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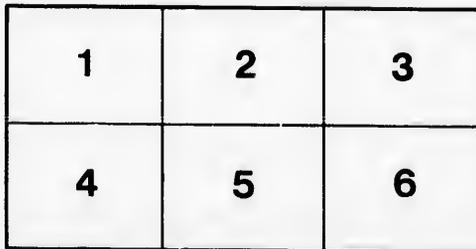
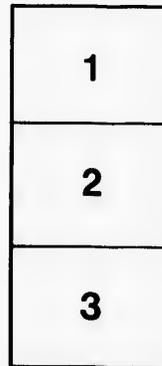
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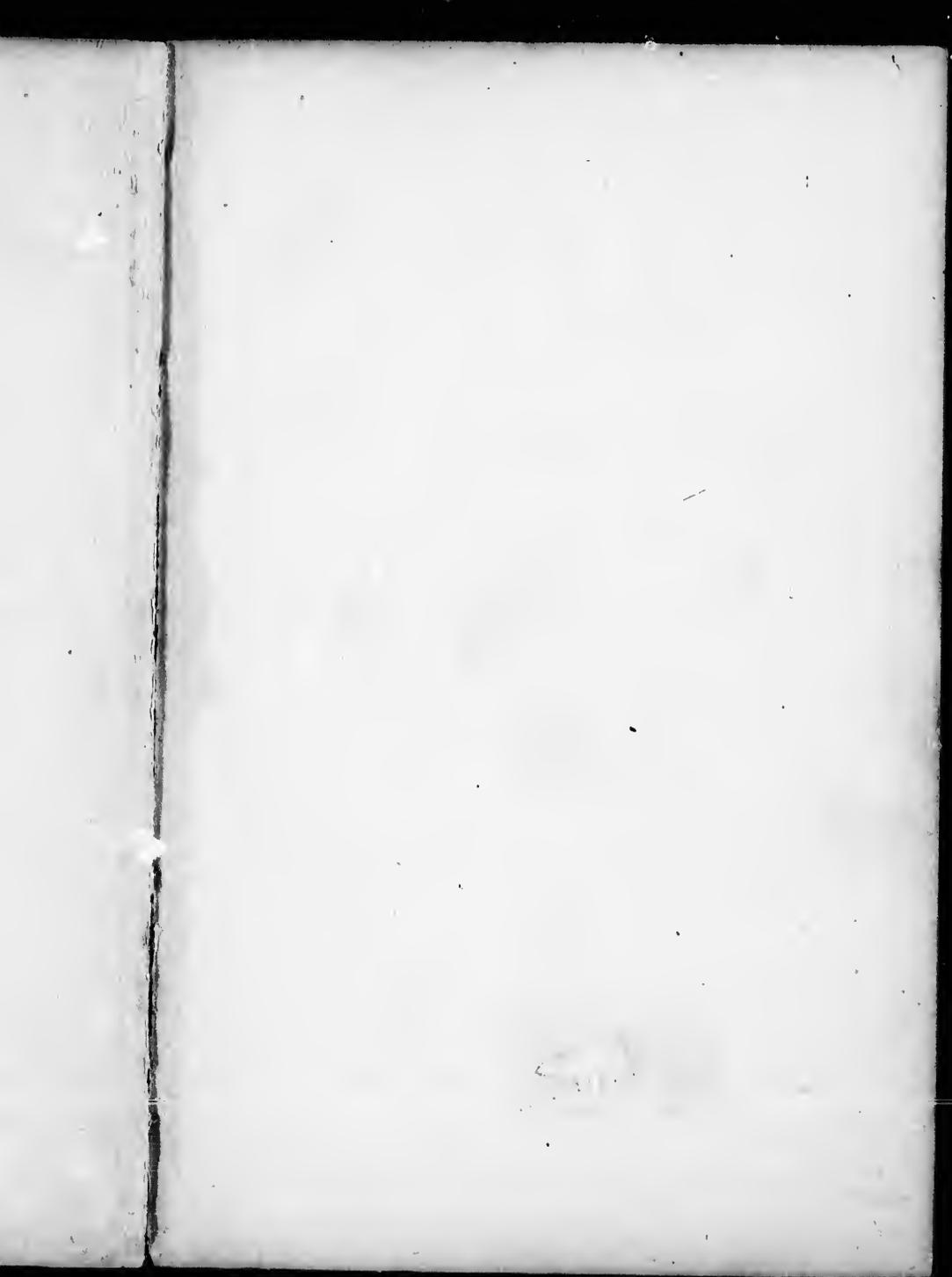
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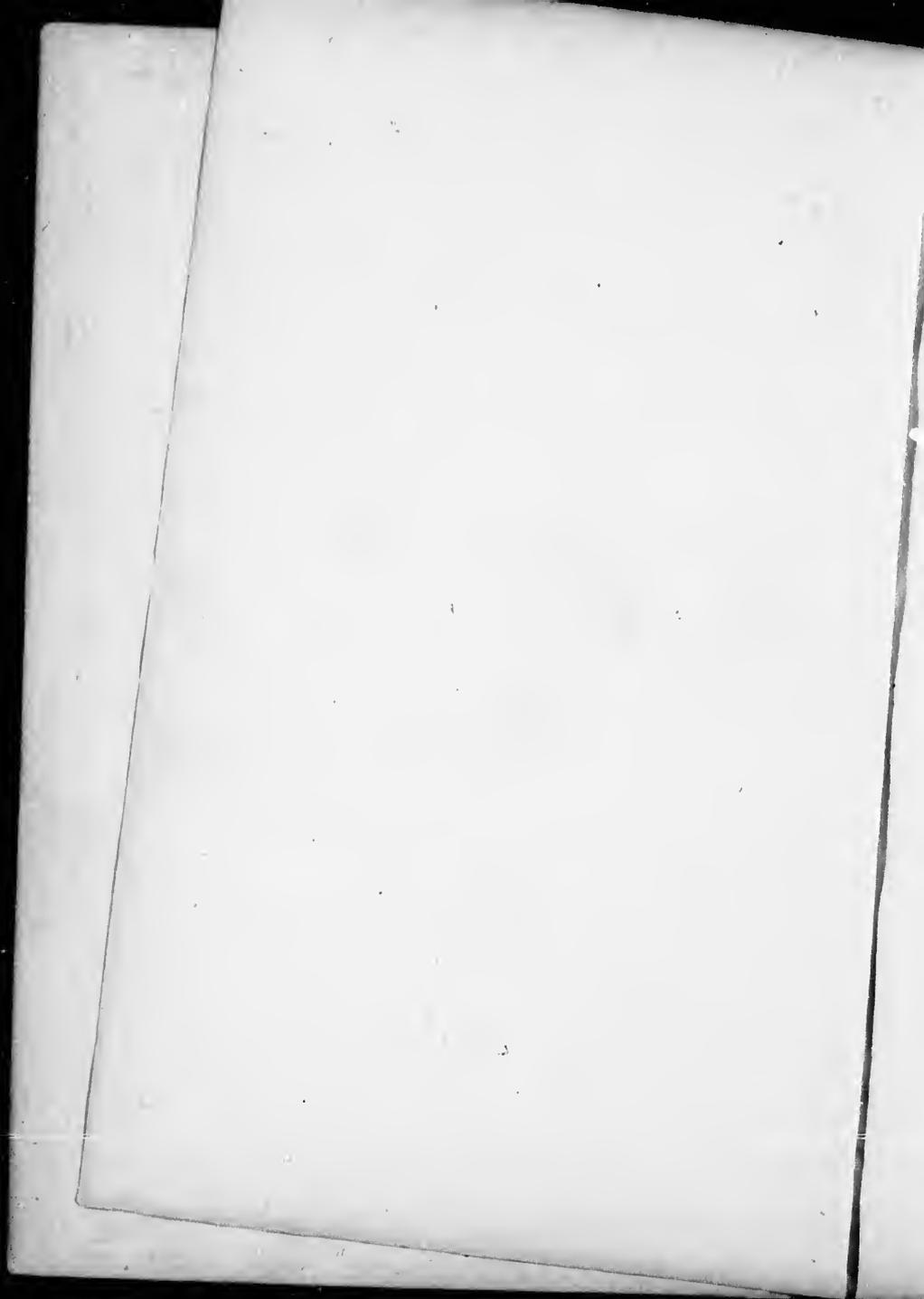
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EVERY MAN HIS OWN

FARRIER:

A TREATISE ON HORSES AND CATTLE;

WITH

REMEDIES FOR EVERY DISEASE.



BY

HENRY BRANTON, VETERINARY SURGEON,

TALBOTVILLE, ELGIN CO., ONTARIO.

TORONTO:

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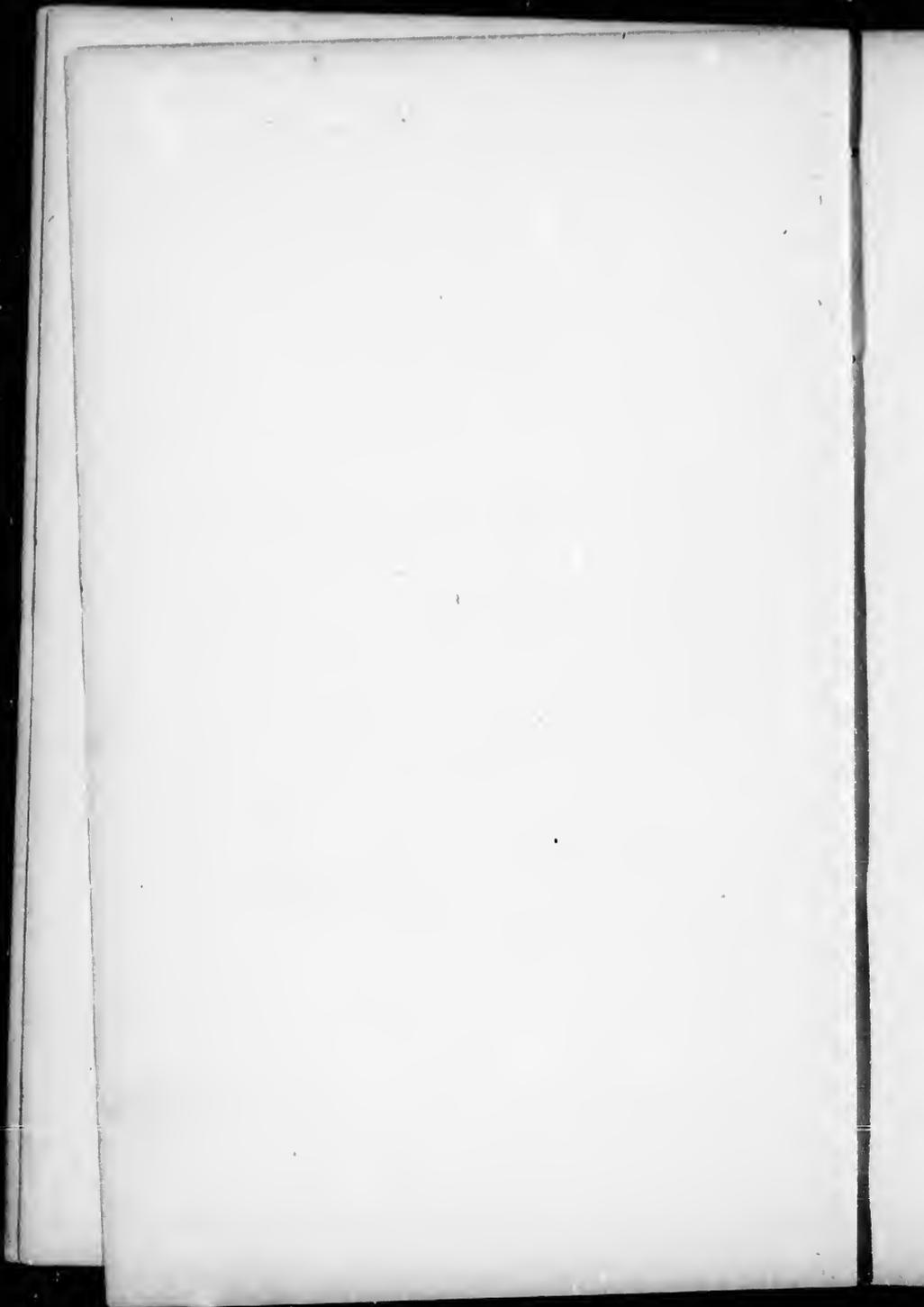
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AUTHOR'S PREFACE.

My reason for writing this book is to give farmers, and all owning horses and cattle, an insight into the symptoms and treatment of diseases commonly met with on this continent. I have endeavoured to make it as plain as possible, carefully avoiding the use of hard technical terms as far as I could; for I know that a great many books have been published, which, unless a man be well read in the profession, he cannot understand, on account of the Latin and other foreign terms. I have given my own practical treatment, as well as that from other authors, and have, where I have deemed it advisable, quoted from the experience of others whose word I can rely on with the greatest faith. Having had several years of good practical experience as a Veterinary Surgeon in this country, I have felt that a book of this description was much needed by the Farming community, knowing that they are sometimes unable to obtain the services of an experienced man; and I trust that all making a purchase of this work may find therein a true and serviceable friend.



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EVERY MAN HIS OWN FARRIER.

INFLAMMATION.

In writing this little work, I have thought that I could not do better than begin by giving a few remarks on "Inflammation" generally; not of any particular part, as I shall take them separately afterwards, but will only speak of "General Inflammation," or, as it is often called, "Diffused Inflammation," meaning the greater part, or the whole, of the system has become involved. I shall quote some remarks upon this subject from a very eminent author, making them as plain as I can in order that those not understanding technical terms may follow my meaning. Inflammation may be considered as a blood disease, or rather, I may say, a disease of the blood vessels, and principally of the arterial ones; thus, in proportion as a part is more or less vascular,—that is to say, that the more arteries there are circulating in a part, the more liable that part will be to inflammation; and it might not be an erroneous idea of the subject if we were to say that inflammation was an increase of the powers of life, as regards the circulatory action of its blood vessels. I shall divide inflammation into four parts—Heat, Swelling, Pain and Redness. Although in many cases, as regards the lower animals, we cannot with the naked eye detect redness on account of their having such a hairy skin, still in some parts of the body it is very plainly seen, such as in the mucous membrane of the mouth, nostrils, or on the "conjunctival" membrane, commonly known as the white of the eye. This effect we know to be occasioned by more red particles being circulated than natural in such parts as usually carry red blood, and by red globules being forced into such vessels, during the inflammatory state, as at other times carried only the colourless parts of the blood; as the transparent parts of the eye, which under inflammation are often seen blood-shot. The swelling of an inflamed part is effected at first by this increase to the distension of its vessels within it. As regards pain, or the sensibility of the parts, it does

History of the disease.

Inflammation as a blood disease.

Division of inflammation into four parts.

Symptoms.

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not depend upon the vascularity, or the number of vessels circulating in the parts, but upon the supply of nervous influence. I shall not, in this little work, trouble my readers with all the numerous parts into which we divide inflammation, but simply say that it is divided into two—Acute or Sharp Inflammation, and Chronic or Slow Inflammation. The acute we find principally in the brain or in the intestines, and as attacking all the soft tissues of the body. The chronic is that which goes on very slowly, generally found attacking bones, ligaments and tendons. Then, again, we have a healthy and an unhealthy inflammation. When a wound is inflicted into a muscle, heat, swelling and effusion take place, the result of which is either immediate union or granulations which finally restore the parts. Unhealthy inflammation is when a part does not readily heal, but discharges a purulent matter, and forms into tumours, &c.

Treatment. In attempting to give any advice upon the treatment of inflammation generally, I shall say a few words upon bleeding. This operation has for some time back been practised but little, yet in some cases where it has been resorted to early it has been found to have had marked success. For instance, where there is a superficial inflammation, scarification of the parts will have a very good effect; yet it should be undertaken with great care and forethought, as a large artery may be cut and harm will happen. There are common laws laid down which anyone would be safe in following, such as the application of cold water, refrigerating lotions, and in some cases heat. Cold applications should be used when the inflammation is superficial, and accompanied by only slight pain and throbbing. It tends to counteract the dilatations of the vessels, and imparts a tone to the surrounding tissues. Such treatment is especially good in the early stages of chronic inflammation, such as in bone and in the lower organized tissues, as ligaments and tendons. Heat should be used when the inflammation affects a considerable surface, such as in cases of inflammation of the intestines or of the kidneys, &c. In these cases hot applications will be found to have a good effect. When cold water is used it must be kept up, or more harm than good will follow, as a reaction might ensue; and it is especially good in the small swellings often found upon the limbs of sheep and cattle. The treatment generally used is what we term antiphlogistic, which is as follows:—Sometimes, when the case warrants it, bleeding may be had recourse to, and when we do this we

should make a good orifice in the vein, and blood flowing quickly gives a shock to the system, thereby tending to lessen the circulation. Purgative medicine should be used, such as aloes, in doses as much as an ounce; and in speaking of aloes, I will now state that the Barbadoes aloe is the best to use in the veterinary practice, as it is the one most to be depended on as being the purest. A nice purgative drench may be made of the following:

Barbadoes aloes	1 ounce.
Powdered ginger	2 drachms.
Nitric ether	1 ounce.
Water	1 pint.

