or three pints English measure; afterwards, the following treatment will be found remarkably useful, viz.

Take calomel, two drachms; mixed up with a sufficient quantity of Venice turpentine, to form a small pill, with a little flour, which must be given at night, to work off in the morning, with the following purging physic:

Take aloes, seven drachms; ginger, powdered, two drachms; oil of aniseeds, one drachm; treacle, sufficient quantity to form one ball. These mercurial pills and purging balls, may be repeated, at a proper interval of six or seven days, with the usual cautions. In the intermediate days, and for some time after, one of the following balls may be given with success every morning.

Take Ethiop's mineral, twelve ounces; gum ammoniac, and Venice soap, four ounces of each; calomel, an ounce; anisated balsam of sulphur, and tar, sufficient quantity of each to make them into a mass, to form twenty four balls, of which, give one every morning, without intermission, for three weeks or a month.

If the disease be obstinate, the calomel pill
Cough.

may be repeated with or without the purge, taking care the animal does not catch cold, or salivate. Blisters on each side of the chest, and exercise in a free open air, proportionate to the horse's strength and constitution, will be absolutely necessary also. By this treatment, when applied with judgment, many horses have been cured of the most inveterate coughs, and pulmonary afflictions, even in the most desperate state of the disease.

The following case, which has succeeded on many hundred horses since, with the same success, will be sufficient to prove the efficacy of the treatment above recommended, in coughs, and many other diseases of the lungs.

A horse, the property of General Sir James Stewart, was very much troubled with an incessant cough for about twelve or fifteen months, without getting relief from any medicine whatever; being in Scotland at that time, I was called to pass my opinion; I found the animal greatly distressed with a very heavy cough, the nostrils wide open, and a heaving at his flanks, with all the symptoms of being broken-winded. In consequence of such symptoms, I ordered the horse to lose two quarts of blood, and to be kept upon scalded oats and bran, and water-gruel for his drink. The calomel pills and physic the next morning, L
after which, the administration of one of the above tonic, cordial, and restorative balls, given every morning, has made a radical and permanent cure of all the symptoms of a confirmed asthma long before my attendance pronounced incurable.

CRAMP

And spasms are the same disease, and both are produced by a preternatural state of the contraction and motion of the muscular or moving fibres in any part of the body; therefore cramp is nothing more than spasmodic affections of a part, accompanied with violent pain, which ceases by intervals. Horses are liable to be seized with cramp, particularly in their hinder legs, which seems to be attended with a considerable mobility of the system.

This disease seems to return periodically, and for the most part suddenly, with little or no previous symptoms; the pain is so great that the animal could almost suffer to be cut to pieces, rather than to go a step further, keeping his leg under his belly, or stretched immovable. The pulse is very strong and quick, and his nostrils very wide open.

A temporary relief will be given to the animal by rubbing the affected part with spirits
of turpentine, as hard as possible, from the stifle to the foot. If this spiritual friction is properly applied, it will perform an immediate cure; but, in order to prevent any relapse, it will be necessary to bleed, and give mercurial purges; afterwards we may give the following balls, viz.

Take asafoetida, three drachms; camphor, two drachms; opium, one scruple; Venice turpentine, sufficient quantity to make them into a ball. The same dose may be repeated several successive days, during which time the leg may be blistered once or twice, in order to prevent the return of the disease.

CRAPAUDINE

Is a French name that the old class of Stabularians have been pleased to give to any hurt or tread that a horse receives on the coro-ronet. But modern practice has found it necessary to reject such names, as now become obsolete, and which are not sanctioned by the authority of the modern veterinary surgeons. We therefore refer the reader to the article Wound, in which the Crapaudine will be found fully described, and treated as a common wound.
CRIB-BITING.

A horse that bites the manger, rack, his collar-chain, and often stands with his nose upwards, and his mouth open, as if he would suck the air, is called a crib-biter. It will be necessary to observe, that I do not describe this article as an immediate disease, but as a very bad habit, which will expose a horse ultimately, if not immediately, to great inconveniences, and even disorders; such as windy-cholic, which has many times terminated fatally. Beside the incessant noise they are continually making in the act of doing it, they greatly wear away their teeth, and spoil their corn; which defect generally keeps those animals low in condition.

This bad habit in horses proceeds from letting them stand too long without hay when they are in the stables, particularly when young, and breeding their teeth.

The best method of curing horses of this habit, is to put them by a wall where there is no manger, and let them eat their hay on the ground, and oats in a bag; if this practice is persevered in for any length of time, it will effectually cure them of this very pernicious and disagreeable habit.
Curb.

