1858

John Jackman

Milford.

THE COMPLETE

MODERN FARRIER.

THE

MODERN FARRIER;

CONTAINING THE

CAUSES, SYMPTOMS,

AND MOST APPROVED

METHODS OF PREVENTING AND CURING

THE VARIOUS DISEASES

OF

HORSES, COWS, AND SHEEP;

FORMING A VALUABLE

COMPENDIUM OF PRACTICAL FARRIERY.

BY G. LOWSON.

ILLUSTRATED WITH ENGRAVINGS.

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DEDICATION.

TO THE

YEOMEN, FARMERS, COACH-MASTERS,
STABLE-KEEPERS, CARRIERS, COW-KEEPERS,

AND ALL OTHER PERSONS

Engaged in the Management of Domestic Animals,

IN THE

United Kingdom of Great Britain and Ireland,

THE FOLLOWING PRACTICAL TREATISE

On the Art of preserving the Health, and curing the Diseases of Horses, Cows, and Sheep, is most respectfully inscribed by

Their obedient and devoted servant,

THE AUTHOR.

CONTENTS.

MISCELLANEOUS.

DISEASES OF HORSES.

DISEASES OF CATTLE.

DISORDERS OF SHEEP.


5 Years Old
4 Years Old
A Young Mouth
6 Years Old
7 Years Old
An Aged Mouth

THE

MODERN FARRIER.

VARIOUS BREEDS OF HORSES.

The English thorough-bred horses are the most celebrated in Europe. This peculiar excellence, however, is not so much owing to the salubrity of our climate and our pasturages, as to the close attention and judicious observations of our most eminent breeders. An able French writer on this subject remarks, that "The crossing of the Arabian and other Asiatic horses with the English breed, and the farther crossing of their produce with each other, has naturally produced a division into five classes which are very distinct, and have been well preserved.

"The first is the race horse, proceeding directly from either an Arabian or Barb with an English mare that has been bred by a similar cross. This is what the English call their highest blood.

"The second is the hunter, arising from a blood horse and half-bred mare. This class is very numerous—they are stronger than the first, and capable of undergoing great fatigue.

"The third is the result of a cross of the hunter with mares of a more common description; these constitute the coach-horse. It is from these two classes that the English export so many throughout Europe, and particularly to France.

"The fourth is the draught-horse, the produce of the former with the strongest mares of the country. There are some of this breed of the greatest size, and in their form and character not unlike the horses which are seen cast in bronze.

"The fifth has no particular character, being the result of accidental crossing among the rest. Still notwithstanding this mixture, the influence of the Arabian blood may be traced in some degree even among the most common sort.

"The English have procured Arabian horses, and have devoted the greatest attention and care to their system of breeding, particularly by publishing the genealogy of those which are considered as their best produce. They have well understood the importance of this publication, for, by these means, they have been able to have recourse to stallions and mares that approach the nearest to the original blood for the purpose of breeding, and thereby to preserve the breed from degenerating."

The following cursory observations on the most distinguished breeds of English horses will be found useful.

THE RACE HORSE.

The thorough-bred horse is traced by some persons to be of Eastern parentage, whilst others believe him to be the native horse, improved by judicious crossing with the Barb, Turk, or the Arabian. He is possessed of the most beautiful

form, and by the peculiar elasticity of the fibres, and the disposal of his limbs, he is furnished with an incredible degree of vigour, speed, and power.

The racer is distinguished by his beautiful Arabian head,—his fine and firmly-set on neck,—his oblique lengthened shoulders,—well bent hinder legs,—his ample muscular quarters, and his long and elastic pastern.

THE HUNTER.

The hunter forms a happy combination of the race-horse with others of inferior swiftness, but possessing strength, vigour, and activity; and is, undoubtedly, a very useful breed. He should seldom be under fifteen or more than sixteen hands high, since, below this standard he cannot always sufficiently measure the object before him, and above this he is apt to be awkward at his work. For the general purposes of hunting, the horse should be at least three quarters bred; and it is essential that he should be light in hand. On this account his head should be small, his neck thin, his crest firm and arched, and his jaws wide.

A broad chest is very desirable in the hunter, as by the violent and long continued exertion of the chase, the respiration is exceedingly quickened, and consequently more blood is hurried through the veins in a given time, than when the animal is at rest; except there be sufficient room for this, the horse will be blown, and possibly be destroyed. It has been observed that the majority of those horses that expire in the field are narrowly chested. The loins should be broad;—the quarters long;—the thighs muscular;—the hocks well bent, and well under the horse.

THE COACH HORSE.

The progress of improvement has in no small degree been extended to this animal, since he is now as different as possible to the clumsy barrelled and round legged horse of former times. The coach horse of the present day is a fine tall animal, deep chested, with a well proportioned body, flat legs, and sound, open, tough feet; and is possessed of an incredible degree of strength and speed. The best kind of coach horses are the Cleveland bays, for the production of which, the Cleveland mare is crossed by a horse nearly thorough bred, of sufficient substance and height.

THE ROAD HORSE.

The road horse, more difficult to be met with in perfection than either the hunter or the racer, is one of the most useful animals of which this country can boast, and it is to be regretted that they are not produced in greater abundance, and with more attention to their breed than is usually bestowed upon them.

The best road horses are those produced by half bred stallions, under sixteen hands high, and mares of proportionate size.

The road horse should have perfectly straight fore legs, and good hinder legs; and be sound on his feet; it is also of great importance that the bones beneath the knee should be deep and flat, and the tendon not tied in.

THE DRAUGHT HORSE.

Great improvements have been effected in this useful breed of horses, and the superiority of the moderate-sized, strong active horse, over the unwieldy slow animals of former days, is universally acknowledged.

The draught horse should be somewhat higher than the road horse, with a thinner shoulder, and the nostrils should be large and open, that he may breathe freely; his legs should be rather flat than round, since roundness of the leg in a horse intended for agricultural labour is by no means favourable. No country in the world can produce horses equal in size and strength to our modern draught horses. There are repeated instances where single horses, on a plain, draw from two to three tons for a short distance, and with apparent ease from a ton and a half to two tons, for a considerable length of time. However, the most decided proof of the superior strength of our British horses may be derived from the mill horses; many of which have carried 910lbs. for two or three miles together; and the real Cleveland bred horses have been known to carry more than 700lbs. for the distance of sixty miles, accomplishing this journey in twenty four hours, and performing it four times in the week. We may also refer to the dray horses in London which draw immense weights.

THE VARIOUS FORMS OF MEDICINE.

The usual forms in which medicine is administered to horses and cattle, are those of ball, powder, drench, clyster, ointment, and fomentation.

BALLS.

The balls, or bolus, is one of the most convenient forms in which medicine can be administered. It is necessary they should be prepared a short time previous to using, as an exposure to the air renders them hard, and consequently unfit for use.

In giving the ball, it is usual to take hold of the horse's tongue, with the left hand, and to draw it between the teeth so that the animal cannot bite the operator's hand without biting his own tongue. Strict attention should be paid that the horse swallows the ball, as old horses will frequently retain it in their mouths for a considerable time, and afterwards cough it up again. If the ball has a disagreeable taste, it ought to be wrapped in wafer paper. Should the ball be composed of hot or stimulating ingredients, the horse should be allowed to drink before it is administered. It is preferable to mix the ball with molasses, honey, or extract of liquorice, softened with water, since gummy substances are apt to become hard.

POWDERS.

Powders are generally composed of nitre, sulphur, antimony, and some of the aromatic seeds, reduced to fine powder, and mixed with the corn or bran that is given to the animal. Such medi-

cines as do not readily dissolve in water, should be moistened before mixing with the food.

DRENCHES.

In compounding a drench it is necessary that the oils and balsams should be well combined with the watery part of the medicine, and the dry substances very finely powdered. All mucilaginous substances, some resins, and many of the aromatics, may be properly given in this form. The best dilutent is water.

Drenches should always be administered by a horn; the animal's head being raised, and the tongue held down, as in giving a ball. The great advantage of drenches are that remedies exhibited in this form generally produce very speedy effects; and are consequently well suited to urgent cases, where immediate relief is required. They should never be given when the throat is in an inflamed or irritated state.

CLYSTERS.

All medicines which can be thoroughly mixed with any watery fluid, so as to pass easily through a slender tube, may be advantageously administered in the form of a clyster.

A clyster bladder should be that of an ox, and of the largest size, to the extremity of which should be fixed a pewter pipe, about twelve inches long, and about half an inch in diameter, having the extremity completely smooth, so as not to injure the internal coat of the bowels. Syringes are very improper instruments.

The use of clysters has very properly become frequent, and is justly in high esteem.

OINTMENTS.

Ointments are chiefly employed as an application to sores, or in cases of eruptions of the skin. They cannot be employed in farriery as in the human body, on account of the hair that covers the body of quadrupeds.

FOMENTATIONS.

Fomentations are composed of some infusion or decoction of herbs, and are used to soften or relax the parts to which they are applied. The proper method of applying them is by wetting a large woollen cloth in the warm liquor, and after wringing it slightly, laying it as warm as can be borne on the part to be fomented.

POULTICES.

Poultices should be reduced to a perfect softness and be frequently renewed. When intended to produce suppuration, they should be applied warm; but when required to check inflammation, they are usually laid on cold.

PURGES.

Purgative medicines, if administered with prudence, are extremely useful. Purges are found to act differently upon various horses; some undergo them without any inconvenience, neither refusing food nor water during the whole process; whilst others become extremely languid, and will neither eat nor drink for several hours. With horses of this latter description, it is extremely difficult to cause the purge to operate kindly, on account of

their not drinking. In this case it is advisable to drench them occasionally with a considerable quantity of warm thin gruel, and clear the rectum of any hardened dung by back-raking. Some horses will take large doses without any effect being produced, except in the discharge of urine. It is, however, very dangerous to go on increasing the dose, since a sudden change occasionally takes place in the disposition of the intestines, and a violent and immoderate purging ensues.

On account of the horizontal position of the horse's body, it generally requires twenty-four hours to elapse before the purging medicine begins to operate; although it may sometimes commence in a shorter period. But much depends on the constitution of the horse, and whenever the usual dose does not take effect within twenty or thirty hours it will be best on future occasions to divide the dose into small quantities, giving portions of it every twelve hours, till the animal begins to purge; since it has generally been found to answer in this manner, when a quantity given at once has failed to produce effect.

Purges are recommended to be given in the morning, when the horse is to be allowed to fast an hour. He is then to receive about two handfuls of hay, after which the ball is to be given, which is to be followed by a horn full of warm ale or water-gruel. He is then to fast another hour, when he is to be allowed a moderate quantity of hay. He should have all his drink a little warm, should be walked about gently during the remainder of the day, and should have a warm mash of bran at night. Next day he is to be again moderately exercised till the purge begins to operate, and if the weather is severe,

he must be covered with body-clothes; but the stable should not be too warm when he returns.

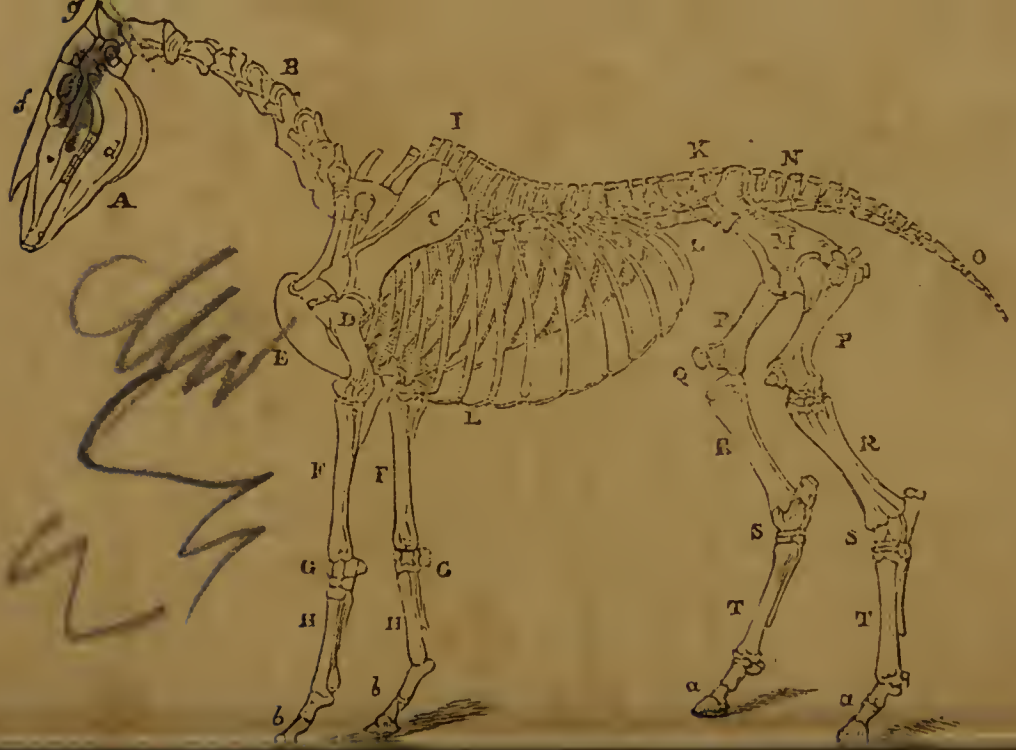
Mr. Clater observes, that horses kept on dry meat, and full fed, with little or no exercise, require regular purging every six months, with two or three doses each time, with proper intervals between; and those horses which run in stage coaches and chaises, (whose labour is often more than their natural strength is able to bear,) and such whose legs are inclined to swell, all require purgative medicines; the use of which would be a means of preventing many of the diseases that attack that noble and useful animal.

Violent exercise, either before or after administering a purge, is highly dangerous, and frequently gives rise to fatal diseases.

PREPARING MEDICINES.

Before administering medicine to animals, care should be taken that the nature of the disease has been correctly ascertained; and it is highly essential that the medicine procured should be good and genuine. Seeds should be purchased in their original state, as when once powdered they soon lose their quality. The same should be observed in buying roots, bark and gums.

In the compounding of the following recipes, troy weight should be used, and wine measure in whatever relates to liquids.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C
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E
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G
H
I
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L
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N
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S
T
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INDEX TO THE SKELETON OF THE HORSE.

A The Head.
B The seven Cervical Vertebræ, or bones of the neck.
C The Scapula, or shoulder blade.
D The Humerus, or bones of the arm.
E The Sternum, or fore part of the chest.
F The Radius, or bone of the fore-arm.
G The Carpus or knee, consisting of seven bones.
H The metacarpal bones. The larger metacarpal or cannon shank in front, and the smaller metacarpal or splent born behind.
I The eighteen Dorsal Vertebræ, or bones of the neck.
K The six Lumbar Vertebræ, or bones of the loins.
L The Costæ or ribs, seven or eight articulating with the sternum, and called the *true ribs*, and ten or eleven united together by cartilage, called the *false ribs*.
M The Haunch, consisting of three portions.
N The five Sacral Vertebræ, or bones of the haunch.
O The Caudal Vertebræ, or bones of the tail, generally about fifteen.
P The Femur, or thigh.
Q The Stifle joint with the Patella.
R The Tibia, or proper leg bone; behind is a small bone called the fibula.
S The Tarsus, or hock, composed of six bones. The prominent part is the Os Calcis, or point of the hock.
T The Metatarsals of the hind leg.
V The Ulna, or elbow. The point of the elbow is called the Olecranon.
a The corresponding bones of the hind feet.
b The fore pastern and foot.
c The inferior maxillary bone, containing the upper incisor teeth.
d The posterior maxillary, or under jaw.
e The superior maxillary, or upper jaw. Rather below the latter is a foramen through which pass nerves and blood vessels which chiefly supply the lower part of the face.
f The Nasal bones, or bones of the nose.
g The Suture dividing the parietal bones below, from the occipital bones above.
i The Orbit, or cavity containing the eye.

DISEASES OF HORSES.

SURFEITS.

Causes.—This disease may proceed from excessive and immoderate feeding, especially upon unwholesome food, and also hard riding; but it may in general be attributed to a suppression of insensible perspiration.

Symptoms.—The surfeit assumes various appearances in different subjects. In some it is manifested by dry fixed scabs all over their limbs and bodies, in others by small knots and lumps. In some by moisture, attended by heat and inflamation, the humours being so sharp, and itching so violently that the animals sometimes rub themselves raw; while others have no eruption whatever, and appear only lame and hidebound.

Cure.—A slight eruption of the lumps may be generally removed by bleeding and diuretics; but should the horse be in high condition, a purge is the best remedy. The following portion will be found sufficient:

Barbadoes aloes . . .	six drachms,
Castile Soap . . .	half an ounce,
Ginger . . .	half a drachm,

Mixed in a ball with syrup of Buckthorn.

The food to be scalded oats or bran mashes.—When the purgative has ceased to act, the following ball may be given every night for three or four nights successively, viz.

Emetic tartar . .	4 drachms,
Assafœtida . .	4 drachms,
Ginger . . .	2 ounces,

To be mixed and divided into four balls.

During the time the horse is under this treatment, he should be kept warm and daily exercised. If the scabs do not fall off, it will be proper to rub them with mercurial ointment.

In case the horse be lean, unhealthy, and hide-bound, the following drink will be of advantage.

Caraway seeds . .	1 ounce,
Gentian root . .	half an ounce,
Fenugreet seeds . .	half an ounce.

These ingredients, being finely powdered, should be given in a pint and a half of warm ale in the morning and repeated every second or third day whilst necessary. It is proper to observe that no drink should be boiled that contains either seeds or roots. In that species of surfeit which is attended with a moist discharge from the skin, the parts affected may be bathed with the following lotion;

Blue vitriol . . .	1 ounce,
Camphorated spirits of wine .	2 ounces,

In a quart bottle filled up with water.

This lotion to be applied daily after first washing the parts with soft soap and warm water. While this wash is applied, the horse should also be given the emetic balls mentioned above.

It occasionally happens, after a surfeit has been cured, that the hair falls off those parts of the skin where the lumps or swellings were situated, and

grows again of a different colour to the rest of the body, giving the animal a spotted appearance.

THE MANGE.

CAUSES.—This common but troublesome disease generally proceeds from want of cleanliness, unwholesome food, and a defective perspiration.

SYMPTOMS.—This is a cutaneous disease, affecting the skin and rendering it thick and full of wrinkles; especially near the ears, mane, loins and tail. As the disease advances these parts generally become deprived of hair; or should any remain, it stands erect, like hog's bristles. These eruptions discharge a thick yellowish fluid, and the horse suffers a perpetual itching; so that most of his time is employed in rubbing or biting himself, which disturbs him in taking his food, and causes him to lose his flesh for want of rest or quiet. This disease is highly contagious.

CURE.—It is improper to bleed in this disease; the following ointment will be found efficacious.

Prepared hog's lard . .	1 pound,
Sulphur . . .	half a pound,
White hellebore . . .	3 ounces.

A moderate quantity of this ointment should be rubbed well with the hand every third day over all the parts affected. Two or three applications will generally suffice for a perfect cure, provided the food be good and nourishing, and proper attention be paid to cleanliness and exercise.

The following internal medicine will prove useful during the application of the ointment.

Antimony . . .	8 ounces,
Grains of Paradise . .	3 ounces.

This, finely powdered and mixed with Venetian

turpentine sufficient to form the mass of proper consistence, must be divided into twelve balls, one of which may be given every other day.

In slight cases of the mange, an infusion of tobacco in ale grounds will sometimes effect a cure; but in an inveterate case, the following ointment is recommended, viz. :—

Mercurial ointment	half a pound,
Black soap	2 ounces,
Powdered brimstone	4 ounces,
Crude sal-ammoniac	1 ounce and a half,

To be mixed up with turpentine or oil of bays.

Should a lotion be thought preferable to an ointment, the following may be used with advantage:

Powdered corrosive sublimate	half an ounce,
Spirits of wine	half a pint,
Water	1 quart,

To be applied every third day, and on the intermediate days the parts must be washed with soft soap and warm water.

The following may be administered two or three days before the skin is dressed, and continued while necessary.

Crude antimony	half a pound,
Flour of sulphur	half a pound,
Nitre	half a pound,
Cream of tartar	half a pound,

To be finely powdered and mixed.

A table spoonful of these ingredients may be put into the horse's corn, or feed, every night and morning.

When a horse is perfectly cured of this disease, his harness and gearing must be well washed with soap suds, and rubbed over with the lotion recommended above. The stall, rack, and manger, should also be white-washed with quick lime, which in a

few days may be washed off with clear water.—These precautions are highly necessary, and should invariably be adopted.

THE FARCY.

CAUSES.—This disease may generally be attributed to a suppressed perspiration, and also to hot and crowded stables; and is more prevalent among waggon and post horses than any other: horses of this description after being thown into a violent sweat, are frequently ridden through brooks and ponds to wash them, or allowed to stand for some time at an ale house door; a culpable negligence which frequently gives rise to the farcy.

SYMPTOMS.—The horse appears dull, his skin feels tight and dry, and there is generally a degree of swelling in the legs, particularly the hind ones.—The small glands rise up in small lumps or knots, which are at first extremely hard and sore, and are usually called farcy-buds; and in a few hours they suppurate, and throw out an unhealthy ichorus discharge. The edges of these ulcers have a chancrous appearance; as the disease advances, the whole body becomes infected, and partial swellings take place, particularly on the inside of the thigh, and about the lips and nose, which last very frequently terminate in the glanders. This disease is sometimes very obstinate and difficult to cure.

CURE.—As this is a very troublesome disease which spreads rapidly, and soon affects the whole system, it is advisable to apply as soon as possible to some skilful practioner; but if this cannot be conveniently done, the following mode of treatment may be adapted :—

When the attack is confined to a single limb, and attended with great swelling and inflammation, if the horse be in good condition, three or four quarts of blood must be taken, after which the following purge may be administered :—

Barbadoes aloes . . .	9 drachms,
Castile soap . . .	1 drachm,

With liquorice powder sufficient to make a moderate sized ball.

This is to be taken with bran mashes and lukewarm water; care being taken to place the horse where he may have room to move about; but not to exercise him out of doors whilst the limb is in an inflamed state. The swelling part must be fomented with a warm decoction of camomile flowers; and a rowel may be introduced at the lower part of the chest with considerable advantage. Ample instructions for rowelling will be introduced in a subsequent part of the work.

When the disease has extended, and the horse has been properly purged, the following quantity may be taken in a ball :—

Camphor . . .	1 drachm,
Assafœtida . . .	1 drachm,
Emetic tartar . . .	1 drachm,
Ginger . . .	2 drachms.

The above ball may be given for three successive nights, and, after missing one night, repeated until the disease is removed.

When the whole system is affected by the disease, the extremities swelled, the buds numerous, and the animal assumes a haggard appearance, the following mercurial ball may be administered :—

Corrosive sublimate . . .	1 scruple,
Opium	10 grains,
Emetic tartar . . .	1 drachm.

With liquorice powder sufficient to make a ball of the usual size.

The horse to have a good nourishing diet, such as salt mashes, with carrots or brown sugar mixed with his corn. He must not be exposed to wet or cold, and his clothing should be warm. The dose of sublimate should be gradually increased to two scruples, should the small quantity take no effect. If the salivation be too severe, and the mouth and throat become swelled and sore, a laxative, composed of the following articles, may be given:

Epsom salts	8 ounces,
Sulphur	2 ounces.

Mixed in a ball with liquorice powder and treacle.

The following purging and diuretic drink is recommended by some persons, for the purpose of working off the mercurial ball:

Cream of tartar	1 ounce,
Barbadoes aloes	7 drachms,
Nitre	half an ounce,
Ginger	half an ounce,
Aniseeds	half an ounce.

These to be reduced to a fine powder, and dissolved in a pint and a half of warm ale.

A horse afflicted with farcy should be separated from those in health, and when perfectly recovered, and the season of the year will admit, a run of grass will be of great service.

FEVERS.

Causes.—A simple fever may proceed from various causes,—such as an obstructed perspiration, arising from violent exercise, and exposure to sudden colds or heats, or any other cause that tends to produce a degree of inflammation.

Symptoms.—A fever is denoted by a loss of appetite, great restlessness, (the horse ranging from one end of the rack to the other,) the quick beating of the flanks, redness and inflammation of the eyes, and a parched and dry tongue. He also nibbles his hay without chewing it, and is frequently hanging his head down to the ground; he dungs often, but little at a time, and in small broken pieces; his urine is scanty and highly coloured; his mouth feels hot and dry, and his pulse beats full and hard.

"The best criterion of a fever in a horse," says Mr. Lawrence, "is the pulse." The best situation for feeling is just under the edge of the jaw bone, where the facial artery passes on to the side of the face. In this situation, the artery is covered by the skin only; and, as it rests against the bone, its strength or weakness of pulsation may be ascertained with the nicest exactness and accuracy.—When the animal is in health, the pulse generally beats from thirty-six to forty strokes in a minute. The pulsation is regular, and the artery feels neither hard nor soft, but perfectly elastic; but when under the influence of fever, the pulse is sometimes increased to more than double its natural number of beats, and the artery becomes frequently so hard and rigid as to resist the pressure of the finger, and to slide aside from under it.

Cure.—The first plan to be adopted, is copious bleeding. If the horse be strong and in good condition, three or four quarts should be taken; and the bleeding should be continued until an alteration of the pulse takes place, the hardness of the artery be removed, and the yellow or buff coat on the surface of the blood becomes thinner.

During the existence of the fever, it will be necessary to resort to such medicines as are purgative, and the following will be found efficacious :—

Barbadoes aloes	. .	4 drachms,
Emetic tartar	. .	2 drachms,
Castile soap	. .	3 drachms,

In one ball. A second to be administered twelve hours after the first.

The operation should be assisted with bran mashes and lukewarm water. During which the following clyster may be administered to much effect :—

Senna	. . .	2 ounces,
Boiling water	. .	2 quarts,
Syrup of buckthorn	. .	4 ounces,
Common oil	. .	4 ounces.

The two latter must be added after the senna has been infused and the liquor strained off.

The horse's diet should consist of scalded bran, and occasionally a handful of picked hay may be put into his rack. His drink should be rather warm, and given frequently but sparingly ; his covering should be moderate : his litter kept clean ; and when recovering, gentle exercise should be given.

Mr. White distinguishes fevers into two kinds ; the *simple* and *symptomatic*. The latter kind usually proceeds from some external wound, or is indicative of internal inflammation, and must be treated accordingly by copious and early bleeding, with rowels and blisters. This disease is not preceded by shivering like the simple fever ; nor is it so sudden in its attacks. In case of simple fever, this gentleman recommends, after bleeding, and in case of costiveness, to get a pint of castor oil, or the oil of olives, and to inject a clyster of warm

water-gruel. He also prescribes the following laxative drink : —

Aloes Barbadoes	3 drachms,
Prepared kali	1 and a half drachms,
Castor oil	4 to 6 ounces,
Mint water	4 ounces,
Pure water	4 ounces.

These ingredients mixed will serve for one dose. After the operation of this laxative, the following fever powder to be given :—

Powdered nitre	1 ounce,
Camphor	3 drachms,
Tartarised antimony	2 drachms.

These to be mixed and given in one dose. The usual precautions of warm water and mashes, with frequent hard rubbing must be adhered to. When the fever runs high, rowels are to be inserted about the chest and belly, in order to prevent the recurrence of internal inflammation. When the disease appears to be going off, and the horse looks more lively, and his appetite returns, let him be led out in some warm situation, and have occasionally a malt mash for the purpose of recovering his strength.

Let it be always remembered, that, in every case of fever, bleeding, and clearing the intestines by mild purgatives and clysters, are of the greatest importance ; and that all cordials, balls, or drinks, administered during the continuance of the disease, will have very injurious effects.

THE GLANDERS.

Causes.—It is difficult to ascertain the primary cause of this disease. It is, however, said to arise from contagion or improper stable management ; and close and ill-ventilated stables most frequently

witness its ravages. It may be produced by any thing that weakens the constitution, or the injection of stimulating or acrid substances up the nostril. Post horses and machine horses, from the peculiar hardships they endure, and the exhausted state of their constitution, are most liable to the glanders.

Symptoms.—In the early stages of the glanders, there is generally a discharge of a white glutinous fluid from one nostril, which is highly coloured and inflamed, while the other nostril is of a pale flesh colour. When in this state, there is usually one or more ulcers perceptible up the cavity of the nose; and the gland under the jaw, on the same side as the affected nostril, becomes hard and much swollen. In case of colds, the discharge is usually from both nostrils. Sometimes also the discharge from the glanders may issue from both nostrils, and the general health of the animal continue for months unimpaired; but if this discharge proceeds from cold, it will be accompanied by dullness, loss of appetite, a difficulty in breathing, or an increased pulse. When the disease becomes inveterate, the discharge is very offensive and fetid, composed of yellow and green colours, and intermixed with red or bloody streaks. When the disease is very rapid, the bones and cartilages of the nose are eroded by the malignity of the virus, and the whole frame, particularly the lungs, becomes affected; the respiration also becomes difficult, the discharge profuse, and the appetite decreases; the whole frame exhibiting a disordered and emaciated appearance. When one nostril alone is attacked, which will occasionally happen, it is most generally the left one.