Melt the aloes in the boiling water, and when it is cold or nearly so, add the other ingredients. A bran mash should always be given before the administration of physic, and should be kept up so long as the inflammation is present. Then, again, sedatives are always useful, both given internally and used externally. Internally, they subdue the action of the heart. I always use Flemming's tincture of aconite, in doses from six to ten drops, given every hour or so where the case demands it. The pain being great, and the inflammation extensive, anodynes, such as belladonna, opium, &c., may be used externally with good effect. Hot rugs to the surface will ease where there is extensive internal inflammation, and stimulating liniments to the parts will be of great use. This general treatment will, in the majority of cases, ease the patient; and in those cases where the symptoms seem only to be aggravated by all endeavours to ease, a veterinary surgeon should be called in.

DISEASES OF THE DIGESTIVE ORGANS.

IRREGULAR TEETH.

I shall, in my description of the diseases attacking the organs of digestion, begin at the mouth, and make a few remarks firstly on the teeth. We all know that the way a horse masticates his food is by grinding his molar or double teeth the one upon the other, and by so doing he pulps or masticates his food. When those teeth are irregular this process must, as a natural consequence, be suspended, or performed but irregularly. There is only one way to set this right, and that is by rasping the teeth down until they are level. There are rasps made on

Mastication.

Treatment.

purpose for this operation, and they are the only ones that should be used, for they have the sides smoothed or rounded off so that the gums are not hurt by the operation. After the operation the horse should be kept on soft food, and have his mouth well washed out with some warm water with a little tincture of myrrh in it, to heal the parts that may be at all hurt by the operation.

Wolf's teeth
should be
extracted.

Then, again, we often see what is called "wolf's teeth." These are small teeth growing out of the gums upon the upper jaw, between the front and back teeth. They should be carefully extracted, as they often cause great irritation, and in some cases even the eyesight will be affected.

LAMPAS.

History of
the disease.

Causes.

Treatment.

This is a disease which by many men owning horses seems to be but little understood; that is to say, if we go at all by the way in which they treat it. In young horses while teething, and also in old horses, we find the first two ridges or bars at the back of the incisor or top teeth often inflamed, and this inflammation is termed "the lampas." It may come on from several causes, either as the effect of teething or that the alimentary canal may be out of order. By the "alimentary canal" I mean the whole course, from the mouth down the food-pipe into the stomach, and from there through the small and large intestines to the anus. When it occurs in old horses it is often traced to this latter cause; and it is also found in horses that have been turned to grass, and brought suddenly to be stabled and have more nutritious food given them. The cause should always first be looked to carefully and then treated accordingly. When the gums are very much swollen they may be carefully lanced, and the mouth washed two or three times daily with a mixture of myrrh and water, and a dose of physic should be given. Keep the animal upon soft food, such as bran mashes, &c., until the gums are healed, and all will, as a rule, be well. There is a common practice of burning the swellings. I disagree with it altogether, as being a useless and barbarous practice.

INJURIES TO THE TONGUE.

Causes.

We do not have many cases where the tongue is diseased in the horse, except by the unskilful way in which it is handled by men while giving them medicine. It is a common practice with some men to pull the

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tongue out of the mouth, and to hold it so tight that, let him jerk as he may, they will not let it go, and thus considerable injury is done to it. But in the majority of cases we find that it has been injured by a rope being fastened tightly in the mouth; and so tightly is it fastened, that if the horse struggle very much it keeps getting tighter and tighter, and in time lacerates the tongue to such an extent that amputation is necessary. This operation, of course, would have to be performed by a qualified man.

Where it is only slightly lacerated or torn, a few Treatment. metallic sutures or stitches should be put in, and the wound dressed with some slight astringent lotion, such as alum and glycerine. The horse will have, as a consequence, to be fed upon soft food, and great attention must be paid to him to see that no irritating substance goes into the mouth. I prefer keeping him muzzled all the time, except when he is feeding. The wound may be washed with a little tincture of myrrh and water twice or thrice in the day.

CHOKING IN HORSES.

Choking does not very often occur in a horse, and when it does, it is, as a rule, through some foolishness on the Cause. part of the man looking after it. It is a common practice to give a horse an egg occasionally, to improve his wind and his coat. This egg is given whole as a ball, and is apt to stick in his gullet, or lower down in his œsophagus, or food-pipe. The symptoms are very plainly Symptoms. marked: The horse will stand with his neck stretched out, and he keeps trying to swallow, and cannot; he will, if you give him water, send it back through his nostrils with a cough; then upon manipulation the lump can be felt if not too low down. When an unbroken egg gets stopped in its downward course, the only thing, if it can be reached, is to break it by percussion externally. Balls often cause choking, and also hard pellets of food.

The first thing to be done when you have ascertained Treatment. that the horse is choking, is to try every remedy in your power to move the lump with your hands. Then you sometimes will force the lump onwards. If this fail, and he still evinces uneasiness, then you must have recourse to the probang or tube to try and force the pellet or obstruction down. A gag or balling iron should be placed in the mouth, and then the probang be put very quietly and gently down the throat, pushing gently at first against the obstruction. If you find that it will not

move by a gentle pressure, do not use too much force, as great injury is often thereby inflicted. The walls of the pipe become lacerated or torn, and in these cases death often follows. In the majority of cases the obstruction will soon move onwards by gentle pressure, but where it is quite immovable a qualified man will have to be called in to perform the operation of œsophagotomy, or cutting the obstruction away from the pipe. This operation is easily performed in cattle, but in horses it seldom answers. If it should be performed, and the horse appears to be doing well, feed him on very sloppy thin gruel or mashes, and attend generally to his wants.

CHOKING IN CATTLE.

- Causes.** In cattle we often find this disease occur from the way in which they are fed. Bits of turnip and beet will often cause the obstruction, but in the majority of cases we can get rid of it easily by the use of the probang.
- Symptoms.** The symptoms shown by them when choking are as follows:—The head stiff on the neck and the nose protruded; a great state of uneasiness will be shown; they keep trying to swallow, and cannot. Upon passing the hand along the course of the food-pipe externally, we soon find the obstruction if not too far down, and there is then no difficulty in determining what is the matter. If this obstruction is not quickly removed, the rumen, or paunch, begins to be very much distended with gas, and the animal will soon show very great uneasiness indeed. In those cases where we find an inflation of the paunch, the first thing to do is to get rid of the gas by making an external orifice through the skin and into the paunch. There is an instrument made on purpose for this operation, called a canula and trochar. It is a sharp-pointed probe, covered with a sheath. This instrument is plunged, sheath and all, into the paunch, about a hand's breadth from the "pin bone" of the haunch, in a longitudinal direction towards the head, and then about a hand's breadth down. As soon as the probe is in the paunch up to the hilt, withdraw it, leaving the sheath in it, so as to give vent to any gas that may escape. Having done this, put a gag in the mouth and pass the probang down the food-pipe, keeping the head of the animal as straight as possible. When you reach the obstruction, push gently against it—not too hard, or you will break through the walls of the pipe. If upon pressure you find that it will not yield, you must have recourse to the operation as described in my remarks upon "Choking in Horses." Give afterwards, whether
- Treatment.**

an operation has been performed or not, a dose of physic such as this :

Sulphate of magnesia 1 pound.
Powdered ginger 2 drachms.
Thin gruel 1 quart.

Keep the animal on soft sloppy food for some days. The wound made by puncturing the rumen, or paunch, will soon heal with the application of a little digestive ointment.

INDIGESTION.

In describing the different diseases of the digestive system, I shall confine myself only to those that are most commonly met with in this country, and shall begin with what is commonly known as indigestion. The very term itself tells us what the disease is—"a non-digesting of material food taken there for the support of animal life,"

Meaning of the disease.

We often see this disease in horses, and it invariably comes on either by irregular feeding, by giving bad and coarse food, or by the horse breaking loose at some time or other, getting at some grain and filling his stomach. Wet and green food will sometimes bring it on, and when it does is very often fatal. The symptoms of indigestion are these:—The horse generally expresses uneasiness, leaves off eating, stamps a good deal, looks at his sides, protrudes his nose, and has cold sweats. These go on for some time, and he then gets stupid and dull. He will lie for a considerable time on his side without moving, then get up, lie down again, and so on. When a horse is suffering badly from this disease he seldom lasts very long. The disease soon runs to a fatal termination.

Causes.

Symptoms.

The means by which you would relieve your patient must be had recourse to as quickly as possible. A good purgative and stimulating drench must be given at once, such as—

Treatment.

Barbaloes aloes 1 ounce.
Powdered ginger 2 drachms.
Sulphuric ether 1 ounce.
Carbonate of soda 4 drachms.
Water 1 pint.

The aloes should be dissolved in the water when boiling, and when quite cold the other ingredients should be added. Clysters should be given every half hour or so, and every means should be used to make the bowels move. As soon as you have accomplished this, and the patient seems to be getting better, feed him on soft food, sparingly to begin with. Give him a gentle tonic once a

day, such as a little sulphate of iron and ginger, say a drachm of each, carefully watching the bowels that they do not constipate. This will give tone to the system. Prevention, it is said, is better than cure, and it is very true; for if you take good care of your horse, and never over-feed him, he will scarcely ever have indigestion. Feed him regularly on good sweet food, and he, on his part, will do all the work that can reasonably be expected of him.

COLIC, OR "GRIPES."

Causes producing it.

This disease we see a great deal of at certain times of the year, and more especially in the spring and fall; and it is a disease which, if not very properly and promptly treated, will soon run on to inflammation of the bowels, and the horse will die. It may be brought on from different causes, such as an over-feed of oats, or a draught of water while too hot, and many other causes.

Symptoms.

The symptoms of the disease are these: The horse will curve his tail, look round at his flanks, throw himself down very violently, and groan occasionally. The pulse will run up as high as 100 beats per minute while the spasm lasts, the breathing will be accelerated; but directly the spasm is over, then both the pulse and the breathing return to their normal state. Care must be taken to watch the difference in the symptoms between this disease and inflammation of the bowels, as if the latter were treated for colic, great harm and even death would be likely to ensue. The treatment that I would advise would be as follows:—If taken in the early stage, and the horse be in good condition, I would bleed, not to a great extent, but enough to alter the pulse. I would then give the following drench:

Treatment.

Linseed oil 1 pint.
Spirits of turpentine 2 ounces.
Spirits of nitric ether..... 1 ounce.
Laudanum 1 ounce.

Give this, and rub the belly well with a hard bunch of straw. If in an hour or so the symptoms do not seem to abate, throw up a good warm clyster of soap and water, and give the following drench:

Flemming's tinct. of aconite.. 10 drops.
Tinct. opium 1 ounce.
Warm water 8 ounces.

In the majority of instances this treatment will suffice, but where it seems to frustrate all your endeavours, then

a veterinary surgeon should be called in, as there would be a tendency to inflammation of the bowels. After the attack has disappeared, the horse should be well washed and a slight dose of physic should be given.

INFLAMMATION OF THE BOWELS.

The same causes that produce colic will produce this disease, and the symptoms of it are very much the same as colic, with some exceptions. The horse, instead of throwing himself down violently, lies down with great care, and upon pressure upon the walls of his belly he will grunt and give evidence of pain. The eye will be very much infected or reddened, and also the membranes lining the nostrils. The breathing will become much quicker as well as the pulse, and these symptoms will continue without any abatement. The pulse will gradually get quicker and weaker, till at last it is almost imperceptible. The bowels refuse to move at all, and the horse is very dull and stupid. When he begins to be insensible to everything around him, and seems to throw himself about in despair, then a fatal termination may be expected; but when the dullness appears to wear off and the bowels begin to move, then you may have more hope of your patient. The treatment I would advise is as follows:—As soon as you are quite sure as to the symptoms being those of inflammation of the bowels, and when the pulse has not risen over 60 beats per minute, you may bleed to the extent of four or five quarts; but as soon as he appears to get stupid and weak, you must never bleed, or you will only kill him. In the early stage, after having bled, give this drench:

Calomel	1 drachm.
Powdered opium	1 drachm.
Linseed oil	1 pint.

Give this, and repeat it every hour, until the legs and ears begin to be cold. Throw up clysters of linseed oil and warm water, and rub a good stimulating liniment over the belly, such as the following:

Olive oil	6 ounces.
Spirits of turpentine	2 ounces.
Liquor ammenia fortissime ..	1 ounce.

Rub this well in, and apply often hot fomentations in the shape of rugs, &c., dipped in hot water, as hot as he can bear it. As soon as the ears and legs seem to be getting cold, and the dullness appears to increase, the treatment

must be altered, and a slight stimulant must be given, combined with a sedative :

Spirits of nitric ether.....	1 ounce.
Laudanum	1 ounce.
Linseed oil	8 ounces.

Give this every hour, and keep up the hot fomentations on the belly. If the weakness and dullness appear to be on the increase, your patient will die; but if, on the other hand, it appears to lessen, and he seems to be generally better, then with great care he may recover. Soft food must be given, and sparingly at first. He should be put into a warm but well-ventilated stable, and be kept very quiet for some days; then gentle exercise will be good, and tonics may be given, to restore the general tone of the system.

DIARRHŒA, OR "SCOURING."

History of
the disease.

I think every one knows what diarrhœa is—it is "the passing of an undue quantity of feces in a liquid state," and it may come on from a variety of causes. Finlay Dumm, in his work upon veterinary subjects, gives a very good and clear description of the disease. He says, "In all cases, this outpouring proceeds from some interior cause, and often serves some useful purpose; it is alike the evidenee of something amiss, and a natural effort to remove the evil. A quantity of crude undigested food accumulates a like source of annoyance and disease; but the earliest irritation, by a beautiful reflex process, unlooses, as it were, the sluice gates of the canal, and the offending matter is thus washed onwards." This is the most common cause of diarrhœa; but there are others. Then he goes on to say that "there are many causes producing diarrhœa, such as a too great quantity of green succulent food, and such like;" also that "diarrhœa is apt to show itself in inflammation of the lungs, and in several diseases. It may often come on from a weakened state of the intestinal canal."

Causes and
symptoms.

Treatment.

To treat this disease in order to gain success, the cause should be first discovered, and when removed, the disease will abate as a consequence. For instance, if some offending substance has been taken into the stomach, and diarrhœa comes on, then a mild dose of physic should be given to work it off—and so, by removing the offending body, the symptoms abate, and the parts recover their normal state. If it should come on from weakness, then stimulants and astringents would be advisable, such as one ounce of ginger and gentian in a pint of ale. Give this

once a day. Should there appear to be much straining, and the bowels empty, then give one ounce of laudanum with the above drench. Change the food, and give good nutritious hay, with a few oats. Take great care not to overload the stomach, or you may produce just the contrary effect.

CONSTIPATION.

Constipation is of very frequent occurrence. It is liable to come on at any time if the system is at all out of order. The horse is very liable to it; and should it last any length of time, the symptoms shown would very much resemble those of colic, with the exception that they would be continuous. The treatment I would advise is, that clysters of warm soap and water, with a little linseed oil, be thrown up every half hour or so. Give a good dose of physic, as follows:

Barbadoes aloes	7 drachms.
Spirits of nitric ether	1 ounce.
Calomel	1 drachm.

Give this in a pint of warm gruel, and feed on warm mashes both before and after. It will soon be seen whether the constipation be due to a torpid or sleepy state of the bowels, or whether there be a stoppage in the course; and if this should prove the case, then when back raking has been tried with no success, a veterinary surgeon should be consulted.

INFLAMMATION OF THE LINING MEMBRANE OF THE BELLY.

The symptoms of this disease are very like those of inflammation of the bowels, with the exception that they are not so acute. The treatment is the same, only that a mild dose of physic may be given. This disease does not run its course quite so quickly as inflammation of the bowels, therefore a longer time is given for treatment. A great deal may be done in this disease by hot fomentations to the belly, and in the early stages bleeding freely will be of great use. It is generally a sequel to external wounds, and will sometimes come on after certain operations.

BOTS AND WORMS IN HORSES.

In writing this article, I cannot do better, I think, than take bots and worms together as existing in the stomach and intestines of the horse, and in doing so I shall treat them all under one head. We know that bots are found

to some extent in nearly every horse, and I have never opened any horse after death without finding some in his stomach. There is no doubt but that the eggs of the fly are taken into the stomach by the animal's tongue, and that there they mature, interfering considerably with the process of digestion. They weaken the animal very much, and in some cases produce griping pains. An eminent **Treatment.** author has written a very good article on this subject, and he recommends that three drachms each of aloes and assafetida be rubbed down in hot water, and when cool that an ounce each of turpentine and nitric ether be added. This dose is to be given two or three times a week, while the animal is fasting, watching the bowels all the time that they do not become too loose. Of course, great care must be taken of the animal while under this treatment. I have always worked upon the above treatment, and can speak well of my success. I should recommend that where worms are suspected to exist, one pint of linseed oil be added to the above chemicals instead of water, after enough has been put to melt the aloes and assafetida.

INFLAMMATION OF THE LIVER.

Symptoms. This is a disease we do not very often see in horses, although in some aged ones we occasionally fall in with it. The symptoms are, that the visible mucous membranes are of a yellowish colour, and also the skin. By the visible mucous membranes, I mean to the inside of the mouth, nostrils and eyelids. The feces will be of a dark colour, and slimy. **Treatment.** I have always found that good doses of physic and saline draughts are the best to give, keeping the horse upon soft feed at the time. As a rule, this treatment will answer; but should an animal succumb to the disease, the liver will be found to be soft and very much enlarged. If, however, this disease passes away, then the patient will require great care, and gentle tonics should be given every day, with good nutritious food given in small quantities.

OMASITIS, OR INFLAMMATION OF THE THIRD STOMACH IN THE OX.

History of disease. This third stomach is the one in which the food is prepared for digestion. The internal lining membrane is arranged in a leaf-like form. The ingesta, or food, lies between these leaves in very thin layers, and, as Youatt says, "these leaves grind the food, to enable it to pass to the true digestive stomach." Professor Simonds, of the Royal College in England, does not agree with this theory.