Every one is pretty well acquainted with the name of a curb, but its real situation, I believe, is generally little understood, even amongst the best informed class of the old system of farriery; this circumstance, therefore, will induce me to give an anatomical description of it, in order to shew how far this enlargement may be prejudicial to the animal; and, what may be the remedy most likely to keep him sound in such a case. The united tendons of the biceps flexor metatarsi passes to the interior part of the superior head of the metatarsus, where it is inserted, after having divided into four separate tendons, above, and at the hock it is confined by an annular ligament; its action is to bend the hock; there the flexor tendon of the foot, called perforatus posticus, passes over the point of the hock also, and gives its tendinous slips to be inserted into each side of the oscalcis, that it may be confined to its situation, and prevented from slipping on either side. The point of the hock, or oscalcis, over which it passes, is covered by the insertion of the tendon achillis, and the surface of both are so lubricitated by synovia, that there may be said to be a complete joint formed here.
But the last flexor muscle of the foot, (called perforans posticus) as it comes down it becomes tendinous near the hock, on the inside of which it passes in a hollow, between the side of the os calcis and back part of the tibia, where there is an inter-articular cartilage, lined by a fine membrane, which secretes synovia;¹ in this situation the tendon is confined by an annular ligament, the inside of which also secretes synovia. In this sheath it passes down some way behind the hock, and then joins the tendon of the second head, and soon after the perforatus tendon. The second arises from the external and posterior part of the superior head of the tibia, blended with the first head; at the middle of the tibia it becomes a small tendon, which runs on the inside of the lower end of the tibia, and the small bones of the hock, in a sheath or theca, lubricated by synovia, soon joining, and becoming intimately blended with the tendon of the first head; both united, going with the perforatus tendon, to be inserted into the coffin bone.

The anatomical description of such a complicated number of tendons, &c. will shew the importance of applying proper remedies in the first discovery of diseases, arising from a strain of some of those ligaments, occasioned by long-

¹ This is the exact situation of a curb, and not an enlargement of the bone, as it is supposed.
continued exertions, or blows on the back part of the hock; in either case there is an accumulation of synovia, attended with more or less of inflammation, and a swelling called a curb.

The cure may be attempted by frequent applications of blisters, but if they fail, the actual cautery never, or very seldom, will disappoint the operator in performing a complete and radical cure, by producing absorption of the extravasated fluid, and acting as a tight bandage on the part.

CUTTING
THE TWO FEET TOGETHER.

It is very common to see horses cutting themselves, by knocking their legs and feet against one another with such force as to produce wounds on the joints, very often attended with great inflammation and suppuration: it therefore becomes necessary to explain here the causes that produce such accidents.

I have already said, in my first publication on the external constructure of the horse, that when the toes were turned inwards or outwards the animal was liable to cut himself with the toes, or with the heels, and that the horse was
defective in speed, according, however, to the degree of the defect in the conformation.

We must observe, in the first place, that when the toes are turned outwards, the pressure of the foot on the ground lies chiefly on the inward quarter, which causes the horse to cut himself with his heels. In this case, the farrier must preserve the inward quarter as high as he can; nothing should be touched by the buttress, and the shoe must be made thick on that side, and thin on the outside quarter and heel. The branch of the shoe must be very short, and without stamped holes at the heels. If this process be carefully attended to, the foot will be brought upright on the ground; and should the defect begin from the fetlock to the foot only, the horse will never cut any more. But should it take place in the upper part of the extremity, or in the too narrow conformation of the chest; in either case, the defect must be considered incurable by shoeing or any other method.

When the toes are turned inward, we must proceed by a contrary method, which consists in cutting the inward quarter as much as possible, and keeping the shoe very thin on that side; the outward quarter, on the contrary, must be carefully preserved, and the shoe made
very thick on that side, in order to bring the foot level on the ground; the hoof must be rasped as much as possible, from the toe to the middle of the inward quarter.

We must pay the greatest attention to rasping the inside quarters as much as the foot can allow, applying a shoe perfectly exact, and with very few stamped holes on that side.

Several farriers, unable to prevent a horse from cutting, give their shoes many irregular forms, which do more harm than good, occasioning a wrong position to the foot on the ground, the effect of which is liable to retard the speed. In fact, it is not when the foot is on the ground that the horse cuts the opposite leg; it is only when the foot is up, as may be observed: therefore, it is wrong to think of altering or changing the action of the muscles. But, supposing this effect could be produced by shoeing, it is only while the foot rests on the ground, because, as soon as it is raised, it must follow the direction of the leg, which brings it nearer, more or less, to the other; and this will take place at every time the horse loses his balance, or treads on an irregular surface.

The weakness and debility of a young horse may also produce the action of cutting, but this cannot be considered as a fault, since it
generally ceases as the animal gets strength, provided the necessary management for the preservation of the feet is properly attended to at every shoeing.

Having examined the causes that may occasion a horse to cut himself, and the method of preventing it, I shall now proceed to the cure of such accidents, when they actually exist.

If a horse has actually so cut himself, as to have produced a great inflammation, the animal must be kept at rest, and warm bathing, or warm fomentations of water applied, with a warm poultice of bran at night. If suppuration takes place, in this case we must treat it as a wound on any other part of the body; but should the blow have been so violent, as to produce a rupture, or a considerable inflammation of the ligaments of the fetlock joint; for a cure of this kind, the reader must refer to the article broken knees, where he will find the treatment of such accidents fully described.

DIABETES

Is a disease in which there is an immense secretion of urine, which also tastes so sweet in the human subject, that it will produce