The symptoms of this disease should be atten-

tively observed; as in case of a violent cold, both a great degree of inflammation and a swelling of the glands, and even an ulceration of the nose, will occasionally take place, which renders the horse almost similar to a glandered animal, and thus a valuable beast may be destroyed, under the mistaken idea that he is affected by the disease. In the glanders there is seldom any cough.

CURE.—This disease is deemed incurable; and though some writers prescribe their far-famed recipes for its cure, it is only an imposition on the credulous, without any prospect of success. Instances have indeed occurred of the discharge being entirely suspended for a while, particularly after the animal has been at grass for some time; but the symptoms invariably return, and no authenticated instances can be found of a cure of the glanders having been effected.

Whenever it is clearly ascertained that a horse is glandered, he should be immediately removed from all other horses, and kept by himself. The rack, manger, and all other places which he may have come in contact with, should be well scraped with knives, or other sharp instruments, and scoured with soap, sand, and boiling water. This operation should be repeated, and the entire surface of these parts white-washed with a thick coat of lime and water: which, after a few days, may be washed off, and the stable used again with safety. Some writers recommend fumigations of brimstone to be used; however, these will not prove effectual without the preceding precautions. It is usual for some persons to bleed and purge the other horses that may have been in the stable, but this is quite un-

necessary, and can have no effect in preventing the contagion.

Where a number of horses are kept, it is much safer for the proprietor to destroy the glandered horse as soon as possible. It is in any case highly improper to keep such a diseased animal, since the property of others is thereby constantly exposed to danger.

It has been observed that one-third of the hackney coach horses in London are glandered; poor persons purchase them for a very trifling sum, and, as a horse under this disease, sometimes continues to work for two or three years, they generally turn out very profitable. There is, however, not much danger of the contagion being thus propagated, since those are usually kept in a stable by themselves, and consequently never come into contact with any other horses. There is much more danger to be apprehended from the stables of country inns, since the proprietors are occasionally liable to receive horses into their stables to bait, which are afflicted with this dangerous disease, and thus many people have suffered severely from an accident of this kind. A degree of caution, therefore, is necessary to be observed.

A great variety of experiments have been made by skilful and experienced farriers, but no medicine has yet been discovered as a specific for the glanders. However, it is to be hoped that some regimental veterinary surgeon, since they are possessed of superior advantages in having separate boxes for diseased horses, will institute a series of experiments in order to discover some effectual cure for this disease.

THE STAGGERS.

CAUSES.—The staggers, or apoplexy, may arise from various causes; but it generally proceeds from some irregularity in the action of the stomach. It may be occasioned by blows on the head, so as to cause compression on the brain; but it usually arises from horses having been allowed too great a quantity of food, or food of an improper nature. When a horse has been deprived of food for some hours, and been working hard, he becomes so hungry that he voraciously devours every kind of food he can come at; swallowing it quicker than his stomach can digest it; and having no water to soften it, and hasten its passage, the stomach becomes crammed, and through previous exhaustion, is unable to contract upon its contents. Thus the food soon begins to swell and ferment, causing considerable distention; and the staggers are ultimately produced.

Sometimes the digestion is much impeded for want of a sufficiency of water to drink. Instead of watering horses twice a day, those in regular work should be watered four times each day. Nothing can be more absurd and prejudical than to suppose that water has a tendency to make horses broken-winded.

Mr. Gibson, an intelligent, and experienced farrier, attributes this disease in many cases to a stoppage in the stomach and intestines, which sometimes proves fatal when not rightly understood. "These stoppages," says he, "proceed from various causes, and only affect the head when they happen to be of some continuance. Sometimes they are

caused by full feeding, with the want of air and sufficient exercise, especially in hot dry weather, and in constitutions naturally hot, but most usually from the quality and nature of their food, as bad hay, or any other bad provender, or rank clover, when it has imbibed moisture from the damp air, which renders them so tough that they lie like a wad, and distend the guts so as to impede their proper functions. Other things have also the same effect, as soiling horses with any kind of green herbage, such as vetches, or clover, when it happens to be grown too old and tough, and has lost its succulency, especially when it has been cut too long before it is used. Any of these may cause stoppages in the first passages, and sometimes excite such disorders as by their continuance affect the head in a very strong manner.

Symptoms.—This disease is sometimes, and very properly called the *apoplexy*. In some cases the horse drops down suddenly in a state of insensibility; but in general it comes on progressively. It is first denoted by a degree of sleepiness and heaviness in the eyes, and almost a continual hanging of the head, accompanied by considerable feebleness. The horse stands dull, sleepy, and staggering; when roused, he looks vacantly around him: occasionally will seize a lock of hay, and again doze with it in his mouth: at length he drops and dies; or the sleepiness passes off, and delirium comes on, when he falls, rises again, drops, beats himself about, and dies in convulsions. In this disease there is little apparent alteration in the motion of the flanks, or derangement in the pulse.

There is also a slight and temporary state of the staggers, called the *Megrims*, which attack some

horses as soon as the circulation of the blood is increased by exercise. The animal in this case suddenly stops and shakes his head; if allowed to stand he generally recovers in a few minutes, but if imprudently urged forward, the fit increases so as to occasion his falling.

Cure.—The most experienced practitioners in the veterinary line recommend, in cases of confirmed staggers, to take at least six quarts of blood at once: and when this operation is completed, to rub a blister on the upper part of the neck, on both sides of the mane, just behind the ears. The blister to be composed thus:—

Cantharides powdered	2 drachms,
Spirits of wine	2 ounces,

Mixed in a phial.

After which the following purge may be given:—

Barbadoes aloes	1 ounce,
Calomel	2 drachms,
Ginger	1 drachm,

With honey sufficient to make a ball.

The horse to have bran mashes, and water with the chill taken off to drink.

If the symptoms appear likely to become violent, the horse should be removed into an open box, and the halter-rein be tied to the centre of the ceiling, or to a beam, by which means the animal will be prevented from running against the wall, and bruising his head.

When the staggers arise from a stoppage in the stomach and intestines, the eyes of the animal appear swollen, his mouth contracted, breath and cough short; the abdomen is distended; he stales little, and strains much when going to dung. In this case Mr. Gibson advises the following mode of

cure :—"Let some person that has a small hand, rack the horse thoroughly, and bring out the dung from the rectum, which is generally hard, and made up in little small balls of a blackish colour, and quite dry. After this, let him have plenty of emolient oily clysters, made of mallows and such like; but in places where these cannot readily be got, they may be made of a pot liquor or water gruel.

"To two quarts of this liquor may be added a pint of linseed oil and half a pint of gruel.

"This should be given milk warm, and repeated every day, at least till his dung comes away with ease and grows soft. His diet should be the best hay, scalded bran, or boiled barley, till he has been thoroughly emptied, and for some time afterwards. At first the dung that comes away in the clysters will be in small hard balls, and sometimes along with it a putrid slime which, when discharged, gives great relief; but, by the continuance of the clysters, and the open diet, the dung soon alters, and comes away in such great loads, that it appears wonderful how it could have passed through the fundament; but as soon as this happens, it brings sure relief, and a passage is made for gentle purges, which in this case, are always of great use.

"Take—

Lenitive electuary . . .	4 ounces,
Cream of tartar . . .	4 ounces,
Brown sugar . . .	2 ounces.

Mix them in a pint and a half of ale, the ale to be made hot, that the cream of tartar may be the more easily dissolved in it; after that the sugar, and last of all, the lenitive electuary.

"This being given in the morning, upon an empty stomach, blood warm, will probably begin to work

before night; and it seldom makes a horse sick, as the stronger purges are apt to do when he is full and costive, so that he will drink warm water, or warm gruel, without reluctance. It may be repeated three or four times, allowing always two or three days respite between each draught, keeping him to an open diet, with proper exercise, till he recovers his usual vigour.

"By this method several horses have been cured that were much affected with convulsive symptoms, and the event plainly shewed that this affection was owing to a stoppage of the alimentary functions."

THE EPILEPSY.

Causes.—The epilepsy sometimes proceeds from a plethora, or fulness of blood, and often from violent exercise or surfeits, or indeed from any of the causes that produce lethargy or the staggers.

Symptoms.—When a horse is attacked with the epilepsy, he reels and staggers, and his eyes seem fixed in his head. He appears quite stupid, and stalls and dungs insensibly, trembles, looks around him and falls suddenly. Sometimes he remains immovable, with his legs stretched out, as if he were dead, except a quick motion of the lungs and heart whilst his flanks work violently. Occasionally the convulsions which follow are slight, at other times violent. The head and fore part are most affected, and the contortions are most singular. When the fit is going off, he generally discharges a white and dry foam from the mouth. After the fit is over he shakes his ears, stales, and eats and drinks as though nothing had occurred.

Cure.—In old horses this disease generally proves

incurable; since through their weakness, little assistance can be given to the operation of medicines; but in ordinary cases, the following may prove efficacious; care being taken to open their bowels previously by clysters.

Assafœtida . . .	2 drachms,
Emetic tartar . .	1 drachm,
Camphor . .	1 drachm.

Which must be made into one ball, with liquorice-powder and honey, and given every twelve hours. Those who prefer giving an opening drink, may administer the following twice in twenty four hours:—

Castor oil . . .	half a pound,
Tincture of opium . .	half an ounce,
Prepared kali . .	half an ounce,
Powdered ginger . .	1 ounce.

To be given in a pint of warm gruel.

THE PALSY.

Causes.—The palsy may arise from high feeding and want of proper exercise. Sometimes it proceeds from hard working, without a sufficiency of wholesome food; or may be produced by falls, blows on the loins, injury in casting, and turning in a narrow stall; and occasionally it is the result of mere old age, in which case it is hopeless to attempt a cure.

Symptoms.—When a horse is seized with the palsy, the use of some particular member is lost, sometimes one or more limbs, and especially the hind legs. When the brain is affected, the use of one side is totally taken away, the horse falls suddenly, and the muscles of the affected parts become so flaccid and relaxed, that all attempts to rise are fruitless. This last case is called *Hemiplegia*.—Horses that lie out at grass on cold wet ground, are

frequently attacked by a numbness in their limbs; but this is rather a case of rheumatism, than of palsy; since their head remains unaffected.

CURE.—It very rarely occurs that paralytic disorders are cured in old horses, particularly when the disease attacks one entire side. A partial palsy in old horses may be alleviated, but not removed; since there will always remain a degree of numbness and insensibility in the parts affected. However, the disease in young horses may often be cured without much difficulty. The following purge will be found beneficial:—

Barbadoes aloes	8 drachms,
Castile soap	2 drachms,
Ginger	2 drachms.

Mixed in one ball. The food to consist of mashes and lukewarm water.

Then apply the following stimulating embrocation:—

Oil of turpentine	4 ounces,
Camphor	1 ounce,
Common soap	1 ounce.

Let the affected part be well rubbed with the above liniment, by the hand, and, as fast as it sinks in, renew it; thus repeating it till the numbness goes off, and the horse can use his limbs. If necessary, the effect of this liniment may be increased, by adding one ounce of tincture of cantharides. The free use of a hard brush is of such service, that it ought never to be neglected.

If one side of the head be affected, it ought to be well rubbed with liniment, but no internal medicine should be used.

RHEUMATISM.

CAUSES.—This disease may generally be attributed to some sudden exposure to wet and cold; which transition is always dangerous to animals, which have been rendered delicate and tender, by being kept in the stable, and warmly clothed.

SYMPTOMS.—This disorder, as in the human subject, may be divided into two kinds, the acute and the chronic. The first is attended with some degree of fever, but the latter is a mere local affection, being generally confined to a single limb, and some particular part of the body.

A horse attacked by the rheumatism moves the affected limb without bending the joints of it, which is not the case of most other kinds of lameness. Rheumatism is also evident when a degree of lameness subsides by exercise, and returns again after the animal becomes cool. Sometimes the shoulders are affected; but the confirmed rheumatism is usually seated in or about the hip joint and adjacent membranes. When the disease attacks the loins, the horse feels extreme pain; the muscles in those parts lose their motion; he loses all flexibility in his back and body, and is obliged to step short with all his legs alike. The animal never lies down, from a consciousness of being unable to rise again, without great pain and difficulty.

CURE.—Many skilful farriers recommend a cure, by administering a purge, and afterwards applying strong spiritous mixtures; giving the horse gentle exercise twice a day, and keeping him warmly clothed.

Hog's lard	2 ounces,
Oil of turpentine	6 drachms,
Camphor	2 drachms,
Spirit of sal-ammoniac	2 drachms.

To be mixed, and the parts affected rubbed twice each day.

After the purge, which is above recommended, has ceased to operate, take the following:—

Assafœtida	2 drachms,
Sulphur	2 drachms,
Ginger	1 drachm,
Soap	2 drachms.

These ingredients must be mixed into a ball with treacle, and repeated for three or four successive nights.

In obstinate cases, a summer's run of grass would be most likely to restore the animal to perfect soundness. Warm bathing has been recommended, but this is both inconvenient, and more calculated to retard, than accelerate a cure.

WORMS.

Causes.—Some have supposed that the bots are frequently caused by confinement in stables, and unwholesome diet. Horses which want energy in the functions of the stomach and intestines, are the most disposed to breed the ascarides. Some have attributed them to foul feeding, which produces crudities, and slimy indigested matter in the bowels, especially in horses that have been pampered for sale. Sound, healthy horses are rarely troubled with these insects.

Symptoms.—Worms are so common in horses that very few escape, at some period, of being troubled with them. The most common kind are *bots* and *ascarides*.

Bots are generally found to be of a brown colour, and are observed sticking in clusters to the insensible parts of the stomach. They resemble maggots, and are about half an inch in length, and the same in circumference round the thickest part. They are furnished with two sharp feet from one end of their bodies, by which they retain a firm hold; and as the surface of the stomach where they have taken hold inflames and ulcerates, they pierce still deeper, until, in some instances, they penetrate quite through the stomach. When the female is properly impregnated, she carefully selects a proper subject, (evidently preferring one horse to another,) and deposits her eggs on the insides of the fore legs and some parts of the shoulders. These eggs are visible, in the form of little yellow knits, which are fastened to the hair with some kind of a glutinous substance. Whenever the horse bites his legs from itching or any other cause, some of these eggs enter the mouth, and pass into the stomach along with the saliva, where they are hatched, and become the bot. It is a most remarkable instance of instinct, that the fly never deposits its eggs on any part of the horse which he cannot reach with his mouth. Some writers suppose that worms are useful and beneficial to horses in many cases, by preventing other diseases; and Mr. Bracey Clarke, who has given a most accurate and scientific description of the bots, concludes that this animal is the natural medium for their propagation.

The *ascarides* are usually found in the rectum; they are generally white, but sometimes reddish, and in form resemble the eel. They are extremely troublesome, and expose horses to the gripes and

other irritating actions in the intestines. A horse troubled with these insects will often strike his belly with his hind foot, as if griped, and look dull and fatigued. He never lies down and rolls as in the gripes, but shews uneasy; however, in a short time he recovers, and begins to feed. His hair stares as if he was sickly, and nothing that he eats makes him thrive. The most decisive sign of worms is when they are voided with the dung.

There is another kind of worms, called the *teretes*, or earth-worms, which are sometimes found in horses; but those are neither very troublesome nor dangerous, and would scarcely be discovered were they not seen occasionally coming away with the dung. They are easily distinguished from the ascarides, on account of being a little larger, and of a red colour; and are commonly voided about the latter end of autumn.

Mr. Gibson says, "The signs of worms in horses are various according to their different kinds. The bots that many horses are troubled with are found sticking to the rectum, and are often thrust out with the dung, along with a yellowish coloured matter like melted sulphur.

"They are apt to make a horse restless and uneasy, and to rub his breech against the post. The season of their appearing is usually in the months of May or June, after which they are seldom to be seen, and rarely continue in any one horse above a fortnight or three weeks. Those that take possession of the membraneous parts of the stomach are more irritating and dangerous in causing convulsions, and are seldom discovered by any previous signs before they bring a horse into violent agony."

CURE.—The writer quoted above says, that

horses troubled with worms may be relieved without much expense or trouble, only by giving him a spoonful of savin, once or twice every day, in oats or bran moistened ; and if three or four cloves of chopped garlic is mixed with the savin, it will do better, for garlic is of great service in these complaints. "Horses that are troubled with bots," says Mr. Gibson, "ought to be purged with calomel and aloetic purges before the weather grows too hot ; and if they be kept to a clean diet after this, it will be a great chance if ever they are troubled with them any more." As those horses that are turned out to grass often get rid of them there by the first fortnight's purging ; and those who have the convenience of a good pasture for their horses, need not be very solicitous about giving them medicines.

The following prescription is strongly recommended :—

Calomel . . .	1 drachm,
Aniseeds, in powder .	half an ounce,

With treacle sufficient to make a ball.

This to be given in the evening, and the next morning the following to be administered :—

Soccotrine aloes . . .	8 drachms,
Ginger . . .	2 drachms,

With treacle enough to make a ball.

The foregoing bolus and purgative ball is ordered to be repeated after an interval of nine days, until the horse has taken three doses. Then the following powder is advised daily for about a month. This process does not require any change of diet, or involve any hazard from the effects of cold.

Ethiop's mineral	half an ounce,
Crude antimony, prepared	half an ounce,
Aniseeds, in powder	half an ounce.

Mix them together.

The treatment of the horse during the course of worm medicine, is the same as in the usual practice of administering purges. "Some prefer," says Mr. Denny, "giving Barbadoes aloes for the removal of worms, thinking it more efficacious than the succotrine; at the same time it exposes a horse more to gripes and dangerous attacks, unless it be managed with great care." Mr. Gibons recommends the following as a cheap purge of this kind :—

Barbadoes aloes	1 ounce,
Salt of tartar	2 drachms,
Ginger	1 and a half drachm,
Oil of amber	a tea spoonful,

Syrup of buckthorn sufficient to make a ball.

Mercury is a favourite remedy against worms.

The following appears to be the best mode of using this powerful and dangerous medicine :—

Quicksilver	2 drachms,
Venice turpentine	half an ounce.

Rub the quicksilver in a mortar with the turpentine till no particle of the form appears : then add

Oil of savin	30 or 40 drops,
Soccotrine aloes, powdered	half an ounce,
Ginger	1 drachm,

Syrup of buckthorn sufficient to make a ball.

When the horse has gone through a course of mercurial purges, the following drink may be given twice or thrice a week, viz. :—

Camomile flowers	a handful,
Rue	a handful,
Horehound	a handful,
Liquorice root	1 ounce.

Boil these in a quart of soft water about fifteen minutes in a covered vessel, and keep it covered till cold; then strain it through a coarse canvas, and give it in the morning on an empty stomach.

Particular caution is necessary in administering mercurial purges. The horse should be kept warm, and have bran mashes and water with the chill off.

Emetic tartar is strongly recommended for destroying the ascarides. Sulphur is also an excellent remedy; it may be given night and morning, to the quantity of an ounce. It is certain that no medicine has yet been discovered, capable of destroying or bringing away the bots before the regular period, when they quit the horse spontaneously. But however, propagation may in some measure be prevented by cutting off the hair with a pair of scissors where the worms are deposited, or by the frequent use of the curry-comb or brush. A run at grass by invigorating the system, contributes much to the removal of the ascarides.

BROKEN WIND.

Causes.—All diseases in the lungs proceed from inflammation, in a greater of less degree; which, when violent, if not speedily relieved, end in mortification and death. However, should this be avoided, it generally lays the foundation for a permanent cough or broken wind. This may be brought on by an effusion of water in the chest, or by lymph being thrown into the cells of the lungs, or by the destruction of some part of the lungs in consequence of the inflammation.

Symptoms.—This disease is indicated by the breathing of the horse altering from its natural state,

and from an easy, gentle, and uniform respiration, to a painful, laborious heaving, and violent agitation of the flanks; the nostrils become dilated, and the face contracted. Such are the symptoms in severe cases; but the disease exists in different degrees of mildness or violence, and is much varied by the season of the year, or the mode of administering food or water.

In the early stages of the disorder, the abdomen is much contracted; but in cases of long standing, it becomes large and pendulous.

Mr. Lawrence observes, that the disease of broken wind seldom comes on suddenly, but is generally preceded by habitual coughs and colds; and these are considerably aggravated by over-feeding, and want of sufficient exercise.

Cure.—This disorder is incurable. However, some relief may be obtained by attending to diet and management; such as feeding the animal every day with some good hay, bran mashes, and scalded oats. Some recommend two or three quarts of blood to be taken, which is stated to be very useful, especially at the commencement of the complaint. Water should be given frequently in small quantities, after which a little gentle exercise will be found serviceable. A purging ball is advised to be given, after which one of the following balls twice or thrice a week:—

Barbadoes tar	2 ounces,
Venice turpentine	2 ounces,
Castile soap	2 ounces,
Calomel	3 drachms,

Beat up together and mixed with—

Caraway seeds	1 ounce,
Aniseeds	ounce,
Nitre	2 ounces,

Mixed with honey and liquorice powder, and divided into ten balls. But, as before observed, no perfect cure in this disease can be expected, though relief may be afforded.

A foolish and cruel notion is very prevalent, that broken wind and other disorders of the lungs arise from drinking too much water. However, it is only necessary to refer to the horse wandering in the fields, having free access to water, to prove that no injury can occur on that account. When the horse is confined in a stable, supplied with dry food, and deprived of a full allowance of water, the digestion is hindered, and the excessive heat of the stomach renders him so eager for water, that he is exceedingly apt to drink too much at one time, when he has an opportunity of so doing. But disorder in this case is occasioned by want of water, and nothing can be more preposterous than to think of curing it by continuing in the error. Horses accustomed to dry food, and working hard, require a plentiful supply of water to keep them in perfect health, which ought to be given frequently; in which case, they will never take too much at one time.

ROARING.

This may be produced by similar causes as broken wind. Dealers attempt to discover this disease by striking the horse under the belly with a whip, and turning him round suddenly at the same time. If the horse groans during this process, it is considered as a proof that he is a roarer.

The disease sometimes begins by a whistling noise, but when it reaches a more confirmed state, the breathing becomes deep and loud.

CRIB BITING.

So called from the habit which some horses acquire of biting their manger, accompanied with a convulsive motion of the wind-pipe. It is another disease of the lungs, for the prevention of which, as well as roaring and broken wind, directions are given in the following article on the inflammation of the lungs; for if this disease be treated properly, these troublesome and incurable complaints will rarely ensue.

INFLAMMATION OF THE LUNGS.

Causes.—This complaint is generally produced by cold applied to the skin, by plunging a horse in cold water when in a sweat, an exposure in a current of air in a state of perspiration, or long and violent exertion.

Symptoms.—This complaint is generally preceded by a shivering; the animal appears dull, and droops his head, and the ears and legs are extremely cold. As the disease advances, the breathing becomes quick and difficult, accompanied by heaving and working of the flanks. The mouth feels hot, and the animal is obliged to suppress his cough on account of the soreness of his lungs. He refuses all food, and rarely attempts to lie down. This disease is so dangerous, that the most urgent means should be used to administer relief.

Cure.—Immediately on ascertaining that a horse is attacked by an inflammation of the lungs, four quarts of blood, at least, should be taken at once; and if the animal be in high condition, or the diffi-

culty in breathing require, this quantity may be increased to six quarts. A clyster should next be given, composed of four ounces of Epsom salts dissolved in thin gruel, and repeated every third hour until the bowels are freely opened; after which the following ball must be given, and repeated every twelve hours:—

Emetic tartar	1 drachm,
Assafœtida	1 drachm,

With liquorice powder sufficient to make a moderate sized ball, made up with syrup.

The horse should have a bran mash and water with the chill taken off, about an hour after; he should also be warmly clothed if the weather be cold. A free circulation of air in the stable is requisite.

When the horse appears recovering and cheerful, and his appetite begins to return, the following drink is recommended:—

Peruvian bark	1 ounce,
Nitre	half an ounce,
Ginger	half an ounce,

Mixed and given in a pint of rue tea.

When the disorder has existed for some time, and the horse has not been bled, if mortification does not take place, Nature attempts to relieve herself by a discharge of mucus from the nostrils; during which the legs and parts under the chest usually swell. In this case bleeding is improper; the following diuretic ball may be administered with great advantage:

Liquorice powder	half an ounce.
Venice turpentine	half an ounce,
Assafœtida	2 drachms,

Made into a ball, and repeated twenty-four hours after the first ball has been given.

The horse should have nourishing food, and be well rubbed, his nostrils thoroughly cleaned with a sponge and warm water several times during the day. The rack and manger should be frequently cleaned, and the legs well rubbed, and bound with hay bands to promote warmth.

In violent attacks of inflammation of the lungs, some practitioners recommend a large blister, composed of cantharides and sweet oil, to be rubbed on each side of the chest, or a rowel introduced into the breast; but these remedies are so slow of acting, that the disease will generally prove fatal before relief be experienced from them. Bleeding and clysters are consequently the best remedies in this dangerous disorder.

PLEURISY.

Causes.—The pleurisy may be produced by the same cause as the inflammation of the lungs. Indeed, inflammatory disorders are always brought on by a sudden suppression of the perspiration.

Symptoms.—In inflammations of the pleura, or membrane which lines the chest, and is hence called the *pleurisy*, the symptoms vary so little from inflammation of the lungs that it is difficult to distinguish. In the pleurisy the horse shows great uneasiness, and is continually shifting about. He often strives to lie down, but immediately starts up again, and turns his head to the affected side: whereas, in inflammation of the lungs, the horse is more tranquil, and never attempts to lie down. "In a pleurisy," says Mr. Lawrence, "a horse's mouth is generally parched and dry; but in peripneumony, or inflamed lungs, when opened, a ropy

slime generally runs out in great abundance, besides a discharge from the nose, much in the same way as in a malignant fever, and a red or yellow serum, or coagulable lymph, will adhere to the inside of the nostrils. In a pleurisy a horse works violently at the flanks, is very restless, and his belly generally appears tucked up; but, in a peripneumony, he always shews fulness, and the working of the flanks is regular, except after drinking, or when he is agitated by being disturbed by giving him medicine, in which case the heaving becomes stronger and more vehement than at other times: his ears and feet are for the most part always cold, and he often falls into damp sweats, with other symptoms common in malignant diseases, except that they come on more suddenly and with greater violence.

An inflammatory attack has sometimes been mistaken for the gripes, but the difference is easily perceptible; since, when a horse is griped, he lies down and rolls about; and sometimes, when violently attacked, his eyes are turned up, and his limbs stretched out as if dying; cold and clammy sweats appear; and he frequently stales and dungs, but with great pain and difficulty, until some relief be procured.

Cure.—The cure of a pleurisy and an inflammation of the lungs is the same, except where accidental symptoms occur to require variation. Copious bleeding is absolutely necessary.

In treating of this disease, Mr. Gibson makes the following judicious observations:—"As pleuretic disorders are more apt to leave some taint on the lungs than common colds or other inflammatory disorders, a great deal of care must be taken upon his recovery, that his feeding be in proper and right

quantity, and his exercise well-timed. A horse should be kept to a light, open diet, for a fortnight or three weeks, viz., a quartern of bran scalded every day; and, besides that, two or three feeds of the cleanest and sweetest oats sprinkled with water. Instead of the scalded bran, it will be well to give him sometimes, for a change, about a quart of barley scalded in a double infusion of hot water, that it may be softened, and the water may be given him to drink. His exercise should be gradual, and increased as he gathers strength, and always in an open, free air, when the weather is favourable. If there be any remains of a cough, the air, with moderate exercise, will tend greatly to remove it, and the remedies usually given in chronic affections of the chest, should be resorted to. Purging is also proper after pleuritic diseases, but the purges should be very gentle. The following proportion will generally suffice:—

Castile soap . .	half an ounce,
Barbadoes aloes . .	6 drachms.
Ginger . . .	half an ounce,

In a ball with syrup of buckthorn.

"This may be given with the usual preparations, necessary in purging, and it will operate well without occasioning either sickness or griping.

"This ball may be repeated at the intervals of a week, provided the horse does not appear weak after the first dose."

THE DISTEMPER.

Causes.—The distemper is generally prevalent in the spring of the year, and is produced by the cold easterly winds upon animals which are usually at

this period shedding their winter coats, and consequently less provided against its effect. The horses confined in hot stables are most subject to it.—Some writers, however, ascribe it to the peculiar state of the atmosphere.

Symptoms.—This disorder is attended with some degree of fever, frequently accompanied with soreness of the throat. It is also occasionally attended by a discharge from the nose. But it varies much in its symptoms, and is found most prevalent amongst young horses. It is sometimes infectious and epidemical.

Cure.—This disorder is very rarely fatal if judiciously treated; but many valuable horses have been destroyed by administering cordials, which are highly injurious. As soon as the symptoms of the distemper appear, the horse should be bled, the bowels opened by clysters, and, if the animal continues costive, the following mild purge may be given:—

Aloes Barbadoes . .	7 drachms,
Castile soap . .	1 ounce,
Ginger . .	half a drachm,

Made into a ball with syrup of buckthorn.