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It is the most vascular—that is to say, the most full of blood vessels—of the stomachs, and has less muscular fibre entering into its composition than any stomach. Therefore, if it were to grind the food, we should expect to find a great deal of muscular fibre, as we do in the gizzard of the fowl; and if these folds have to gather up the food to grind it, we should naturally expect to find muscular fibre in them, whereas we can trace none at all. The stream of food enters the third stomach at the opening from the second stomach, where there are so many pillars, and the food coming against them is divided off between these leaves. This stomach is often impacted with food, and its impaction, or loading, depends more upon the quality of food given than upon the quantity. Give an ox coarse food, such as straw, chaff, bad hay, &c., and you will find that it will stop in the third stomach much longer than if it were good nutritious food; and an ox that is fed irregularly will often have his stomach out of order as a natural consequence. Seeds such as clover, &c., cannot easily be masticated, and you will find that they stop in this stomach a long time, thus not unfrequently producing this disease. Now let us look as to what is likely to take place. In the first place, you are only dealing with a functional derangement, and not being able to get rid of it, you have an increased vascularity, then congestion, and, lastly, an active inflammation. There will be at the very first onset little or no increase of pulse, but you will have diarrhoea, followed up by an obstinate constipation. Inflammation begins almost directly. The omasum gets hard and full. We find the food, in some instances, going into this stomach in a fluid state. The watery parts may be forced onwards, thus leaving the hard part behind. In cattle plague we find the food in this stomach dry, hot, hard, and sticking so closely to the living membrane of the stomach that it is almost impossible to pull it away without some of the lining membrane coming away also. The true symptoms of this disease are: Firstly, diarrhoea from eight to twelve hours, and followed up by an obstinate constipation, the pulse rising occasionally to 100 beats per minute. We also get a quickened breathing. The ox groans and grunts, has a weeping eye, a dry muzzle. The blood vessels are infected, the membrane of the mouth is red. The duration of this disease is from about six to seven days.

Your opinion should depend upon the symptoms; when the severity seems to last three or four days, then your opinion would be unfavourable. Your treatment would

Causes pro-
 ducing the
 disease.

Symptoms.

Treatment.

be: Real good nursing; warm gruel and small quantities of warm water, &c., should be given to help open the bowels. When you are called to a case where you have an irritable state of the bowels to begin with, never stop the diarrhoea, but rather increase it a little, as it is nature's effort to get rid of the irritating substance within the stomach; so that directly you are sure of what is the matter, give this drench:

Epsom salts 1 pound.
 Sulphur $\frac{1}{2}$ pound.
 Solution of aloes 3 to 4 ounces.
 Warm gruel 1 quart.

Give warm water in small quantities several times during the day. Sometimes a half pound of molasses is given with the above. If we see these cases very early, and find the pulse quite distinct and full, we may bleed; but if not, then in the very early stage—never try it afterwards. Nurse your patient to your utmost. Clothe him very warmly. Clysters may be tried, but will not be of much use. When once the symptoms seem to be abating a bit, and the bowels open, then you may expect a recovery; but if the constipation seems to last, then an unfavourable and fatal termination may be expected.

DISEASES OF THE LUNGS AND THEIR APPENDAGES.

SIMPLE CATARRH, OR COLD.

In giving a description of this class of disease as attacking the organs of respiration, or breathing, I cannot do better than begin with catarrh, or common cold in the head; and this is, I believe, the beginning of nearly all the diseases that affect the lungs.

Causes. The causes of simple catarrh, or cold, are numerous: change from pasture to stable, putting on warm blankets sometimes, and leaving them off at others; badly ventilated stables; heating the animal, and letting him stand still in the cold to cool off. In fact, there are a hundred different ways in which a horse may take a severe cold.

Symptoms. The symptoms of a simple cold are these: A mucus runs from the nose, and the eyes are very watery; a feverish state of the body; loss of appetite; staring coat. Of course, the worse the cold is, the worse the symptoms will be in proportion. The ears and legs will be cold, and the horse will shiver a great deal.

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the cause, keeping the animal in a well-ventilated stable. Give a nice warm bran mash with a little flaxseed in it; steam the nostrils by putting a quantity of boiling water in a pail and hay on the top. The animal will pick over the hay, and the steam will act as a fomentation to the nostrils. If the bowels are costive, give a mild dose of physic, and one ounce of nitrate of potash in its water daily; keep the nostrils well sponged out; clothe the animal warmly; bandage the legs, and hand rub the ears well. Sore throat is a general accompaniment of a bad cold, and the same treatment applies to it as to a cold, with the exception that the throat will have to be blistered, or some stimulating liniment will have to be used externally, to counteract the inflammation going on internally. Good nursing and attention to the general comforts of the animal are all required to cure a cold, as a rule.

BRONCHITIS, OR INFLAMMATION OF THE MEMBRANE LINING THE WINDPIPE.

This very often follows a bad cold with a sore throat, Symptoms.
and the symptoms are very much the same. On placing the ear along the course of the windpipe and at the front of the chest, a kind of rustling noise will be heard and the breathing will be laboured. The pulse will at first rise, and then after a day or so will fall very much, great weakness being evinced. But it is very often not noticed until it is too late to take it in its earliest stage. It generally has been in the system some two or three days before it is noticed, and then depletive measures are of no use—we must have recourse to stimulants. One ounce Treatment.
of spirits of ammonia and nitric ether may be given two or three times a day; and should the cough prove very troublesome, then a ball made up of the following may be given twice or thrice in the day, until the symptoms appear to be relieved:

Carbonate of ammonia 1 drachm.
Camphor 1 drachm.
Extract of belladonna 1 drachm.

Good nutritious but soft food should be given, and a blister be put upon the throat and along the course of the windpipe. The animal should be put in a well-ventilated, cool stable, and kept well clothed; the bowels should be kept regular; but great care must be taken that an opposite state of things to constipation does not set in, as in all these diseases it is rather hard to check. If there

should be a slight tendency to constipation, then warm soap and water clysters should be thrown up, and a very mild dose of physic given if needed; but it must be given with great caution. The above treatment is recommended by Finlay Dunn. It is used in the Veterinary College of England, and it is the same that I have myself used for many years, so that I can thoroughly recommend it as being the best and safest that we can have recourse to in this disease.

CONGESTION OF THE LUNGS.

Cause. This disease generally precedes inflammation of the lungs, but yet, sometimes we see it by itself, with no inflammation present. The cause generally is, that the animal has taken a violent cold, and it has settled upon its lungs; or that it has been put to too violent exertion, being either in too low a condition or the reverse; and the lungs become surcharged with blood. This is congestion.

Symptoms. The principal symptoms are: laboured breathing, the elbows of the animal are stretched wide apart and turned out, the head protrudes, and the cough is protracted. The pulse weakens gradually, until inflammation comes on, or the animal dies from prostration. In treating it, I should advise that a good stimulant be given every one or two hours, such as one ounce each of sulphuric and nitric ether in a pint of warm ale. This will tend to cause the circulation to become more rapid, and the lungs will not be so overloaded; that is to say, the blood will move quicker through them. When the patient recovers, then gentle tonics may be given, and with good care and a little exercise all will be well.

Treatment.

INFLAMMATION OF THE LUNGS.

To describe this disease in full, showing all its post mortem appearances, and detailing all its sequels, would take up too much space in this little book; so I will give only the principal symptoms in all ordinary cases, and the available means by which they can be alleviated. Inflammation of the lungs often comes from severe colds, sore throat, and as a sequel to bronchitis and congestion of the lungs; but at the same time it may come on without these diseases having preceded it, or rather, I might say, more correctly perhaps, without any evidence of either of these diseases having previously existed.

Symptoms and cause.

The symptoms of inflammation of the lungs are: the fore legs will be stretched wide apart, the head protruded,

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and the nostrils very much inflated. The animal will scarcely ever lie down while this disease is present, as his lungs are too sore. With the ox this is quite the reverse : he will lie down all the time. It gives him ease, as his breast bone is differently shaped to that of the horse. His pulse will be very high and weak, and the breathing will be very much quickened and very laboured. He will have a hard, dry cough, evincing much pain in the action. The bowels will be very easily acted upon, so that great care must be taken not to produce diarrhoea. If the bowels should be at all constipated, clysters of warm soap and water should be thrown up.

The first thing to do in treating this disease is to bleed Treatment; freely, if you can get it at the first onset, the pulse being full and oppressed ; but when, as is generally the case when we are called in, it is weak and quick, then bleeding would only hurry on a fatal termination. Sedatives may be given, such as Flemming's tincture of aconite, 10 drops, with a drachm of opium ; this dose may be repeated every two or three hours, until the pulse begins to lessen and the mouth gets more moist and cool—in fact, until the fever present in the system begins to abate. Clothe the animal up warmly, put a good blister on the sides of the chest, and bandage the legs with good flannel bandages. Laxative food must be given, as bran mashes, &c. ; and if a little green food can be obtained, it will do good. I do not like giving physic in these cases—it is very apt to bring on diarrhoea. When the cough appears to be unattended with pain, the pulse beating normally, the surface of the body getting more regular as regards temperature, and the appetite beginning to improve, then you may have some hopes of the recovery of your patient, and may give gentle tonics ; but not until you see these improvements, or you will only increase the disease, instead of diminishing it.

I have not said all I might in respect to this disease, because to treat it properly a man must have had good practice ; and I should advise all farmers and horse owners having a horse thus affected, to call in proper medical aid.

PLEURISY, OR INFLAMMATION OF THE MEMBRANE COVERING THE LUNGS.

In writing on this disease, I shall take the description given by an eminent author, as he gives the best I have ever read ; and his symptoms and treatment are so very accurate, that I cannot do better than simplify them a

Origin. little, and add as well a few remarks of my own. He says that "it is met with in almost all severe cases of pneumonia, or inflammation of the lungs, and occasionally by itself."

Symptoms. "The disease is ushered in by shivering, hot mouth, and by other signs of fever; poking out the nose; disinclination to turn or move; a rapid, clear, firm and corded pulse; an occasional short, painful cough; hurried, shallow, careful breathing, the inspiration or the drawing in of the air being spasmodically quickened, and often accompanied by a grunt; the flanks become lifted, the belly tucked up; pressure between the ribs causes pain; percussion of the ribs elicits a dull sound, and the ear applied to the chest discovers a rasping, rough noise. The great thing to be feared is that water may be thrown out into the chest." The author I am quoting says that he has seen as much as ten gallons thrown out, and I can say the same myself; I have seen it come away by buckets full. The causes are the same as would bring on inflammation of the lungs.

Treatment. The animal should be placed in a well-ventilated, airy stable, and bled to the extent of seven or eight quarts—until the pulse begins to falter; but you must not bleed when the pulse is at 70, or when there are any symptoms coming on showing effusion, or that water is about to be thrown out. Purgative medicine may be given: three or four drachms of Barbadoes aloes, with spirits of nitric ether, and clysters of warm soap and water may be thrown up as well. Ten drops of Flemming's tincture of aconite should be given every hour or two; it will bring down the pulse and the action of the heart. As soon as there is water in the chest, then stimulants should be given, and diuretics, or things that act upon the kidneys, should be given to take off the fluid. There is an operation advised in these cases—that is, puncturing the chest between the seventh and the eleventh ribs, to let out the water. As soon as the breathing seems to be getting less painful and the animal getting better, then gentle exercise, with mild tonics and diuretics, may be given; but as these are always hard cases to treat, I should recommend, if the animal is worth it, that medical authority should be consulted.

CHRONIC COUGH.

As a sequel. This is often a sequel to most diseases affecting the lungs. The only treatment to be advised for it is to give laxative medicine, keeping the bowels loose all the time.

Treatment. Blister the throat, and if a blister will not suffice, insert

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a seton. Firing has been advised, but I consider the actual cautery too severe a remedy to use in such cases. Sedatives, such as belladonna, given every day, are good. A very good ball is made by mixing—

- Extract of belladonna 1 drachm.
- Camphor 1 drachm.
- Honey 4 drachms.

Give this every day for a little while and the cough will soften in some cases, but in others all treatment seems to be of but little avail, and the cough will last as long as the animal lives.

ROARING, WHISTLING AND WHEEZING.

The principal cause of these diseases is paralysis of the laryngeal nerves, or the nerves that supply the muscles of the larynx with nerve force. The larynx is that box, so to speak, in the throat through which the wind has to pass on its way into the lungs. This, I say, is a very common cause of these diseases; yet, at the same time, they may come on from a variety of other causes, such, for instance, as the injudicious use of the bearing or check rein. The head is often checked up so high that the larynx in time becomes deformed, and, of course, then constricted, the breathing, as a natural consequence, being interfered with. The methods often used for the curing or stopping of crib biting may cause this disease, such as the putting of a tight strap round the throat. This will cause a stricture, and, in many instances, paralysis. The ways by which we can detect an animal subject to these diseases are numerous. A horse may be a bad roarer, and yet, while he is in the stable, he will not show any symptoms whatever of the disease; but take him out, put him to any violent exercise, and you will be well able to judge for yourself. Then, again, if you press slightly upon his throat, he will give a long, protracted cough. These diseases exist in several degrees: sometimes only slightly, sometimes very violently—the latter in chronic cases more especially. Horses of high stature, long legs, long curved necks, and narrow-chested horses, are the ones most prone to these diseases.

Cause.

How to detect the disease.

Treatment.

In the chronic form we cannot hope for any cure whatever, but when we are called to see it in its early stage we have a greater chance of helping it. We often find these diseases as sequels to bad attacks of lung disease and bronchitis, and sometimes they are the result of a sudden fright. Of course, in these latter cases we have

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a good chance to alleviate them, as quietness will then do a great deal.

In all cases where a cure is tried, the antiphlogistic is the one to use. Soft feed, such as bran mashes, must be given. The very best hay must be used, and care must be taken that the animal suffering does not eat his litter, as many of them have most depraved appetites. They will eat all their bedding, thus doing themselves material damage.

THE HEAVES.

History of the disease.

Why so called.

Nature of the disease.

In describing this disease, I shall begin by saying that I can only state how, in my opinion, the heaves can be helped, as in no single case have I ever seen a cure effected. To begin with, I will try to give my readers some idea of what the disease is, how it is brought on, and by what means it can be alleviated. I think the term commonly given to the disease is a very good one—in fact, no better name could be found; for when we say that a horse is “heavey,” or has the “heaves,” we mean to infer that he heaves at the flank, thus giving us some idea as to what is the matter. Now, in first looking at it, we must ask ourselves of what nature it is—whether it is, strictly speaking, a lung disease, or whether it is a disease of the muscles of respiration, the lungs being affected only as a consequence.

Some few years ago, a debate on this subject arose in the Royal Veterinary College, London, England, and it was agreed among the Professors to thoroughly investigate it, and to make some very careful *post mortem* examinations in reference thereto. It was done, and several evenings were spent together, in which every symptom was taken into consideration, and very great benefit derived from it. They found the great secret of the disease, and by careful experiments made themselves thoroughly masters of the nature of it and the causes from which in nine cases out of ten it arises.

Cause.

The primary cause, I believe, is an impaired digestion, or, to put it perhaps in plainer language, it is due to a long and bad indigestion. My proof for this statement is as follows:—Take, for instance, a horse in perfect health, owned by a man that used him well, fed him regularly and on the very best of food; the owner sells him to another man, who is not so careful of him, and who feeds him irregularly, and on coarse, bad food. Now, while the animal was with the first owner he was used to having very good food, and that given him very regularly; he

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was used to getting a certain amount of nourishment from a certain amount of food, and it being of a good quality, he would not have to eat a very great quantity to obtain a little nourishment; in other words, he was fed with food that was easily digested. Well, now let us look at him with the second owner. He now has to eat three times as much coarse, bad hay, to obtain perhaps half as much nourishment; the food has to be longer in his stomach to be digested, and it is more in bulk. What is the consequence? The stomach becomes distended to an enormous size, and presses upon the muscles covering the abdomen or belly. They cannot act as before, under such pressure, so they become partially paralyzed, thereby requiring more force to expel the air from the lungs than what they are capable of doing. To prove my statement further, I shall have to show how the air is taken into the lungs, and in what way the muscles of the belly—or, as they are more properly called, the muscles of respiration—act upon them. We all know that there are two roads by which the air can get into the windpipe, and from thence to the lungs. This pipe or tube, when it gets into the chest, divides off into two branches, one going to the right lobe of the lung and one to the left. The right lung is the largest, and divides itself into three lobes or parts; the left is smaller, and is only divided into two parts, so as to leave room in the chest for the heart. When these pipes get into the lung substance they divide off into smaller branches, and keep on dividing until they become so small as to be scarcely able to be seen by the naked eye; so that when the air is taken into the lungs it covers the whole mass, and every one of these small pipes or tubes is full of air. So much for the air in the lungs. Now let us inquire how the blood is oxygenated, or affected by the oxygen which is present in the air already in the small tubes; and to do this we must again turn to the stomach. The food, when it gets into the stomach, undergoes certain processes by which it has all its nutritive properties taken from it, and this is called the process of digestion; it passes along the intestines—first the small, and then the large—and in its course all its nutritive portions become extracted by a process called absorption. This nutritive liquid, if I may so speak, is conveyed by a pipe into the right side of the upper portion of the heart; then is passed through a valve into the lower part, or the same side of the heart; thence it is carried into the lungs by arteries, and these arteries break up into smaller ones, corresponding exactly with

the little tubes or pipes in the lungs ; so that the blood now is in close apposition with the atmosphere in the lungs, which turns it from a bluish colour to a bright red. Now, in animals that have died with this disease, we find that the lungs are in a state of uselessness ; we find the little air cells broken up ; and can we wonder at it when we know the bad state of the blood going to the lungs ? The muscles of respiration being also in a state of partial paralysis, the breathing becomes laboured and irregularly performed, so that the animal gets into an unhealthy condition. This, I think, will thoroughly prove my statement, that in the majority of cases "heaves" is brought about by a diseased state of the digestive organs in the first set off, and that the lungs suffer in consequence.

Symptoms.

So far, then, I have shown what the nature of the disease is ; and I will now give some of its principal symptoms : a long and protracted cough, with flatulency ; a very pendulous belly ; a greedy appetite ; the bowels prone to costiveness ; the animal appears to "heave" the air from his lungs—hence the term. This disease can also be brought on by long and bad coughs and colds, by neglected distempers, and by over-heating and exposure to cold ; but, as I said before, I believe a great many cases are brought on by irregular feeding and bad stable management.

Treatment.

Although we cannot cure this disease, yet we can alleviate it to some extent ; and it is only by judicious management that we can do it at all. We see by the symptoms that the bowels are prone to costiveness ; then we must feed on soft food occasionally, such as mashes, &c. ; scalded oats and barley are both good ; hay is at all times bad. A dose of physic given occasionally will be of great benefit. Do not let much water be given at one time ; it is better to give it in small quantities, and often, so as not to overload the stomach. If he is inclined to eat his litter, put a muzzle on him, or litter him with sawdust. In the summer months, pasture or green food will do all that is required, as a rule. If these directions are followed, the horse will soon appear better of the virulent symptoms, and will be able to perform his work with comparative ease, while before it was distressing to see him do it at all. By judicious management, and the exercise of a little humanity in proportioning the work to the state of the disease, much may be done in these cases ; and if the sufferings of this valuable animal are considered when a different course is pursued, I should hope that it is ignorance, and neither obstinacy nor cruelty, that dictates it.

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INFLAMMATION OF THE LUNGS IN CATTLE.

The causes producing this disease in cattle are the same as in horses, so that it will be needless for me to give them now. I shall immediately begin with the symptoms. An animal affected with this disease will be found, in the early part of the morning, to be separated from the rest of the herd. It will get in some sheltered spot until the day begins to advance, and then it will mix with the herd, but towards night again it will separate as before. In the second stage of the disease, the ox will become very dispirited, standing with the head in a line with the body, husking and breathing very heavily, and coughing. It will almost loathe its food. Upon the slightest motion or exertion, it will cough a short husky kind of cough. We should, on examining an animal, percuss the chest, and listen to the sound emitted. If the lung is perfectly healthy, there will be a hollow, drum-like sound ; and when the lungs are affected, the sound will be as if some solid structure has been hit. The sound emitted upon striking the left side of the chest in a healthy animal will be more hollow, always, than on the right side ; so both sides should be carefully percussed. If, in this disease, you apply your ear to the sides of the chest, you will get a crepitating or crackling sound ; if, upon putting your ear behind the arms of the ox, you hear a puffing or blowing sound in the bronchial tubes, you have then one of the most marked symptoms of the disease. In every advanced stage of this disease, the expiration will be accompanied with a kind of grunt. The horse, when under this disease, will scarcely ever lie down ; but the ox always does, on account of the bottom of the breast bone being more flat than that of the horse. As day after day goes on, we see that all these symptoms get severer ; diarrhoea sets in, and the rumen, or paunch, gets hoven or blown. When we see these symptoms, we may be sure that the animal is succumbing to the disease ; the pulse is rapid and very weak ; the extremities, the horns and ears are cold, and the muzzle dry ; the chest will be somewhat enlarged, and if pressure is had recourse to on the right side, the animal shrinks : thus giving evidence of pain. At the commencement of this malady we scarcely ever find a painful expression of the eye, but as the disease goes on this expression becomes very marked. The general duration of this disease is from five to six days, but some cases last out three weeks, and an animal recovering from it must do it at the expense of a portion

Causes.

Symptoms.

Treatment. of its lung. Nature must commence the cure, and we can only help her. In a confirmed case of pleura pneumonia, or inflammation of the lungs, bleeding would be no good; but if you can see it in its very first stage, then take away blood from the vein in the neck until you have an alteration in the pulse. But in one case where you can bleed, you will see fifty where you dare not. As to medicinal agents, a little slight saline aperient may be given should there be any constipation; but if no constipation is present, do not give any aperient medicine—for if diarrhœa is produced, you will have great trouble in stopping it—but medicines that act slightly upon the kidneys, such as the carbonates and nitrates of potash, and sulphate of soda, combined with the aromatic spirits of ammonia. As soon as the animal seems at all relieved, give turpentine, and in this, of course, you must be guided by the symptoms. The nitrates, sulphates and carbonates of soda or potash are the medicines to which you must cling; and when you find that your case is doing well, then you must have recourse to vegetable tonics, and well nurse your patient. A blister may be put upon the chest; the greater the amount of swelling produced externally, the better.

Preventive measures.

When it has once shown itself in a herd, it is, generally speaking, rather hard to arrest. We ought, in the first place, to take away all the animals that have been herded with the diseased ones, and place them by themselves in nice clean places; keep them on good, nutritious food; give them a little slight dose of aperient medicine, such as a small dose of Epsom salts, and follow it up with tonics, and in nine cases out of ten you will prevent the progress of the disease.

VOMITION IN CATTLE.

Causes.

Vomition, or the act of vomiting, in cattle is often met with, and is generally brought on from some foreign agent being in the paunch; water will sometimes cause it. It has been said that ingesta, or food, will return from the fourth stomach back into the rumen, or paunch, and is vomited therefrom; but to do that, it would have to pass back through the third and second, which Professor Simonds says is not at all likely to occur; he says that it is solely from the paunch that vomition occurs. Foreign agents are often found in the rumen. Professor Simonds relates cases in which there were found scissors, thimbles, linen, &c.; but, of course, these are cases where the appetite had been previously very depraved.

Vomition is principally brought on from the presence of some metallic substance within the paunch. Bits of wire, or pins, will get taken into the paunch and into the second stomach, which being like a honeycomb inside, they will break some of the small partitions in it, thus hindering it from performing its proper functions; and this second stomach being so closely allied to the first, or paunch, that the function of the paunch becomes altered. The ox vomits a great deal at a time, even as much as a pailfull.

It draws its legs back, arches its back, and vomits; Symptoms.
after this action it will appear better, until another fit comes on.

We may give aperient medicine, and it should be that Treatment.
which would act directly on the rumen, or paunch, and not on the fourth stomach or the intestines, as it might do considerable harm. Aloes conjoined with ginger, in the form of a ball, should be given in cases where you suspect some foreign agent to be in the paunch; but where you think that it comes on from bad food, or some such nauseating thing, then you must give sedatives, such as an ounce of laudanum with ten drops of Flemming's tincture of aconite in it, with a pint of gruel, so as to quiet the system; nurse your patient, change its diet entirely, avoid giving much water, and attend to the state of the bowels. This is the best treatment I can advise, and if followed out, you will not have much trouble with these cases.

INFLAMMATION OF THE KIDNEYS.

This is a disease we often see in horses, and it is generally brought on by injudicious management, such as a sudden exposure to cold, feeding upon bad hay, &c. I have often seen it brought on from a horse having stood where water has dripped upon his loin, over the region of the kidneys. This is a very common cause of inflammation of the kidneys; but still other causes, such as sprains, &c., will bring it on—such as the too free use of cantharides and diuretics, or things that act upon the kidneys. Causes.

The principal symptoms attendant on the disease are, Symptoms.
that the urine is voided in small quantities, and is very often of a reddish, bloody colour; the animal evinces great pain upon pressure over the loins; the pulse runs high; he has a straddling gait, and moves with difficulty; symptoms of high fever are generally present; the bowels will usually be very costive.

Treatment.

In the treatment of this disease great care must be taken, for, unlike many other diseases, we must not use anything that will tend to increase the action of the kidneys, or we only make matters worse. A mild dose of phisic should be given, but no spirits of nitric ether or turpentine must be used. Then, again, the loins should be well fomented with hot mustard and water; no turpentine liniments or fly blisters, as the skin would absorb them and increase the action of the kidneys, and great harm would be done instead of good. A very good application for the loins is a sheep skin fresh from the back of a sheep; it tends to produce a perspiration, which is a very hard thing to do in a horse by medicinal agents. This is about the most common disease we find attack the kidneys and urinary organs in the horse. Sometimes we are called to cases where the sheath of the penis is very much swollen; but as this generally arises from a dirty state of the sheath, I can only say that prevention is better than cure, and that if the horse be well watched and kept clean these cases will not happen.

INFLAMMATION OF THE UDDER IN COWS.

Causes and symptoms.

We often find this disease attacking cows after calving. The udder, or bag, becomes hot, hard and very much inflamed. There is great fever in the system, and the cow is in a very dejected state. The principal symptom is the hardness of the udder, loss of appetite, &c.

Treatment.

In treating, I should recommend that, first and foremost, a good purgative dose be given, such as the following:

Epsom salts	1 to 1½ pounds.
Spirits of nitric ether	2 ounces.
Powdered ginger	½ ounce.
Thin gruel	1 quart.

Give this drench, and feed on soft, sloppy food. Hand rub the bag well with some very slight stimulating liquids. Keep the milk well drawn off every two or three hours, and suspend the bag, or udder. This may be done very easily by getting a piece of canvas with holes in it to admit of the teats passing through; fasten this by a broad strap on the back, and it will greatly ease the cow. Sometimes an abscess forms in the udder; in that case it should be encouraged, and then be cut out—this operation would have to be performed by a practical hand. In some cases it will slough out itself.

DISEASES AFFECTING THE EXTREMITIES.

SWEANEY.

The term "Sweaney" is commonly used to indicate a falling away of the muscles of the shoulder, and is, I believe, generally looked upon by the public as being a disease of itself, instead of, as a rule, being a sequel to disease in other parts of the limb. I say, then, that sweaney, in my belief, does not come on in the majority of cases at first and unaccompanied by other diseases, but that it is as a consequence and sequel to them. Take, for instance, a horse that is lame in the foot: he will rest it as well as he can, and in the majority of cases we shall see, if the lameness be of long duration, that the muscles of the shoulder will fall away. But at the same time I do not say that this is always the case, for I know that sprains and injuries often cause, when the inflammation has subsided, a falling away of the muscles. It is quite a common error to say, when a horse is brought for an examination, that he has a sweaney because the muscles happen to have fallen away, and never to inquire further into the case, in order to see the why and the wherefore of the falling away. We find, upon making a careful examination, in the majority of cases, that unless we can prove direct injury to the shoulder there is disease below in some shape or other, thus causing the symptoms shown in the shoulder. It is, in my opinion, more difficult to describe the causes of sprain to the shoulder than to imagine them. Bad-fitting collars, causing unequal pressure; sudden turns when drawing a very heavy load; jerking in drawing, and numerous other causes, may produce shoulder lameness, or sprain. The most prominent symptoms are, firstly, in cases where direct injury has been done to the shoulder, inflammation, swelling and pain upon pressure. The whole limb is moved with great difficulty, and the animal is in great pain.

History and causes producing the disease.

Symptoms.

When the falling away of the muscles comes on as a secondary effect, then of course the wasting away is very gradual. Let us take a case where we have direct injury to the shoulder first. There is great swelling, heat and pain. A good dose of physic should be given, such as Treatment. the following:

Barbadoes aloes	7 drachms.
Spirits of nitric ether	1 ounce.
Powdered ginger	2 drachms.

EVERY MAN HIS OWN FARRIER.

Flemming's tinct. of aconite .10 drops.
 Laudanum 1 ounce.
 Warm water 1 pint.

Give this as a drench, having previously given a good bran mash the night before. Feed the horse upon bran mashes all the time. Well foment the parts with warm water, and after each fomentation apply the following lotion :

Tincture of arnica 1 pint.
 Sugar of lead 4 ounces.
 Laudanum 2 ounces.
 Water 2 quarts.

Bathe with this lotion after each fomentation. This, with the above drench, will in the majority of cases take down the inflammation. Sometimes where you have a very fleshy horse to deal with, bleeding will be found advantageous. I prefer to bleed from the vein in the neck in these cases. Take away blood according to the state of the pulse. When the inflammation is gone, and a falling away of the muscles follows, then you may alter your treatment. Feed well—not too highly, but gradually improve the food. Put a good stimulating liniment on the part, and give gentle exercise. A very good liniment is made of the following ingredients :

Linseed oil 4 ounces.
 Oil of turpentine 1 ounce.
 Liquor ammonia fort. 1 ounce.
 Oil of spike ½ ounce.
 Oil of origanum 1 ounce.

Rub some of this liniment on once a day, and with gentle exercise your patient will in most cases recover. There are some cases, however, that need a more severe treatment than this. Blisters will have to be used, and the best I can recommend is the liquid fly blister, which can always be bought at any drug store. Of course, when the falling away is due to some disease existing in other parts of the leg or foot, then the cause should first be removed, and the muscles of the shoulder will soon right themselves.

STRAIN OF THE TENDONS.

We see a great number of these cases at all times of the year, coming on from different causes. From the placing of the foot down upon an uneven surface, for instance, a horse pulling a heavy load may stumble and strain his tendons at any time; in fact, there are numbers of ways in which this disease may be brought about. There is generally a great amount of swelling and pain in

Causes producing the disease.

Symptoms.

these cases, ending sometimes in either elongation or contraction of the tendon.

The treatment I should advise where there is only a common strain is, to use hot fomentations and sedative lotions:

Tincture of arnica	1 pint.
Laudanum	2 ounces.
Tincture of belladonna	1 ounce.
Sugar of lead	4 ounces.
Water	4 quarts.

If the swelling goes away, and the lameness ceases, then gentle exercise may be given; but, on the other hand, if there should be any enlargement left, hard in its character and not painful to the touch, then a blister must be used such as the following:

Powdered cantharides	2 drachms.
Binioidide of mercury	1½ drachms.
Venice turpentine	2 drachms.
Hog's lard	2 ounces.

Mix this together, and after having well cleaned the parts, rub some of it in; leave it on for two days, taking good care to tie the horse's head up, that he may not gnaw his leg. After two days, wash the parts well with some warm water, and when dry grease them with a little fresh lard. This treatment will generally cause an absorption to take place, and the removal of the swelling. A dose of physic will be advisable in such cases, to lower the action of the heart. Sometimes we have the tendons broken in two; in these cases I should advise that the animal, if possible, be placed in slings, and that the leg be placed in splints, keeping the divided ends of the tendons in as close apposition as possible. These are very long cases, and require the daily attendance of a veterinary surgeon, so I shall not enlarge upon them.

SPLINT, SPAVIN AND RINGBONE.

There is an immense deal to be said upon these diseases, but as I have not space in this work for a very long description, I must try and get the most I can into a small compass.

Before saying anything about the character of these diseases, I must make a few remarks generally, and begin by warning farmers and others from having their horses tampered with by men who come round at certain seasons of the year professing to take off these bony enlargements by severe applications. So severe are the blisters they put on, that the bone never heals and the life of the

Bad practice condemned.

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History of
the disease.

Splint.

Nature of
the splint.

Position of
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Their posi-
tion.

animal is sacrificed. There are innumerable instances round the country where this has been done, and many a valuable horse has been lost as a consequence. Now, in the first place, let us inquire what these bony deposits are. Where do we find them, and how do they come? Let us take them in succession—firstly, the Splint; next, the Ringbone; and lastly, though not least, the Spavin. The term "Splint," or, as some writers have it, "Splent," is used by the profession to mean a bony enlargement situated upon the inner part of the cannon or shank bone, as occurring on the fore legs, and upon the outer part as occurring in the hind leg. The reason of the difference in its location in the fore and hind extremities is, that the inner part of the fore extremity and the outer part of the hind is more under the centre of gravity; hence the weight of the animal falls more there than anywhere. My readers may know, or if not may learn, that the large bone commonly called the cannon or shank bone has, on either side of it, a long thin bone attached to it by a sort of elastic tissue, which in old horses is generally ossified or turned into bone. The splint is generally joined to both the shank bone and the long thin bone as well. There is a fine membrane covering these membranes, called the periosteum, and that, through concussion or injury, may get very much inflamed, throwing out a fluid which in time becomes organized, solidified, and afterwards ossified or turned into bone; thus we get that bony enlargement commonly termed a splint. Now, this splint comes on in different parts of the leg, and upon its position depends very much whether the animal goes lame or not; for instance, if it be upon the upper part of the leg, and near to the knee joint, then it would be almost certain to cause lameness, as it would interfere with the mechanical movement of the joint, and also during its formation would be attended with a great inflammation, which in some cases is apt to spread over the membrane covering the joint. When the splint is situated on the middle of the leg, it will not, as a rule, interfere with the travelling of the horse; and if it does not cause lameness or is not very large, I should advise that it be left alone, as when it becomes bone it cannot be effectually removed; therefore it would only be an extra expense, and no real benefit derived therefrom.

Ringbones are somewhat of a different character, although belonging to the same class of disease; they are usually found encircling the whole or part of the coronet.