With a plentiful supply of water-gruel or bran-water, the above will be found sufficient to effect a cure. Should the throat appear swelled, a blister may be applied.

THE COLIC.

Causes.—The colic is sometimes occasioned by perspiration being suddenly checked from imprudent exposure to wet or cold, or drinking a large quantity of cold water when the body is heated by

exercise; or it may be produced by eating too much immediately after fatigue, or by bad hay, new corn, or whatever is new or prone to fomentation; and sometimes it may originate in weak and delicate animals, from the formation and confinement of air in the intestines.

Symptoms.—This disease is generally manifested by the horse's suddenly lying down and rising again; and sometimes striking his belly with his hind feet; he stamps with his fore feet; and refuses every kind of food. When the gripes are violent, he throws up his body in convulsive motions, his eyes are turned up, and his limbs stretched out as if dying; he falls into profuse sweats, succeeded by cold shivering fits; strives to stale; turns his head frequently towards his flanks; rolls over, and often turns on his back.

When the pulse becomes small and feeble, the horse frequently lying on his back, and voiding small portions of dung like gingerbread nuts, his backbone elevated, and his legs and ears cold, it is a certain indication that inflammation has taken place. When a mortification advances, the animal appears free from pain and easier, which is a sure prelude to death.

Cure.—In all cases of the colic, clysters should be administered with as little delay as possible, and repeated every half hour until the disorder be removed or considerably relieved. Previous to introducing the clyster-pipe, the hardened dung in the rectum should, as before stated, be cleared away.

Mr. White recommends to give at soon as the disorder is observed, the following draught:—

Balsam of Capivi . .	1 ounce,
Oil of Juniper . .	2 drachms,
Simple mintwater . .	1 ounce,

To be mixed in one dose. Or the following :—

Venice turpentine, one ounce, mixed with the yolk of an egg; adding gradually peppermint water, one pint; also spirit of nitrous ether, half an ounce for one dose.

A clyster should also be injected, consisting of six quarts of water-gruel, or warm water, and eight ounces of common salt.

If the disease has continued for several hours, and the pain appears to be excessive, with a quick pulse, it will be proper to bleed to three quarts, or something more, to prevent inflammation, and remove the spasmodic contraction of the intestines. The draught and clyster should also be repeated, and the belly be rubbed for a length of time with a mustard embrocation. If the disease be exceeding violent and resist these remedies, which will very rarely occur, a pint of castor oil, with an ounce and a half of tincture of opium may be given. The horse must be rubbed perfectly dry, and well clothed : and his stand filled with clean litter for a considerable height.

The following draught is also recommended by Mr. White :—

Tincture of opium	. .	half an ounce,
Oil of peppermint	.	20 drops,
Gum Arabic	. .	2 ounces.

The gum to be dissolved in a pint of warm water, and the whole mixed in one dose, the use of which should be accompanied with frequent small quantities of gruel, linseed tea, or any other mucilaginous fluid, and the injection of a clyster.

As this complaint will occasionally occur on a journey, the following may be wrapped up closely

in a piece of bladder, and used as occasion requires, viz. :—

Castile soap	3 drachms,
Ginger	1 and a half drachms,
Camphor	2 drachms,
Venice turpentine	6 drachms,

To be made into a ball for one dose.

To a horse afflicted by the gripes, give a clyster composed of—

Thin gruel	4 quarts,
Epsom salts	4 ounces.

Repeat this ever half hour ; and if the symptoms do not abate give the following ball :—

Opium	half a drachm,
Assafœtida	1 drachm.

DIARRHŒA.

Causes.—This disorder may proceed from a defective perspiration, from an increased secretion of bile ; from too violent exertion, or from hard riding, over-feeding, or eating unwholesome food ; and sometimes, from a morbid change in the secretion of the stomach and intestines. It may also proceed from drinking immoderately of cold water, when heated by exercise, or occasionally from worms. Sometimes it is the critical termination of a disease, in which case it proves salutary, and ought not to be suddenly checked.

Symptoms.—This disease, though not very common, will sometimes occur. It is indicated by a constant and copious discharge of dung, accompanied with pain, restlessness, and loss of appetite. As the disorder increases, the discharge is chiefly mucous, and mixed with small hard lumps of dung,

covered with a greasy matter. When this disease has been neglected, and evacuation becomes involuntary, attended with coldness of the extremities, a fatal termination will generally ensue. This disease is most prevalent in winter, or cold weather.

CURE.—Both astringents and violent purges are improper in this disease. Such medicines as invigorate the intestines should only be employed.

A drink may be administered every morning, for two or three mornings, composed of—

Epsom salts . . .	6 ounces,

Dissolved in two quarts of thick gruel.

The horse should be kept warm; his diet should consist of bran mashes, oatmeal and bran, or malt, and his drink should be thin gruel.

After the complaint has been somewhat removed, the following ball may be given every day, till perfectly recovered:—

Columbo root . .	half an ounce,
Peruvian bark, powdered .	half an ounce,
Subcarbonate of soda . .	1 drachm,
Ginger . .	1 drachm,

Mixed with honey or treacle.

INFLAMMATION OF THE KIDNEYS.

CAUSES.—This disease may arise from the kidneys being injured from an improper use of diuretics, or over-exertion in drawing, carrying too great loads, or hard riding; or it may also be occasioned by a fever.

SYMPTOMS.—The kidney is a very important viscus in all quadrupeds, and is subject to various diseases and affections.

An inflammation of the kidneys is indicated by

weakness of the back and loins, the horse standing with his legs at a considerable distance from each other; the discharge of the urine is either wholly prevented, or in small quantities, and as the inflammation increases, becomes bloody, and the voiding it more difficult; the extremities become cold, and cold sweats frequently break out; the pulse also is quick.

A relaxation of the kidneys will sometimes occur without any inflammation, but this may easily be distinguished from the above by the urine being of its natural colour whilst the horse remains at rest in the stable; but as soon as he is brought into exercise, the discharge of the urine is accompanied with blood.

Cure.—When it is ascertained that the kidneys are inflamed, four quarts of blood should be taken, and the following ball administered :—

Castile soap	half an ounce,
Barbadoes aloes	4 drachms,
Emetic tartar	2 drachms.

The food should consist of bran mashes, or cut grass; and a clyster given every four hours. The loins should also be rubbed with camphorated spirits of wine. The following liniment is recommended :—

Tincture of opium	1 ounce,
Spirit of turpentine	1 ounce,
Spirit of hartshorn	2 ounces,
Linseed oil	2 ounces,
Oil of cider	2 ounces,

Put into a bottle, and shaken well together for use.

This liniment should be well rubbed on the parts affected, after they have been fomented with hot flannels, rung out of an infusion of marsh-

mallows; after which the part may be covered with a rag. When the disease is perfectly cured, should the season of the year permit, the horse may be put to grass.

When blood is discharged from a weakness of the kidneys, and no sign of inflammation is apparent, four ounces of Epsom salts, or half an ounce of nitre, dissolved in gruel, may be given every few hours; or, if preferred, the following ball:—

Venice turpentine . . .	half an ounce,
Emetic tartar . .	2 drachms,

Liquorice powder and syrup sufficient to make a ball. But in this case a run at grass is the most effectual cure.

INFLAMMATION OF THE BLADDER.

Causes.—This disease is generally produced by such causes as any way hinder or impede the free passage of the urine, or the too long forced retention of it under any circumstances.

Symptoms.—In cases of this kind, a degree of fever is evident, with frequent inclinations to pass urine, without the means of passing any, or but very little at once; and the animal presents nearly the same appearance as described in the inflammation of the kidneys.

Cure.—Inflammations of the bladder are extremely dangerous, and require copious bleeding, which must be repeated according to the strength of the animal. Large clysters of warm water may be used with great benefit. The following will be found a very useful drink:—

Linseed bruised . .	half a pound,
Boiling water . .	2 gallons,

To which add, after being cooled and strained—

Gum arabic . . . 4 ounces,

Which must be previously dissolved in a quart of boiling water. Mix it well together for use, and give a quart of it every four hours.

The following ball is recommended to be given twice a day, should the pain and irritation appear to be considerable :—

Antimonial powder . .	2 and a half scruples,
Opium powdered . .	1 scruple,
Camphor powdered . .	2 drachms,
Liquorice root powdered .	half an ounce,

With treacle sufficient to make a ball, and given in a little gruel whilst warm.

In constrictions of the bladder, clysters of warm water, and warm fomentations, with hot flannels applied just below the fundament, will be found useful. The fomentations ought to be persisted in for at least half an hour each time, and the bowels kept open with gentle purgatives. Should those methods fail of affording relief, it will be necessary to resort to an operation, which is best performed by passing a staff up the urethra till it reaches the middle of the perineum, and making an incision upon it, through which a bougie or cathartic may be introduced, and the water drawn off; but this will be most safely performed by some experienced and skilful practitioner.

THE STRANGLES.

Causes.—This disorder would seem to have its origin in a certain kind of infection, which is transmitted by the air of the atmosphere, and increased by the warmth and closeness of the stables or other places in which the horses are confined. It has

been compared, by many writers, to the smallpox in the human race, as it generally affects colts and young horses, never attacks horses more than once, and throws off something obnoxious to the constitution. The health is usually much improved after its operation.

Symptoms.—This disease is indicated by a degree of fever, a painful cough, and a great thirst, with a difficulty of swallowing liquids, and loss of appetite. The inflammation sometimes occurs on the inside of the jaw-bone; at other times between the jaw-bone, which is considered the most favourable situation for the tumour. Sometimes the parotid glands are affected, and swell up as high as the root of the ear; the breathing is laborious, accompanied with a considerable noise in the throat; the nostrils are distended and the eyes appear as though they were fixed in the head. This is what old farriers term the *vives*. When the disorder discharges itself at the nose, it is called the *bastard strangles*, and, if neglected, or improperly treated, occasionally ends fatally, by affecting the lungs and bringing on consumption.

Cure.—This disorder rarely proves fatal. If colts while at grass are attacked by the strangles, Nature generally effects a cure; the abscess breaks of its own accord, and the animal recovers in a few days. When the colt is affected, on being taken into the stable, or whilst breaking, should the attack be violent, and the animal strong and full of flesh, about two quarts of blood may be taken, and the following purge administered:—

Ginger . . .	half a drachm,
Barbadoes aloes . .	3 drachms,
Castile soap . .	4 drachms,

In one ball: but if the colt be above three years of age, another drachm of aloes may be added.

At the same time the swelling should be fomented frequently with a decoction of marshmallows, as warm as the hand can bear, and a bran poultice also be applied until the tumour breaks, when the whole of the matter should be pressed out, and the orifice if too small, should be made of a sufficient size, and cleaned with a sponge and warm water.

Or the swelling may be dressed twice a day with the following liniment:—

Marshmallows ointment,	4 ounces,
Water of ammonia,	2 ounces,
Elder ointment,	4 ounces,
Camphorated spirit of wine,	4 ounces,
Spirit of turpentine,	2 ounces,

Mixed well together for use. After which, apply a poultice composed as follows:—

Fenugreet seeds, powdered,	4 ounces,
Ale dregs,	1 quart,
Linseed, powdered,	4 ounces,

Boiled together, and thickened with rye flour; then add—

Hog's lard	2 ounces.

The whole to be applied as hot as the horse can well bear. When the swelling becomes perfectly soft and yielding, open it with a lancet; and after pressing it gently, and cleaning it well, the orifice may be dressed with the following digestive ointment:—

Common turpentine	4 ounces,
Black pitch	2 ounces,
Bees' wax	4 ounces,
Linseed oil	1 pint,
Rosin	6 ounces,

Melt the whole in an iron ladle over a slow fire: then add:—

Verdigrease, powdered . .	2 ounces,
Spirit of turpentine .	4 ounces,

And stir them together till cold.

When this ointment is to be used, melt a small quantity, and dip a small tent of tow into it, with which the wound should be dressed once a day. If the wound appears to heal too fast it may be kept open with a skewer dipt in butter of antimony; and should any lumps or hard kernels remain, a blistering ointment may be applied to the parts for two or three mornings.

When the discharge has ceased, and the abscess is healed, should the horse be not too much weakened and reduced, the following purge may be given :—

Emetic tartar . .	half a drachm,
Aloes Barbadoes . .	4 drachms,
Ginger . . .	1 drachm,
Castile soap . .	2 drachms,

In one ball, with the usual precaution of bran-mashes and warm water.

SPLENTS.

Causes.—The splent generally attacks young horses, especially on their fore legs, and may arise from their being more exposed to concussion; the weight of the body being thrown upon them during progression.

Symptoms.—This disease is generally apparent on the side of the shank bone; sometimes in the middle, and sometimes just below the knee. An enlargement of the bone will frequently take place. It is sometimes situated under a ligament or tendon, and is almost invariably attended with a degree of

inflammation. Before the excrescences appear that displace a tendon, the horse will be lame; but much skill and experience are requisite to discover the exact part affected. When they are seated in the middle part of the shank bone, they are less painful and dangerous than when they are formed on the back part of them; and when near the joints they are more productive of lameness than in other cases.

Cure.—In young colts splents sometimes disappear of their own accord, being absorbed by the natural action of the vessels; but this result should never be depended upon. The most efficacious remedy is to administer a blister, which is to be composed of:—

Cantharides, pulverised . . half an ounce,

Mixed with sweet oil to the consistence of treacle.

Cut the hair very close off all round the leg, and rub the blister in with the hand for about ten minutes, then tie the horse's head short to the rack, lest he blister his mouth and blemish his leg by biting it. A neck cradle will hinder the horse from reaching his hind legs; but when the fore legs is affected, it can be of no service. On the following day, dress the part with hog's lard, and walk the horse gently about for a few minutes. When the inflammation arising from the blister has subsided, the part affected must be bandaged, and the horse may be turned out, if convenient.

When diseases of this sort have been of long standing, and are situated near to the knee-joints, the firing iron becomes necessary, which must be first drawn in a slight manner over the parts in close lines and then blistering substances applied to them.

THE RING BONE.

This disease has much similarity in its nature and causes to the preceding, and is most to be feared in the large boned heavy legged horses. It is an enlargement of the lesser pastern bone, near the coronet of the hoof, and in general extends round the fore part of the hoof in the form of a ring. When formed more externally, and the ligamentous parts that join the hoof and the fleshy substance are affected, it is somewhat dangerous to such parts, but when they rise on the pastern and do not spread down to the coronet, there is no danger to be apprehended. Blistering or firing are the only cures.

STIFF JOINT.

Causes.—This disease is generally occasioned in consequence of some accidental injury done to the joints by wounds, punctures, or similar causes occasioning the requisite lubricating fluid belonging such parts, to discharge itself outwardly; and thus by the action of the air, considerable irritation and inflammation is excited.

Symptoms.—In this case, the heads of the bones that form the joints are sometimes closely united by means of the ossific matter which in such circumstances is formed and thrown out from them.

Cure.—After the first appearance of this affection the union and closing of the punctures, or wounds that may have been made in the parts should be immediately attended to, so as to prevent the discharge of the *synovia*, or as the farriers term it, the *joint-oil*, by joining their surfaces and putting them

in a state of healing. When there is much swelling and stiffness, the best method of cure is to foment the adjacent parts of such wounds with hot bran and camomile flowers, in order to remove them; and touching the edges of the wounds with nitrate of silver or muriate of antimony. The best method to use the latter, is to apply it by means of a wooden skewer, making the points of it wet, without allowing any to get into the wounds; and afterwards covering the whole of the external surfaces with suitable dressings, thus keeping them as much as possible from the action of the air. This will prevent the use of the hot iron, which is the most prevalent method practised.

THE BONE SPAVIN.

This disease generally attacks aged horses, and is situated on the upper end of the shank-bone of the hind leg, either below or in the middle of the hock-joint. Horses with their hind legs much bent at the hock and termed cow-hocked, are most subject to this affection, since the stress is increased upon that part by its angularity, which, if not speedily removed, may prove incurable. In the inflammatory state, or during the first attack of the bone-spavin, the lameness will disappear for a short time after the horse has been exercised; and by this circumstance the bone-spavin is distinguished from lameness in any other part of the limb, which generally increases from exercise. When bone spavins appear in old horses, they are almost incurable; but the same remedies recommended in the two preceding cases will, in general, be found applicable on this occasion.

STRAINS IN THE BACK SINEWS.

CAUSES.—Strains are usually produced by some violent exertion; galloping on a hard road, or by a blow from the toe of the hind foot, which will occasionally happen on a hard road, when the fore leg is kept too long in the ground by sticking in the clay.

SYMPTOMS.—This generally occurs just above the fetlock joint; but the external appearances usually point out the seat of the disease.

CURE.—The inflammation ought to be removed by warm fomentations and bran poultices; and after it has entirely subsided, the following lotion may be applied;—

Crude sal ammonic . .	1 ounce,
Vinegar . .	1 pint,

Mixed in a bottle. Or the following may be used:

Camphor . . .	2 ounces,
Strong rectified spirits of wine .	1 pint,

Mixed together for use.

The part to be rubbed twice daily, and a bandage dipped in vinegar bound round the leg. The horse should be kept easy. If the above lotion prove ineffectual, the following embrocation may be used with advantage:—

Cantharides, pulverised . .	1 drachm,
Spirits of wine . .	2 ounces,

Mixed in a bottle for use.

After the above has been rubbed on the parts, the horse's head will require tying up for a few hours, as it will be found to operate as a very mild

blister. The horse may have gentle exercise, but must not be used for some time after he is recovered, in order that the tendons may regain their usual firmness.

THE THOROUGH PIN.

Causes.—This usually takes place on account of some particular weakness, or relaxation in the ligament surrounding the joints; but when pressed by the finger it disappears, but returns immediately on withdrawing it.

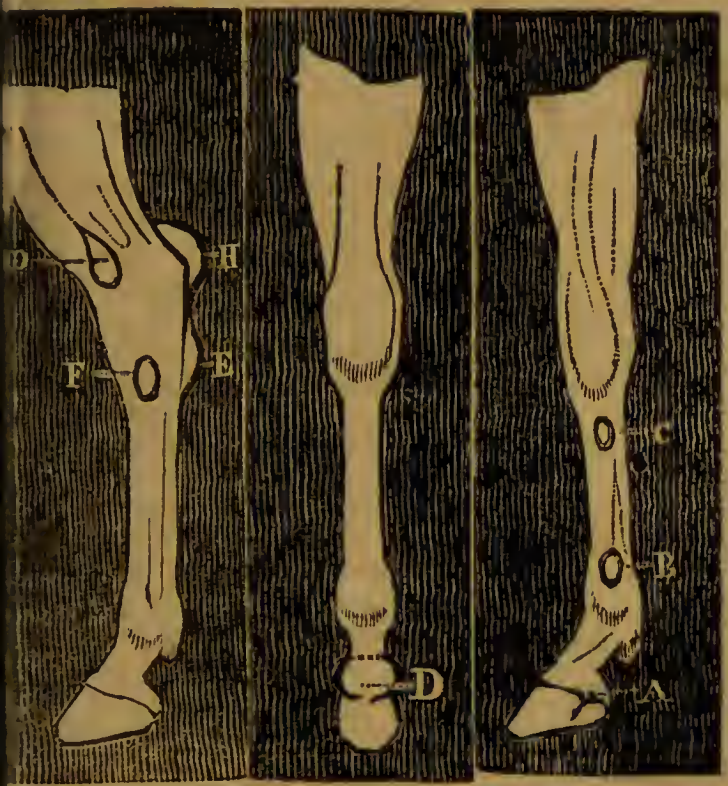
Symptoms.—This is a soft flexible swelling, and appears on the two opposite sides of the hock-joint at the same time, being supposed to pass entirely through the joint, thus deriving the name of *thorough pin.*

Cure.—There is rarely much lameness produced by this disease: the most certain cure is blistering. The liniment composed of cantharides and spirits of wine, recommended for strains, will generally be found sufficient for the purpose.

WINDGALLS.

Causes.—These most commonly proceed from immoderate labour; working horses too young, or allowing them to stand too much on uneven floors, thereby causing the fetlock-joints to remain too long on a stretch, instead of being in a state of relaxation.

Symptoms.—These usually arise in small puffy swellings, or enlargements immediately above the fetlock-joints, and appear in both the fore and hinder legs, though generally the former; they are



A.—SANDCRACK.	E.—CURB.
B.—WINDGALL.	F.—BONE SPAVIN.
C.—SPLENT.	G.—BLOOD SPAVIN.
D.—RINGBONE.	H.—CAPP'D HOCK.

not, however, confined to these parts, but sometimes are met with in the hocks, near the knees, and in other places; existing in most cases without any degree of pain.

CURE.—In slight cases, washes of the cold, strong, astringent kind, may be found sufficient to remove these complaints, but in inveterate cases, blistering or firing are the only effectual cures.

BLOOD-SPAVIN.

CAUSES.—This generally arises in consequence of over-straining and exertion, or from bruises or other local injuries on the parts, causing considerable weakness.

SYMPTOMS.—It appears like a small soft swelling or enlargement of the thigh vein, in that part where it runs over the inside of the hock-joint, and is easily distinguished by its giving way, and disappearing in some measure, on pressure below it, and returning again on its removal.

CURE.—This disease is of rare occurrence, and never produces lameness. Repeated blisters are also necessary in this case, and the only sure remedy.

THE BOG-SPAVIN.

CAUSES.—This disease is more frequent than the blood-spavin, and generally proceeds from similar causes.

SYMPTOMS.—Nearly the same symptoms are generally apparent in this case as in the preceding. It is attended with a degree of inflammation, which causes an encysted swelling or enlargement of the

capsules, or the membraneous bags that contain and afford the synovia that lubricates the joints at the upper and inner side of the hock.

Cure.—When there is considerable inflammation, fomentation and poultices must be applied; after which blisters will generally remove the disease. But if matter be collected, the whole must be opened, and the cysts with their contents sloughed away, by the use of dressings moistened with oil of turpentine and similar matters; and escharotic substances, such as dried alum and sulphate of copper, should occasionally be put into the parts.

THE CURB.

Causes.—This disease usually occurs from protracted and excessive working in the field, or on the road, or from local injury done to the parts.

Symptoms.—The curb is most common in young horses, especially such as are cow hoofed, and appears in small swellings on the back part of the hock. It generally causes a degree of lameness in proportion to the inflammation of the parts, and which rarely gives way of its own accord.

Cure.—In most cases, where curbs are not of too long standing, they may be removed by the application of blisters, or blistering liniment, but in inveterate cases, firing will be absolutely necessary.

THE COFFIN-JOINT.

This may be considered as a ligamentary lameness; in this disease the horse stands with his toe pointing forwards; thus keeping the pastern in a

straight line with his leg, and taking off the tension of the ligaments which unite the coffin bone with the lower pastern bone, and so become ossified when the use of the joint is entirely lost. Should the complaint exist any length of time it is almost incurable; blisters ought therefore to be repeatedly applied, as early as possible, round the coronet until the disease be removed.

THE STRING-HALT.

This complaint is indicated by the horse suddenly catching up the hinder leg higher than is necessary while walking. The cause of this disease is exceedingly obscure, and it has always been considered as incurable.

LAMENESS IN THE HIP JOINT.

In this disease, the horse drags the leg after him on the toe. The application of camphorated spirits of wine, or blistering liniment, is the best remedy. Lameness in this joint is frequently mistaken for lameness in the hock, but the symptoms are quite different.

LAMENESS IN THE SHOULDERS.

Lameness in this part is not very frequent. It is easily distinguished from lameness in any other part by the horse dragging his toe, and moving his foot in an outward circular manner at every step. A fomentation of bran and water, or camomile flowers, applied to the parts affected and those adjacent,

will be found extremely useful; after which, they may be well rubbed with the following:—

Spirits of camphor	2 ounces,
Tincture of opium	3 drachms,

Mixed in a bottle for use.

Where there is great stiffness in the parts, the following mixture will be more efficacious:—

Oil of origanum	2 ounces,
Olive oil	2 and a half ounces,
Spirit of ammonia	3 drachms,

Mixed and put into a bottle for use.

When there is a great loss of power in the limb, attended with considerable numbness, the embrocation below stated is the most effectual:—

Camphor	half an ounce

Dissolved in

Proof spirit	8 ounces,
Solution of sub-carbonate of ammonia	1 and a half ounces,
Compound soap liniment	2 ounces,
Tincture of opium	1 ounce,

To be mixed and made into an embrocation, and used two or three times a day.

THE GREASE.

Cause.—Heavy horses with round fleshy legs are more subject to this disorder than any other kind of horses. It may be occasioned by sudden changes from heat to cold: the too sudden change of from a generous to an impoverished diet; and from constitutional debility. It generally attacks horses in the spring and autumn, and may, in most cases, be attributed to the want of proper cleanliness and exercise.

Symptoms.—The approach of this disease is indicated by the horse raising his foot frequently from

the ground, and evincing great pain and uneasiness when resting upon it. Swelling and inflammation of the heel about the fetlock follow, which afterwards breaks out, and discharges an oily matter of a peculiar offensive smell. When the inflammation is extended to the cellular membrane under the skin, the pain and lameness are very severe. The affected part is soon brought to an abscess, and bursting, leaves a deep ill-looking ulcer. In this disease the hinder legs are most commonly attacked, and the pain is sometimes so severe as to prevent the horse from lying down, thus causing the swelling to increase, and the disease to advance.

CURE.—Slight affections of the grease may generally be removed by a poultice of boiled bran and linseed powder, constantly applied and kept moist with warm water; and occasionally a mild diuretic may be administered. After the inflammation is abated, the following astringent lotion should be applied:—

Alum, powdered	half an ounce,
White vitriol	1 ounce,
Vinegar	8 ounces,
Water	4 ounces.

Some prefer:

Vinegar	6 ounces,
Sugar of lead	4 ounces,
Water	1 quart,

Mixed for use.

The following is much recommended by some practitioners:—

Goulard's extract	1 drachm,
White vitriol	1 drachm,
Water	1 quart,

Mixed.

Should the disease be of long standing, or if the horse has been before affected by it, a mild purge must be administered; but if the horse be weak, the following medicine will open the bowels, improve the strength, and promote absorption:—

Soccotrine aloes	1 ounce,
Castile soap	1 ounce and a half,
Powdered ginger	half an ounce,
Myrrh	half an ounce.

These must be formed into a mass with syrup, and divided into six balls.

In very obstinate cases of grease, Mr. White recommends the following:—

Calomel	half a drachm,
Aloes	1 drachm,
Castile soap	2 drachms,
Oil of juniper	36 drops,

Made into a ball with syrup for one dose; and one ball given every morning.

Poultices of linseed meal, warm water, and yeast, must also be applied, in order to remove the offensive smell. When the heel does not seem disposed to heal, the astringent lotion named above should be changed for the following:—

Olive oil	half an ounce,
Yellow resin	4 ounces,
Red nitrated quicksilver in fine powder	half an ounce.

Exercise on clean and dry ground is of the highest importance in all cases of the grease; and if the horse be weak, good feed, with careful grooming, is very beneficial. When the disease is subdued, a run at grass is of great service. In order to prevent a return, cleanliness and frequent hard rubbing is particularly necessary; and a horse whose legs are disposed to swell, should be bandaged after hard work, and the bandage moistened with alum and water.

"It is a general, but very erroneous opinion," says Mr. Lawrence, "that the hair harbours dirt, and consequently promotes the disorder. But the contrary is the fact. From the hair being longer at the heels than any other part of the leg, it is clear that Nature had some particular reason for this difference; and that reason is, on a moment's consideration, self-obvious; namely, for the defence of a part which is more exposed to friction than the rest of the limb. This hair, by laying close to the skin, shields it from the action of the dirt, which, when the heels are trimmed close, always insinuates itself, and by rubbing the skin, irritates and inflames it to a considerable degree; for when the hair is cut close, that which is left does not lie smooth, but stands out end-ways like a brush, and thus easily admits mud, and clay, and every other kind of dirt. The skin secretes a natural oily fluid, for the purpose of keeping it soft and flexible; but when it is thus exposed by trimming off the air, this fluid is rubbed off by friction, and the skin becomes hard and dry, soon cracks, and the grease ensues.

"That this hair is a protection to the heels may be easily ascertained by laying it aside and examining the surface of the skin, which in that case will be found clear and dry, even after travelling the whole of the day through the dirtiest roads. The thorough bred horse it is true has but little hair on his heels; but it should be remembered, that he is originally a native of a hot climate, where the soil is light and sandy, and free from moisture.

"Horse dealers know so well the utility of leaving the hair on the heels of horses that work hard, that they never trim their own hackneys which

they ride to fairs; and coach masters and innkeepers would find it beneficial to adopt the same plan."

Should any cracks appear in the heels without any swelling and discharge of matter, the following ointment may be applied :—

Palm oil	2 ounces,
Hog's lard	4 ounces,
Fine olive oil	1 ounce.

This must be melted by placing the pot which contains it in boiling water, and then mixing with it the—

Acetated litharge	1 ounce and a half.