We generally find that horses with short pasterns and blocky upright feet are more liable to throw out ringbones than horses with long pasterns and flat feet. Now, in some cases I believe that colts have this disease from hereditary predisposition—that is to say, that they inherit it from their sire's or dam's side. It is a common thing to see foals and yearlings with ringbones coming before even they have set their feet upon a hard road; but, at the same time, I believe that in a great number of cases the seeds of these diseases are sown when the foal runs beside the mare. Their hoofs are barely formed, and the ground being very hard, a great amount of concussion is produced. Inflammation sets up in the fine membrane covering the bone; an exudation, or throwing out of a fluid, takes place; this gets callous, and eventually turns into bone—in other words, a ringbone is formed. I can assure my readers that I have myself seen these "Know Nothings" perform an operation called "cutting out the feeder," at the back of the pastern joint, for the removal of ringbones, and in numbers of cases doing great harm to the joint. This feeder is a small sack at the hinder part of the joint, which they ignorantly suppose feeds the ringbone; so that upon the removal of this feeder the ringbone dies. I need not tell my readers that this sack is put there for some wise purpose of Nature, and that the cutting of it out must be an ignorant and false practice. In all these cases of splint, spavin and ringbone, the bone grown out is nearly twice as hard as that from which it grows, and is perforated somewhat resembling a honeycomb in appearance.

Do they inherit these diseases?

Causes producing ringbone.

What I have said about ringbones will likewise apply to spavins. They are to be found upon the inner anterior, or front part of the hock joint, and when they are growing occasion very much pain and lameness. Severe work, especially in young horses with badly-formed hocks, may occasion an inflammation of the periosteum or membrane covering the bone, extending soon to the bone itself, and causing a deposition of osseous or bony matter. To sum up, then, we can call these diseases by one name—that is, "abnormal" or "unhealthy" bony deposits, first caused either by hereditary taint, concussion or injury to the part, creating an inflammation in the light membrane covering the bone. Liquid being thrown out, soon turns into bone—and thus the disease.

Location.

History of them.

The treatment to be applied in all these cases is the same. If you can get to see them when they are first forming, give a good dose of physic, and poultice the parts

Treatment for all three diseases.

until the inflammation has abated. When this has been done, a blister may be put on, and the action of it should be kept up for a considerable time. The best blister that I can recommend is the following :

Powdered cantharides	2 drachms.
Biniode of mercury	1½ drachms.
Venice turpentine	2 drachms.
Hog's lard	2 ounces.

Mix these ingredients well together, and rub a portion well into the parts affected. Continue this treatment for some time, and if the blistering will not remove the lameness, then you must have recourse to the firing iron, and blistering ointment to be rubbed in afterwards. This is all I can recommend in these cases as regards alleviating them. The bony enlargements, when regularly formed, cannot be removed; you may as well try to remove the bone from which they grow.

WINDGALLS, BOG SPAVIN AND THOROUGHPIN.

In describing these diseases I shall class them under one head, as they are all the same kind of disease, only occurring in different parts of the extremities. We will begin with bog or blood spavin, as it is sometimes called. The disease, as it is seen, is a swelling upon the front of the hock joint, and is one that often causes great lameness.

Location of
the swelling.

Causes pro-
ducing these
diseases.

The causes of these diseases are strains, &c., setting up an inflammation in the capsular ligament which covers the joint. An increased quantity of synovia is secreted, and so we have the swelling. This will apply as well to windgalls and thoroughpin. When we have cases of thoroughpin, it is the sheath of the tendon that is affected instead of the capsular ligament; but it is in the same way. We know the symptoms. I said before that bog spavin was a swelling upon the front of the hock; thoroughpin is a swelling upon that space between the tendon and the joint behind the hock, only higher up, and at the side; and windgalls, above the pasterns on either side of the flexor tendons, or the tendons that bend the leg.

Treatment.

The treatment, in the first place, will be that the animal should be placed in perfect rest. A good dose of physic should be given, such as the following :

Barbadoes aloes	7 drachms.
Powdered ginger	2 drachms.
Spirits of nitric ether	1½ ounces.
Warm water	1 pint.

Give this as a drench, after having previously given a bran mash. Apply good warm fomentations until the inflammation has passed away; this will be seen when the heat has passed off and tenderness is not evinced when pressed. After each fomentation, some of the following lotion may be applied :

Tinct. of arnica	4 ounces.
Tinct. of belladonna	1½ ounces.
Sugar of lead	2 ounces.
Water	8 ounces.

Shake this well before putting it on, and after each fomentation leave the parts wet with it. It should be used constantly during the day. Bandages may be also put round, with a slight pressure on the parts, if they are not too tender. As soon as the inflammation is gone, you may use blisters, and I recommend the following:

Powdered cantharides	2 drachms.
Binioidide of mercury.....	1½ drachms.
Iodine	1 drachm.
Venice turpentine	1 drachm.
Hog's lard	2 ounces.

Mix these well together, and after having previously well cleaned the parts to be blistered, rub some of it in; and after the second day, grease well with a little fresh grease. If blistering does not remove the swelling, they must be fired, and, of course, this duty must be performed by a veterinary surgeon, as it is a very precarious operation, and requires great care and caution. Gentle pressure and hand rubbing will do a great deal towards helping these cases.

CAPPED ELBOW AND CAPPED HOCK.

In describing these diseases I shall take the two together, as the causes producing them are the same, as also are the symptoms, and shall point out the difference in the treatment of them. Both capped hock and capped elbow have the same appearance, only situated on different parts of the extremities. Capped hock is a swelling upon the point of the hock or gambie joint, and capped elbow is a swelling upon the elbow, or, as the bone is more properly called, the ulna. They both come from external injury as a rule. Capped elbow is often brought on by the animal, when in the act of rising, striking the elbow; and capped hock from kicking, &c., and striking the point of the hock. The membranous bag containing the joint oil gets inflamed, and a quantity of fluid resembling synovia very much, and at other times

Location of the diseases.

Causes.

Character of the swellings.

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Symptoms. of a blood-like appearance, becomes secreted; hence the swellings. Sometimes these swellings are very soft, and at other times as hard as a cricket ball. They are not attended, as a rule, with a very great amount of lameness, except when the inflammation is present in any very great degree. The treatment I advise for capped elbow is to open the enlargement at once and boldly let out the fluid, and no harm will supervene; but this should never be performed in the hock, as it is a very dangerous operation. Treat the wound as a common one, and all will be well as regards capped elbow.

Treatment of capped elbow.

When the swelling is very hard, it must be excised or cut out. This, of course, would have to be undertaken by a veterinary surgeon. When you have a case of capped hock to deal with, you must, if very much inflammation be present, poultice well, so as to soften the swelling; when all inflammation has passed away, blister with the following:

Powdered cantharides 2 drachms.
 Biniodide of mercury 2 drachms.
 Venice turpentine 2 drachms.
 Hog's lard 2 ounces.

This, if continually applied, will reduce the swelling. Hand rubbing will also be very advantageous in this case; it tends to promote absorption.

CURB.

Location of curb; cause. Curb is an enlargement at the back of the hock, about three or four inches below the *os calcis*, or point of the hock, and is caused either by a strain in the ring-like ligament which binds the tendons down in their place, or in the sheath of the tendons; but generally, I think, in the former. Great pain and lameness is often evinced in this disease, and as a rule it is brought on by severe work, such as too heavy pulling; also by the horse being worked upon rough ground, where he may place his foot in some hole or other, and thus strain the ligament.

Symptoms. The treatment I advise when the inflammation is great is to foment the leg well with hot water, to give the animal a good dose of physic, and feed on bran mash. As soon as the inflammation has passed away, I recommend that a blister made of the following chemicals be applied:

Powdered cantharides 2 drachms.
 Biniodide of mercury 2 drachms.
 Venice turpentine 2 drachms.
 Hog's lard 2 ounces.

Mix these well together, and rub some of it into the curb. One or two blisterings will generally suffice to remove the swelling; it will tend to liquify the parts, and to increase the absorbents of the skin in their action. When blisters will not effect a cure, the firing iron must be had recourse to—an operation only to be performed by a veterinary surgeon, and on no account to be taken in hand by an inexperienced man.

NAVICULAR OR COFFIN JOINT DISEASE.

This occurs, as a rule, from a sprain of the tendon passing over the navicular or coffin joint, as it is sometimes called. The tendon becomes sprained by some cause or other, inflammation sets in, spreads to the joint, and very often ends in ulceration of the joint. It is a very common disease, and is easily detected if proper care is taken to watch the animal's motion.

Causes
producing
navicular
disease.

The principal symptoms are that the animal will go up hill much better than down; for in going down hill, his heel will have more pressure put upon it than it would in going up hill. Then, again, the heel becomes contracted—the sole of the foot becomes convex instead of concave. The muscles of the shoulder waste away to some extent. The animal will point his toe in order to rest the heel. These are the principal symptoms. Hereditary predisposition has a great deal to do with the bringing about of this disease in some cases—not as bringing on the disease directly, but in the hoof being of a blocky upright nature, thus predisposing the animal to it, for we find it generally in animals that have these kind of feet.

Symptoms.

Hereditary
taint.

The treatment to pursue in the treatment of these cases is to put the foot in a good warm poultice, until the inflammation has passed off, and then, when the foot is cooler, to put a blister on, as advised for "Curb." In cases where repeated blisters are of no avail, the operation of neurotomy, or the cutting of the nerve which supplies the foot with feeling. About an inch is taken out of the nerve, and the wound in the skin soon heals. This operation must be performed by an experienced hand, and only as a last resource, for in numbers of cases the hoof will slough off altogether. The horse should be kept on mashes all the time he is being treated for this disease.

Treatment.

SAND CRACK.

Sand crack is a solution of continuity of the walls of the hoof; that is to say, that the walls of the hoof,

History of
the disease.

Position of
the disease.

The different
kinds seen.

Causes.

Treatment of
superficial
sand crack.

Treatment of
deep-seated
sand crack.

instead of being all in one piece, have a crack in them, dividing them either partially or entirely. When they occur in the fore feet, it is generally on the inner quarter; and when on the hind feet, on the front, for the same reason that I gave in the position of splints, the inner part of the fore leg and the outer part of the hind leg being more under the centre of gravity. There are two kinds of sand crack—superficial and deep-seated. The superficial crack is not so bad as the deep-seated, and does not interfere, as a rule, with the sensitive structure beneath; the deep-seated is when the crack has gone right through the walls of the hoof, and the sensitive foot is seen through the fissure or crack. The deep-seated sand crack is, as a rule, from an unhealthy secretion of horn in the foot, while the superficial is from external injury.

The causes of sand crack may be twofold: there may be an inflammation in the foot or round the coronet, which may interfere with the secretion of horn, and cause a great brittleness. These cases are, as a rule, deep-seated; while injury to the foot may, and often does, bring on the superficial one. The proper treatment to be pursued in these cases is, where you have a case of superficial sand crack, to bind the hoof round with strong waxed string, after having first thoroughly cleaned out the fissure or crack. If the crack has only gone down a little way, then at its terminating point a transverse or cross fissure should be made by rasping it across, thus preventing the crack from going any further. Pare the edges of the crack, so that they may be more easily brought in apposition the one with the other, and use a slight blister round the coronet, as the coronet is the part which secretes the horn; and, as a rule, if these instructions be fully carried out, success will be the reward; but if, on the other hand, the superficial crack is allowed to continue, either through neglect or gross carelessness, a deep-seated sand crack will inevitably follow, and more expense will be incurred. To cure a deep-seated sand crack, the same treatment as advised for superficial may be followed, with the exception that the wound at the bottom of the crack must be kept very clean, and treated as a wound; that is, all proud flesh must be touched with a little lunar caustic—a substance which can be bought at any drug store. As soon as all inflammation ceases, and there is not any matter coming from the crack, then the edges of the horn may be pared and brought in apposition with each other, and all will, as a rule, be well. Great cleanliness

must be observed throughout the treatment of these cases, or harm instead of good will be the result. They are long cases to cure, and will need a deal of patience.

CORNS.

Mr. Blaine, in his book on Diseases affecting Horses, says in regard to corns, that "they arise from injury done to the vessels of the sensible sole, exactly at the surfaces of union between it and the horny sole, whereby blood becomes extravasated, or thrown out within the angle of the inflexions of the heels—that is, between the outer crust and bars." He goes on to say that "corns appear in every instance the effect of undue pressure, by which the sensible vascular sole becomes acted on between the horny sole and the heels of the coffin bone." He also says that "it is from the pressure of the walls of the heels bruising the sensible sole that corns are so common to contracted feet, and also to weak hoofs." This is thoroughly my own belief also; and I may also add, that in many cases corns are produced from the too frequent use of the rasp and by bad shoeing.

The treatment to be advised is to take away the pressure from the seat of the corn. If very great lameness be present, poultice the foot, pare out the corn, and leave all the parts nice and clean. Give a dose of physic. Take away the pressure from the corn, and use a slight stimulant to the coronet; have the horse shod very carefully, and put some tar and yarn into the hoof. With care these cases are easily cured; but if neglected, a bad case will follow, and very troublesome they are to cure.

FOUNDER.

These are cases we often see, and they are brought on, as a rule, through some carelessness; yet, at the same time, it may come on from other causes. I have known cases come on from bad inflammation of the lungs and severe colds. The inflammation appears to leave the lungs and settle in the feet. This is called "metastasis," or change of place. Then, again, these cases may be brought on by sudden exposure to cold from heat, or *vice versa*, from heat to cold, in the feet. An animal may be brought out from a warm stable and let stand in snow, or in very cold water; an inflammation sets in in the feet, and we have a pure case of founder. Chills to the body also will produce it. In fact, it may come on almost from any injury to the feet, or from any exposure either

Symptoms. to heat or cold. The symptoms are very marked. In the first stage of the disease the animal is very restless; will lie down and get up very often; great fever will be present generally; the breathing will be quickened; the feet will be very hot indeed. By-and-by the horse will lie down, and it is very hard to raise him up again. It is generally ushered in by a shivering fit and cold sweats. The horse, when he stands, it will be on his heels, as the feet are very tender and painful. He will shift from one foot to the other in turn, and altogether he is in a very deplorable condition.

**Treatment
of the
disease.**

The course of treatment I always pursue is, if the pulse be very high and strong, bleed. Then I have all the shoes taken off; I give him a good bed, and let him lie down; I put the feet in poultices, clothe him up warmly, and tend to his comfort generally. A very slight dose of physic may be given, but great care must be taken or diarrhœa will set in, and it will be found hard to stop. General treatment of this description will, as a rule, be all that is needful in these cases. Of course, there will be a great many instances in which other treatment will have to be had recourse to, and I should advise that in all bad cases a veterinary surgeon be called in, and the case put under his care.

DISEASES OF THE BRAIN AND SPINAL CORD.

PHRENITIS, OR INFLAMMATION OF THE BRAIN.

**History of
the disease.**

We do not see many cases of this disease, and I am sure we do not want to, for a case once seen is never forgotten. It is a most frightful disease, and one that, unless it is taken in the very first onset, cannot be treated at all, owing to the animal being so violent. The causes of this disease are, as a rule, either from an injury done to the head, setting up an inflammation, or as coming from stomach staggers. There are other causes as well producing it. The symptoms are—first, a dullness and sleepiness, the pulse gradually increasing in number and getting harder, at last it reaches as high as 120, and is a firm, hard and bounding pulse; the eyes are then staring and bloodshot, and the horse will be very violent indeed. He will throw himself violently down, and any one going into his box stands a great chance of being killed; he will tear his flesh with his mouth, and looks as wild as he can. At last, through exhaustion, he dies.

Causes.

Symptoms.

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The treatment in these cases must be very quick, as nothing, as a rule, can be done after the above symptoms begin to show themselves in the least proportion. Bleed largely. Give, if possible, a good strong dose of physic, such as Barbadoes aloes, from eight to ten drachms; calomel, one drachm; give this in one pint of warm water, throwing up a good clyster of warm soap and water. If this physic does not operate within a few hours, then repeat half the dose, giving clysters as before. Ice to the head is good, if procurable, and very cold water. No stimulants must be put there, or more harm than good will arise. Should this treatment fail, a veterinary surgeon should be called; but, as a rule, as soon as the virulent symptoms begin to show themselves, death will be the consequence. I scarcely need add that a horse affected with this disease should be well secured, as he will kick and knock everything down that he can get at.

Treatment.

RABIES, OF HYDROPHOBIA IN THE HORSE.

The proper term for this disease is rabies, but hydrophobia is quite a wrong one as attacking either a horse or dog. It is the right term only when rabies affects man, the meaning of the term "hydrophobia" being "fear of water." Now, in both horses and dogs we see that, instead of their being afraid of water, they will, if they can get at it, drink any amount; and I myself have seen dogs plunge their heads into water when perfectly mad. When a horse or a dog has rabies, or, in other words, when he is mad, it is generally traceable to some mad dog or other having been round the neighbourhood. I have never seen a case yet but has been traced to this cause. I may as well say at once, that as soon as the least symptom of rabies shows itself, the animal should be destroyed, as there is no cure. But, on the other hand, if you know a horse to have been bitten by a dog impregnated with the disease, and can get to him within twenty minutes or so, then you must burn the wound right out with the firing iron. Never cut it out, as the bad blood will run into the fresh wound and inoculate it afresh. It is very rarely that we see these cases until they are too far gone to do any good. I have seen several cases in both horses, cattle and dogs, and every experiment has been tried to cure them. I need not add that they have always failed. The symptoms are these:—The horse will not be in his natural state at all; he will appear at first very shy, and then gradually

The term hydrophobia is wrong when applied to the lower animals.

Causes.

No treatment.

Symptoms.

Difference between rabies and inflammation of the brain.

Symptoms continued.

he will be vicious; his appetite, in the first instance, will be voracious, and gradually he will lose it altogether; his eye will become staring and very wild. In this disease he will try to hurt any one approaching him, which is the one great difference in the symptoms between this and inflammation of the brain. In inflammation of the brain he does not know what he is doing, while in rabies he does, and he will never lose a chance of biting or falling upon any one near him. His breathing becomes interfered with; he will tear himself to bits, and at last, in a paroxysm of rage, he will die in about forty-eight hours at the longest. There are many curious circumstances in regard to this disease, and the greatest is that there is no set time, either in the lower animals or in man, as to when the symptoms will show themselves. I have inoculated animals of all kinds, and have seen them sometimes go mad in one day, and in others not for a week; and they have been known to be months. It is the same with man. When a dog bites a man or an animal, the wound may heal up all well; then after an indefinite period has elapsed he will have pains. The first place that he feels them will be in the old wound where he was formerly bitten. Men that have been bitten, and that have gone mad, have, before the disease was very bad, certified to this effect.

PALSY, OR PARALYSIS.

History of the disease.

Is a weakness or loss of nerve force. We have two kinds of nerves in the system, generally, of all living animals—the “sentient,” or nerves of feeling; and the “motor,” or nerves that supply the body with the power of motion. Paralysis will then be a loss of this nerve force either totally or partially. In the operation of neurotomy, or, more plainly speaking, of dividing the nerve in the horse for lameness, we divide the nerve of feeling, or sentient nerve—then we produce partial paralysis; but if we were to divide the nerve of motion in the leg as well, we should have a case of total paralysis. Sometimes we see the hind extremities paralyzed and not the fore; sometimes one leg will be paralyzed without the other; these are all cases of partial paralysis. When we have all the body paralyzed, then we have a case of total paralysis. We often see cases of partial paralysis affecting the face: the muscles on one side of the face become paralyzed, and their antagonistic muscles on the other side, acting in full strength, draw the mouth all to that side, thus distorting the features. Then, again, we see partial paralysis in the

Partial paralysis.

Total paralysis.

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eye: the optic nerve becomes paralyzed, and we get a case of "amaurosis," or nerve blindness. Paralysis as affecting horses and cattle is generally due to injury either to the nerve near the part, or to the spine. When the spine is injured, we get paralysis, as a rule, of the whole of the hind-quarters. Hard work may produce injury to the spine, and thus bring on paralysis. Injuries of all kinds may produce it—great weakness may produce it also. Medicine has, as a rule, not much effect upon the horse unless it be in a case of very partial paralysis, or at any rate unless the patient be attended to at a very early stage. If a horse be attacked with paralysis so that he cannot use his hind limbs, never put him in slings—it is a very unwise practice. Of course, if there is actual fracture of the spine there is no cure, and to kill him would be the most merciful thing; but if only injury to the spine has been done, then you may possibly hope for a cure. You must let the animal lie down, and take great care to truss him up so that he does not injure himself. Hot fomentations and stimulating liniments to the spine should be used. Purgative medicine and succulent diet should be given. Back-rake the rectum, and draw off the water through the end of a catheter in order to relieve the bladder. These cases scarcely ever recover so as to leave the horse quite sound—an unsteadiness of action will generally be the result. The bowels should be kept in good order. When we see cases of paralysis from an inflammation of the coverings of the brain and spinal cord, then the treatment generally advised is that a quarter of a grain of strychnine be given twice in twenty-four hours. This may do good, and it is the only treatment besides good care that I can advise.

Causes pro-
ducing pa-
ralysis.

Treatment
of paralysis.

Paralysis
coming from
inflammation
of the
covering of
the brain.

TETANUS, OR LOCK-JAW.

This disease is an abnormal, unhealthy increased muscular contraction; that is to say, that certain muscles of the body, when under this disease, are more contracted or shortened than what is natural. We find in the majority of instances that certain parts of the body are more liable to be affected than others; and if there is one part that is more prone to this disease than another, it is the muscles of mastication, or the muscles that move the jaws one upon the other in the action of feeding: thus we get "lock-jaw." We may get one limb, or we may have the whole body affected. Irritating agents may be found after death to have been the cause of the disease—such as large numbers of parasites in the intestines—and it may

History and
causes pro-
ducing tet-
anus, or
lock-jaw.

Irritating
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disease.

Difference
between
tetanus and
common
cramp.

Symptoms
shown by
the horse in
tetanus.

It may come
on from a
bad wound.

Professor
Spooner's
Treatment.

Medicinal
agents not
of very great
use.

Quietness
the principal
thing.

come on almost from any internal irritating complaint. Then, again, we may have "lock-jaw" and no signs of any spasm or internal derangement present. In common cramp, such as string halt, the animal's brain is not affected, while in tetanus we find great irritability of the brain. The animal is in a very excited state of mind, is perfectly conscious of everything around him, and knows, so to speak, the person with whom he is familiar; but if a stranger should go into his box or stall, the spasms will all come on again, and his muscles will be rigid and hard, showing all the symptoms of tetanus. The symptoms are these: While the spasms are present, the horse will stand with the neck rigid and stiff, the nose protruded, the eyes staring, and the haw of the eye protruded over the eye itself; the legs are perfectly stiff, as are all the muscles of the body. The tail is generally cocked, and he will appear in a state of pain and excitement. A case once seen can never be mistaken for any other disease. I said that we could have only one part of the body affected while the other parts were sound—this is sometimes the case. A horse may have a wound in his body that in the morning appears quite healthy: at noon you may see it, and it will in a few hours have taken quite a different turn. The wound will present a dark appearance, and the matter from it will be very unhealthy. In a short time symptoms of tetanus will soon begin to show themselves, and you will have a case of lock-jaw with all its horrors.

The treatment that Professor Spooner, the Principal of the Royal College of England, used to advise was "the key of the stable door;" and the man that the horse was accustomed to, and he only, was to have it. A very right and sensible treatment too, in very few words: for quietness and general good nursing does more to cure these cases than anything else. If medicine can be given at all, physic is recommended and bran mash. I do not believe, as a rule, in giving much medicine in these cases, and one reason why is, that in giving it the animal becomes very much excited, and excitement is the very thing we are trying to avoid. Repeated injections of warm soap and water, with a little castor oil in the water, are very good. Take the greatest care that the horse may never be alarmed by anything, as quietness is the best remedy to cure these cases, and must be kept up for some time after even the animal appears to be over the disease, as I have seen the symptoms return as bad as ever by a sudden fright.

STRING HALT.

This is an incurable disease, for, as a rule, a horse once the subject of it can never be cured. It differs in many respects from the last disease, although they are both cases of cramp.

A horse the subject of lock-jaw, or tetanus, as affecting any part of the body, will give evidence of pain; but in this disease, even though he may have it very badly, never gives evidence of any pain. Injuries to the spine, the loins, or the hock joint may cause this disease, and the jerking up of the leg that we see is produced by the formation of the joint. The symptom is most palpable: the animal jerks up his leg when travelling, and so high in some cases that he will strike his belly. I cannot offer any treatment whatever to alleviate these bad symptoms. There is no cure of the disease, I believe, known, and a horse affected with it to any slight extent is, and must be, considered an unsound horse.

What the disease is. Difference between it and common cramp.

Causes producing spring halt.

Symptoms very palpable.

No cure ever made.

PUERPERAL OR MILK FEVER IN CATTLE, COMMONLY KNOWN AS "DOWN AFTER CALVING."

I shall describe this disease under the head of Diseases of the Nervous System, as the brain is very soon affected, although not in the first instance, but as a consequence of internal derangement. It is a disease that affects cows after calving, but as a rule there are symptoms present before calving, such as a costiveness of the bowels, and a very plethoric or full state of the system generally.

It is a disease of the brain as a secondary action.

The causes are a general derangement of the system; there is a too great quantity of blood circulating; fever sets in, and the brain becomes congested and inflamed. While the calf is in the womb of the cow, it is nourished by blood afforded it by the mother; but as soon as it is born, that blood is determined to other parts of the body, and thus, the higher condition the cow is in, the greater will be the determination of blood to the parts. Constipation sets in and the cow becomes feverish; the blood becomes congested in the brain, and gradually the animal becomes insensible; the flow of milk is suspended, and the urine is not voided at all; the cow will soon lie down, and after a time cannot be raised; the dew-lap, or muzzle, is dry, and the eyes bloodshot and the limbs cold. If taken at first, as soon as the calf is born, a good bold dose of purgative medicine should be given, as one and a half pounds of Epsom salts in a quart of thin, warm gruel; the milk should be drawn off as often as possible; warm

Causes producing the fever.

Fat animals more prone to the disease.

Symptoms shown in the early stages.

Treatment
of puerperal
fever.

cloths should be applied to the body and mustard rubbed into the spine; injections should be used as often as possible, and a good quantity of blood should be withdrawn. But as soon as insensibility begins to show itself, then bleeding is of no use; it would only do harm. You must then apply hot fomentations to the spine, with mustard well rubbed in; apply cold applications to the head. If ice can be got, use it; if not, refrigerating liquids. Keep moving the animal from side to side, and every now and then draw whatever milk you can away; keep giving injections, and do all you can to promote a movement of the bowels; if you can succeed in producing a passage, then all will, as a rule, be well, and sensibility will return; but if not, the cow will die.

Preventive
measures.

If proper care were taken of the cow before calving, these cases, as a rule, would not happen, as we generally find cows with puerperal fever fat. Before a cow calves, a dose of physic will do no harm, and soft succulent food may be given. The milk, if there be any, may be drawn away, and as soon as the calf is born she should be milked. Rather starve a cow before calving than feed her too highly, and you will scarcely ever be troubled with a case of "puerperal fever."

DISEASES OF THE EYES.

OPHTHALMIA, OR INFLAMMATION OF THE EYE.

History of
the disease.

This disease we have seen a great deal of during the past few years. In the spring of 1872 I saw a great deal of it; and in the County of Elgin I know it was very prevalent. It is generally brought on either by external injuries, or by hay seeds, &c., getting in between the eyelid and the eye itself, and thus setting up an inflammation. There is another and far worse inflammation which very often affects the eye, and which is called specific ophthalmia, or specific inflammation of the eye. These diseases are very difficult to cure, and they are due to some derangement of the system; so that it is oftentimes very hard to find out, in the first instance, what that derangement is. Then, again, the symptoms of specific ophthalmia are quite different in some respects to common ophthalmia. For instance, in specific ophthalmia there will be an inflammation in one eye; tears are flowing from it, and it looks very bad indeed. The next day

Specific or
bad inflam-
mation of
the eye.

Differences
in the
symptoms
between
common and
specific
ophthalmia.

or so the other eye may be inflamed, and this one will appear better; so that it keeps changing about from one eye to the other. Then the pupil will be very opaque and thick in colour, and will keep getting worse. This goes on for a long time, and at last there is a white spot to be seen in the middle of the eye, which is a cataract. In most of these cases, when they get to this stage a cure becomes impossible. An eye that has once been the subject of specific inflammation is always liable to the return of it again; this is another remarkable feature of specific ophthalmia.

An eye once the subject of specific ophthalmia, always liable to a return of the disease.

The treatment of common inflammation of the eye is, of course, first to remove the offending matter, and this must be done very carefully, such as with either a piece of silk or with a camel-hair brush. Then the eye may be bathed with a little warm milk and water, and should be kept from the light. A dose of purgative medicine may be given, and where the inflammation has been bad, a blister under the eye may be had recourse to with advantage. I recommend soft food and general care of the patient. This treatment will, as a rule, be all that is needed in these cases. When you have a case of specific ophthalmia or specific inflammation of the eye, you will find them hard to cure, and sometimes beat even the most experienced among us. If a horse be in very good condition, I believe that blood letting is a very good thing to reduce the system, coupled with a good dose of physic. I also recommend soft feed, and very few oats indeed. I apply to the eye the following lotion:

Treatment of simple ophthalmia.

Treatment of specific inflammation of the eye.

Nitrate of silver 16 grains.
 Wine of opium 2 drachms.
 Rose water 4 ounces.

Shake this, and squirt once a day into the eye. Rub on the lower part of the orbit, or just under the eye, a good blister made as follows:

Powdered cantharides 2 drachms.
 Biniiodide of mercury 2 drachms.
 Venice turpentine 1 drachm.
 Hog's lard 2 ounces.

Rub some of this well in under the eye, and keep up an inflammation there for some days. Some people put a seton in there; but if a blister will suffice, then a seton will not be wanted, as it would leave a slight mark. I shall not enlarge further upon these diseases, as they should only be handled by practical men, being very critical cases, which, if wrongly treated, blindness will be the consequence.

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AMAUROSIS, OR GLASS EYE.

It is, as a rule, incurable.

The best way to find out if a horse is affected with this disease or not.

Some chance for a cure if it come on from an injury.

Treatment advised in these cases.

We do not very often see this disease, and when we do, it is, as a rule, incurable. The nerve of the eye—that is to say, the nerve that gives light to the eye, or supplies the eye with sensibility to light—becomes either totally or partially paralyzed. When a horse is affected with this disease it is hard to detect it at once, unless one is accustomed to it. The pupillary opening is much larger than it should be, and if the horse be brought from darkness into a bright light the pupil will not alter, thus proving that the nerve is paralyzed. This latter way is the best one to detect whether a horse be blind or not, and should be tried before purchasing. The disease comes on from two causes—either from a diseased state of the brain, or from injury. When it comes on from a diseased state of the brain, as a rule it is incurable; but when from an injury about the head, then we may have some chance of effecting a cure by giving a dose of physic, thus, firstly, reducing the inflammation, if there be any present; then by the application of blisters and stimulating liniments to the back of the head, commonly called the poll. This is the treatment recommended by Finlay Dunn in his book on Veterinary Diseases, and is the one I use myself. I must say, in conclusion, that in all the cases I have ever seen, I never found one that was able to be cured.

DISEASES OF THE SKIN.

SCRATCHES.

Is mostly seen in the spring and fall.

Nature of the disease. Fat horses more subject to it than thin ones.

Causes tending to produce this disease. Treatment to be advised.

I think that we see about as much if not more of this disease in horses than any other; and, as a rule, it is more common in the spring and fall of the year than at any other season. It is an eruption that shows itself in the heels of horses, or from the fetlock to the heel. Horses in good condition are the ones most liable to this disease, yet we find it sometimes in horses that are poorly fed and badly stabled. Although I have written this under the name of Diseases of the Skin, yet I believe that it comes on, as a rule, from an overheated state of the blood, and we get this inflammation and eruption showing as a consequence. The treatment I advise for it is to first give the animal affected a dose of physic, with some agent to act upon the kidneys:

Barbadoes aloes	7 drachms.	Dose of
Powdered ginger	2 drachms.	physic.
Spirits of nitric ether.....	2 ounces.	
Warm water.....	1 pint.	

Feed on bran mashes and a little hay. Wash the heels well every day with hot water and Castile soap, and apply the following liniment to the parts after each washing :

Sulphate of zine	2 ounces.	Liniment for washing the parts.
Sugar of lead	2 ounces.	
Water	2 pints.	

And take care to keep the parts nice and clean, as cleanliness in these cases will do a great deal towards curing the animal. This is a disease that may return at any time, so that caution must be exercised by whoever is looking after the horse.

Cleanliness is the best thing to cure the disease.

GREASE.

There is more to be said about this disease than I have room for in this little work, so that I shall only make a few remarks generally as to the causes and treatment of common cases. It is my opinion, and also the opinion of the profession generally, that grease comes on from the animal not being properly cared for, from badly-ventilated stables, and from the horse itself being in a bad state of health. As a rule, we find it in thin, emaciated horses, yet we also see it in fat ones. A horse may come in dirty, with his heels covered with mud; he is put into his stall, and there he is left; this takes place day after day, and grease is the consequence. Are we surprised? Some horses are fed very irregularly, and the food that they do get is so bad as to scarcely allow them an existence; and they get grease. A small ulceration takes place; cracks form, and purulent matter becomes thrown out; thus we have a bad case of grease.

Causes tending to produce the disease.

Neglect the principal cause.

Irregular feeding will produce it.

The treatment I should advise is, that first of all proper care be taken of the animal; that the food, if bad, be changed for better, and that it be regularly given. If the animal be fat and in good condition, then give a good dose of physic and some diuretic agent, or something to act upon the kidneys—such as an ounce or so of the sweet spirits of nitre, or an ounce of the nitrate of potash, every day in his water. The parts should be thoroughly well cleaned with hot water and Castile soap, and then some astringent lotion should be applied, such as I advised in "Scratches." This is just the common treatment for a simple case of grease; but when there are swelled legs, with bad putrid running sores, a different treatment

Treatment.

Thorough change of food.

Lotion the same as advised for Scratches.

In bad cases a veterinary surgeon should be consulted, as they are very difficult to cure.

must be had recourse to and should be only handled by a veterinary surgeon, as they are the most difficult cases to cure.

MANGE.

Dirt is the predisposing cause of the disease.

Symptoms of mange.

Treatment.

Cleanliness advised as the best treatment throughout.

Mange is a disease that may attack any animal if it be kept dirty. The disease is due to a small insect burrowing into the skin—this is called "Acarus." The parts are very irritable, and the skin breaks out into small pimples; the hair comes off, and we have a true case of mange. The first thing to do is to get the system into a thorough state of health; then move the horse from where he is usually kept, and put him in a clean place; wash him from head to foot with a good strong solution of soft soap and water; when quite clean and dry, rub in some oil and sulphur, about the thickness of cream; to eight ounces of this mixture add an ounce and a half of spirits of turpentine; apply this once or twice, and with proper care the disease will soon be cured. Care must be taken that no animal is put into the stall from which the infected horse was taken until it be thoroughly whitewashed and disinfected.