The whole must be stirred till nearly cold.

If the crack appears inflamed, soft poultices, made of turnips, or oatmeal, or beer grounds, mixed with goulard, may be applied for two or three days, and afterwards the following ointment :—

White lead, powdered	1 ounce,
Fresh hog's lard	4 ounces,

Mixed, and spread upon tow. It may be secured by a tight thin bandage.

SAND CRACKS.

Causes.—This disease may arise from various causes, such as bad shoeing, treads, over-reaches, soft or wet pastures; or a faulty conformation of the foot.

Symptoms.—This disease is a partial division of the wall of the hoof, commencing at the coronet, and usually extending half way down the wall. When allowed to increase, it produces lameness, and an inveterate sand crack will sometimes terminate in an ulcer, which if not prevented, ultimately

destroys the cartilages and bones of the foot. When the hoof is deformed by the ulcer or quittor, and one part rendered higher than the other, it is called a *False Quarter*. When the frog becomes diseased it is called a *Running Thrush*. An old and inveterate sand crack, penetrating between the horny and fleshy parts of the foot, is denominated a Canker.

CURE.—That part of the hoof which is cracked must be cut down to the quick, and dressed with tow spread with the ointment below stated :—

Elder ointment	. .	half an ounce,
Common turpentine	.	10 drachms,
Lard	. . .	2 ounces,

Mixed, and secured on the part by proper bindings.

Should the cracks reach to the bottom of the foot, a bar shoe may be useful to take off the pressure from the heels, and prevent the springing of the quarter. A blister round the coronet will also be serviceable.

A *quittor* can only be cured by cleaning the ulcer thoroughly. Mr. Lawrence recommends a tent to be introduced in the following manner :—"Take a small piece of thin India paper, spread some butter or lard over it, then sprinkle about ten grains of corrosive sublimate, finely powdered, over the surface of the paper, and roll it up into as thin a roll as possible, and introduce it into the quittor as far as it will go. The horse's head should then be tied up for a few hours, to prevent him from rubbing it with his mouth, and the tent should be left within the ulcer for three or four days, at the expiration of which time it may be taken out, and the diseased part will follow it ; after which it becomes a sim-

ple wound, and requires nothing more than to be kept clean, and defended from the air by a bandage round it."

A *running thrush* in the frog is frequently troublesome. All the ragged and diseased parts require cleaning away, and afterwards well washed with soft soap and warm water. They may be dressed with spirits of turpentine dissolved in water; or the following digestive mixture :—

Tincture of benzoin	half an ounce,
Egyptiacum	2 ounces,
Spirit of turpentine	1 ounce and a half,

Mixed.

A *canker* should also be very carefully cleaned and dressed with butter of antimony, upon which should be laid a pledget of dry tow, covered with powdered lime. This will require daily renewing until the part appears red and healthy, after which it may be dressed with the following digestive ointment :—

Black pitch	half an ounce,
Bees' wax	1 ounce and a half,
Turpentine	1 ounce and a half,
Linseed oil	half a pint,
Yellow resin	3 ounces.

Dissolved together; then add—

Spirits of turpentine	2 ounces.

In preparing it for use, warm as much of it as you will require, and dip a pledget of tow into it. Should the new flesh grow too rapidly, the following caustic oil should be used :—

Oil of vitriol	half an ounce,
Spirits of turpentine	1 ounce,

To be mixed gradually till properly united.

During this treatment, the horse must be kept perfectly clean, and have occasionally bran mashes;

clysters should also be administered for the purpose of keeping his bowels open.

CONTRACTION OF THE FOOT.

Causes.—A tendency to this disease is formed in some horses from the thickness and strength of the wall of the hoof. But it may proceed from some disorder in the internal parts of the hoof, from the pavement of the stall sloping too much, hardness and dryness in the horn, and is frequently increased by the use of hollow webbed shoes, which do not fit properly on the heels.

Symptoms.—This disease is very common, usually affecting the heels, and comes on gradually. It is frequently attended with corns of a soft and red appearance, rendering the foot very tender and painful.

Cure.—Many barbarous and dangerous remedies are advised for this troublesome disorder. However, the most proper to pursue, in order to stop the progress of contraction of the hoof, is to turn the horse into a straw yard, or a soft and moist pasture, perfectly barefoot. Previous to this the hair must be cut off close round the coronet, and a mild blister applied, composed of—

Cantharides, powdered . . 2 drachms,

Sweet oil sufficient to make it the consistence of treacle.

During the first day, the horse's head should be tied up; after which period, hog's lard may be applied to that part every third day.

Before he is turned out, currying and clothing must be gradually left off and the hoof must be

pared as thin as possible, especially at the heels, the toe shortened and the quarters rasped.

The *pumied or convex sole* is a disease just the reverse of the above, and is often produced by an inflammation of the foot, a natural thinness in the wall of the hoof or bad shoeing. The treatment ought to be similar to the preceding case, except the quarter must not be rasped down, but the toe should be cut as short as possible. A complete cure must not be expected in either case, unless the horse is allowed to remain at grass until the disease be perfectly removed.

FISTULA IN THE WITHERS.

Causes.—This disorder may proceed from blows, bruises, or accidental injury of the parts; occasioned by the harness or saddle. Injuries of the bone, or whatever may induce inflammation, will produce fistula. If it arises from a bad habit of body, the cure is very hopeless.

Symptoms.—This troublesome disorder usually commences at the top of the withers. At first it is small, but it quickly enlarges and spreads on one or both sides. When suppuration occurs, a sanious discharge is conveyed in small channels or pipes through the cellular membrane.

Cure.—Fistulas, if improperly treated, become very obstinate ulcers, it is therefore advisable to consult some skilful practitioner. He will first endeavour to ascertain the nature, extent, and direction of the fistula or pipes; and for this purpose, if there should be no danger of wounding any of the large blood vessels, he will lay it perfectly open. He will afterwards restore the surface of the

diseased part to a healthy state by mild caustic applications, continued till the diseased parts are cast off, in the manner of sloughs. The following will prove serviceable :—

Corrosive sublimate . .	1 drachm,

Dissolved in

Spirits of wine . . .	2 ounces.

Three or four days after a pledget of tow has been dipped in this lotion, and applied to the part, a slough or core will come away. Should the surface appear healthy, it will only be requisite to keep it clean; and if the granulations grow too luxuriantly, a small quantity of verdigrease may be sprinkled over the surface of the wound.

The solution prescribed as follows is strongly recommended

Sulphate of copper . .	half a drachm,
Oxymuriate of mercury .	1 drachm and a half,

Dissolved in

Proof spirit . .	4 ounces,

Mixed for use, and applied once in four or five days.

WENS.

Causes.—These tumours usually arise in consequence of some accident; but when apparent on both heels or elbows, they seem to be a spontaneous production.

Symptoms.—Wens are generally a small fleshy substance, contained in a bag, and growing out of various parts of the body. They are rarely painful, grow very slowly, and though a feeling de-

formity, seldom cause lameness. Those swellings which are visible on the cap of the hock, and also on the point of the elbow, are generally classed among wens.

Cure.—When wens are caused by blows and contusions, nothing further will be requisite than to wash the part frequently with vinegar and water, but should they be likely to suppurate, it will be proper to use warm and softening fomentations. If the thickness of the skin should retard their breaking, and they seem full of matter, it will be advisable to open them on one side with a lancet, after which some digestive ointment may be applied.

Mr. Gibson, in treating of wens, says, "I was once concerned in a case of a very fine horse that had a large wen on the lower part of his neck, near the windpipe, which was cut off with a large instrument. It grew from a small beginning, not bigger than a walnut to the bulk of a middle sized lemon, without pain or inflammation: but at last it became troublesome, and affected the motion of his shoulders. This substance, when it was cut off, appeared to be ne other than a mass of fungous flesh, a little variegated in its colour, and most probably proceeded from a rupture of some very small twigs of the jugular arteries, which being enlarged by a continual afflux of the blood, caused so great an effusion of blood from several orifices, that it was with difficulty stopped by the application of actual cautery. When wens are pendulous, (he observes), and hang by a small root, the best way to extirpate them is by tying them with a waxed packthread, or a hair line, making the ligature tighter by degrees till the substance falls off;

afterwards it may be healed with common digestive ointment, or bathing it frequently with spirits of wine, or tincture of myrrh.

"But, when a wen is broad on its root or place of attachment, and has several origins, like cords or strings, it is then the safest way not to meddle with it. If the cure be practicable, it must be done by excision or caustic. The first dressing must be with dry tow, and afterwards with the common digestive. If much fungous flesh arise, it may be dressed with red precipitate; and where most required, the sore may be strewed with red precipitate and burnt alum in powder, of each equal quantities mixed. If yet stronger escharotic be required, equal quantities of powdered blue vitrol, and red precipitate may be used: or the part may be touched with a feather or pencil dipped in butter of antimony.

THE POLL EVIL.

Causes.—This disease usually proceeds either from a blow or a hurt on the head, by a horse striking his head against the rack or manger or hanging back in his collar. It is sometimes caused by a shy horse jerking up his head against the top of the stable door. When proceeding from a peculiar habit of body, it is extremely difficult to cure.

Symptoms.—This disease is somewhat similar to a fistula in the withers. It is an abscess formed between the poll-bone and the upper vertebræ of the neck.

Cure.—When an inflammation has occurred in this part of the neck, it ought to be immediately stopped by the application of a blister; after which

a solution of sal-ammoniac in vinegar may be applied, by means of a cloth kept continually wet.

When the skin is perfectly dry, the part affected may be rubbed two or three times a day with the following embrocation :—

Goulard's extract . .	half a drachm,
Camphor . . .	1 drachm,
Spirits of wine . . .	half a pint,

Mixed. The cure will be greatly faciliated by administering a single purge in the meantime.

Should the inflammation have proceeded to suppuration, the frequent application of warm poultices, or fomentations of bran and water should be applied, and as soon as the swelling seems sufficiently ripe, (which may be known by pressing it with a finger) a seton must be introduced, which may be thus effected :—Introduce a needle with a proper cord at the highest part of the tumour, and bring it out at its lowest part, so that the matter may more easily drain off. The cord must be previously wet with the following mixture :—

Corrosive sublimate . .	half a drachm,
Spirits of wine . .	2 ounces,

and when drawn through, cut from the eye of the needle, and fasten together at both ends. Great care however must be taken to avoid the nerves and blood vessels, in introducing the needle ; to prevent which, it is advisable to make a small opening with a lancet, and through which a sheath may be introduced, as the needle can with perfect safety be passed through it. The seton should be drawn through a little, and wetted with the mixture every day.

When the discharge becomes thick and white, and the abscess is level with the surrounding parts,

the seton may be removed, and the part washed twice a day with warm water. During the whole of this process, the affected parts should be entirely excluded from the air.

After the wound is thoroughly cleaned, some of the old farriers recommend it to be dressed with the following mixture :

Spirits of salt . .	half an ounce,
Oil of vitriol . .	1 ounce,
Sublimate powdered . .	2 drachms,

Mixed in a bottle for use.

After the wound is dressed with this mixture by a sponge or tow, and a small quantity inserted in the wound with a probe, by means of a little tow, they recommend the following scalding mixture. It is a very strong medicine ; but it will, most probably, operate in destroying the diseased surface.

Scalding Mixture :

Mutton Suet . . .	4 ounces.
Rosin . . .	4 ounces,
Tar	4 ounces,
Bees' wax . . .	2 ounces,

Melt them together ; then add—

Verdigrease, powdered . .	1 ounce and a half,
Spirit of turpentine . .	4 ounces.

Mix the whole together for use.

This mixture is made scalding hot, and poured into the wound. The lips of the wound are then closed with three or four stitches, and bound up. It is not then meddled with for nine or ten days, when the dressing is removed, the wound washed with warm water, and the scalding is repeated. About three weeks afterwards, the operation is again performed. The wound will, in general, run

for three or four weeks after the last time of dressing, after which a perfect cure will be effected.

Should the wound get foul and callous about the edge, it may be dressed with the following cleansing ointment :—

Red precipitate powder	half an ounce,
Yellow Basilicon	4 ounces,
Oil of turpentine	1 ounce,

Mixed.

This will be found a better and safer application to wounds than powerful caustics.

Mr. Gibson recommends the following : —

Yellow wax	3 pounds,
Yellow rosin	3 pounds,
Burgundy pitch	3 pounds,
Common turpentine	12 ounces,
Linseed oil	3lbs. 6oz.

The whole to be melted over a slow fire into an ointment.

FALLING OF THE PENIS.

Cause.—This complaint is caused by the total relaxation and weakness of the muscles or ligaments intended to sustain it in its natural size. It is most prevalent in draught horses that are hard wrought, or in stallions which have covered too many mares in one season.

Cure.—In slight cases, the penis may be returned within the sheath, and a quantity of cold water, or of salt and water may be thrown over it repeatedly in the course of a day. The muscles may be anointed with the liniment as follows :—

Hogs' lard	4 ounces,
Oil of turpentine	1 ounce,

Melted over a slow fire.

Should the complaint remain obstinate, the penis must be bolstered up, and a charge applied over the back part of the sheath, sufficient room being left for the horse to make water. When the disease is attended with general debility, cordials and tonics should be applied.

FALLING OF THE FUNDAMENT.

Cause.—This complaint is generally met with in horses of weak and delicate constitution, and is sometimes the effect of a long continued looseness, or of hard riding or driving.

Cure.—This disease may be easily cured, if attended to in due time. The gut should be returned as early as possible, by pushing it up with the ends of the fingers, wrapped round with a piece of soft linen rag, gently greased. Previous to returning to the gut, it must be washed with a solution of alum, or white vitriol, and port wine and water; and a small quantity of either of these should be frequently injected. Should the gut appear to be inflamed, the following cooling liniment will be found useful for the purpose of anointing it:—

Sugar of lead . . .	1 ounce,
Marshmallows ointment . .	1 pound.

Gentle purges and bran mashes must be given in order to keep the bowels open.

The disease is sometimes so obstinate, that the protruded gut requires cutting off with a surgeon's knife or a red hot cautery. The wound usually heals soon; it would be preferable if the horse was allowed to run at grass, or could be conveniently turned into a straw-yard for a short time.

BREAK OR RUPTURE.

Causes.—This dangerous disease commonly proceeds from violent exertions, kicks on the belly, hard strains, and high and difficult leaps. Gibson states that he has known it produced by too deep an incision being made in inserting a rowel. It generally occurs at the navel, or the scrotum, but more frequently at the former.

Cure.—This complaint, except in slight cases, is incurable; and all that can be done, therefore, is to render the animal as comfortable as possible. If the case be recent, emollient and oily clysters, boiled barley, and malt mashes may be given, and the part fomented twice a day with camphorated spirits and warm vinegar Poultices formed of oatmeal, oil, and vinegar may also be of service.

DISORDERS OF THE EYES.

Cause.—Disorders of this kind are of such importance, that it is highly essential the correct causes should be ascertained. In some cases a plethoric state of the body has a predisposition to inflame the eye; and consequently it is frequently met with in horses of five or six years old, at which age they usually cease growing, and are, therefore, more liable to fulness of blood, than at any other period. A sudden change of temperature will form an exciting cause of this disease, and the heat and foul air of a close stable may also produce it.—Those horses that are kept in stables from which the light is precluded, are subject to it on account of their sudden exposure to open day. A want of

proper exercise, or the alternative effects of idleness and hard work, may be the means of producing it. This disease in the horse is considered by many as an inflammation of a specific nature totally different from any that occurs in other animals. They suppose that the constitution is affected, because a horse troubled with an inflammation of the eye, either does not perspire at all, or sweats very profusely, indicating a slow fever.

Symptoms.—An inflammation of the eye will occasionally appear on a sudden; at other times the attack is gradual; the earliest symptoms which indicate this complaint is a swelling of the eyelids, but more especially of the upper, which can with difficulty be kept open; the eyes water, and drops of tears are perfectly visible at the extremity of the lachrymal duct, which are not apparent in the healthy state of the eye. The external transparent parts of the eye are of a black glassy appearance, and become obscure and discoloured; they sometimes appear of a dull white, at other times they seem brown or bluish. Red vessels are visible over the white of the eye, particularly at the corners, and occasionally extend to the centre. The horse holds his head down to guard against the light, during his continuance in this state. The ball of the eye and eyelids are considerably hotter than they generally are: and a small quantity of thickish matter is sometimes visible through the corner, towards the latter part of the anterior chamber of the eye. The cartilaginous membrane can now be perfectly discerned by its projecting considerably outward from the corner of the eye.

When the disease has proceeded thus far, it will sometimes happen that it totally disappears, and

returns again in a short time. The disappearance of inflammation in the eye of this animal is so sudden, that the same eye which one day appears considerably inflamed, will sometimes be perfectly clear and healthy on the following day. It will occasionally appear and disappear periodically; and thus some have been led to suppose, that it is affected by the moon, and have denominated it the *lunatic or moon blindness.* However, should the disease continue and attain the length before observed, the inflammation proceeds, and the cornea becomes gradually more obscure; or it will frequently happen that the cornea recovers the transparency, and the chrystalline humour becomes opaque.

One eye in general is only attacked in the horse at the same time; and this disease is more prevalent among young horses, than those more advanced in years. Some state that inflammation of the eye never occurs in horses till they are broken in, or are taken up from the pasture in which they have remained from birth.

CURE.—Bleeding will prove serviceable in the early stages of this disease, but except the horse be in high condition, it should not be repeated. A blister may also be applied to the head, placed as near the eye as possible; the veins at the corners of the eye should be opened, for the purpose of drawing blood from that part. The horse must be kept sparingly, and allowed only moderate exercise; the stable should be perfectly airy and cool; and should the horse's eye be very sensible, the stable should be kept dark. A purgative medicine will prove beneficial; and the horse may have some cooling liquor given frequently to drink, such as water, with nitre

dissolved in it. Rowels are recommended by some farriers; and it is stated that considerable benefit has resulted from the insertion of setons placed near the eye.

Should the skin be dry, the following drench will be found useful:—

Emetic tartar	2 drachms,
Nitre	1 ounce,

Dissolved in warm gruel.

The eye may be washed with the following solution:—

White vitriol	half an ounce,
Sugar of lead	2 drachms,
Soft water	1 quart,
Compound powder of cerus	half an ounce.

Mix these, and bathe the eye three or four times a day. This will be found preferable to stronger stimulants, which frequently do much harm.

Mr. Gibson recommends the following:—

Rose buds	2 drachms,

Infused in half a pint of boiling water; when cold, pour off the infusion and add:—

Sugar of lead	20 grains.

Mr. Lawrence states "the following embrocation has been found efficacious in inflammatory attacks of the eye:—

Vinegar	half a pint,
Crude sal-ammoniac	1 drachm,
Water	1 pint and a half,

Mixed. Bathe with the above mixture three or four times a day.

In addition to the above, the following embrocation will, in general, be found useful:—

Goulard's extract	half a drachm,
Laudanum	1 drachm,
Spirits of wine	half a pint,
Spring water	1 pint and a half.

To be mixed together in a quart bottle. The above may be used three or four times daily."

Horses that are naturally subject to disorders in the eye, are termed *buck eyed*, that is, their eyes are small, and the upper lid deeply wrinkled. Exercise and wholesome feeding are the best preservatives of the sight in such animals. When the chrystallino lens are suddenly affected, bleeding and blistering must be used, and the medicines before recommended. Should the whiteness be not speedily removed, blindness will inevitably ensue. A cataract cannot be removed in a horse, as in a human being, by an operation.

JAUNDICE.

Causes.—This disease is usually attended with some local affection of the liver. It may proceed from want of free perspiration, or from anything that creates severe action, especially from the liver. Sometimes it is occasioned by high feeding, or habitual costiveness. This complaint is seldom dangerous in young horses; but a perfect cure is rarely effected in old horses, since in such cases it generally arises from a diseased state of the liver.

Symptoms.—This disease is generally termed *the yellows*. It is indicated by the eyes appearing of a dusky yellow colour; the inside of the mouth and lips also looks yellow; the animal appears dull and sluggish, and refuses all kinds of food: his urine is of a dark brownish colour, and when lodged on the ground seems red like blood; he also stales with difficulty, and his dung is very hard, and of a pale yellow colour. The pulse is irregular, and he is attended with fever in a greater or lesser degree. If

the disease and fever increases, unless speedily removed, death will undoubtedly ensue.

A modern writer observes, that "the signs of the jaundice in horses, are, a dusky yellowness of the eye, the inside of the mouth and lips; the tongue and bars of the roof of the mouth also look yellow. But it is necessary to distinguish between the yellowness of the jaundice, and that yellowness of the mouth and eyes, which sometimes happen on the crisis of an inflammatory fever, where the inflamed parts look yellow when the fever and inflammation are going off.

"When this happens after a fever, the horse generally recovers his appetite, and looks lively, and the fever leaves him, and the yellowness soon after wears off.

"But in the jaundice, the yellowness is one of the first symptoms, and generally appears in the beginning of the complaint. The horse is dull, and refuses all manner of food, and the fever begins slowly; yet both that and the yellowness soon increase and proceed together. In the decline of an inflammatory fever, a horse dungs and stales freely. In the jaundice, the dung his generally hard and dry, and of a pale colour, nearly white. The urine is commonly of a dark dirty brown colour, and when it has settled some time on the pavement, it looks red like blood. He also stales with some pain and difficulty, and if the disease be not soon checked, all the symptoms will increase very rapidly.

Cure.—Various are the means proposed by veterinary surgeons for the proper mode of curing this disease. Some recommend bleeding in the first stage of the complaint, especially if it should be accompanied by fever; and Gibson states, even if

the jaundice be confirmed it will be proper to bleed, and afterwards to give some laxative clyster; for in the beginning of the disease, horses are apt to be costive, and sometimes costiveness alone will bring it on. The clyster may be made of decoctions of marshmallows, camomile flowers, or fennel seeds, with some linseed oil. A decoction of madder and turmeric, with the addition of soap, may also be useful in a clyster. If the inflammation increases, which may be ascertained by the quickness and hardness of the pulse, more blood may be taken, and a pint of castor oil, or six ounces of Epsom salts, may be given at intervals of twelve hours.

If the bleeding and medicine have the desired effect of reducing the inflammation, the horse generally grows settled and quiet, and begins to feed.

In three or four days the disease usually abates, and the horse recovers his appetite in some degree. The disappearance of the disease may be ascertained by his eyes beginning to look clear, and the inside of his mouth of a lively colour; but if on the contrary, there should be a discharge from the eyes, with a swelling of the eyelids, which often occurs when the disease is near its crisis, it is evident that more time must elapse before the animal can be said to be perfectly cured. As the bowels are generally costive in this stage of the disease, the following opening ball may be given :—

Ginger . . .	half a drachm,
Barbadoes aloes . .	5 drachms,
Castile soap . .	2 drachms,
Emetic tartar . .	1 drachm,

To one ball.

SWELLING OF THE BREAST.

Causes.—This disorder usually proceeds from hard riding, allowing a horse to drink cold water; when hot, a stoppage of the perspiration, or from foul feeding, without proper exercise.

Symptoms.—This complaint is indicated by an enlargement of the breast, and the neck becoming stiff and incapable of reaching the ground. The horse also droops his head, refuses to eat, trembles with his whole body, and falters in his fore legs whilst walking. Occasionally the swelling extends towards the throat, and threatens suffocation. If the swelling yields to the finger, and the impression remains, it is a sign that it is dropsical, and the disease is then called *water-farcy*.

Cure.—The cure should be commenced as early as possible with copious bleeding and the administration of clysters. The following purge may also be given :—

Castile soap . . .	2 drachms,
Barbadoes aloes . .	8 drachms,
Ginger . . .	1 drachm,

In a ball with the usual precautions of bran mashes and water with the chill taken off.

When the purge has ceased to operate, the following should be administered every two days :—

Venice turpentine . .	half an ounce,
Emetic tartar . .	2 drachms,

Liquorice powder mixed in a ball.

The swelling may also be fomented with bran and hot water every three hours. If the swelling appears dropsical, a fleam may be struck into the skin in four or five places where the swelling hangs

most, and from these a serous discharge will take place, which should be encouraged by warm fomentation. However, if the inflammation has been so acute as to form matter, the abscess may be opened with a lancet in the most depending part, and the wound treated as described in the fistula in the withers.

COUGHS.

Causes.—The principal causes of coughs may be attributed to sudden changes of temperature, especially when cold is applied to the body whilst in a state of perspiration; or it may be occasioned by entering a warm stable after the animal has been some time exposed to the cold air. It will sometimes proceed from greasy to farcy humours being lodged in the body; or it may be caused by an internal irritation.

Symptoms.—This disease is generally preceded by a peculiar dulness and heaviness, a dryness and increased redness in the inside of the nostrils, from which an unusual secretion of mucus proceeds; a dryness of the eyes is also apparent, or occasionally an increased effusion of tears take place. In a short time some degree of cough and difficulty of breathing is perceptible; and sometimes a considerable portion of heat and dryness of the skin accompanies these symptoms; increased thirst, and not unfrequently a loss of appetite. The cough is dry at first, and will sometimes continue so; but more generally, when the complaint is of some standing, the horse will cough up a frothy white mucus. The pulse is not always affected in this disease, but is usually fuller and harder than

natural. A chillness and trembling are frequently manifested at the commencement of this disorder.

When a cough has existed for a considerable period, and the horse shows no other particular symptoms of disease, but retains his usual appetite, it is denominated a *chronic cough*, which frequently terminates in broken-wind. In a cough of this description the lungs are generally affected, and there is a quickness in breathing, but the nostrils are not much distended. The cough is short and husky, causing the animal to sneeze frequently, and phlegm is discharged through the nostrils.

When the animal appears hide-bound, his appetite failing, and his legs swelling, it is evident that the complaint proceeds from a bad habit of body.

Cure.—Should the attack be slight, and not much fever apparent, it will frequently be sufficient to take the animal within doors of a warm stable, and give him a warm mash, putting a cloth over him, in order that he may perspire through the night, and he will be almost recovered on the following morning. This method may also prove successful if it be adopted as soon as the chillness or shivering is perceived.

Should the horse discharge mucus or phlegm through the nostrils in consequence of coughing, this discharge should be encouraged, since the animal is thereby considerably relieved. The following ball, given every other night for four or five times will generally be useful:—

Venice turpentine . .	2 drachms,
Assafœtida . .	2 drachms,
Liquorice, powdered . .	2 drachms,
Sulphur . . .	1 drachm,

Mixed in a ball.

The horse to have bran mashes, or carrots, if they can be procured; he should also be gently exercised, and kept moderately warm. A cordial ball, given occasionally in the interval between the other balls, will be of advantage.

It may be composed thus:—

Liquorice powder	4 ounces,
Carraway-seeds	2 ounces,
Spanish liquorice	4 ounces,
Aniseeds bruised	4 ounces,
Aniseed balsam of sulphur	2 ounces,
Oil of aniseeds	4 drachms,
Ginger	4 drachms,

With honey sufficient to make it a proper consistence; to be divided into twelve equal balls.

Or should a drink be preferred, the following may be given:—

Carraway-seeds	1 ounce,
Grains of paradise	1 ounce,
Aniseeds	1 ounce,
Aromatic confection	half an ounce,
Balsam of sulphur	2 ounces.

The balsam may be beat up with the yolk of an egg, and the powders mixed; the whole may be given in a pint of warm gruel, and two table-spoonfuls of sugar. It should be repeated once every other day, for three or four times.

Should a considerable degree of fever accompany the cough, and the horse's pulse feel hard, it may be necessary to have recourse to bleeding before any internal remedy be given; but this must be regulated according to the urgency of the symptoms. After bleeding, a drench, composed of warm ale, with a drachm or two of salts of hartshorn, sweetened with molasses, will be found an excellent remedy; after taking which, the animal should be

well rubbed down, and kept warm clothed, as before observed. Costiveness must be avoided throughout the treatment; for the obviation of which the following will be of service:

Emetic tartar	1 drachms,
Epsom salts	8 ounces,

Dissolved in one quart of gruel.

If a ball be preferred, or the symptoms of other diseases attend the cough, the following may be given once a week, and the cordial ball before prescribed may be given on the second day after the last dose has done operating:—

Barbadoes aloes	8 drachms,
Castile soap	2 drachms,
Ginger	1 drachm,

To be made into a ball with syrup of buckthorn. In order to decrease the fever, give the following drench:

Emetic tartar	2 drachms,
Nitre	1 ounce,

Dissolved in water gruel,

When the inflammation ceases, the cough generally goes off; but should it be a *chronic cough*, the horse must not be exposed to any violent changes of temperature; two or three months' run at grass, if the summer be warm and dry, will usually effect a cure. Should the horse be a greedy feeder, new hay or new oats should never be given to him. The following preparation is strongly recommended, as calculated to produce a good effect:—

Liquorice powder	6 ounces,
Aniseeds powdered	6 ounces,
Castile soap	6 ounces,
Barbadoes tar	6 ounces,
Gum ammoniac	2 ounces,
Balsam of Tolu	1 ounce.

Mix the whole together, and divide into twelve equal balls; one of which must be given every other night, till the whole are used.