DISEASES OF THE BLOOD.

STRANGLES.

The term "Distemper" is often given to this disease.

Nature of the disease. It generally attacks young horses.

The symptoms of strangles.

Treatment.

How to steam the nostrils.

I have often heard this disease called "Distemper," and it is not, in my opinion, a bad name for it. I am sure that in this part of Canada there are many who would scarcely know what was meant if the term "Strangles" were used. I consider the term "Strangles" a good name, and the best name that could be given to the disease; but it does not seem to be so much used among the farming community of this country as it does in England.

Strangles is a disease which, as a rule, attacks young horses; but at the same time we have it attacking horses of all ages.

The symptoms are: a flow of mucus from the nostrils; a sore throat, with swelling between the jaws; a cough, with weeping at the eyes; these are the general symptoms of the disease. The treatment I advise is, that the animal be kept warm; that the nostrils be steamed—and the best way of doing this, in my opinion, is to place a pailful of boiling water in the manger and sprinkle some hay over it; the steam will thus ascend the nostrils and act as a

fomentation. The swelling under the jaws should always be encouraged by hot fomentations, poultices, &c., and when quite ripe they should be boldly lanced, thus letting all the poisonous matter escape. We have cases in which the tumours will form in other parts of the body, and they are very troublesome to cure. Tonics should be given, and good nutritious food: depletive measures I strongly disagree with in this disease, for I contend that the system wants building up instead of pulling down. In those cases where the tumour does not seem to form very readily between the jaws, but seems to be hard, I should recommend that a stimulating liniment be rubbed in, such as the following:

Linseed oil..... 4 ounces.
Turpentine 1 ounce.
Liquor ammonia $\frac{1}{2}$ ounce.

The swelling under the jaws should always be encouraged.

Medicinal agents to be used.

Liniment to be used where the swellings do not form very readily.

Rub some of this on every day until the tumour be ready to lance, then perform the operation carefully. In cases where the tumour forms nicely between the jaws, good nursing and proper care will, as a rule, be all that is necessary, and a few weeks will generally heal all these cases, so that the animal can be put to its work as usual.

Good care of the animal the principal treatment in these cases.

INFLUENZA.

This is a disease the cause of which, I believe, is but generally very little known. Some years we see a great deal of it, and others scarcely any. The same causes which will bring on severe colds will bring on influenza. The symptoms are given very well by an eminent author, so that I cannot do better than quote him on this disease: "There is firstly weakness, soon followed by a loss of appetite, shivering, a dry staring coat, a dull sickly appearance, hanging of the head, a staggering gait, a quick weak pulse, a quickened breathing, an occasional short cough, with torpidity of the bowels and the kidneys." He goes on to say, further on, that there are other symptoms shown; for instance, "a dropsical tendency, when the eyelids, legs and surface of the belly are covered with diffused, soft-pitting, non-inflammatory swellings. Sometimes it puts on a rheumatic form, when the back and joints are sore and stiffened." These are the true symptoms of influenza, and some of them are always present enough to indicate the disease. The treatment is advised by the same author, and is the one I always use, of course altering when different symptoms are shown; but as general treatment I have found that it

Cause not known. The same things that give severe colds may give this disease.

Symptoms described by an eminent author.

Treatment by the same author, being the one used by the author of the book.

cannot be beat. He says: "When bleeding, purging and sedative remedies are heroically practised, the mortality is great; but when rational medical treatment and good nursing are pursued, the loss should scarcely exceed one per cent. Place the animal at once in a cool, roomy, plentifully littered, well-ventilated box stall; clothe him lightly and bandage his legs, and let his clothes and bandages be removed, shaken and put on again two or three times daily. Enjoin quiet and perfect rest. Keep the bowels in good order with soap and water clysters, and avoid all active purgatives, which only increase the weakness and typhoid fever." This is the treatment advised, and I have always found it good and useful in almost every case. Of course, when the breathing becomes altered, we must have recourse to remedial agencies to alleviate it, and we must nurse our patient to our utmost. I believe that soft nutritive food, with gentle tonics and good nursing, are all that is wanted; and if such treatment is found to have no good beneficial effect, a veterinary surgeon should be consulted.

Good nursing the best agency to cure the disease, with quiet rest and gentle tonics always tending to keep the bowels in good order.

GLANDERS AND FARCY.

Glanders and farcy are the same disease.

A glandered horse should be killed.

Farcy may be helped to some extent.

The difference in the symptoms of glanders and nasal gleet.

Glanders is the most contagious disease we know of.

Symptoms of farcy.

Glanders and farcy are really one and the same disease, only differently situated in the body. The causes one cannot say, but it is generally supposed that they are due to some poison getting into the system, and thus the disease. When we have the disease showing symptoms of glanders, the best and most merciful thing to do is to kill the animal; for it can never be cured, and may inoculate all coming in contact with it. But when the symptoms are not those of glanders but of farcy, then, in some cases, we may hope for a cure. The symptoms of glanders are, in the first instance, a swelling of the glands each side of the throat, which are hard and tender. The membrane lining the nostrils is of a leaden colour in the first instance, and in a short time an ulceration takes place. Yellow matter comes from one or other side of the nostrils, but it is not putrid—that is to say, it does not smell. This symptom is the one that denotes the difference between glanders and nasal gleet, for in nasal gleet the matter is fetid and stinks, but in glanders it does not. There is no disease more contagious than glanders, and a horse showing any symptoms of it should be killed at once: in fact, a person owning a glandered horse can be compelled to destroy him by law. Where we have the symptoms of farcy showing, we can sometimes alleviate them. We see swellings appear on the hind legs, and

after a time small buds will form, which will burst, running the one into the other, and thus making a great wound. There is a practice of touching these buds with the pointed ends of a hot iron, but I prefer using caustic—touch the wound with lunar caustic—and as the system contains some poison or another, treat the system. I recommend, firstly, that blood be extracted from the vein in the neck; that a good dose of physic be given, and afterwards that alterative medicine be given daily, such as the following:

Sulphate sublimate. 2 drachms.
Nitrate of potash. 2 drachms.
Blk. antimony 2 drachms.
Castile soap, enough to make a ball.

Treatment of farcy.

Caustic a good remedy to use.

Bleeding advised.

Ball to be given daily.

Give one of these balls daily. Feed on green succulent food if you can get it, such as tares and carrots; at any rate, moist food should be given. There are, of course, several cases in which the symptoms will be different from what I have described, as I have only given general symptoms and treatment. I should recommend in this disease that any one who has a valuable horse affected with it should consult a proper man with regard to it, or he may confound the disease with some other, and harm will ensue.

Green food the proper thing to feed on.

A veterinary surgeon should be consulted in bad cases.

RHEUMATISM.

This disease shows itself in a great many forms, and is generally considered to arise from a poisonous state of the blood—thus it is a constitutional disease. The inflammatory action attendant upon it flies about from one part of the body to the other. We have inflammatory rheumatism as affecting all the big joints of the body, such as the knees, the pastern, the stifle and the hock joint. We have it also in its sub-acute or non-inflammatory form, as coming on gradually, and causing no particular swelling, while in inflammatory rheumatism there will be great swelling. One of the great peculiarities attendant upon this disease is, that it may be in one part of the body one time and, from no cause that we know of, it may leave that part and settle in some other—generally in a joint. Where we have the inflammatory rheumatism, it is, I believe, due to some poisonous state of the blood; but where we have the non-inflammatory rheumatism, I believe it is due to some external cause. Then the causes are some poisonous state of the blood, and a sudden exposure from cold to heat or from heat to cold. These are the two great causes. The symptoms in the inflam-

Due to a poisonous state of the blood.

Inflammatory and non-inflammatory rheumatism.

Causes producing.

Symptoms of inflammatory rheumatism.

Non-inflammatory rheumatism.

Treatment for inflammatory rheumatism.

matory disease are, the inflammation of the joint: it becomes stiff, swollen, and almost immovable. In the sub-acute or non-inflammatory rheumatism, lameness, stiffness, no swelling, and the shifting about of the disease from one joint to another without any cause known.

Treatment: warmth, moisture and rest in the first stage; laxative and diuretic medicine, such as a small dose of physic combined with an ounce or an ounce and a half of sweet spirits of nitre, to act upon the bowels and kidneys. Fibrinous matter often gets thrown out into a joint, and hence the chronic swelling we sometimes see. When the swelling is great and very painful, apply poultices of linseed combined with camphor and opium. Sometimes blisters of cantharides are used to a joint, mixed with the biniodide of mercury. I have seen very good effects from the giving of bi-carbonate of potash, two or three drachms daily—it is an antacid and also an alterative. When we have rheumatism from outward causes, then, as well as treating the system, I would apply a stimulating liniment to the part affected. These are sometimes long and troublesome cases.

SANGUINIUS ASCITES, OR RED WATER IN SHEEP.

Nature of the disease.

Predisposing causes.

Food is one great cause.

Their skin is another cause.

Symptoms of red water in sheep.

It is generally found in the cold parts of the year in sheep. If we get a lot of wet weather, and the sheep are being fed a great deal on green, wet food, we often find this disease. Hoar frost also is a predisposing cause for this affection. Turnips, when there is no extra wet, contain 90 per cent. of water; and sheep live week by week on these turnips. To every three pounds of solid, then, there is twenty-three pounds of fluid. Why is it that sheep suffer so much from this disease, and why has it so fatal a termination? There are certain states of the body which predispose them to this affection. Sheep are covered with a woolly coat, and thus are very ill adapted to wet weather; cold will not affect them. This soft coat sucks up the wet and sticks closely to them; thus the whole body becomes enwrapped in a cold, wet sheet, so to speak. The skin is thus destroyed as an ærifying organ and as an excretor of carbonic acid gas; the blood would become surcharged with carbonic acid gas, for the skin purifies the blood by its secretion, such as, for instance, perspiration. If we look at circumstances of this kind, we may see that certainly they are predisposing causes for this, and, in fact, for many other diseases.

It very rarely occurs that we can treat cases of this kind, on account of the quickness of the malady. There

is abdominal pain from the condition of the peritoneal membrane; grinding of the teeth; and whenever you find cattle or sheep doing this you may be sure that they are in great pain. There is a peculiar staring of the eyes; their vision is affected; they stagger from side to side, showing to us the impairment of the brain—hence the eye is affected. The pulse is very rapid, but nearly indistinct; there is great difficulty in breathing—in fact, we find them panting. We find an enlarged abdomen at the inferior part of it; it is nipped in at the loins. There is a great disposition to keep recumbent; we sometimes find that they will attempt to roll. These symptoms are generally followed by convulsions; then comes death.

Post-mortem Appearances.—Within the abdomen we find a large quantity of fluid of a blood-red colour, but this is not necessarily a symptom of true “red water.” Suppose inflammatory action to have taken place, and you do not examine the animal for four or five days after, you would, in all likelihood, find a red fluid in the body as a consequence. Then, again, there is another point in which you might make a mistake: you may find the kidneys broken up, and hence you may think that it has had a disease of the kidneys; but in this disease we find the peritoneum, or the membrane covering the intestines, blanched. If this membrane should be a little red it will be stained only, and the vessels will not be gorged with blood as they would had there been any great inflammatory action. When you see this symptom or appearance, unaccompanied with any other sign of disease, in other parts of the body, you may be quite sure that you have had a case of red water, and not any other disease.

Give stimulants, as the oil of turpentine combined with ammonia. Puncture the cavity of the abdomen or belly about a hand's breadth from the sheath, in a straight line towards the brisket. Change the food gradually, first giving salt, and afterwards tonics, as the sulphate of iron, in small doses.

HÆMO-ALBUMENURIA, OR RED WATER IN CATTLE.

This disease prevails in some parts of the country more than in others—in the cold, wet and undrained parts generally—often in spring and fall. In some districts it prevails more in cows than in oxen, and *vice versa*. We must look to the food the animal gets, the way it is kept, and the quality of the food given; for, of course, the digestion of the animal must depend upon the quality of

Post-mortem appearances.

Care must be taken not to confound this disease with some other.

Treatment.

Prevails more in some parts of the country than in others. Depends a great deal upon the quality of the food given.

Youatt's
description
incorrect.

the food she gets. Then, again, how often do we notice that a cow, while giving milk, being in calf, is kept well; but so soon as she stops giving her milk, she is put on to a short supply of food; and as soon as she has produced her calf, she is fed highly again. All these irregularities, of course, are bad. There is no affection in which such an interest has been felt as in this disease. Youatt says that "it is the thin walls of the capillaries in the kidneys that break, and thus blood mingles with the urine;" but this is incorrect, for if there were blood in the urine it would be clotted. It is really the hematine of the blood in the urine, through the rupture or breaking down of the red cells of the blood.

Symptoms.

A disordered condition of the bowels—scouring. This diarrhoea lasts about one day; then you get an opposite state—obstinate constipation—which lasts until altered by medical aid. The pulse is very feeble, so that we can scarcely feel it when the animal is quiet; but if it should be at all alarmed, you can almost hear it beat. It runs as high as about 120 per minute. The milk has sometimes a reddish-yellow tinge; and the mucous membranes will also be of a yellowish colour as well as the skin, not from the too great absorption of bile, but from a rupture of the capillaries, and a yellowish-red fluid exudes. There will be a difficulty of respiration, an impaired appetite, and sometimes a loathing of both food and drink; a diminution or decrease of secretions generally, especially that of milk; extremities, horns, ears, cold; muzzle dry and a staring coat; the pulse nearly double; a discharge of urine very frequently.

Duration of
the malady.

Duration of the Malady.—It is very fatal. There is generally a change either for the better or for the worse in two or three days. It scarcely ever exceeds from five to seven days.

Post-mortem
appearances.

Post-mortem Appearances.—The kidneys are soft, and we can squeeze out the red-coloured fluid from them. We have, generally speaking, an abnormal or unhealthy appearance of the digestive organs. The liver is softened and of a darker colour than usual, and the gall bladder is filled with bile.

Treatment.

Bleed very cautiously, and directly the state of the pulse is the slightest bit altered, stop. Give a saline aperient, such as the following:

Drench to
be given.

Epsom salts 12 ounces.
Compound tincture of aloes. 3 to 4 ounces.
Sulphur 4 to 6 ounces.
Gruel, thin and warm 1 pint.

If you do not get an altered condition of the bowels in the space of a few hours, repeat your dose. Let the animal be kept warm, and be made as comfortable as you can. Directly the bowels have responded, and you see an improvement in your patient, then you must begin to support life; give frequently gentle diffusible stimulants. A disease called "Black Water" will sometimes follow these cases.

SPLENIC APOPLEXY.

When the spleen is engorged with blood we have not, necessarily, an impairment of the vital functions of this organ. The use of the spleen is still very obscure. Some say that it is the disintegrator of the red cells of the blood; some, that it is the preparer of the red cells. I believe the term means, that it is simply an engorgement of the organ. The blood is loaded with bacteria. Animals that have reached maturity are more prone to this disease than either very old animals or very young ones. It is seen more among animals that are in good condition than among poorer animals. I have seen in a farm three or four animals attacked with it in a day; then no more will be attacked for a day or two, and by-and-by we see some more of it. It will make its appearance quite suddenly on a farm, and leave just as suddenly. It is a most fatal disease. A sheep may be feeding, perfectly well; suddenly he will hold up his head, drop down, and die in a few minutes. At a post-mortem examination of the animal all that can be seen is an engorged spleen.

Nature of the disease.

Spleen—what is its use?

Post-mortem appearances.

Treatment—or rather preventive measures, for we scarcely ever get any time for treatment: Alter the food upon which they have been fed; throw sulphate of soda into their water; remove the animals from where they are; alter their system by an aperient, such as the sulphate of soda with water. This is the most mysterious and fatal of the blood diseases.

Preventive measures.

HÆMATOSEPSIS, OR BLACK LEG IN CATTLE.

The best-bred animals are more subject to this disease than low-bred ones, and high feeding and farming are likely to help in the production of it. It generally attacks young cattle. The term "Black Leg" is given because the muscles in one or other of the extremities are saturated with stagnant blood, and consequently are black. Age has to do with the susceptibility of the animal to the disease. It generally attacks an animal from

Nature of the disease.

Age when it generally attacks.

Symptoms
very peculiar.

Difference
between the
first symptoms
of this
disease and
rheumatism

Post-mortem
appearances.

Treatment
of the
disease.

six to eighteen months old, but animals over eighteen are also liable to the infection. A lot of animals may be together, all of the same breed, and all the young ones may fall a sacrifice to the disease, while all the old ones may escape. There are no premonitory symptoms. An animal may be taken ill and die in a few hours. The way in which an animal gives evidence of this disease is very remarkable. There is a swelling of the part affected; the swelling is hard; great heat, redness, and very sore. Upon placing your hand upon a part at a distance from the part affected you will hear a sort of crackling sound, due from the presence of gaseous matter in the areolar tissue. Sometimes it happens that the disease appears in the hock joint, and the animal is very lame, &c. These cases may mislead, for all young animals are prone to rheumatic inflammations in the hock joint. But in the course of a day or two the rheumatic swelling would be likely to move to another joint, while in this disease of black leg it is stationary, and will go up the leg, swelling the muscles of the thigh. There is a considerable increase of the pulse—generally from 100 to 120 beats per minute. The respiration or breathing is attended with a moan or grunt, grinding of the teeth, &c.; a cold surface of the body; extremities, horns, ears, cold; muzzle hot and dry. These great coldnesses are indicative of the death of the part and a loss of sensibility; and when you find that an animal evinces no pain when under manipulation, you may be pretty sure that mortification has begun. The mouth and buccal membrane is red; the breath very putrid and the fæces very fœtid. Sometimes it assumes a modified form, and in a few days ulceration of the mucous membrane, mouth and gums, and even the conjunctival membrane, or the membrane of the eye, will take place.