Tar is much recommended by some practitioners; and is given as follows:—

Oil of aniseeds	1 tea spoonful
Baarbadoes tar	1 ounce,
Vinegar of squills	1 ounce,

Mixed in a quart of warm ale.

CONSUMPTION.

Causes.—Consumption may proceed from various causes; from colds imperfectly cured, or from the influence of the farcy or glanders fixed in the lungs. Hot and irritable horses are most subject to this disease, as they generally exhaust themselves by too great exertion.

Symptoms.—Though this complaint is not very prevalent among horses, it sometimes occurs, and it is indicated by a loss of vigour and strength; the animal loses his appetite and flesh soon, and frequently stales and dungs. Some survive for a considerable time, and others go off very suddenly.

Cure.—As consumptions are preceded by inflammations, bleeding is necessary; after which the bowels should be gently opened by clysters and purges. The following laxative ball may be given:

Castile soap	half an ounce,
Socotrine aloes	5 drachms,
Oil of carraway	10 drops.

Treale sufficient to make a a ball.

The horse should be kept moderately warm, and have bran mashes and water with the chill taken off. The following ball may be administered every

other night for three or four times, and then omitetd for a few nights, and repeated again if necessary :—

Emetic tartar . . .	1 drachm,
Assafœtida . .	1 drachm,
Ginger . . .	1 drachm,

Liquorice powder enough to make a ball.

The whole must be mixed up with the syrup of buckthorn.

This ball will relax the skin, and insensible perspiration will be promoted. Some practitioners recommend the following :—

Emetic tartar . .	1 drachm and a half,
Camphor . .	1 drachm and a half,
Ginger . .	2 drachms,
Oil of carraway .	10 drops,
Opium . .	1 scruple,

Molasses sufficient to make a ball.

During the administration of these medicines, the horse should be gently exercised every day. His food should be green if possible ; and if in the winter season, carrots will form a good substitute. His oats should also be hard and sweet, and his hay of the finest quality. When recovered, his work should be light and moderate for some time, and he should be kept in the fresh air as much as possible: and not allowed to chill whilst in a state of perspiration.

FOUL FEEDING.

Causes.—This is properly a symptom of indigestion ; and in most cases of this description, there is evidently an acid upon the stomach.

Symptoms.—This affection of the stomach is evinced by the horse's eating in a voracious manner,

greedily swallowing substances that are indigestible, such as mortar, dirty foul litter, or even the dung of other animals. Such horses are termed *foul feeders.*

Cure.—In the removal of this disorder, a purge should be first administered; the following will prove useful, should the horse be costive:—

Castile soap . .	half an ounce,
Calomel . .	1 drachm and a half,
Soccotrine aloes . .	1 ounce,
Oil of mint . .	20 drops,

Mixed with molasses enough to make a ball.

When the operation of this laxative has subsided, the following ball may be given every other day until the disease appears perfectly cured:—

Gentian root powdered . .	2 drachms,
Purified soda powder .	2 drachms,
Cassia powdered . .	1 drachm,

Treacle sufficient to make a ball.

During the course of these medicines, the horse should have regular exercise, and the stable should be kept very clean; he should have also a quantity of clean straw placed under the manger, in order that there may be no inducement for him to consume substances that are detrimental.

LOSS OF APPETITE.

Causes.—This disorder is frequently the mere symptoms of other diseases, and must be treated accordingly. It is however sometimes the effect of weakness of the stomach, induced by the improper use of cordial medicines; and occasionally it is produced by fatigue, a want of proper exercise, or from the stomach being loaded with coarse indigestible food.

SYMPTOMS.—This state of disease is generally termed *chronic indigestion*, and is indicated by a want of appetite, and also a roughness and staring of the coat.

CURE.—Should the horse have no inflammatory complaint, and it is evident that the loss of appetite arises from a weakness of the stomach, a cordial ball may be given every day, composed of—

Carraway seeds powdered . .	6 drachms,
Ginger powdered . .	2 drachms,
Oil of olives . . .	15 drops,

Molasses sufficient to make a ball.

Or the following:—

Cummin seeds . . .	4 ounces,
Aniseeds . . .	4 ounces.
Carraway seeds . . .	4 ounces,
Ginger . . .	2 ounces,

Mixed and divided into balls of two ounces each.

These balls will tend to strengthen the stomach, and renew the appetite. During their administration, it will be necessary to keep the horse clean, and regular in his bowels; he should also have food of a nourishing quality, and good clear water ought to be given him repeatedly in the course of the day, as nothing conduces more effectually to promote digestion. He should likewise be gently exercised every day in the open air.

PLETHORA.

CAUSES.—This disorder is somewhat prevalent in horses, and may be said to arise from their being pampered with high living, in order that they may look well and appear in high condition.

Symptoms.—When a horse becomes fat, glossy, and full of blood, he is called *plethoric*. In this state the veins are full and distended; the pulse becomes full and strong, though it is occasionally much slower than is natural. Every exertion the animal makes is done with great difficulty, and fatigue and exhaustion are soon apparent. If put to hard labour he is soon wearied, and will sometimes die on the road, otherwise he becomes broken-winded, or is attacked by the apoplexy, or an inflammation of the lungs.

Cure.—Should no symptom of approaching apoplexy be visible, it is advisable to diminish the animal's diet gradually, and increase his exercise or labour regularly. Bleeding, if it can be avoided, is not altogether proper, since it has a tendency to produce the same state it is employed to check. Should the symptoms appear dangerous, similar precautions must be used as are observed in cases of the staggers or apoplexy.

THE VIVES.

Causes.—This disease usually proceeds from similar causes as the strangles; such as catching cold, being over heated, or over worked.

Symptoms.—Though this complaint is not incident to young horses, it sometimes attacks those more advanced in years; though they may have had the strangles, some time previous. It may be distinguished from the strangles by the greater violence of the cough, combined with an equal difficulty in swallowing, owing to the pain and soreness of the glands. The eyes become partly closed up and discharge a thin watery fluid. It is accom-

panied with a degree of fever, and there is also much inflammation in the mouth and gums.

CURE.—When the vives are caused by simple inflammation, in consequence of cold, a cure is easy to be effected; but when it is symptomatic of *farcy* or *glanders*, it is generally incurable, except the original disease be entirely eradicated.

The simple attack of the vives may be cured by anointing the part with ointment of marshmallows, and covering the horse's head and neck with warm clothing.

Bleeding will be necessary according to the strength of the animal; and suppurations must be promoted by warm embrocations and poultices. When the swelling first appears one or two brisk purges tend to remove it, assisted by the following lotion:—

Sal-ammoniac . . .	half an ounce,
Vinegar . . .	half a pint,
Extract of goulard . .	1 drachm,

Mixed for use and rubbed over the part affected.

The same internal medicine may be given as in coughs, and similar diet used; water-gruel with bran mashes, to which an ounce of nitre may be added once a day, will greatly facilitate a cure. When perfectly recovered, one or two mild purges will prove beneficial.

SUPPRESSION OF URINE.

CAUSES.—This complaint may arise from a variety of causes, as whatever has a tendency to affect the parts about the neck and bladder; particularly matters of food or drink, blows on the parts, the contraction produced by spasms of the muscles in the parts, and others of the same nature.

SYMPTOMS.—It is indicated by great uneasiness, irritation, and loss of appetite, with either a partial or total suppression of urine.

CURE.—Clysters and mild purges should first be administered for the purpose of clearing out the bowels; after which the following may be used :—

Liquorice root powdered	half an ounce,
Camphor	3 drachms;
Opium, powdered	1 scruple,
Hard soap, sliced	6 drachms,
Nitrate of potash, powdered,	3 drachms,

Molasses enough to make a ball, which must be given once a day, in a pint and a half of the decoction below named :—

Linseed bruised	6 ounces,
Accacia gum powdered	4 ounces.

Boil them for fifteen minutes in

Water	2 quarts,

And then strain off the liquor for use.

And it will be highly beneficial, during the course of these medicines, to have some flannel cloths, frequently squeezed out of some hot fomentations of herbs and flowers, and applied to the parts between the legs of the horse as near the neck of the bladder as may be. The animal should have mashes with as little water as possible, and water given sparingly to drink with the chill taken off.

EXCESSIVE OR PROFUSE STALING.

CAUSES.—This generally arises from bad provender, especially food injured by the effect of salt water.

SYMPTOMS.—It is easily known by the abundant discharge of rather pale urine, attended with coldness of the skin, and a staring in the hair of the

coat. When the complaint is of some standing, great weakness of the body is produced with loss of appetite.

Cure.—On the first attack of this disease, a powder composed as follows will be found of service :—

Cinchona bark, powdered	6 drachms,
Opium, powdered	half a drachm,
Alum, powdered	3 drachms,
Root of bistort, powdered	2 ounces and a half,
Coriander seeds, powdered	half an ounce,

Mixed into a powder, and taken once a day in a hornful of warm gruel.

Opening mashes should be given during the continuance of the disorder; and after it has subsided, the animal should be well fed, and have due work or exercise; his legs and other parts should also be frequently well rubbed.

LOCKED JAW.

Causes.—This disease may be produced by various causes, particularly from wounds, where the nerve is partially divided; or it may also arise from internal irritation, as from wounds, which, in Mr. Gibson's opinion, are a very common cause of it. It is very probable, however, that it more frequently proceeds from wounds in the foot, caused by a nail being driven into the quick; and is undoubtedly often brought on by the cruel operation of *docking* and *nicking*. From whatever source it may arise, the brain is certainly the principal seat of the affection.

Symptoms.—This disease is one of the most obstinate and fatal complaints by which horses are affected. It generally commences with some de-

gree of fever; and, as it increases, the neck becomes stiff, and the head fixed and immoveable, and somewhat elevated, with the head and ears erect and motionless; the muscles about the mouth are contracted, the eyes express peculiar animation and anxiety, and the haw is drawn partly over the eyeball; the nostrils are distended, the breathing becomes difficult, the jaws fixed, and the legs incapable of motion.

CURE.—It is very rare that a perfect recovery from this disease ever occurs. It is, however, necessary to use some vigorous means as soon as possible. Opium, hellebore, diptalis or fox-glove, &c., have been given in very large doses, but without any beneficial results. On account of its being a disease of the brain, trepanning has been used in some cases for the purpose of making a pressure on the brain, but though the spasm of the muscles appeared to be taken off, they returned as soon as the pressure was removed, with nearly equal violence. Mr. Ferron recommends bleeding, and immersing the animal in a warm bath at 90 deg. of Fahrenheit, so as to keep the whole body covered with the water for two or three hours, which he has known to be successful; but the horse must afterwards be clothed and kept very warm. The most probable means, however, that can be adopted to relieve the animal, are by giving opium in large doses as a clyster, frequently repeating it, also rubbing the whole body frequently with oil of turpentine and tincture of cantharides. Mr. Blaine recommends a clyster composed of a strong decoction of poppy heads, with two ounces of camphor dissolved in brandy; or if this be thought too expensive, one with two ounces of spirits of hartshorn, and four

ounces of oil of turpentine, mixed with two or three yolks of eggs, and a pint of ale. Mr. Moorcroft recommends the cold bath, or a copious effusion of cold water. A German physician has very recently discovered that the carbonate of potash and opium produces a wonderful good effect in cases of *tetanus* in human beings, and it is therefore deserving a trial in the same fatal disorder in horses.

Mr. Wilkinson, a very skilful veterinary surgeon, in Newcastle-upon-Tyne, has published a valuable work, wherein he describes at large his method of treating this disease, and the cures he has effected by it. We briefly insert a few observations, but the author's own work must be consulted by those who wish to examine more minutely his practical remarks and interesting illustrations.

As a horse is generally very costive in this disorder, Mr. Wilkinson advises to give a purgative drench, composed as follows:—

Barbadoes aloes . .	8 drachms,
Soap . . .	4 drachms,
Ginger . . .	3 drachms,
Treacle . . .	2 ounces,
Oil of aniseeds . .	30 drops.

The aloes, soap, and ginger, to be beat well together, and made into an electuary with the treacle and oil of aniseeds, and the whole afterwards mixed in a pint of warm water. This is a sufficient dose for a middle-sized saddle horse.

As the stomach and intestines in this complaint are not very susceptible of being acted upon, the following clyster is recommended at the same time:

Olive oil . . .	8 ounces,
Water gruel, warm .	2 quarts.

If the horse is in a plethoric state, and his pulse

and respiration have become much hurried, a moderate quantity of blood may be drawn from the jugular vein; and this operation may be repeated according to circumstances.

Mr. Wilkinson advises the diet to consist of thin bran mashes, oatmeal gruel mixed with milk, or a little good clover when the jaws are not too much shut. The muscles of the head, jaws, neck and back to be rubbed with the following liniment:—

Oil of turpentine	half an ounce,
Water of pure ammonia	half an ounce,
Mustard, powdered	2 ounces,
Olive oil	2 quarts.

Immediately after applying this liniment, cover the body with sheep skins, as recently taken off the sheep as possible; the skin to be innermost. This eminently intends to increase the circulation, and consequently to relax the muscles. Great care is necessary lest the perspiration be obstructed by cold.

When sheep skins cannot be procured, a blister may be applied the whole length of the spine, the hair being previously clipped off. If the disease has made much progress, apply a blister also over the skull, and about eight inches backwards, on each side of the neck, in the direction of the vertebræ.

The following formula is given for the blister:—

Cantharides, powdered	1 ounce,
Euphorbium, powdered	2 drachms,
Oil of turpentine	1 ounce,
Hogs' lard	6 ounces.

When the blister has ceased to operate, and the swelling occasioned by it has subsided, begin the use of the liniment and sheep skins.

Mr. Wilkinson has also found powerful antispas-

modies, given after the purgative drench is done operating, very serviceable.

The following is recommended :—

Crude opium . . .	1 drachm,
Camphor . .	1 drachm,
Assafœtida . . .	2 drachms.

Dissolve the opium in water, and the camphor and assafœtida in spirits of wine ; then add aniseeds powdered sufficient to make a ball.

Great care is required in giving this ball when the jaws are much shut. The ball should be given in small pieces on the end of a piece of whalebone or cane ; or the ball may be dissolved in a pint of decoction of rue, and given as a drench morning and evening with a small horn. Considerable time and care should be taken in administering this medicine, lest any part of it be lost, or the convulsions increased.

Immediately after the ball or drench has been given, dissolve one of the same balls in three pints of a decoction of rue, and give it as a clyster morning and evening. The decoction is made thus :—

Rue . . .	three handfuls,
Water . .	three quarts,

Boiled down into two quarts and strained off.

Great attention is requisite in increasing or diminishing the quantity of opium, according to the violence of the spasms, and the effects it is observed to produce in the system.

If the clysters act too powerfully as an instringent, this may be counteracted by adding to each four drachms of common soap ; and if the bowels become obstinately costive, repeat the purgative drench at intervals of about a week. If the muscular system is found very rigid, or the horse lies down, this

writer advises to have him slung, which will also facilitate the adminstration of medicine.

In case the disease has completely locked the jaws, both the medicines and food must be administered in the form of clysters. The quantity of medicine in each clyster must be considerably more.

Mr. Wilkinson disapproves the amputation of the injured part of the tail, when the disease originates from docking; nor is he favourable to incisions or caustics when the disease arises from a wound in any other part of the body. He prefers warm fomentations, dressings of digestive ointment to the wounded part, and, above all, strict attention to internal medicines.

WOUNDS.

The proper treatment of wounds in general, is undoubtedly a branch of the first importance in the practice of farriery; yet very few understand it perfectly, and many absurd and injurious opinions are entertained respecting them. It must depend principally on the part where the wounds are inflicted, and the form of the instrument by which they were produced, in order to state a judicious method for treatment. A clean cut made in the muscular parts is speedily cured by applying small slips of sticking plaster as soon as possible, by which the edges of the wound may be kept close together; or if plaster cannot readily be applied, a stitch or two may be taken through the edges of the wound, and thus the strings may be tied gently together. When the edges adhere, the strings must be cut away, and the holes which are caused by them will soon close. Should any blood vessel be con-

siderably wounded, it will be necessary to secure it with a ligature, if possible, rather than by the application of any styptic substance. It is essential that all wounds should be duly cleaned before any attempt is made to heal them. The wound is sometimes so situated that there is no possibility of sewing it up; but generally in these cases silver or steel pins may be passed from the edges, at about an inch apart from each other, and a thread twisted crosswise from one end to the other, in order to form what is termed the *twisted suture.* In every case where *sutures* are used, it is requisite that a sticking plaster should be applied over the edges of the wound. Should the wound not heal by these methods, a formation of matter will occur, and the sore must be afterwards treated as a common ulcer, care being taken that its edges are always kept as near together as possible, by the application of a bandage or sticking plaster.

When the tendon is wounded, it is proper to foment it with warm fomentations of bran and water. Spirituous applications and violent caustics are generally improper. Should the wound not heal sufficiently quick, it may be touched with the butter of antimony on the point of a feather, and the surface covered with a large pledget of tow, with digestive ointment, and bound on with a bandage.

Wounds in the joints, though apparently trifling, are sometimes dangerous, and difficult to cure. The cautery applied slightly to the surface, though somewhat severe, is undoubtedly the shortest and most effectual mode of relief. Where this is not used, the wound should be excited by the butter of antimony as before observed, and when healed, a

pledget of tow dipped in the following lotion may be applied :—

Vinegar . . .	half a pint,
Goulard's extract . .	1 drachm,

To be mixed in a quart bottle, and afterwards filled up with water. The pledget to be bound moderately tight with a flannel bandage.

Should the wound be very deep, a poultice of bran may be used two or three days. It is best applied and kept on by using the leg of an old worsted stocking, which may be drawn over the knee, and tied both above and below, but it should not be too tight. Afterwards the following dressing will be found useful :—

Digestive ointment . .	2 ounces,
Verdigrease . .	2 drachms.

In cases of gun-shot wounds, it is advisable to bleed the horse. Probing should be used as sparingly as possible; but the wound may be laid open for the purpose of extracting the ball. If the ball has penetrated very deep, it is best to leave the working of it out to Nature. All unctuous applications which encourage the growth of fungous flesh must be avoided, and the wound dressed with turpentine mixed with honey or the yolks of eggs. If proud flesh arises, a little red precipitate may be mixed with the ointment. In the meantime, opening and cooling medicines will be of great service.

VENOMOUS BITES AND STINGS.

The bite of a viper or adder may be cured, if early attended to by rubbing the affected part, or the whole limb, for a considerable period with warm salad oil; repeating it two or three times a day. If

the following liniment can be procured in a short time after the bite, it will be far better and more effectual in arresting the progress of the venom :—

Water of pure ammonia . .	1 ounce,
Tincture of opium . .	1 ounce,
Olive oil . . .	2 ounces,
Opodeldoc . . .	1 ounce,

Mixed.

This tincture will also be found excellent in cures of stings by hornets or wasps. If internal medicine is requisite, the following may be given :—

Salt of tartar . . .	2 drachms
Mithridate . . .	1 ounce.

Dissolve them in a pint of rue tea, and then add :—

Salad oil . . .	4 ounces,

To be given about milk-warm.

The opening drink recommended in the following article may also be given, should any symptoms of fever be apparent.

BITE OF A MAD DOG.

The most effectual method of cure, and the only one that can be depended upon, is instantly to cut out the part bitten, and afterwards to cauterize it with a hot iron. The following internal medicine may be given, and the adjacent parts also rubbed with it :—

Garlic heads, powdered . .	3 ounces and a half,
Rue leaves, powdered .	3 ounces and a half,
Pewter, powdered . .	2 ounces and a half,
Oyster shells, prepared .	3 ounces and a half,
Satin leaves, powdered . .	2 drachms,

To be given to a full grown animal in a quart of warm ale, and repeated every third day, for three

times; and afterwards, the day before the moon is full, for three successive times.

After the above, the wound may be dressed with ointment composed as follows :—

Common turpentine	3 ounces,
Black pitch	1 ounce,
Yellow resin	6 ounces,
Bees' wax	3 ounces,
Linseed oil	1 pint.

Dissolve them together over a slow fire; then take it off, and add—

Spirits of turpentine	4 ounces,

Put the whole into a pot, and stir it till it begins to set.

If any feverish symptoms appear, administer the following drench :—

Peruvian bark	half an ounce,
Castor oil	8 ounces,
Mithridate	1 ounce,
Aromatic spirit of ammonia	1 ounce,

Mixed in a quart of warm gruel. This drink will be found excellent, and may be given once or twice a day as necessity requires.

The following is recommended by old farriers as a cure for the bite of a mad dog :—

Native cinnabar	25 grains,
Musk	16 grains,
Factitious cinnabar	25 grains,

To be given in a glass of arrack three nights together, and the next preceding the full of three successive moons.

But, as before observed, no dependence can be placed on specifics; and if the part bitten cannot be cut away, it is advisable to destroy the animal immediately, as other remedies may prove fatally deceitful.

THE TOOTH-ACHE.

Mr. Richard Lawrence remarks, that this complaint proceeds from the canker in the grinders; the best cure in this case is immediately to punch out the afflicted grinder or tooth. The canker is generally owing to the bridle being rusty, and may easily be known by the little black blotches, or brown specks, which appear on the tongue, or other parts of the mouth. If not caused by the bridle-bit, like the scurvy in the human frame, it proceeds from bad diet, or may be deemed hereditary, and then it appears in small white specks, and will, in time, spread nearly over the whole of the mouth, and occasion irregular ulcers. The following gargle mixture will be found in that case an effectual cure:—

Bole armenic . .	half an ounce,
Burnt alum . .	1 ounce,
Common salt . .	1 ounce,
Wine vinegar . .	half a pint.

Mix and shake the whole in a bottle for use.

With this mixture the horse's mouth should be dressed every morning and evening in the following manner:—

Take a small cane or piece of whalebone, half a yard long, and tie a linen rag, or piece of tow, round one end; then dip it into the mixture, and pass it up his mouth, and gently run it over all the affected parts; let him champ it well about his mouth, and fast an hour afterwards.

Having thus observed the most prevalent and important diseases to which horses are liable, and ex-

plained the various improved methods of treatment, we shall therefore now proceed to give some plain and practical directions on the best mode of performing some of the most useful and common operations in farriery.

SHOEING.

Shoeing is a very important operation, in which various improvements have been effected in modern times. Mr. Lawrence makes the following sensible observations on the process of shoeing; "In England one man alone holds the foot and pares the sole, and nails on the shoe without any assistance whatever, while in France the same operation requires two; one man holding the foot, whilst the other affixes the shoe.

"In driving the nails, the French blacksmith pursues the opposite course to that adopted by the English, as they do not drive them near so high as the latter, but they introduce them much nearer to the edge of the sole, and drive them so obliquely outwards that the points come out at about three quarters of an inch above the shoe. By this method the nail has hold of a much thicker portion of the horn, and is equally firm, if not firmer than if it were driven higher up, and is certainly less liable to produce inconvenience in the upper and more sensitive part of the foot.

"To prepare the foot for the application of the shoe, the following plan should be pursued, provided the hoof be of its natural form and in a healthy state, viz., to pare the wall just sufficient to make it level; to pare the sole as much as will be necessary to remove the dead surface which endeavours

to detach itself by scaling off spontaneously; the frog to be cleared of its ragged edges, the heels not to be scooped out or notched in any way whatever. In performing this operation it has generally been customary to use the buttress, but even the most skilful hand has not that command over it as is necessary to regulate the exact quantity of surface that ought to be taken away. This difficulty may be obviated by the use of the drawing knife; but the extent of its use should be limited to the rules just mentioned. The wall of the foot returns inwards from the heel to the point of the frog, forming what is termed, the bars or binders. These bars inclose the posterior parts of the sole, and completely separate them from the frog. They constitute, in fact, the same division as takes place in the cloven foot of the ox and other animals of that tribe, except that the cleft does not extend above half way through the foot. If suffered to grow down to the ground, as in their natural state, they take a considerable share of the weight off the body from the wall and frog, and they likewise afford great protection to that part of the foot by being harder than the sole, and more capable of resisting injury. But blacksmiths in general appear to be totally ignorant of the use of the binders, hence they generally cut them away, and even make a considerable notch between them and the heels, an operation which they term "*opening the heels*," but which invariably produces ultimately the opposite effect.

"The frog is a very necessary part, and was evidently intended by Nature to bear some share of the pressure thrown upon the foot. It fills up a large hollow space between the heels which arises

in that part of the concavity of the coffin bone, and is a strong defence to the tendon of the foot, at a part where it is evidently exposed to much danger of injury from hard or sharp substances.

"In its sound healthy state it is generally almost as hard as the sole, and assumes the form of a wedge. It therefore gives stability to the foot, and serves as a basis to the flexor tendon of the legs, and assists the elasticity of the posterior parts of the hoof. But the common method of paring it away even to the quick, frustrates completely all these intentions of Nature, and being also kept very high above the ground by thick heeled shoes, it is deprived of that degree of pressure which it is intended to bear, and becomes soft from the accumulation of the natural fluid which it secretes in great abundance, from the fatty substance which lies immediately above it.

"This superabundant accumulation of fluid at length makes its escape through the fissures of the frog, and acquires, by exposure to the atmosphere, a fetid smell, and acrimonious quality sufficient to erode the adjacent parts.

"In this state the frog becomes so sore and tender as not to endure pressure without a very painful sensation. But the mischief does not terminate there, for as the frog very probably contributes some share in keeping the heels at a proper distance from each other, its means of accomplishing that object must naturally be reduced in proportion as its size is diminished. A diseased state of the frog may, however, occur even in a state of nature, as appears sometimes in the feet of colts at grass and which have never been shod. But this rarely happens except where the wall of the hoof is exceedingly strong, thereby preventing the heels from being sufficiently worn down,

so as to bring the frog into contact with the earth. Soft and wet pastures likewise contribute to produce this diseased state. Previously to shoeing, the ragged edges of the frog may be cut away, but no greater quantity of it should be removed under any pretence whatever. In order to save trouble, it is customary with blacksmiths to apply the shoe hot, and to burn down the hoof until it fits the shoe. This system is very pernicious, and should never be suffered by any one who sets any value on his horse's feet, for it causes a great evaporation of moisture, and consequently renders the bone dry and brittle, and less capable of holding the nails in their respective situations. The shoe for a perfect formed hoof, should not be above three quarters of an inch broad. It should be of the same thickness throughout, both at toe and heel, whereby it will the nearer approach to the natural position of the foot upon the ground. It was the practice for some time at the Veterinary College, to make the heels of the shoe extremely thin, with the view of bringing the frog to the ground, and thereby to give it that degree of pressure which is necessary to a healthy state. But although the intention was good, the means were founded on a very erroneous principle, as must be self-evident on a moment's consideration. If the toe of the shoe be made double or treble the thickness of the heel, it must have the effect of throwing the foot completely out of its natural position, by raising the toe and lowering the heel. The consequence of this unnatural position must be to increase the angle of the pastern joint, and to keep the tendons more upon the stretch, and thereby to produce great fatigue and inconvenience to the muscles of the leg.

"The shoe should be perfectly flat and of an equal thickness from toe to heel. It is customary with English blacksmiths to make a furrow all round the under surface of the shoe, for the purpose of admitting the heads of the nails to a level with it. This is called '*fullering.*' The French blacksmiths do not adopt this plan, but leave the surface of the shoe quite smooth and equal; and instead of the '*fuller*,' they make holes with a punch sufficiently large to bury the head of the nail, and this is certainly a better practice than the other, because the '*fuller*' leaves two sides of the head of the nail exposed to any hard substance that the foot may strike against in going, and the nail is thereby more liable to be drawn than when its head is equally defended all around. It also leaves a greater substance of iron to the shoe, and consequently prevents its being worn away so rapidly as in the other instance. The shoe has not so neat an appearance, but that is a matter of little consequence when set in the scale against the advantages of the French method."

An ordinary saddle-horse will require a weight of shoe and nails from twelve to fourteen ounces; but a moderate-sized coach-horse will require from eighteen to twenty ounces.

CASTING.

There are many tedious and painful operations which are necessary to be performed, and would be very difficult, or almost impossible to execute, if the animal were at perfect liberty to offer resistance. It is, therefore, requisite that we should be entire master of him, and throw him upon the ground, in such a situation that he may not be in-

jured thereby. This operation is termed *casting;* for the performance of which we shall proceed to give every necessary information.

In the first place, a thick bed of straw or litter should be provided, of about eighteen feet square, in order that the animal may not be injured in the fall. Should the stable be capacious enough to allow the bed being arranged there, it will be preferable, since during the time of preparation which is necessary for casting, the parts operated on will not be so much exposed to the air in the stable as out of doors.

However, should there not be sufficient room in the stable, a place may be prepared in the stable-yard, or in some adjoining park or field.