Post-mortem Appearances.—In taking off the skin, we find the vessels engorged with black blood, the muscles are black, the internal organs are very much congested. There is often a dark-coloured serum within the cavity of the abdomen or belly, and thorax or chest. The last or fourth stomach is generally the most congested.

It is a very fatal disease. Suppose we get to see a case early, and find a strong bounding pulse, bleed boldly, but only in the beginning of the disease; give diffusible stimulants, combined with antiseptics—the preparations of bark combined with ether; give a good, bold dose of physic, such as ten to fifteen grains of croton seeds, with four to six ounces of the solution of aloes; then proceed

with good stimulants; well foment the swollen parts, and scarify them with a sharp knife well. Rub in every hour or two some stimulating liniment, such as turpentine, ammonia, &c. If the parts should begin to slough, apply chlorate of lime as a disinfectant. When the slough has become detached, use warm digestive ointments and give tonic agents, such as a little gentian and sulphate of iron in a little warm ale.

Use disinfectants as soon as the sloughing begins to take place.

Preventive Measures.—We can almost control these circumstances. Deplete the system by bleeding; give saline aperients, such as a pound of Epsom salts; put a seton in the muzzle or dewlap; repeat your aperients. Do not leave the seton in too long, but just until you think that you have altered the condition of your patient's health. Good care then will be all that is needed in these cases.

Preventive measures.

HÆMOSTATIA.

This disease attacks animals of all ages—the very young and very old. The difference between this disease and hæmatosepsis is that all animals are susceptible to it, whether in milking order or in fattening. The term "Hæmostatia" would tend to signify a stagnation of blood in a part. I wish I could give it a better term than hæmostatia, only that term is good enough in a professional point of view; but still, in a farmer's hands it would be unintelligible. However, I will do my best to make the disease as plain as I can to my reader. In hæmatosepsis, or black leg, we have the puffing up of the hind extremity, while in this disease we have no puffing up at all; no gaseous compound in the areolar tissue; the swelling is only due to stagnation, congestion, &c. No decomposition goes on, as in hæmatosepsis. Again, as to the location of the swelling. In hæmostatia the head and neck are the most susceptible; thus we get an abnormal or unhealthy pressure upon the larynx, and consequently interfering with respiration. The swelling is very hard; it will neither pit nor yield to pressure. If you pass the hand over the swelling, it is irregular; and in certain parts where there is a great swelling, we find, first a ridge, so to speak, and then a depression, and so on.

Indiscriminate way it attacks all animals.

Meaning of the term.

Difference in the symptoms of hæmostatia and hæmatosepsis.

The duration of this disease, like hæmatosepsis, is scarcely ever more than twenty-four hours. You may see animals apparently healthy, and in an hour or so they may be dead, having shown all these symptoms. It occurs generally in the fall of the year. It is exclusively a disease of that period; but there must be a peculiar state of the atmosphere, and the food they are eating, for

Duration of the disease.

Predisposing causes, such as the food and the atmosphere.

them to become susceptible to the disease. It attacks not only cattle, but sheep and pigs. If they should be feeding upon green succulent food, and that food has been forced, and consequently has grown very quickly, they will be likely to contract the disease, as they load their stomach and intestines with moisture, and hence the morbid condition of the blood; also, an atmosphere loaded with watery vapours would interfere with the respiration, and thus we should get an imperfect decarbonization of the blood. The grass grown in this weather would be deficient in nutriment, inasmuch as it would contain too much moisture, for the animals will then be receiving grass and nothing else. They will be labouring under a bad atmosphere, making the worst quality of blood from the food of which they are partaking.

Preventive measures.

Make as great a change in their food as you possibly can. To alter the condition of the blood, give a little aperient medicine, combined with a few diffusible stimulants, and followed with nitrate of potash daily in their food.

Ordinary symptoms of the disease.

One of the most remarkable symptoms is the derangement of the nervous system, especially the brain. We find the animal dull and stupid; pulse very feeble; the head generally swollen, either on one side or the other, seldom on both; coat staring; cold extremities; torpid state of the bowels; the breathing very much disturbed in some cases, but not in others. This, of course, will depend upon the state of the lungs. The stagnation takes place sometimes in the lungs, and sometimes in the external parts of the body. The mucous membranes are, as a rule, but little affected.

Post-mortem appearances.

All the organs will be perfectly healthy, except in their vascularity. The large veins will be found to contain very black, thin blood. The parts affected are of a bluish-black colour, due to the effusion or throwing out of the albumenoid fluid on the swollen parts. The brain is loaded with black blood as well as the heart, and its lining membranes are very congested and are of a purple colour. The lungs will be found in the same state. Give diffusible stimulants, with active aperients, as soon as you can; give warm gruel; scarify the parts freely, at the same time apply hot fomentations; give two-drachm doses of nitrate of potash night and morning.

Treatment, if there is time for it, in these cases.

PURPURA HÆMORRHAGICA, OR BLOODY SWEAT.

In this disease blood spots exist upon the mucous membranes, and even upon other parts of the body. Cattle and sheep are less susceptible to this disease than the horse. It attacks animals during an elevated temperature and not a low one, and animals that are in good condition. It assumes two forms—a very acute and a sub-acute form. The sub-acute form will sometimes follow an attack of influenza or catarrh. There will be red spots upon the membrane of the nostrils. There are no premonitory or warning symptoms to this disease. It is an extravasation or throwing out of blood upon a mucous membrane. The skin and cellular tissues are even affected. We have an abnormal or unhealthy state of the capillaries or small blood vessels; the blood becomes firstly diseased, and the capillaries burst as a secondary symptom; there will be a flow of blood from the eyes and nostrils, and in many cases the horse sweats blood, so to speak. The blood becomes diseased from the liver not secreting proper bile. It is a most fatal disease. The eyes become perfectly bloodshot; the head and extremities are very much swollen (the latter very cold); and the horse sweats awfully. The indications of the disease are very marked. We find, as one of the earliest symptoms, a most alarming state of things—hæmorrhage from the eyes and nostrils, and spots upon the eye; an augmented or increased secretion of tears; red spots within the lips. The swellings on the head and extremities are due to the extravasation or throwing out of blood under the skin. We have a great difficulty in respiration; the horse will break out into clammy sweats; there will be an extravasation of blood into the bronchial tubes and into the lungs. Give medicine to correct anything that is wrong within the digestive system, and bleed. Give physic—a good dose—especially aloes, as they will act upon the liver, and nitrate of potash to act upon the kidneys.

Post-mortem Appearances.—The heart is covered with spots in places, internally, on the membranes lining its cavities. The hæmorrhage takes place under the serous membranes, and also on the mucous membranes, such as, for instance, on the trachea or windpipe. The brain is affected and has blood spots upon it.

The sub-acute or chronic form is when the swellings persist and extravasation of blood goes on, which must be absorbed. Give vegetable tonics such as gentian, and stimulants.

Nature of the disease. Horses more susceptible to it than cattle and sheep.

Symptoms of the disease.

Generally fatal.

Indications of the disease very alarming.

Preventive measures.

Post-mortem appearances.

The sub-acute or chronic state of the disease.

DISLOCATION OF JOINTS.

Dislocation or disjuncting of bones generally takes place in those joints which have a great freedom of action. The ginglymoid or hinge-like joints are the ones most prone to dislocation—as, for instance, the joint between the scapula, or blade bone, and the humerus, or bone next below it. The same with the hip joint. Floating bones are the most liable to be disjoined, such as the patella, or stifle. We do not get a great many cases of this kind, as a rule, in the big joints; but sometimes we have what is called the stifle put out. The principal causes in operation are muscular forces arising from opposite causes, giving entire dislocation to the joints.

Causes in operation.

Paralysis of a muscle may cause a dislocation of the joint: this is the worst kind of dislocation.

Tearing of a muscle may produce it.

The cap of the stifle the bone moostly dislocated in young animals.

Treatment in luxation of the patella, or cap of the stifle.

Suppose a muscle to be the principal force acting on a joint for the keeping of that joint in its proper place, and a lesion happen to the muscle, the joint is almost sure to be dislocated. Or the muscle may get paralyzed; then you will get dislocation also of joint. Muscular spasm will also have a great tendency to produce dislocation. The flexor muscles, or those muscles which bend the limbs, for instance, will sometimes undergo spasm, and draw the large metacarpal or shin bone backwards. The muscle will be found rigid and hard; this will arise from a too great muscular force. But we may have just the contrary state of affairs to this: the muscles will be paralyzed, and this is the worst kind of muscular dislocation. The muscles will lose all their force and waste away. Sometimes we get a dislocation through the laceration or tearing of a muscle. Of all joints in the body of the horse, there is no joint so likely to be dislocated as the patella, or stifle, in young animals, and sometimes in old ones; for we scarcely ever meet with other dislocations except it be through the laceration, spasm or paralysis of a muscle acting upon the joint. In young animals, the inner lateral or side ligament of the stifle is very weak; the outer muscles of the hip are stronger than the internal; and thus we get the patella, or cap of the stifle dislocated outwardly.

The only means we can have recourse to are but few. We cannot use retentive bandages, like in the human subject, nor can we tell our patient to keep his leg in such and such a position: all we can do is to place our patient in slings, where he cannot lie down; blister externally; and in some instances you are warranted in using the firing iron. Sometimes the shin bone will become dislocated with the bone that is under it, the *os suffraginis*;

this may be easily reduced by retentive bandages, as you have not much muscular contraction to contend with.

RACTURE OF BONES.

By virtue of the hardness of bone it is liable to fracture. All the bones in the body are liable to fracture, but some more than others, by virtue of their positions. Let us inquire, firstly, whether or not some of the bones may not be predisposed to fracture. There is a disease which renders bones liable to break, called "Fragilitus Osseum," or Fragility of Bones. It is a disease more common in the human subject than in the lower animals. There are other predisposing causes, however, in the horse. The bones of young animals are more elastic than those of an old animal. The bones of an old animal are more endowed with earthy matter, and hence more prone to break. The navicular bone may be broken from the effect of ulcerative disease having weakened it. The exciting causes are referable to the appliance of undue forces, which the bones are not competent to stand against, and consequently they break. Muscular contractility also will produce fracture, especially in young animals, when the epiphyses or head of the bones are not yet fully perfected. The muscular contractility may be so strong as to pull off the head of the bone. The calcis, or point of the hock, may be broken by spasmodic muscular contraction. A horse, also, when cast for an operation, especially an old one, may through his violent struggles break a portion of his spine, and this is done entirely by spasmodic contraction of the muscles of the spine: even an unconscious movement may be the cause of fracture to a bone. The symptoms of fracture in some instances are so plain as not to require any very minute examination. In some cases, however, they are very hard indeed to find out, especially when situated in the very fleshy parts of the animal. We will divide fracture into four parts—namely, Simple, Compound, Comminuted, and Compound Comminuted.

Simple fracture is where there is a bone broken into only two pieces, either transversely or *vice versa*, without any injury being done to the surrounding tissues.

Compound fracture is when a bone is broken into two pieces, and the surrounding tissue is hurt or lacerated, and thus there is an external wound.

Nature of fracture.

Some bones are more predisposed to fracture than others.

The bones of an old animal more liable to fracture than a young one.

Great and inordinate muscular contractility may break a bone.

Simple fracture.

Compound fracture.

Comminuted fracture.

Compound comminuted fracture.

Our patients difficult to treat for fracture.

The way in which nature unites the broken bones.

Fore leg.

Humerus.

Radius, or the long bone above the knee.

Comminuted fracture is where there is a breaking of the bone into a number of pieces, and no external orifice.

Compound comminuted fracture is where the bone is broken into a number of small pieces, and they injure the surrounding tissues, thus causing an external orifice.

The readjustment of the broken parts of bone and the keeping of them in their proper places is a difficult thing in our patients, as they are very restive, and the re-union is a very slow process. Fracture of the elbow is generally rather a formidable affair. Inflammation is first set up in the re-union of a bone, tending to throw out the plasma or fibrinous parts of the blood, and this temporarily unites the edges of the bone; after a time, when inflammation has passed away, we get an absorption of this temporary callous, and a replacement of osseous or bony matter; this is called the permanent or stationary callous. I shall now mention the different fractures, with their treatment, if any can be advised.

The Scapula, or Blade Bone.—This is a flat bone, having a spine on it, which may be fractured some distance from the joint with bone next to it—the humerus—and when this bone becomes fractured a cure may be anticipated. If the fracture be small, and not near the joint, take the piece of fractured bone out and the rest will heal.

The humerus is the bone next to the blade bone, and when that bone is broken badly you can scarcely ever treat it, as the horse will not be much use for work if you do, and it is so covered with flesh that it would be very hard to treat it successfully. I should advise that if this bone is fractured badly, he should be destroyed.

The Ulna, or Point of the Elbow.—Great difficulty is attendant upon the normal re-union of this bone, on account of the muscular action upon it. Place your patient in slings, thus taking off all the weight from the limb, and keep him as quiet as possible.

Radius, or the Long Bone above the Knee.—This is a bone commonly fractured, and there are cases in which a perfect cure has been effected. The course of treatment to be advised, when the fracture is not a very bad one, is, firstly, to thoroughly examine the case; place the animal in slings, then adjust splints made pretty well to the shape of the limb, not too tightly so as to stop circulation; constantly foment the parts; give laxative medicines and succulent diet; after a few days, when the inflammation has passed away, take off your splints and put on a starched bandage. This is all you can do besides watching your case.

These eight bones are made into two rows. In the event of any injury fracturing these bones in the lower row, you will be almost sure to have a stiff joint; but in the upper row a re-union may be effected, and but little harm is done. Fracture of this joint generally occurs in the lower row. Put a splint on at the back of the knee, your patient being in slings. Well foment the parts first, and do not put the splint on until the inflammation has passed away. Enjoin perfect rest, and feed on soft food.

Carpus, or knee joint.

If a simple fracture, treat it as advised in fracture of the radius. If a very bad fracture, destroy your patient.

The large metacarpal or shin bone.

This bone is frequently the seat of fracture, both from the size of the bone and from the ligaments and muscles attached to it. Put roller bandages on it, and you may be successful. In the first place, simple hot bandages of salt and water. In these cases, there is very often scarcely any swelling. Then, when the inflammation has passed away, put on starch bandages; leave as much as you can to nature, and help her, now that the inflammatory action has passed away, by keeping up the system instead of depleting it. Apply a blister over the parts; it will tend to increase the circulation, and help the bones in uniting.

Large pastorn bone.

As a rule, it is of no use treating these cases, nor either fracture of the pedal or bone of the foot. If you get a fracture of this pedal bone, remove, if possible, the fractured part, and leave the rest to nature. These are very tedious and troublesome cases.

Navicular or coffin bone and pedal bone.

Treatment cannot be offered for fracture of this bone. The animal should be destroyed.

Femur, or first bone of the leg.

We often get a fracture in this bone. Enjoin perfect rest; readjust the parts, if possible; put the animal in slings, and treat as in fracture of radius.

Tibia, or second bone in the leg

The same as in fracture of the ulna, or elbow. Scarcely ever recovers.

Point of the hock, or calcis.

Destroy the animal. No treatment to be offered.

Tarsis, or hock joint. Shin bone behind.

The same as the shin bone in front.

These bones are frequently fractured; when you cannot examine these cases satisfactorily externally, pass your hand up the rectum; put the animal in slings; soft feed, and leave the rest to nature.

Pelvis.

Generally fatal; but if a fracture takes place on the top of the spine, in the processes of the vertebræ, they may be treated. There are cases where we have generally to remove the pieces of bone and thus reduce the fracture.

Spine.

When any of the bones of the head are fractured, it will be, as a rule, from injury. The piece of bone should be removed and the wound treated like a common fracture, and all will be well. All the time a horse, or any animal, is being treated for fracture, until the inflammatory action has passed away, he should be kept on soft feed, and occasionally have a dose of physic; but as soon as the inflammation has gone, give gentle stimulants and tonics to keep up the system.

THE TEETH AS SHOWING THE AGE OF A HORSE.

When the foal is born, it has four central, or middle incisor or front teeth, two in the upper and two in the lower jaw; and twelve temporary molars or double teeth, six in each jaw, three in each row.

At six weeks old, four more temporary incisor teeth, two in the upper and two in the lower jaw, one on each side of the centrals. These are called the lateral teeth.

At nine months, four more temporary incisor teeth, laterally placed to the last, called the corner teeth, two in each jaw.

At one year and three months he gets his fourth molar, or back tooth, in each jaw, top and bottom.

At one year and nine months he gets his fifth molar, or back tooth in position in each jaw, top and bottom.

At two years and six months, he replaces the two front temporary molars, or grinders, by permanent ones; and also the two central front teeth, or incisors, are replaced by permanent ones.

At three years and six months, the third temporary molar, or grinder, is replaced by a permanent one; also the lateral incisor or front teeth.

At four years and six months, the sixth molar, or grinder, in position comes up; the corner temporary incisors are replaced by permanent ones, and he cuts his tusches.

The age of the horse cannot be taken after eight years old, for at that time the mark from the corner teeth will have nearly disappeared; the mark from the lateral incisor at seven years old, and the mark from the central incisors at six years, or about that time.

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