The animal being led on one side of the bed, a leather strap, with a buckle attached, and an iron ring fixed to it, at a proper distance from the buckle, should be secured round the pastern of each leg in such a manner as the rings of the strap that are round the fore feet may be directed backwards, and those of the straps placed on the hind feet opposite to them; the buckles also pointing outwards, for the purpose of preventing any injury occurring to the animal. A strong cord of ten or twelve feet in length should be attached to the ring of that strap which has been placed on the fore-foot on that side of the animal which is at the greatest distance from the bed: from this ring it is to go through the ring on the hind-foot on the same side, from which it passes through the ring on the other hind foot, then through the ring on the other fore foot, and ultimately through that to which it was first fastened. The animal being thus secured, a number of men should be placed beside him, so

that he may be between them and the bed, while others should stand on the contrary side. Having thus arranged, those persons placed near the animal should take the end of the rope, and draw gradually, in order that the four feet of the animal may be brought as near together as possible. After this is performed, the persons placed at the other side, one at the head of the animal, another at his chest, a third at his haunches, a fourth at his tail, &c., should pull the animal towards them, and thus his fall will be completed with safety.

It may be necessary to remark, that those persons who pull the rope, and the others who receive the animal on the bed, should not act at the same period; as were they to do so, the shock might be so sudden, and violent as to cause some injury, either to the individuals, or to the animal. It should also be observed, that the animal must be cast so as the part requiring the operation, may be perfectly in view by the operator, and within his reach.

After the animal is thus secured, his head should be held down, his eyes covered, and the cord also must be fastened with a knot at the first ring to afford greater security.

There are many points necessary to be observed in the casting of an animal, which depend on the operation intended to be performed on him; but these will be described when we treat of the various operations.

FIRING.

Firing is the application of a certain heated metallic instrument, termed a cautery, to various parts

of the body. The instruments are formed of various shapes, according to the purpose for which the operation is intended to be performed; a description of which will be found in the following instances in which firing may be applied to great advantage.

It is used for the purpose of opposing the progress of mortification; in which cases a cautery in the shape of a knife, with a blunt edge and a thick back, is generally used. This form also answers for many other cases. Several instruments of a similar kind should be prepared, so that when one is too cool, another may be ready of the proper temperature. In the application of the iron, the parts adjacent to the mortified place, should be passed over with the edge of the instrument in numerous parallel lines, in order that the heat may penetrate to the living parts, and a degree of healthy action may thus be produced, by which the mortified slough may be thrown off. When the application of the iron has been continued for some time, according to the nature of the part, and the extent of mortification, cover the wound with a pledget spread with some stimulating ointment.

Firing is also employed for the purpose of bracing the skin, and strengthening the sinews. A similar instrument as is above described is likewise used on this occasion, but its heat must be somewhat greater. It is usually applied by passing the edge lightly and quickly over the skin, describing parallel lines from one end of the part to the other. A blister is occasionally applied after firing, as some suppose that the good effect produced by the iron is thus increased. When firing is necessary on the hind legs, or any other part where the operator

would be liable to injury from the horse's kicking, the legs should be confined by means of fetters.

This operation has sometimes been found useful in spavins, ring bones, old callous swellings of the back sinews, and in wind galls; and in those cases the irons are used as already observed. Some farriers apply a blister in these cases before firing, in order that the swelling may be reduced; under a supposition that firing, if employed without this precaution, might tend to fix the swelling and render it incurable.

Firing is frequently used by way of a styphic, in order to stop or check profuse bleedings from accidental wounds, and the iron employed for this purpose has usually a pointed extremity, except in a case of docking, where the iron is generally made in the form of a ring.

Firing will also be found useful in wounds of the joints, or other circumscribed cavities, in which case it is employed with the view of promoting a kindly circulation, and consequent granulation of healthy flesh. Mr. Coleman has thus employed it with much success.

Firing is likewise one of the most certain remedies in these superficial ulcers that accompany farcy or glanders in the horse; and indeed, the use of the hot iron will be found the only effectual means to prevent the fatal effects which often result from the bite of a mad animal, if properly applied after the bitten part is cut out. The instrument employed in every case should be very thin and fine.

DOCKING.

The manner of performing this operation is thus

ably described by a modern writer: "First feel your finger and thumb for the third joint from the setting on of the horse's tail: then raise up all the hair, and turn it backwards, then taking a very small cord, and wrapping it about that joint, pull it pretty tight.

"But, previous to going on with the operation, it will be necessary to take the precaution of securing the animal so as to prevent him committing any injury to the operator. This may be done by putting a twitch on the nose, and at the same time, tying up one of his fore legs. As soon as this is properly arranged, the operator should place the tail just below the bandage, between the docking shears; and with a firm steady stroke divide the lower part from the upper.

"When the tail is cut off, the part round the bone may be seared with a hot iron, of a circular form, just large enough to enclose the bone of the tail; a small quantity of powdered resin may also be applied to the part and melted on it with the iron. The hair may then be united, and suffered to be in its natural position. Some breeders of horses have a practice of docking their colts when four or five months old. This practice, it is said, prevents the necessity of nicking, as they generally carry their tails handsomely when docked at an early age. It is also supposed that it strengthens the back; as the tail, by being shortened in this manner, requires less nutriment from the juices of the body. Whether this is the fact or not, cannot very easily be ascertained, but on the other hand, it is probable that it might occasion considerable inconvenience to the colt, by depriving him of a

great part of his natural defence against flies and other insects.

NICKING.

This operation is somewhat cruel, and unless properly attended to, fatal consequences will sometimes ensue. It consists in dividing the muscles that depress the tail, so that the muscles which raise it may operate freely.

The tail, in some horses, issues high out of the back and describes a regular and beautiful sweep, much more elegant than the ascending curve which the nicked tail occasionally presents. It should, therefore, not be undertaken, except in cases where the tail hangs close to the buttocks. The operation is ably described by a late writer on farriery in the following manner :—

"The proper mode of proceeding is to cast the horse, and having all the dressings ready, the operator may cut the transverse line across the under part of the tail, at the distance of about two inches from the rump. The first incision should just go through the skin, after which the muscles on each side of the tail should be divided, taking care to avoid the artery, which generally runs close to the bone. The common practice is to cut three nicks at equal distances from each other ; but in general, one nick will be sufficient, especially as three are apt to make the tail curve upward, giving a vulgar hackney-like character.

"As soon as the operation is over, take some pledgets of tow, rolled up at the ends, so as to tie like a string ; and having sprinkled some fine oatmeal upon them, apply it to the divided part of the

tail, and tie it on tolerably tight, and over that tie on a flannel bandage. The tail may then be put into the pulley, letting the weight at the other end of the string be just sufficient to keep the tail from falling down. On the following morning, cut the ties of the bandage through with the scissors, leaving on the bandage, which will stick on owing to the coagulated blood. This operation of cutting the ties of the bandage is necessary to be done on the following day, because the tail swells in some degree, and if confined too long and too tight by the bandage, a very high degree of inflammation and even mortification may ensue. Owing to a want of proper attention to this circumstance, it is said that a regiment of dragoons, in the English service, once lost about forty horses in the same week, which had undergone the operation of nicking. After the operation is completed, the tail is to be suspended by a pulley, with a weight at the end of it. The object of this is to keep the divided edges of the muscles apart from each other, so as to prevent them from uniting again during the process of healing.

"It has been customary to make three incisions in the tail; but this is not necessary, one being generally sufficient, as the muscles lose all the power of acting below the first incision.

"The bandage may be taken off on the third day, and the tail dressed with common digestive ointment, spread upon pledgets of fine tow, and bound on by a flannel bandage moderately tight. The tail should be suspended by a pulley until it is perfectly healed, care being taken that the pulley will run easily from right to left, and *vice versa*, else the tail might be kept inclining too much one one side.

"Bartlet invented a machine for suspending the tail without the use of a pulley. It consisted of a kind of saddle or pad, with a groove in it, from which a cord passed to the tail, so as to draw it upwards over the horse's back.

"This machine, with considerable improvements, is used by Mr. Godwin, at Carlton House Stables, and with great success. It is certainly the safest mode of securing the tail from accidents; but it is liable to one objection, which is, that it prevents the horse from lying down during the whole time of its being used, and which may generally be calculated at a fortnight or three weeks from the time of performing the operation."

Should the tail swell, and a large quantity of matter be discharged, it will be necessary to take a little blood from the horse, and a few of the following diuretic balls may also be administered:

Castile soap	4 ounces,
Nitre, powdered	3 ounces,
Liquorice, powdered	3 ounces,
Yellow resin	3 ounces,
Oil of juniper	1 ounce,
Venice turpentine	3 ounces,
Ginger	3 ounces,

With honey or treacle sufficient to make it into a mass of balls. Each ball to weigh two ounces.

CROPPING.

This operation is introduced in order that the ears of horses may be changed from their natural shape and size, and appear more handsome and agreeable. The ears of horses are, however, seldom of such a size or shape as to render them inconvenient, or unfit them for the purposes for which Nature has as-

signed them. This may sometimes occur; and occasionally wounds or diseases may render cropping essential; but in performing this operation, no more of the ears should be taken away that what is absolutely requisite.

Cropping is performed by an instrument called the *cropping-iron;* and a shape of the size which the ear is intended to be made is usually applied to the ear, to mark the line of section. When the ear is cut, the skin and muscles recede considerably from the gristly part; this, however, is of no importance, and the wounds heal in a few days without any other care or attention, than confining the animal within doors, and feeding him with a moderate cooling diet. Grooms will sometimes trim horses' ears, by depriving them of the fine soft hair that lines the inside of the cavity. This practice is equally absurd with cropping, as appears from the following judicious observations of Mr. Clark.

"The ears of horses, as in other animals," says Mr. Clark, "are covered in the inside with a short down, intermixed with long hairs, which line the external cavity of the ears, and seem designed by Nature to prevent harsh sounds from making too great an impression upon the brain, and likewise to prevent the cool air, rain, dust, flies, &c., from annoying the internal ear." The means commonly used to remove this down, &c., is by the scissors, the flame of a candle, or that of a burning torch. Both the latter are cruel and barbarous, and cause considerable pain to the animal, not only from the blisters that sometimes rise on the ear, after this manner of singeing them, but likewise from the means that are used to make horses stand with patience to undergo the operation, that is, a twitch

on the nose; and perhaps if he is troublesome to the operator, one put on the ear. It is to be observed, that horses are very much guided or directed by the sense of hearing. This is obvious in those that hear distinctly, from the motion of their ears, and the direction they give them to whatever quarter any sound comes from, the attention they pay to what passes around them, or to what is spoken to them. Many of them, particularly the finest kind, as they only are liable to this kind of treatment, have the sense of hearing considerably blunted, if not rendered quite deaf, from the above operation."

As this operation is generally first performed on young horses at the time they are breaking, it is the more hurtful; as uncommon sounds, such as rattling of carriages, drums, &c., which are entirely new to them, and to which they are then exposed on the roads, or in streets, must make the greater impression on the sense of hearing: and perhaps it may be owing to the above cause only, that many horses are timorous to pass carriages, and remain so ever afterwards.

Another disadvantage which attends this operation upon the ears of horses, is, that they will not go on cheerfully when travelling in opposition to the wind, more especially if it rains; for as the wind and rain get free access into the ears, they are continually shaking their heads, and endeavouring to turn from it; and those who are of a more impatient temper will wheel suddenly round, in order to avoid what gives them so much uneasiness.—They are then said to be restive; and whip and spurs are applied by way of a chastisement for a supposed fault.

From what has been said, it will be obvious, from the practice of taking away the natural covering from the inside of the ears, that the internal ear must be exposed to be considerably injured, particularly from cold, dust, &c., which blunts the sense of hearing, and perhaps causes deafness; for it is observed in some horses, which have been much used to this treatment, that they lose that lively, active motion of the ears, and appear dull and inattentive to what passes around them, and even to the voice of their keeper.

CASTRATION.

This operation is useful in rendering horses more gentle and tractable; but some contend that the loss of strength and spirit, which the animal sustains, more than counterbalances this advantage.

A recent writer remarks, "The best mode of performing this operation, is to throw the horse on some convenient spot on the off side, and when down, let the hind-leg be drawn towards the neck, by which the scotum will be fairly exposed. Having the scrotum firmly, make a cut at once through it, not of too great length, but sufficient to admit the testicle being pressed out; this being done, apply the clams of a pair of nippers on the cord within an inch of the testicle, and hold the clams sufficiently tight to stop the flow of blood, but not to bruise the cord; the stone may then be cut off with a scalpel, or it may be seared off with a burning knife. If it is cut off with a scalpel, immediately before the clams let go their hold, sear the end of the cord. Some apply a little powdered

rosin on it before searing, after which the clams may be loosened. When this is finished, proceed to remove the other in the same manner.

"After both are removed, a pledget of lint, wetted in warm spirit, may be introduced just within the edges of the wound; but no salt should by any means be introduced, as is the practice of some farriers; nor will any kind of bandage be easily retained, and if anything of this kind is used, it should be very loosely applied, so as not to irritate.

"Some operators separate the epididymis from the testicle, and suffer it to remain, by which means they think that a portion of the animal's spirit is retained. A similar custom is said to prevail in France; but the French operators object to it, on the idea that it produces fistulous sores on the part. The fact is, that when any portion of the testicle is suffered to remain, though it cannot secrete semen, yet it has some action going on within, by which it produces some influence both on the mind and form; and as such the future growth of the animal may perhaps be slightly affected by it, and perhaps his temper too, but the addition to the latter may probably not be very unfavourable to one.

"Where the operation is to be performed, the best time is probably when the foal is about three months old, though some prefer a much more advanced age, as six, or even twelve months, and more in some cases. In all animals, there is, however, the least danger of inflammation while they are young, in performing such operations. Besides, it is better to cut colts before they have any propensity to hanker after mares, and get bad habits. When the foals are early, and the weather too hot,

the latter end of May, or the beginning of June, may be a good and proper season,

"Before this operation be performed on a fat horse, he should be bled and rather kept low. It is best performed in mild weather. If there be a considerable degree of inflammation about the part, give the following drink :—

Tincture of opium . .	half an ounce,
Peruvian bark . .	1 ounce,
Mithridate . . .	1 ounce,

"In a pint of ale.

"The part should also be frequently fomented, and washed with a solution of sugar of lead. It will also be advisable to rub some blistering ointment on the inside of the thigh."

ON BLEEDING.

The operation of blood letting is of very considerable importance to the welfare of the horse, and much danger often results when it is performed in an unskilful manner. The vein usually opened runs along the neck, and is called the *jugular vein*.

Mr. Clarke, of Edinburgh, in his work on preventing diseases in horses, remarks, "As horses are naturally timorous and fearful, which is too frequently increased by bad usage and improper correction, they require in some cases, particularly in this of bleeding, to be taken unawares, or by surprise, and the orifice made into the vein before their fears are excited. For this reason, the fleam and blood-stick have long been in use, and in skilful hands are not improper instruments for the purpose, although with many practitioners the spring fleam would be much safer, and on that account ought to

be preferred. When a lancet is used, the instant the horse feels the point of it, he raises or shakes his head and neck, in order to shun the instrument, before the operator has time to make a proper orifice, which frequently proves too small or too large; for this reason, those who have tried the lancet have been obliged to lay it aside. Many persons tie a ligature or bandage round the neck, in order to raise the vein, and that they may strike the fleam into it with greater certainty; but a slight view of its effects, in preventing this and its other consequences, will shew the impropriety of the practice.

"When a ligature is tied round the neck, previous to bleeding in the jugular vein, it is to be observed, that it stops the circulation in both veins at the same time: hence they become turgid and very full of blood, insomuch, that they feel under the finger like a tight cord; and as the parts adjoining are loose and soft, when the stroke is given to the fleam, the vein, by its hardness and tightness, slips to one side, and of course eludes the stroke; hence a deep wound is made by the fleam to no purpose, and this is sometimes frequently repeated. Unskilful people have likewise a custom of waving or shaking the blood-stick before they strike the fleam, in view of the horse, whose eye is fixed on that instrument, and when they intend to give the stroke, they make a greater exertion; hence the horse being alarmed by its motion, raises its head and neck, and disappointment follows. The struggle that ensues from that circumstance prolongs the operation, the ligature at the same time being continued round the neck, a total stagnation of blood in the vessels of the head takes place, and hence it frequently happens that the horse falls down in an apoplectic

fit. In such cases, the operator being disconcerted, generally desists from any further attempt to draw blood at that time, under the idea that the horse was vicious and unruly, although the treatment the horse had just undergone, rendered bleeding at that time more necessary, in order to unload the vessels of the head, in which the blood had been stagnated by the ligature round the neck. Therefore, a ligature ought never to be used, as a moderate pressure of the finger below the orifice will always be sufficient to make the blood flow easily; but if the horse is lying on the ground, a ligature may then be necessary.

"But when the ligature is made tight before the orifice is made in the vein, and the horse happens to fall in an apoplectic fit, it may cause a blood-vessel within the head to burst, and death may be the consequence.

"Another custom, equally absurd, is allowing blood to fall on a dunghill amongst straw, or on dry sand, so that no distinct idea can be formed of the quantity that is or ought to be taken away. In such cases, horses have dropped down insensible from too much loss of blood, before the operator thought of stopping the orifice.

"For this, and a variety of other reasons which might be mentioned, a measure, as above observed, ought always to be used, in order to ascertain the quantity of blood that is taken away.

"In pinning up the orifice, some have a custom of raising or drawing out the skin too far from the vein; hence, the blood flows from the orifice in the vein into the cellular membrane between it and the skin, and which causes a large lump, or swelling to take place immediately.

"This frequently ends in a swelled neck; a suppuration follows, which proves both tedious and troublesome to cure. In cases where a horse may be tied up to the rack after bleeding in the neck, pinning up the external orifice may be dispensed with; but when a horse is troubled with the gripes, or any other acute disease, in which he lies down and tumbles about, it is necessary that the orifice be pinned up with care, in order to prevent its bleeding afresh. As the jugular vein on the near side is commonly chosen for convenience by those who are right-handed, the young practitioner should learn to perform on both sides of the neck. This he will find in practice to be not only useful, but sometimes necessary, as he may frequently have occasion to draw blood from horses in very awkward situations; he will likewise find it useful in a variety of cases which it is needless here to particularise.

"The proper place for making the opening in the neck or jugular vein is likewise necessary to be attended to; for when the orifice is made too low, or about the middle of the neck, where the vein lies deep under the muscular teguments, the wound becomes difficult to heal, and frequently ends in suppuration, with a protrusion of proud flesh from the orifice, which, unluckily, is as unskilfully treated in the common method of cure, viz., by introducing a large piece of corrosive sublimate into the wound; this not only destroys the proud flesh in the lips of the wound, but also a considerable portion of the flesh around it. This is called by the common farriers, *coring out the vein*. It frequently happens that this corrosive application destroys the vein likewise, and sometimes violent bleedings ensue,

so as to endanger the life of the animal. The most proper place for making the opening in the jugular vein is where the integuments are thinnest, which is about a hand's breadth from the head, just below the branching off of the vein to the lower jaw, and which may be distinctly seen when any pressure is made on the main branch of the vein.

"In performing the operation with a fleam, the operator should hold the fleam between the fore finger and thumb of the left hand; with the second finger he is to make a slight pressure on the vein, and before it becomes too turgid, or full, make the opening; the same degree of pressure is to be continued on the vein, till such time as the quantity of blood to be taken away is received into a proper measure.

"Another great error, which generally prevails in opening the vein with a fleam, is the applying too great force, or giving too violent a stroke to it, by which it is forced through the opposite side of the vein. Hence there is danger of wounding the coats of the carotid artery which lies immediately underneath. Gibson, in his treatise on the diseases of horses, mentions the case of a fine horse that was blooded in the plate-vein for a lameness in the shoulder, which was followed with a hard oval swelling about the size of a goose egg, which extended upwards on the breast, and also down the leg, attended with excessive pain, fever, deadness in the horse's looks, and all the other symptoms of an approaching mortification. In order to avoid the consequences sometimes attending those local operations in the breast, legs, &., and as horses are more or less troublesome and restless, whereby

accidents of this kind may happen, it will perhaps be advisable in most cases of blindness to draw blood from the neck-vein, where there is less danger of accident, more especially if the spring-fleam be used; for although it might be of some advantage in particular cases to draw blood as near to the affected part as possible, yet the bad consequences frequently attending it seem to counterbalance any advantage that may be expected from it, especially as the quantity of blood drawn from the small veins is but inconsiderable, and of course no great benefit can be expected from it in horses when they are diseased.

"The principal object in drawing blood is to lessen its quantity, by which the remaining mass circulates with more freedom in the vessels; it likewise takes off the inflammatory tendency of the blood, removes spasms, and prevents other bad consequences that may follow, especially in plethoric habits; and, it is always to be remembered, that when the signs or symptoms of a disease are taken from the motion of the blood, the disorders arising from it depend upon its circulation being either increased or diminished; hence, therefore, all the changes which take place in the texture, quantity, and quality of the blood, are attended either with a diminution or an increase of its velocity.

"Although the cases which may require bleeding are numerous, yet one general caution is necessary, namely, never to let any blood but when it is absolutely necessary; for it is a fluid that may be easily taken away, but cannot be so easily replaced. Besides the practice of bleeding frequently, or at stated times, is exceedingly improper, as it disposes

the body to become weak and relaxed. In bleeding, therefore, a due regard must always be had to the constitution, age, strength, &c., of horses, and the state, or habit of body which they are in at the time. Although blood ought not, in general, to be taken from horses on trifling occasions, when they may be said to be healthy, yet when cases occur that do require it, it may not only safely, but usefully, be recommended to take a greater quantity at once than is usual: for instance, from three to four quarts, according to the urgency of the symptoms at the time, the strength and age of the horse being also taken into consideration.

"For, as horses are very subject to inflammatory diseases, and those that are of a spasmodic kind, and as bleeding plentifully relaxes the whole system in these cases, the taking away a small quantity of blood is in fact playing with the disease. The horse is then said to have been blooded, and that satisfies the owner and the farrier; time is thus lost, the disease acquires strength, and it may then be beyond the power of art to mitigate or to conquer it; hence the horse falls a sacrifice to timidity and ignorance. It is to be remembered, that inflammatory diseases, particularly when the bowels are affected, make a very rapid progress in horses, and if they are not overcome at the beginning by bleeding plentifully, the horse commonly dies in twenty-four hours of a gangrene or mortification of the intestines."

Mr. Coleman, speaking of the inflammation of the vein which sometimes succeeds bleeding, observes, that "whenever inflammation attacks the internal surface of the veins from bleeding, or any wound, the disease is to be considered as of the

same nature, and requiring the same remedies, as the exposure of joints, or other cavities.

"The first symptom of inflammation and suppuration within a vein, is generally a small degree of swelling about the orifice, the lips of which soon recede from each other, and a little oozing escapes from the part.

"At other times, the swelling will be more considerable, attended with frequent hœmorrhage; and where the swelling extends much above the orifice, the vein is frequently callous and enlarged as high as the head."

On the first appearance of swelling in the part, the pin should be taken out and the part fomented with warm water four or five times a day, and in the intervals the following lotion may be used:

Goulard	1 drachm,
Spirits of wine . .	half a pint,

To be put into a quart bottle and filled up with water.

This treatment, if regularly persisted in for a day or two, will generally remove the swelling and inflammation; but if the horse is fat, and considered to be foul in his body, a mild dose of purging physic may be given with advantage. It frequently happens, that horses which run the mail or stage-coaches are injured in the neck after bleeding by the rein of the bridle rubbing against the pin which closes the orifice; and, indeed, instances have occurred of horses that work in the night, having the pin forced out, and bleeding until they dropped down before the accident was discovered. But, at all events, a carriage horse should not be worked on the same day on which he is bled, because the pressure of the collar in drawing always fills the

veins, by stopping the circulation of the blood, and either prevents the orifice in the vein from closing and healing, or else bursts it open afresh after it has barely united.

When, however, the inflammation and swelling do not subside, the matter forms, the edges of the wound may be dressed with a small quantity of butter of antimony, applied with the point of a feather, which may be used once in three days. At the same time a poultice of bran may be applied, by enclosing the poultice in a flannel bag, and tying it easy round the neck. This will lubricate and soften the skin, and will tend to keep down the inflammation. The most common practice is to introduce a small piece of corrosive sublimate, or else to dress the part with aquafortis, either of which are very dangerous, because they destroy all the parts which they touch, and the vein being eating away also, the horse is in danger of bleeding to death, except the vein is tied by a ligature above the orifice.

Another writer on this subject remarks, that, "the cases where bleeding is required are violent bruises, or strains in the muscular and tendinous parts where they are attended with much inflammation; also large wounds, where there is much laceration without much loss of blood. It is likewise proper in all cuticular disorders, or eruption of the skin, in large swellings on the body and legs, arising from a plethoric state; in all deep punctures, when the horse shows symptoms of great pain; and in swelling of the legs or heels, when attended with much inflammation.

"Bleeding is sometimes the quickest method of giving relief in the beginning of inflammatory

fevers, to which horses are very liable; it is also necessary, in all violent and acute pains, as in the gripes, or cholic, stranguary, or suppression of urine; in rheumatic complaints, where the pain causes stiffness, or lameness, and which frequently shifts from one limb to another, or when it affects the neck, and occasions that stiffness and contraction of the muscles, which is commonly called the chords; in inflammation of the eyes, or palate of the mouth, the latter of which is called the lampas, when the horse cannot eat his food on account of the tenderness of the parts—in all recent colds attended with defluxions of the eyes; in recent swellings of the glands about the throat, jaws, &c., in inflammation of the liver, lungs, the plura, stomach, intestines, kidney, bladder, or any of the internal viscera; in apoplexy, vertigo, or giddiness, and in all disorders where the head seems affected: in eruptions of the skin, called surfeit; in full habits of body where proper exercise has been neglected, and when a horse breathes with difficulty on the least exercise. On the other hand, bleeding is to be avoided in all cases of inflammatory swellings after matter is formed. It is also to be avoided in all cases of extreme lowness or weakness, produced by fatigue or disease, or after strong evacuations by purging or scouring, or diabetes, or excessive staling.

"Bleeding is also improper during the time of a horse's moulting, or shedding his coat; in fact it should never be practised unless some more substantial reason can be given than the mere plea of custom at certain periods of the year."

ROWELS AND SETONS.

Rowels in horses are usually made in the following manner :—An incision is made through the skin by means of a sharp pair of scissors, or what appears better, a sharp knife. The finger is then introduced below the skin, so as to separate it from the flesh all around, as far as the finger will reach. A piece of leather, about the size of a crown piece, is then inserted between the skin and the muscles, having been first anointed with some stimulating ointment. A small piece of tow or caddice, spread with the same ointment, is put over the hole, in the centre of the leather, the skin is laid down over all, and the part is covered with a pledget, also covered with the ointment to keep out the external air.

The leather is left in this situation for two or three days, during which the parts adjoining the rowel swell, and at the end of that time there appears a discharge of a yellowish matter, which gradually becomes thicker and whiter. In three days at farthest the part must be examined, and the plug removed from the central hole to allow the matter to flow out. The rowel is now complete, and may be continued as long as shall be found necessary. The action of the rowel is easily explained : the leather introduced excites a degree of inflammation between the skin and the flesh, and no means being taken to check this, it goes on, like most other inflammations of fleshy parts, to suppuration. Thus a discharge is produced from the part, which is found to have considerable effect in checking in-

flammation of some more important organ near which the rowel has been inserted.

Rowels are most commonly inserted in the belly, the breast, the inside of the thighs, the outside of the shoulders, and the hips. They are sometimes placed between the jaw-bones, below the tongue; but this is quite improper, since a good suppuration can seldom be brought on in this place.

Besides dangerous inflammations rowels are found highly serviceable in large swellings of the hind-legs, in obstinate cases of grease, and in strains of the shoulder.

Several rowels are sometimes necessary to be made at the same time; but they should be always placed as near as possible to the seat of the affection which they are intended to relieve.

Where considerable debility is apparent, the insertion of a rowel might be very injurious as it would not supperate kindly, and the discharge produced would tend to increase the debility. The discharge in these cases is commonly thin and ichorous; occasionally they are perfectly dry, and sometimes a mortification is produced.

Setons are very useful to drain off matter gradually from large abscesses or suppurating tumours. The method of introducing them is described in a previous part of this work.

DISEASES OF CATTLE.

HAVING described the various methods of preventing and curing the diseases of horses, we shall now proceed to explain the proper and judicious treatment of cows and other domestic animals, both in health and disease. The loss which farmers sustain, from the improper treatment of cattle when diseased, is very great, and could an aggregate amount of the whole be furnished, it could not fail to excite more general attention.

The receipts generally prescribed are too tedious and perplexing, and too expensive for common purposes. There are many uneducated farmers who delight in medical receipts that are mystified and incomprehensible, and the more absurd they appear, the higher opinion they entertain of their efficacious effects.

Mr. John Lawrence in his able treatise on Cattle Medicine, makes the following sensible remarks, "It should be considered that animals living in a state of nature, regulated by the reason and experience of man, would be almost wholly exempt from disease; that their appetites, unlike our own, may be held under a constant control: that their diseases result purely from the negligence or erroneous treatment of their owners. They are either too

much exposed to the rigours and changes of the weather, or they are gorged with food, denied a sufficient quantity, or supplied with such as is unwholesome. Here we learn the chief causes of their maladies. LEARN TO PREVENT THEM, instead of undertaking the tedious, unsuitable, and hopeless task, of learning to cure them. Of all things, let the proprietors of cattle renounce for ever the insane folly of offering premiums for *incurable* diseases, and the hope of providing medicines which, by a sort of miraculous operation, will enable men to continue in the habit of exposing their animals to the constant risk of such diseases. I have no infallible receipts to offer; on the contrary, I wish to impress my readers strongly with the idea, that all *infallible receipts are infallible nonsense.*"

In addition to these excellent observations, Mr. J. White states, "Almost all the diseases of cattle arise either from exposure to wet and cold weather, from their food being of a bad quality, or deficient in quantity, or from being changed too suddenly from poor unwholesome keep to rich pasture. It is necessary to observe also, that the animal is more liable to be injured by exposure to wet and cold, when previously enfeebled by bad keep, old age, or any other cause, and particularly when brought from a milder and more sheltered situation. I have scarcely met with a disease that is not attributed, by those who have the care of cattle, to a chill; and under this impression the most stimulating medicines are usually employed; among which we generally find grains of paradise, ginger, long pepper, and mustard, in large doses. It unfortunately happens that the disorders arising from a chill are often of an inflammatory nature, and require a very

different treatment. It must be granted, however, that cattle more frequently require stimulating medicines than horses; and that bleeding is not so often required, nor can it be carried to such an extent in the former as in horses; particularly in milk cows. Many of the medicines of which their drinks or drenches are composed, are quite inert, some are nearly so, and others are very nasty. Hogs' dung, stale urine, and a pint of the animal's own blood, mixed with salt, are generally held in high estimation."

INFLAMMATION OF THE BOWELS.

Causes.—This disorder may proceed from costiveness, drinking cold water when much heated and fatigued. It is sometimes produced by a change of pasture and error in diet.

Symptoms.—This disease is accompanied with a very severe griping pain, which causes the animal to lie down and become very restless; frequently turning his head towards his belly, or attempting to strike it with the hind foot. The pulse becomes quicker than natural, the breathing rather quick, and when the pain is violent, a copious perspiration takes place. If proper remedies are not speedily applied, the disease will terminate in mortification and death.

Cure.—In the proper treatment of this complaint, great caution is requisite, according to the circumstance of the case. Mr. White observes, "If the pulse is much quicker than natural, the under surface of the eyelid unusually red, and the breathing disturbed, let a large quantity of blood be immediately taken away, even five or six

quarts; and then, unless the bowels are already unusually open, give the following drink:—

Sulphate of magnesia	8 ounces,
Castor oil	1 pint,
Gruel	1 pint,

Dissolve the salts in the gruel, and add to them the oil, for one dose.

"The operation of this drink should be assisted by clysters. When all the above symptoms, however, are not observable; if the under surface of the eyelid is not redder than usual, or if it is rather paler, if the pulse is nearly in its natural state, and particularly if the animal is rather loose, or scours, the bleeding should be moderate; and if he be rather weak, and low in condition, it had better be omitted. The following anodyne drink is to be given:—

Tincture of opium	half an ounce,
Spirit of nitrous ether	2 ounces,
Water	1 pint,

Mixed for one dose.

"When the animal has been kept for some time upon dry food, and has been observed to dung sparingly, and what he does void appears to be discharged with some difficulty, is more solid than usual, of a different colour, or of an offensive smell, it shews that the disease is occasioned by costiveness; in which case relief can only be obtained by the laxative drink and clysters. Bleeding, however, must not be omitted, particularly if the pulse is quickened, the under surface of the eyelid redder than natural, and the breathing disturbed. If the laxative prove ineffectual in removing the costiveness, it should be repeated."

INFLAMMATION OF THE LUNGS.

Causes.—This disease is most prevalent in working cattle, owing to over exertion; or from being suffered to drink largely of cold water immediately after working hard, and when in a state of perspiration. It may also occur from exposure to cold and wet, or from sudden and violent changes of weather; indeed, the majority of the internal diseases of cattle may very properly be attributed to this latter cause. This shews the necessity of having sheds, or enclosures, where cattle may be occasionally protected from the inclemencies of the weather. Such accomodation is particularly requisite for such as may be attacked by this or any other external complaint, and without this precaution, medical assistance will be of no avail.

Symptoms.—This disease usually commences with a degree of shivering, and is attended by a loss of appetite, and a general appearance of depression; but may be soonest distinguished by the increasing motion of the flanks, or quickness of breathing. The pulse is more frequent than natural; but small and not easily felt. On raising the upper eyelid, its under surface will be found particularly red, sometimes approaching to orange colour. When this disease occurs in a milk cow, she soon loses her milk; and the horns, ears, and legs, are commonly cold.

Cure.—Early and copious bleeding is the principal remedy in this complaint: and from four to six quarts may be taken from a cow or ox in tolerable condition; should the symptoms not abate in five or six hours, the operation should be repeated,

to the extent of three or four quarts more, unless the animal faint in the meantime; whenever this occurs, on any occasion, the bleeding must be immediately stopped. Faintness, when the disease is known to be an inflammation of the lungs, is, however, by no means an unfavourable omen; since it is a proof that the operation has been carried to its full extent, and a recovery is consequently more likely to occur. A large seton should be put in the dewlap, and moistened with oil of turpentine; and the sides should be well rubbed with the following embrocation:—

Water of ammonia . .	2 ounces,
Flour of mustard . .	4 ounces,
Oil of turpentine . .	2 ounces.

The whole to be mixed with as much water as will bring it to the consistence of cream.

Immediately after the bleeding, the following drink may be administered:—

Camphor . .	2 drachms,
Powdered carraway seeds	1 ounce,
Nitre . .	1 ounce and a half,

To be given in a pint of gruel.

Should the animal remain costive, a clyster should be thrown up, composed of about three or four quarts of warm water, and half a pound of common salt. A pint of castor oil may also be added to the above drink: if this cannot be procured, sweet oil, linseed oil, or even melted lard, may be substituted.

Some writers recommend only a small quantity of blood to be taken daily, or every alternate day; but nothing can be more preposterous and absurd. The use of strong stimulating or heating medicines, in this disorder, should be carefully avoided. An experienced writer observes, "There is an affection of

the lungs and parts connected with them. There is not that difficulty and quickness in breathing; the pulse is weak, but not much quicker than usual; the kernals or glands, about the throat, are often swollen; sometimes there is a considerable difficulty in swallowing, which is particularly seen when the animal attempts to drink; in short, this is nothing more than a severe degree of catarrh or cold; but even in this complaint, moderate bleeding is necessary, and powerful stimulants are extremely pernicious. When the disease, however, has not been discovered for some days, and the animal appears much weakened by it, bleeding of course is improper."

INFLAMMATION OF THE STOMACH.

Causes—Inflammation of the stomach is generally caused by some acrid offensive substance which the animal has swallowed, or by giving (agreeably to the directions of some foolish cow-doctoring book,) too strong a dose of astringent medicines to cure the *red-water*.

Symptoms.—Every ruminating animal has more than one stomach; the cow is possessed of four; the first is considerably larger than the rest, lies on the left side, and is commonly called the *paunch*. The food having been sufficiently macerated in this stomach, is forced up gradually into the mouth, where it undergoes a complete mastication, which is termed chewing the cud. The food is then again swallowed, and conveyed to the second stomach, for the gullet opens indifferently into both. It ends exactly where the two stomachs meet; and there is a smooth gullet, with raised

edges, which leads into the second stomach, and thence to the third and fourth: the animal, however, has the power to direct it into which he will. The second stomach is named the *honey comb bag*, or *bonnet*. Its internal surface consists of cells, resembling a honey comb: here the food undergoes a further maceration, and is then conveyed to the third stomach, called *manyplies* or *manyfolds*; because the internal surface rises up into many folds. Some of these folds are longer than others, and on their surface small glands may be seen, something like millet seed. From this it passes into the fourth, or red stomach, commonly called the *callie* or *caul*. This much resembles the human stomach, or that of a dog; only the inner folds are longer and looser. Here the food is perfectly digested, and prepared for the nourishment of the animal.

Such a complicated structure renders this organ particularly liable to disease; inflammation, however, does not often occur as a primary disorder, but is commonly a consequence of some offensive matter lodged in one of the four stomachs, or from the animal feeding so greedily as to weaken the organ, and prevent it from performing its functions.

It is usual to consider this disorder in cattle under two distinct species; one affecting the first stomach or paunch, and the other the third stomach or manyplies. This latter is commonly denominated *lakeburn*.

Cure.—When inflammation attacks the stomach without any injurious matter being swallowed, or any improper accumulation of food, the principal remedy will be plentiful bleeding, abstinence from food, and mucilaginous drinks, such as linseed tea,

and the administration of relaxing clysters. Should it proceed from swallowing poison, the cure will be found under a different head.

INFLAMMATION OF THE KIDNEYS.

Causes.—This disease frequently attacks young beasts that are feeding, or in good condition. The kidneys may become inflamed, either from external injury, or from irritating substances that pass through them in the course of the circulation: but according to the opinion of some eminent practitioners, this disorder is most frequently produced by the indiscriminate use of strong diuretic medicines.

Symptoms.—This disease commences with a shivering, succeeded by increased heat of the body, and is followed by a quickness of the pulse, and loss of appetite; the animal frequently endeavours to stale, and voids only a small quantity, which is of a red colour, and sometimes with much difficulty and pain; pressure on the loins gives pain, and causes the animal to shrink or give way to it; there is usually considerable stiffness in the hind parts, perceptible when the cow attempts to walk. This disease varies from that termed red water; and unless properly treated at its commencement, frequently terminates fatally.

Cure.—Bleeding is the first and most necessary measure to be taken in this disorder, after which a pint of castor oil may be administered. Should there be any signs of costiveness, let dry clysters of warm water with a little sweet oil be given. A liniment composed of—

Oil of turpentine	2 ounces,
Flour of mustard	4 ounces,
Water of ammonia	2 ounces,

Which must be well rubbed on the loins; after which, let them be well clothed, or covered with a fresh sheep's or lamb's skin. If this does not remove the constant straining to stale, let the following clyster be employed:—

Crude opium	1 drachm, and a half,

Dissolved in warm water, and mixed with gruel. Or the following:—

Tincture of opium	1 ounce and a half,
Thin gruel	1 quart.

If the animal is very thirsty, an infusion of linseed, or a decoction of marshmallows, is the most proper drink.

INFLAMMATION OF THE LIVER.

Causes.—Fat beasts, or such as are in good condition, are most liable to this disease, especially in hot weather, when overheated by driving, or being exposed to sudden cold after the body has been over-heated. It may also be brought on by blows or bruises on the short ribs, by which the liver may have received some injury: or by sudden changes of the weather.

Symtoms.—Cattle are more subject to diseases of the liver than horses, because the latter have no gall bladder; but in the former is one of a considerable size. The symptoms of a diseased liver are complicated; and hence we shall treat of these subjects under the heads of *Diarrhœa*, *Jaundice*, and *Hepatic Consumption*.—When an acute inflammation of the liver occurs, it should be treated

in the same manner as an inflammation of the lungs, and is probably produced by the same causes.—However, this disease is commonly of a slow kind, causing a defective action in the organ; and consequently, an unhealthy kind of bile is formed, which plugs up the ducts of the liver, and causes a derangement in the organs connected with it.

CURE.—It must be correctly ascertained whether this disease be acute or chronic, before its cure be attempted. The proper mode of treatment will be found under the heads before alluded to.

INFLAMMATION OF THE BLADDER.

Some cows during the latter part of the time they are in calf, have a frequent desire to void their urine, owing to the very irritable state of the bladder. When this is observed, it will generally be found to depend upon costiveness; in which case a laxative drink and clyster are the most suitable remedies. This state of the bladder has been often, but very improperly, termed inflammation. Skilful practitioners are inclined to believe that this disease very rarely occurs. Should the neck of the bladder appear to be obstructed, or if there be any reason to suppose that there is a *retention* of urine, the female catheter, or even the finger, may be easily introduced, in order to allow the water to pass off freely.

INFLAMMATION OF THE BRAIN.

CAUSES.—This complaint usually proceeds from redundances of blood in the system, called an overflowing of the blood; or by severe contusions of

the head. It is sometimes occasioned by excessive heat, or a sudden change from a poor to a rich diet.

Symptoms.—This serious and fatal disorder is one of the most distressing to which cattle are subject; it is, however, fortunately of rare occurrence. An animal labouring under this disorder, is described as having a peculiar wildness and anxiety in his looks, being usually watchful, starting often, groaning vehemently, as if affected with sudden and violent pain; his respiration is slow, but he sometimes makes very long respirations, and appears for a time as if his breathing was entirely suspended. Suddenly the beast will rise, turn about, and instantly lie down again with the same volatility, evincing marks of great restlessness and delirium. When the frenzy is high, the eyes look red and furious; at other times they border on langour and stupefaction; the teeth are grinded together, and they will sometimes tear up the turf with their feet, and toss it into the air with the greatest violence; but the beast always appears to labour under considerable fear, dreading the approach of any thing; and is often quite ungovernable, scarcely ever inclining to rest, except in the latter stage of the disease, when, if it has been neglected, or has not yielded to the usual remedies, a lethargy takes place, and the animal sinks. Sometimes the urine is hot and high-coloured; but it is said that before a fit of the frenzy takes place, the urine is often of a pale colour, and thinner than natural.

When the symptoms of fury or irritation suddenly cease, and a lethargy takes place, the pulse becoming feeble, and the strength diminishing, the case is almost hopeless; but should the fever, redness, and flushing in the eyes gradually subside,

without any variation of the pulse, or approaching debility, the beast may generally be pronounced recovering.

On opening the head of such animals as have died of this complaint, very evident marks of inflammation appear about the membranes of the brain, and very frequently in the substance of the brain itself. All the vessels are turgid with blood, and, on cutting into the brain, innumerable little red points are to be seen, which do not appear in the natural state. Very commonly an effusion of blood, or of purulent matter is found to have taken place in the cavities of the brain, or in some part near its surface.

Cure.—This complaint requires the most prompt and decisive measures to be used for its cure. Blood must be taken in copious quantities from the jugular vein or temporal artery. Not less than three quarts should be taken from an ordinary ox or cow; and if the animal is very large, four may be taken; and should the symptoms not abate, the bleeding must be repeated a few hours after. When the beast is very furious, it is often dangerous to bleed in a very deliberate way; but as his recovery will almost entirely depend upon a sufficient loss of blood in the earlier part of the disease, it will not be amiss to bleed him in the manner described by Mr. Blaine, who plunged a lancet into each jugular, and permitted the animal to bleed till he fainted, by which means, though the disease was far advanced, he saved the animal. After bleeding, a stimulent blister should be applied to the top of the head, and the sides of the neck should be well rubbed with a mixture of cantharides and oil of turpentine, and other means used to produce ex-

ternal inflammation, for the purpose of determining the blood from the head. In addition to these means, costiveness should be carefully guarded against.

INLAMMATION OF THE WOMB.

Causes.—This disease is very prevalent, and usually proceeds either from the cow having been kept in too high a condition at the period of calving, or from too much violence having been used in the extraction of the calf.

Symptoms.—This disease is usually indicated by a languid appearance, a quick pulse, loss of appetite, and gradual loss of her milk. As the disorder advances, the bladder becomes affected, and a fetid discharge from the parts frequently occurs. The animal appears sometimes to be almost constantly straining, as though endeavouring to void something; in those cases a small quantity of urine is frequently discharged; at other times the urine is detained so long as to render it necessary to relieve the bladder by drawing it off. This may easily be effected, by introducing an instrument through the urethera into the bladder or by the finger, the passage being very short. When the disease has proceeded thus far, the cow frequently becomes so weak as to be incapable of standing.

Cure.—We have before observed that it is necessary to draw off the urine, when too long retained. But the principal remedy is bleeding. The following laxative drink may be administered :—

Epsom salts . . .	6 ounces,
Castor oil . . .	8 ounces,

Dissolved in a quart of thin gruel or warm water.

Clysters of warm water and oil are also useful. After the bowels have been opened, the following anodyne may be given :—

Tincture of opium . .	half an ounce,
Spirit of nitrous ether . .	1 ounce,
Camphor . . .	2 drachms.

To be given in a pint of gruel.

This may be repeated, after ten or twelve hours, should it be found necessary. When the pain and straining are considerable, the anodyne clyster may likewise be given, which consists of one ounce and a half, or two ounces of tincture of opium, and about a quart of thin fine gruel.

When the womb, or any other internal organ, is inflamed to a considerable degree, a cure is almost impossible. The earliest attention, therefore, should be given to these complaints.

INFLAMMATORY FEVER.

Causes.—This disease is known among various people by many absurd names, such as *Joint Felon*, *Quarter-evil*, *Quarter-ill*, *Shrinking in Back-Quarter*, *&c.* It usually occurs to young cattle, between the first and third year of their age, but most commonly about the second year. It may be said to arise from feeding them too hastily ; such as turning them, when in a lean state, into rich luxuriant pastures.

Symptoms.—The animal that is seized with this complaint, suddenly becomes stupid and listless, hanging down his head, refusing his food, and apparently moves with difficulty. Swellings speedily appear on various parts of the body, which, when pressed by the finger, make a crack-

ing noise. The joints are sometimes particularly affected; at other times the swellings appear on the back, belly, or shoulder. The disease is rather sudden in its attack, and frequently proves fatal, particularly if suitable remedies are not quickly applied.

CURE.—Bleeding is the first and principal remedy and must be used in proportion to the age, and strength of the animal; from three to four quarts will generally be found sufficient. After this, the following purgative drink may be given with considerable advantage:—

Carbonate of potash	2 drachms,
Sulphate of soda	6 ounces,
Barbadoes tar	3 drachms,
Warm water	1 pint.

Mix for one dose.

This dose will generally suffice for an animal of two years of age. Should there be any difficulty in procuring these medicines, give from four to six ounces of common salt in a pint of water; the addition of four ounces of castor oil, or even linseed oil, will render it more efficacious. As this disease frequently proves fatal, in whatever manner it is treated, preventive measures should be speedily applied. Should the animal, however, be relieved by the treatment above described, it may occasion considerable weakness: and consequently the following may be given twice a day:—

Ginger	2 drachms,
Powdered carraway seeds	1 ounce.

To be given in a pint of oatmeal gruel, or ale.

Should the joints be affected and swollen, they may be rubbed with the following liniment:—

Spirit of sal-ammoniac . .	1 ounce,
Linseed oil . .	4 ounces,
Oil of turpentine . .	2 ounces.

Mix.

Setons in the dewlap, or other parts of the body, are occasionally applied as preventives of this disorder. Should it be produced by feeding cattle too hastily, Mr. Lawrence has very judiciously advised that a short or inferior keep should be reserved, as a digesting place, where cattle may occasionally be turned, to empty and exercise themselves. This is certainly preferable to bleeding, or any medical preventive.

Mr. White remarks, "I think it necessary to mention another mode of prevention, which, I have been informed by an intelligent gentleman, who has had great experience in breeding and rearing cattle, has been adopted by him and his neighbours with great success.

"He informs me, also, that before this method was discoved, they lost so many young cattle by the disease, that they had determined to breed no more. They happened to hear this preventive, and purchased it, as a valuable secret.

"Having properly secured the animal, an incision is to be made in the skin, beginning from the division of the claws, and carrying it upward, to the extent of two inches. A bluish vessel will be seen, which is to be drawn up with a hook, and removed with scissors; the part is afterwards to be dressed as a common wound. Mr. Lawrence is very humorous upon this apparently whimsical operation; and I should certainly consider it in the same light that he does, but for the very respectable authority from which I received it."

MURRAIN, OR PUTRID FEVER.

Murrain, or pests, are undoubtedly the most serious epidemic fevers that ever have appeared among domestic animals, owing to their violence and fatality; they have occasionally raged from the earliest historical accounts. From the several statements that have been made concerning the disorder, it seems to have varied in its symptoms and effects, according to the countries in which it appeared, the various seasons in which its ravages were commenced, and some other circumstances not perfectly ascertained. It is evident that this disease was infectious, since it was easily propagated among the species of animals which it attacked; but it is not certain that it has the power of spreading to other species; as men, horses, sheep, and dogs, that live in the neighbourhood of the cattle infected by it, evinced no signs of having received the contagion. Nineteen out of twenty cattle attacked by this disease are said, by Mr. Savage, to have died.

Causes.—The causes and nature of this disorder have not been precisely ascertained. Some have imagined it to be connected with a peculiar state of the atmosphere, and that it did not originate in contagion. Many consider the principal cause of the disease to be previous hard winters, obstructed perspiration, worms in the liver, and corrupted food.

Symptoms.—The following account of this disease is given by Dr. Brocklesby. For ten days or a fortnight the cattle were troubled with a dry cough, which is indeed not an uncommon symptom among

cattle at the close of a severe winter, and therefore Dr. Brocklesby did not consider it belonging to the present disease; their eyes looked heavy, and, when the principal disorder appeared, they refused fodder, but had an insatiable thirst for a time. The milk cows decreased in their milk, which remained to a certain quantity, sometimes, for two days, before it changed colour, but at length often dried up. On ceasing to chew the cud, a shivering seized them all over, and a high fever immediately came on; the milk, if any remained at that time, curdled over the fire, but did not in the first of the disorder. At first the belly was costive, but for the most part a looseness succeeded within forty-eight hours after the shivering fit. The stools were first green and watery, and of a stinking smell; their consistence, however, altered afterwards to a viscid, slimy matter; the purging continued till about the seventh day, and about that time the excrements became thicker in such as recovered; and these soon chewed their cud again, and tasted the fodder, which they had before absolutely refused through the whole disease. All that had not the looseness before the third day died. The urine was very high coloured, and in smaller quantities. The degree of fever was observed very high; upon the third day, the pulse beat nearly a hundred times in a minute, whereas the ingenious Dr. Hales found a sound ox's artery not to exceed thirty-eight pulses in the same time. At different intervals, after the attack, they all laboured under a prodigious difficulty and panting for breath; some suffered these after the first day, others not before the third. But this disorder suffered remissions, and seemed augmented towards evening and at night. Several

beasts discharged, towards the fourth or fifth day, when ill, a very great quantity of frothy liquor from the mouth and eyes; others ran actually purulent matter from the nostrils. As the disorder advanced, the eyes sunk more in their orbits, and some were observed to be quite blind. Towards the conclusion, the fore parts of the body, and particularly the glands about the head were prodigiously swelled; and several beasts had a universal emphysema, or crackling of air beneath their skin: those that were not blooded, equally with such as were. Frequently one might observe pustules break out, on the fifth and sixth days, all over the neck and fore parts. Some cattle were raging mad on the first day; such were necessarily killed: some dropped down suddenly; others died on the third; most on the sixth or seventh; very few alive on the fourteenth day. Before death, the horns and dugs grew remarkably cold.

Cure.—The method of treating the cattle recommended by Dr. Brocklesby is as follow:—"Before the cattle are seized, he advises two setons or pegs to be put deep in the dewlap, and into the under part of the neck; and, immediately upon refusing fodder, the beasts should have three quarts of blood taken away; and after twelve hours, two quarts more; after the next twelve hours, about three pints may be let out; and, after the following twelve hours, diminish a pint of blood from the quantity taken away at the preceding blood-letting; lastly, about a single pint should be taken away in less than twelve hours after the former bleeding, so that when the beast has been bled five times, in the manner here proposed, the worst symptoms will, it is hoped, abate; but if the diffi-

culty and panting for breath continue very great, he sees no reason against repeated bleeding; or at least against taking away the fifth time, instead of a single pint, twice that quantity.

"In the meantime the setons or pegs should be daily promoted to suppuration by moving the cord; and the cattle should have as much bran-water as they choose to drink lukewarm. This should be made a little tart or sourish, either with common vinegar or spirit of vitriol: and immediately after the first bleeding, they should have the following drench:—

Nitre . . .	1 ounce and a half,
Honey . . .	2 ounces,
Camphor . . .	1 drachm and a half,
Water gruel . .	1 quart.

It is rather surprising that this same treatment, with a trifling variation in the internal medicine, is also recommended by Mr. Feron as the result of his own experience, in what he terms the general inflammation of cattle.

RED WATER AND BLACK WATER.

Causes.—The red water and black water arise from a preternatural quantity of blood being determined to the kidneys, and a consequent rupture of some of the minute blood vessels of those organs. This undue determination of blood to the kidneys is very frequently induced by turning cattle, at the spring of the year, into low pasture grounds, or woodland pastures, where the air is moist, and lessens perspiration, occasioning the blood to become too watery. The balance of circulation is deranged from the perspiration being suppressed,

and a too great quantity of blood is in consequence determined to the kidneys, which gives rise to the disease. On removing cattle, thus affected from the state of the atmosphere, into a more elevated situation where the air is drier, the beast will frequently be restored without the aid of medicines. It very often proceeds from cattle being removed from good to bad land, the grass of which disagrees with them, and the vigour of the body is thereby impaired, and they in consequence take cold, which flies to the kidneys, and occasions red water. It is often produced by their taking cold from the changeable state of the weather, or driving them long distances in the day, and turning them into fields at night, where they take cold.

The red and black water is most prevalent in the spring and summer, when the grass is nutritious and produces a plethoric state of the system, or what is commonly called a *redundancy* or *overflowing* of the *blood*, which favours an unequal distribution of the blood, when they are affected by the causes above mentioned. Some cattle are more liable to the red water than others, which may in a great measure be owing to the nature of the soil, and the state of the air they have been accustomed to; these, when removed into pastures where the land is bad, and the air moist, are frequently attacked with it.

Symptoms.—These diseases seldom occur separately, and almost prevalent among milch cows. Mr. Clater conceives the red water to be the original disease, and the black water to come on as the complaint advances, which is generally an unfavourable symptom, often arising from inefficient treatment. When the change takes place from red to

black water, the animal in general stales free from either for several times. In slight cases where the blood is passed away with the urine, the beast does not appear to be affected by it; if a cow, she holds to her quantity of milk, and seems no worse. But when the blood so passed away is considerable, and sometimes for a length of time, it reduces the quantity of milk, and likewise the animal itself to a very low state; and if some powerful remedy is not resorted to, the beast must inevitably sink under the pressure of the disease. In these bad cases, the milk sometimes becomes discoloured, and the beast is frequently so weak, that she is unable to rise when down, and requires gruel to be horned into her.

The red water is sometimes attended with a lax state of the bowels, and in some instances a considerable quantity of blood is evacuated with the thin dung, and none with the urine.

Cure.—Purgative medicines are the best remedies in these disorders. The following is recommended as a safe and efficacious purge:—

Castor oil	6 ounces,
Nitre	1 ounce,
Epsom salts	4 ounces,
Whey, or thin gruel	1 quart,

Mixed.

Should this not prove effectual in removing the disease, the following drink must be administered:

Oil of turpentine	2 ounces,
Alum dissolved	1 ounce,
Terra Japonica	1 ounce.

Some prescribe the following:—

Epsom salts	4 ounces,
Cream of tartar	1 ounce,
Castor oil	4 ounces,

Mixed in whey; and after this gentle purge, th following to be given :—

Roche alum . . .	2 ounces,
Tincture of cantharides . .	2 ounces,

To be given in a quart of lime water.

Mr. White observes, that an experienced farmer, whose cows were effected by the red water, gave them half a pint of the juice of the white blossomed nettle, which speedily cured the disease.

When the animal is perceived to be frequently endeavouring to stale, voiding only a small quantity, with considerable pain and difficulty, mucilaginous drinks, such as infusion of linseed and decoction of marshmallows, are most likely to afford relief.

SCOURING ROT.

Causes.—This disease is met with at every season of the year, but is more prevalent in autumn, particularly in low swampy situations. This complaint generally arises from suppressed perspiration, induced by the sudden vicissitudes of the weather; particularly when the animal has been over-driven, or heated by working immediately before. Drinking too much water, under similar circumstances, will likewise produce the disease. A want of nourishment, especially in cows that are regularly milked, will often cause the scouring rot.

Symptoms.—In this complaint farmers frequently lose several of their cattle in a season; owing to which it has received the name of the *scouring rot*. When the purging has been of long continuance, a general weakness is produced, accompanied with

a loss of flesh. The skin hangs loose about the body; sometimes the animal appears hide-bound; the hair turns sandy, or of a greyish colour; the eyes grow pale; the pulse is weak and irregular; the excrements thin and slimy, frequently changing colour, particularly in the early stages of the disease; but in the further stages of the complaint, the dung appears like half-chewed food; the food appearing to pass through the bowels without undergoing the process of digestion. Some writers state, that when animals have been long affected by the scouring rot, they feel a considerable degree of distress and pain when grasped on each side of the back bone, just behind the shoulders; and this is considered as a certain sign that the beast has become unsound from the scouring rot.

CURE.—In the cure of this complaint in cattle, a variety of remedies have been proposed. Mr. Lawrence recommends, that as soon as the disease is apparent, the cattle should be taken to the home fold, and put on dry food, which will generally supersede the necessity of medicine. The remedy which Mr. Blaine seems chiefly to rely on, is the following decoction :—

Galls	half an ounce,
Nux vomica	1 drachm and a half,
Ipecacuanha	1 ounce,
White vitriol	20 grains,
Alum	2 drachms,

In a quart of water boiled to a pint.

This receipt may probably appear too complex, and its ingredients too numerous. The following will be found of service :—

Ginger	1 drachm,
Kino	2 drachms,

Castile soap softened with water	2 drachms,
Alum	half an ounce

Powder of oak bark, sufficient to make a ball.

Where the scouring has continued for any length of time, the bowels must be extremely sore and tender. In such cases, mucilaginous or oily substances would be useful, and they should be given frequently, both by the mouth and by way of clyster. Mr. Lawrence recommends a pound of fresh mutton suet boiled in three quarts of milk until the suet is dissolved to form a drink to be given warm. This, we should suppose, would answer extremely well. Should the disease increase to an alarming height, starch clysters with laudanum may be given as a last resource. Dr. Blaine observes that, in these cases, he should try animal food altogether; giving broth to drink, or the blood of other animals, with meat balls forced down the throat; as he thinks it very probable that a change might thus be effected in the constitution, which might ultimately lead to a perfect cure.

Mr. White considers that the immediate cause of the disorder is an unhealthy action of the liver, and recommends the following drink, which he admits will somewhat increase the scouring at first:—

Quicksilver pill	from 2 to 3 drachms,
Castor oil	4 ounces,
India rubber	3 drachms,
Gruel	1 pint,

Mixed for one dose.

This should be well stirred immediately before it is given, as the quicksilver pill is heavy, and would otherwise soon separate and fall down; for the same reason it is to be given in gruel, which will suspend it longer than a thinner fluid.

This dose should be repeated for three mornings following, unless it causes sickness or griping, or increases the scouring in a considerable degree. On the fourth morning, commence with the following astringent drink, or earlier, should the above medicine produce its effect before the three doses have been taken. During the time the cow is taking the former medicine, she should be supplied with warm fluid, of which thin gruel is the best, and must not be exposed to a cold air.

Starch	4 ounces,

Mixed in a similar manner as is employed for stiffening clothes, with three pints or two quarts of water, so as to form a thick, mucilaginous fluid. To this add—

Catechu, or Terra Japonica .	half an ounce,
Tincture of opium .	2 drachms,
Ginger . . .	1 ounce,

Mixed.

After the scouring has ceased, the cow should be brought back by degrees to her usual state. At first she should be turned out for a few hours, in some dry pasture, when the weather is agreeable; and her water should be given gradually less warm.—This precaution is highly requisite, as the affected parts do not immediately recover their strength after the scouring has ceased.

In the diarrhœa, which arises from exhausting a cow by constant milking, when she is not sufficiently fed, or is supplied with food of a bad quality, the remedy is sufficiently obvious. But, in this case it too often occurs that the constitution is worn out before it is thought necessary to alter the poor animal's condition. Whenever this change

is made, it must not be done too hastily, as other diseases may be produced thereby.

When calves are first weaned, they are subject to a species of purging which sometimes proves extremely obstinate; and some suppose that the principal reason of the calf-feeders giving them chalk to lick, is to prevent this purging. It appears that this disease will take place in calves, when they are fed on the milk of some particular cows; and that when the milk is changed, the complaint goes off. The purging may generally be suspended, by boiling starch and bean flour in their milk; but should it still continue obstinate, a little ginger and laudānum may be added.

The last-named writer also observes, "As to the medical treatment of this complaint, much useless expense is often incurred. The most profitable plan is, I believe, to put the animal under cover, especially in winter, autumn, and the early part of spring; and feed on hay, bran mashes, with oats, or oil-cake, and endeavour to make her fit for the butcher. If it be a milk cow, she should be suffered to go dry. Should the scouring continue, notwithstanding this change, give, in the first place, the drench before directed, or the following:—

Common salt . .	8 ounces,
Flour of mustard .	2 ounces,
Water . . .	1 pint and a half,
Oil, or melted lard .	half a pound.

"This will increase the discharge for a short time; afterwards, the dung will gradually become of a more natural consistence. But should the scouring continue, give the astringent drink already prescribed, or the following:—

Powdered catechu . .	6 drachms,
Tincture of opium .	half an ounce.

Powdered ginger . .	2 to 3 drachms,
Warm ale . .	1 pint and a half,

Mixed.

"The powder, or tincture of galls, would also be found a powerful astringent. Some farmers give mutton suet boiled in milk, with four ounces of oil of turpentine. I once gave eight ounces of oil of turpentine mixed with a quart of gruel, and afterwards kept the animal, under cover, upon hay and bran mashes. The dung acquired a healthy appearance in a short time; but on turning her out again, the disease quickly returned.

Dr. Dickson thinks that much advantage may be derived, in these cases, from a strong decoction of hartshorn shavings and cassia, with powdered chalk, in the proportion of half a pound of chalk, four ounces of shavings, and an ounce of cassia, to be boiled together in two quarts of water to three pints, adding the cassia towards the close of the boiling. A hornful of this mixture is to be given several times in the day, shaking it well every time.

CATARRH, OR COLD.

Causes.—The causes of colds are in general imperfectly understood, and ought to be attended to.

Symptoms.—There are two species of catarrh; viz., simple cold, and epidemic catarrh, or what is frequently termed influenza. The latter sometimes will attack a whole herd of cows, or oxen in one night. When first attacked, the animal seems dull and languid; the eyes appear watery, and are sometimes partially closed; and the appetite is generally diminished; and usually attended with

cough. Indeed, there are not unfrequently swellings under, or below the ears, a discharge from the nostrils, and also a difficulty in swallowing. When this complaint rages thus violently, it is commonly called *influenza*, or the *distemper*, and though some persons suppose it to be contagious, it has not been correctly ascertained that it is so.

Though colds are very prevalent, especially in damp, or cold weather, and are often deemed of too little consequence to deserve particular notice, yet, if the animal is neglected, and suffered to remain exposed to the vicissitudes of the weather, very serious results may ensue. In consequence of such neglect, the animal is frequently observed to decline gradually, both in substance and strength, and also to become hide-bound, and possess a rough, staring coat; tubercles are ultimately formed in the lungs, the mesenteric glands become enlarged, and the passage by which nutriment is conveyed to the blood is thereby obstructed; at length atrophy and death will inevitably ensue.

Cure.—It is highly requisite that this disorder should be attended to as soon as it is apparent. With respect to its cure, very considerable advantage will result from nursing and placing the animal in a warm situation, and allowing him warm nourishing fluids, such as gruel, infusion of malt, &c. At some seasons of the year, colds are so prevalent as to be considered epidemic and infectious, generally occurring with great violence, and accompanied by fever; considerable debility also ensues soon after the attack. On this occasion, hot stimulating drenches, though usually recommended, are very injurious.

At the commencement of colds, bleeding is gene-

rally proper; but should be avoided, when the animal is very weak and low in condition. The quantity of blood taken ought rarely to exceed two quarts. Should the animal be costive, a laxative drink may be given; but if he purges or scours, the following powder may be administered:—

Tincture of opium	half an ounce,
Antimonial powder	2 drachms,
Powdered ginger	3 drachms,
Camphor	1 drachm and a half.

To be given in oatmeal gruel, and repeated after eight or ten hours if it be found necessary.

Should there be found considerable difficulty in swallowing, apply the following liniment, and let it be well rubbed about the throat:—

Liquid ammonia, commonly termed spirit of sal-ammoniac	half an ounce,
Oil of turpentine	1 ounce,
Common oil	1 ounce.

Mixed.

In the case of common colds, it will be unnecessary to administer medicine, but the animal should be placed in some comfortable situation, and well attended to. Bleeding, in slight colds, is rarely requisite; except the animal, owing to a change of situation, becomes hot and feverish, and the eyes appear red, and the flanks move quickly; in which case, he must be bled copiously. Should the animal prove costive, the laxative should also be given. When no feverish symptoms are apparent, the laxative should be mixed with an ounce of carraway seeds, and three or four drachms of ginger.

When the distemper has been improperly treated, the animal becomes extremely weak, and consequently his strength should be recruited as early as possible; on which occasion, a tonic may be given

two or three times a day, which, with a warm nourishing diet, and proper care and attendance, will ultimately effect a recovery.

It may be necessary to observe, however, that should the animal become costive, a mild laxative consisting of about half a dose, will generally suffice. A moderate quantity of grass will be of service, if it can be conveniently procured, but in favourable weather, some warm sheltered situation is the best place.

A laxative composed as follows, may be used :—

Powdered carraway seeds . .	1 ounce,
Sulphate of soda (Glauber's salt) .	1 pound,
Oatmeal gruel . . .	1 quart,

Mixed for one dose.

If this disease should appear to be epidemic, speedy measures should be adopted for its prevention, which is more particularly requisite when rain and cold winds prevail: for catarrh, or cold, is frequently an insidious complaint, and if not attended to, may ultimately produce very unfavourable results.

THE MANGE.

Cause.—This disease would seem to arise from poor living and want of due cleanliness.

Symptoms.—This disease generally makes its appearance early in the spring, as soon as the warm weather begins to set in, and is commonly called by graziers the *scab*, or *scurf*; a popular writer thus describes it:—

The skin is stiff and sits fast to every part of the carcase, as if too small for the body. It makes its first appearance about the head and jaws of the

animal, with a scurfy, pale, and dry texture; and the beast begins to scratch against every thing that comes in its way; it then shows itself along the back, and behind the shoulders; and if timely aid be not procured, the animal will tear its skin till it bleeds violently, which ought to be prevented if possible, as the scabs which are the consequence of bleeding, must retard the efficacy of the ointment, and the loss of the time confirms the disorder.

CURE.—The following ointment will prove serviceable in this disease:—

Elecampane root powdered,	2 ounces,
Sulphur vivum powdered	2 ounces,

Mixed with hog's lard.

A recent author recommends the following:—

Hog's lard	half a pound,
Oil of vitriol	1 ounce.

Gradually adding the oil of vitriol to the lard.

Internal remedies, such as sulphur and gentle laxatives, are occasionally requisite; the most particular attention must be paid to cleanliness, exercise, and diet. In cases where the animals that have caught the disease are very full of blood, it will be necessary to bleed and give cooling physic before the ointment be applied. The skin should always be thoroughly washed with soap and water, both before and after the application of the ointment, and the animals should be confined till they are perfectly free from the disease.

The following observations, extracted from the Edinburgh Medical and Surgical Journal, are inserted as tending to shew the injurious effects resulting from an improper treatment of the mange:

"For the mange in five cows of Mr. Hatchett,

a man, vulgarly called a beast-leech, or cow doctor, applied a preparation containing tobacco and corrossive sublimate. In the course of one hour and a quarter they all died, preceded by convulsions. The facts were proved, on an action against this doctor, to the satisfaction of the jury, who awarded tho damages. An experiment has been subsequently made by an intelligent medical practitioner on the diseases of dogs, in which six grains of shag tobacco, infused in about one drachm of water, being applied to the skin of a dog, presently killed the animal. It is, however, well known that dogs are very commonly washed with tobacco water for the mange without poisoning them; but I have known it occasion long continued nausea, vomiting, purging, and discharge of urine. Probably, however, it requires a concentrated solution of tobacco to prove destructive to life. The same observation is made on the effects of corrosive sublimate, and tobacco in the case of Mr. Hatchett's cows. Probably, too, these applications may occasionally have produced death, but the cases were unnoticed. It is also questionable, whether the tobacco or corrosive sublimate poisoned the cows, or the two conjointly. Tobacco does not kill horses, for it is very commonly eaten with corn, to increase the appetite; nor do very large doses of corrosive sublimate taken internally poison them."

DYSENTERY.

Causes.—This disorder commonly arises from suppressed perspiration, induced by exposure to sudden changes of weather, especially when it has been previously fine and warm. Cattle that are

over-heated by driving and turned into a pasture at night, where they lie down upon wet grass, are sometimes attacked by it. These causes produce the complaint by occasioning a peculiar inflammation of some parts of the bowels.

Symptoms.—This complaint is accompanied by an inflammatory fever and griping pains, and is sometimes termed the *bloody ray*. The discharge of dung is frequent, emitting an offensive smell, and is often mixed with the mucus, or natural lining of the bowels. It is very similar to the disease of horses called *molten grease*.

Cure.—Copious bleeding should first be applied, and a pint of castor oil be taken afterwards. Should the animal not appear relieved, in some degree, in six hours, the pulse remaining quick, and the under surface of the eyelid particularly red, the bleeding must be repeated. After the symptoms have been subdued, the animal will be very weak; and consequently, every exertion must be used to support its strength. For this purpose, oatmeal gruel, or gruel made with wheaten flour, and malt mashes, may be given freely. Should the discharge be considerable, bleeding would be injurious: the castor oil, however, is commonly necessary; and, if it cannot be easily procured, sweet oil or melted lard should be substituted. Gruel formed of arrow root, is an excellent drink in this complaint. If the disease should still continue, half an ounce, or six drachms of tincture of opium may be given in arrow root gruel.

If calves are improperly managed at the time of weaning, they are liable to a severe diarrhœa, which, if not attended to, very frequently proves dangerous. Flour milk gruel, with a little pre-

pared chalk, is the best remedy for this complaint; a drachm of ginger, and from half a drachm to a drachm of tincture of opium, may be added in very obstinate cases.

THE FOULS.

This complaint in cattle is somewhat similar to canker in the horse, and generally produces a discharge of fetid matter from between the claws of the hoof, or occasionally from one claw only, in which cases, cattle are commonly said to be *foul in the foot.* This disease is usually distinguished amongst graziers by the names of the soft, and the horny foul, and require different modes of treatment. In the *soft fouls*, there is a running of very offensive matter from the heels, or between the claws of the hoof: and the animal is exceeding lame. In this case, the treatment consists in cutting away all the soft and spongy parts, and afterwards applying a caustic liquid. The parts should then be covered with a little mild ointment; or, (as farmers frequently do) wrap a piece of fat bacon round the part, tie it on the foot, and let it remain for two or three days. In the meantime the animal should stand very clean, and be allowed as much rest as possible.

In the *horney fouls*, the animal appears very lame, and, on an examination of the foot, the hoof feels very hot and, on pressing it hard, the animal feels considerable pain. Some part of the horn generally penetrates into the softer parts of the foot, either at the heel, or between the hoofs. In undertaking the cure, it will be requisite to cut away these parts of the horn, as well as any other part under which

much inflammation is apparent. If it should be necessary to cast the animal, particular care should be taken in selecting a soft place for the purpose of throwing him on. When the hoof is pared away, a rag moistened with vinegar and water should be tied on, and the animal sent to graze on some soft ground. Should the inflammation and pain be very great, it may probably be requisite to bleed from the veins of the foot.

COWS PREVIOUS TO CALVING.

"The diseases," observes Mr. White, "which most commonly occur at this time, are stranguary, or difficulty in voiding urine, and costiveness; and these it is highly necessary to attend to, as they may, if neglected, be the cause of the cow slipping her calf. The stranguary is readily known to exist, by the cow making frequent attempts to stale, without being able to void any urine, or only a small quantity. When it is accompanied by costiveness, which is generally the case, and is often the cause of the complaint, the bowels must be opened by a laxative, composed of a pound of Epsom salts, dissolved in a quart of gruel; a clyster should also be given, consisting of two quarts of warm water, and four ounces of linseed oil. The clyster may be repeated two or three times in the course of two hours, should it be found necessary. Should the stranguary continue after the bowels have been emptied, give the following drink:—

Spirit of nitrous ether . . .	half an ounce,
Camphor, powdered . . .	2 drachms,
Tincture of opium . . .	half an ounce,
Gruel in which one ounce of nitre has been dissolved	1 pint.

Mix.

"Many cows have been lost, by allowing them to be too fat at the time of calving: they are then said to die of the milk fever, which in fact, is nothing more than inflammation of the uterus, or womb. It is advisable, therefore, when a cow far gone with calf is in too good condition, to reduce her, by changing her pasture, which is preferable to bleeding or physic; but if she has approached too near her time to admit of this change having any effect, then bleeding will be proper."

COWS AT CALVING.

Nature is, in general, all-sufficient for the purpose of producing the young of the various domestic animals, and consequently, little is left for man to do, except in taking care that the females be placed in such a situation that they may not expose themselves or their young to injury. It is always requisite that a cow which is near the time of calving should be attended to, in order that every necessary assistance may be rendered.

Some cows, especially those of the short-horned breed, frequently require particular assistance. The natural presentation of the calf is, with its head and fore feet, the nose between the feet, and the back upwards. Downing enumerates several preternatural positions: namely, First, reverse representation, or tail first. Second, fore feet, no head appearing. Third, side belly upwards, head reversed over one shoulder, legs appearing. Fourth, fore feet with head under the brisket. Fifth, head alone, or one fore leg only with it. Sixth, head and one leg, or head alone. Seventh, calf lying on its back, its four legs folded nearly together, and

close up to the cow's back; the head appearing, or doubled back, even with the ribs, on one side or other; the hind-leg perhaps appearing.

The following general rules are extracted from an excellent work by Mr. Lawrence:—

"Timely assistance before the cow is exhausted.

"Extraction never to be attempted in an improper position.

"Supple the hand and arm with warm water and fresh lard.

"Examination best made, the cow standing, and in the interval of pains.

"In pulling at the feet, enclose the claws in the hand, that the horn may not bruise the cow.

"Naval strings bursting, and the usual flux of blood of no consequence.

"Instruments to be used only in the last resort, and by an experienced and steady person only.

"The proper hook is of hard iron, four inches long, with a loop for the cord at the straight end.

"In a natural position if the cow should want help, the position of the calf may be ascertained after the waters have been seen. A cord ought to be in readiness to attach to the fore-legs of the calf, in order to assist each natural exertion. The head to be kept clear from obstruction.

"Preternatural position. No. 1. as above. No attempt to turn the calf (this position being favourable for extraction,) but use expedition, for fear it be suffocated. Press the haunches back with the palm of the hand, take hold of the bend of the hough of one leg, pull at it, and reach the foot; both feet may thus be brought forth. No. 2. Reduce the head to its proper situation, between the fore-legs, either

by hold of the nose, or the face bone. A long arm is needful, which must be kept to the full extent of the body, that instant advantage may be taken of every throe, the fingers being properly fixed. No. 3. Gently move the calf back, and bring the head forth to the legs. No. 4. Push the calf back to find the head; pull at the nose: this requires address, but it is useless to employ force till the head be in its proper place. No. 5 and 6. Push the calf back against the shoulders and brisket: the feet will be found folded under the belly; bring the feet forward, one at a time, the hand being gently placed on the bend of the knee. Should the head be too much swelled and bruised to be returned, it must be skinned and amputated. Dissect in a straight line from the poll to the nose, force the skin back over the first joint of the neck, divide the head from the body, pushing the latter back to obtain hold of the knees. The loose skin must be previously wrapped over the ragged bone, and an assistant should have fast hold, in order to guide it clear of the haunch-bone of the cow; should it hitch there, pull back instantly. No. 7. If one hind-leg appear, put it back; the calf cannot be brought forth with a hinder and fore-leg together, and the difference between the knee and hough will be immediately discovered. The head being doubled back, must of course be reduced to its proper place. The cow being strong and quiet, the business may be effected with care and patience; and should the hook be positively necessary, hold must be taken, either in the sockets of the eyes, cavity of the ears, or in the jaw. The case of *dropsy* in the calf will be sufficiently apparent by its pre-

ternatural size; use the knife carefully, should that be necessary, to pierce the belly of the calf."

A recent author observes, "When every other plan has failed for turning the calf, so as to put it into a favourable position for delivery, the following has often succeeded. Let the cow be thrown down in a proper situation and placed on her back; then, by means of a rope and pulley attached to a beam above, let the hind parts be raised up, so as to be considerably higher than the fore parts; in this position, the calf may be easily put back towards the bottom of the uterus, so as to admit of being turned, or his head and fore-legs brought forward without difficulty."

A very material obstruction frequently occurs to the calving of cows, which is called a horning of the lye or calf-bed, when the passage of it is contracted into such a very small circumference, as not to admit the smallest hand at the period of gestation, and grows so sinewy or horned, as renders it quite impossible for the cow to calve without assistance; many cattle have perished on account of this dangerous inconvenience which might have easily been prevented. But so little has been hitherto known of many of the diseases peculiar to black cattle, that a simple remedy or operation might have saved very great numbers which have fallen victims to an untimely death.

In the case before observed, a late writer remarks, "It must take a considerable time before it is contracted as it is often found; but no suspicion or dread can reasonably take place, until near the time when the beast has arrived at the end of nine months, her full time of bearing young, when they

generally make a regular preparation, or falling of the parts of generation, for a few days or week before calving; but in case of this hornedness of the calf-bed, it is observed that they are backward in making these necessary alterations preparatory to the approaching change; and when this is noticed, more than usual observation ought to be taken, for when they do not prepare in a regular manner, they seldom have the efforts of Nature in due course, for the delivery of their burden. But when the beast is observed sick for calving, and has reached the end of her time, and any dread of this is apprehended, there is no danger or impropriety in searching with the hand, in order to be satisfied whether that part is open or grown up, as previously described; yet the greatest care is necessary that the enquiry be made with judgment, and the hand that is introduced must be well lathered with soap and water, or greased with tallow, fresh butter, or some such thing, that will not cause irritation in the neck of the womb.

"Now if it be found in the state described in any degree, and a certainty of the beast being at its full time with the common sickness and symptoms for calving, no time should be lost until the animal be relieved. The difficulty greatly depends on knowing to what degree it is grown up; it is sometimes so straight as not to admit the end of a finger; but with some exertion, it may give so much way as that a small knife may be introduced, whose blade should not be above an inch and a half in length, and very sharp, with a hollow on the back part of the point for the end of the fore-finger, to guide the knife when cutting, and to cover the point and edge when introduced, which must be

covered as much as possible with the hand. Its handle ought to be short, and the fore-finger of the operator should always be kept forward on the knife, to prevent any danger that might arise from the edge of it. The horny circle is sometimes so hard and grisly, that it takes more exertion than may have been expected from the nature of the place: but as soon as it is cut through, the beast will find a very material difference, and strive to void her burthen if possible when every exertion of art ought to be used for her relief. When the business is happily over, the wounded parts within must be taken care of by providing one pint of rectified spirits of wine camphorated, to anoint the wound, and any other part which may have been exposed to the air, bruised, or over distended. This may be conveyed up the neck of the womb by a syringe, sponge, or linen rag filled with it, and carried thither by a small hand, well fomented with some of the foregoing articles for that purpose. Let the beast be kept moderately warm, and in a comfortable situation, allowing her at all times a plentiful supply of good, dry, and sweet litter."

This method of management in preternatural contractions of the passage, is recommended by Mr. Rowlin; but much will of course depend in every case on the judicious observations of experienced judges.

SWELLING OF THE UDDER.

Cows are generally attacked by this complaint about the period of calving, and the swelling is sometimes so considerable as to cause an abscess to form. Immediately it is perceived, the animal

should be copiously bled, and take a pound of Epsom salts, dissolved in a quart of gruel, to which a little castor or linseed oil may be added. The swoollen udder should be often fomented with a decoction of mallows, elder, or hemlock, by means of large woollen cloths dipped in the hot decoction, and, after wringing, applied in such a manner as to cover the whole udder; this process should be continued for a considerable time, and repeated several times each day. After the inflammation has been removed, a slight degree of hard swelling may remain, this, however, is not painful: and the following liniment rubbed on the part once or twice a day will soon disperse it:—

Liquor of ammonia	half an ounce,
Linseed oil	4 ounces and a half,
Oil of turpentine	1 ounce,

Mixed.

Inflammation of the udder will sometimes happen in consequence of the animal receiving cold; in this case, the coat stares, the appetite is diminished, the breathing is quickened, and some degree of fever is apparent. Bleeding will be found beneficial at first, and the following warm laxative may afterwards be applied:—

Common salt	6 to 8 ounces,
Flour of mustard	1 ounce,
Oil, or lard	6 ounces,
Whey, or water	1 quart,

Mixed.

The animal should not be exposed to the weather, but fed with warm mashes of bran and malt; and an ounce of nitre may be put into her water morning and evening.

CHAPS.

It occasionally occurs that the udders of cows are chafed by rubbing against their thighs when they are cat-hammed and go close behind; in consequence of which, both the udder and thighs of the cow are frequently raw and ulcerated. Warm water and soap applied to the parts will be found an excellent remedy; afterwards they may often be bathed with Goulard and camphorated spirits mixed.

On account of due cleanliness not being exercised by the milkers, the teats of cows are frequently *chapped*. A similar treatment as the above will also prove salutary in this case. But should they be very sore, a little laudanum may be first applied to the cracks, and they may be afterwards filled up with fine powdered chalk.

When a slight inflammation of the udder occurs, and matter is collected, the lowest part containing the matter should be opened, in order that the matter may run off freely. After this has been performed, the part should be syringed with warm water, and kept clean, and no matter allowed to lodge in the cavity. An opening may be made in the side of the teat, a little above its extremity, for the purpose of quitting the matter entirely, or in the orifice through which the milk is squeezed out. Should it not heal sufficiently quick, a mixture of spirit and water, or a solution of white vitriol, may be injected.

GRIPES.

Causes.—Though this disorder will sometimes occur when the bowels are in a regular state, it is commonly produced by costiveness, or a retention of food in the third stomach. Those cows that are kept entirely on dry food, or fed upon grains, are most subject to this complaint. The flatulent colic comes on rather suddenly, when it is occasioned by feeding greedily upon fresh succulent grass, or by drinking too much cold water when overheated; but the attack is generally more gradual when it is caused by costiveness.

Symptoms.—Young cattle are most liable to the colic. Its first appearance is denoted by the peculiar restlessness of the animal, which will frequently lie down and groan, or strike with the hind-feet or horns against the belly. The body is also swollen, which is particularly apparent on the left side, but the pulse is usually in its natural state. The pain becomes more violent if proper remedies are not soon applied; and ultimately inflammation will ensue; in which case the pulse becomes exceedingly quick, and the horns, ears and feet, cold; when this occurs the disease generally has a fatal termination.

Cure.—Purging medicines, combined with aromatics or stimulants, are the most essential remedy, when the colic originates in costiveness. The following will be found an excellent medicine for this purpose:—

Powdered ginger . .	half an ounce,
Barbadoes aloes . .	half an ounce,
Carbonate of potash . .	3 drachms,
Linseed oil . .	8 ounces,

Oil of turpentine	1 ounce,
Water	1 pint,

Mixed for one dose.

If the above medicine cannot speedily be procured, the following may be substituted for it :—

Flour of mustard	1 ounce,
Common salt	half a pound,
Linseed oil, sweet oil, or any oil that is not very rancid, or even hog's lard	half a pound,
Water	1 quart.

A glass of spirits may be added to the above.

Should the animal be in good condition, or the inner surface of the eyelid appear unusually red, she should be copiously bled ; but should the complaint be attended with looseness, or the bowels be in an irregular state, especially if the inner surface of the eyelid be pale, and the animal appears somewhat weak, no blood should be taken, but the following carminative drink may be given :—

Tincture of opium	6 drachms,
Spirit of nitrous ether	2 ounces,
Oil of turpentine	1 ounce,
Water	1 pint,

Mixed for one dose.

Should the purging drink be found necessary, clysters may be applied for the purpose of promoting its operation. When the colic is produced by feeding greedily upon grains, or any other kind of food, the cow must be fed cautiously for several days after, and have the following stomachic drink administered once or twice a day, in order that the tone or energy of the stomach may be restored :—

Carbonate of ammonia	2 drachms,
Powdered gentian	1 ounce,
Powder ginger	half an ounce,
Infusion of camomile flowers	1 pint,

Mixed for one dose.

When the colic is caused by costiveness, or feeding upon dry food, the state of the bowels should be attended to, as soon as the animal has been relieved by the operation of the purgative drink.—Should the animal not have a change of diet, some salt must be mixed with the food; or, if the animal will not eat it, she should be drenched with three or four ounces of salt dissolved in water daily: in order that her bowels may be slightly opened, and her appetite for water increased.

CHOKING.

Various causes may contribute to occasion a difficulty of swallowing; either from the morsel attempted to be swallowed being too large, or from the unusual narrowness of the gullet. The former frequently occurs to cattle that are fed upon turnips or potatoes; and the choking thus produced is so dangerous as to cause the animal's death, if the obstruction is not speedily removed.

Mr. Alexander, an ingenious farmer in Tweeddale, invented a very useful instrument for the purpose of removing the obstruction. It is described as follows:—

"Take three small canes, of the thickness of the little finger or thereabouts, of the length of five feet and a half, that they may reach down the throat, and into the stomach of the largest ox. These canes are to be bound together by strong smooth twine rolled tightly about them, (the circles of the twine touching each other) from top to bottom. Bee's wax is then to be rubbed along the twine, to fill up any inequalities, and the whole rod is to be well oiled before it is used. There is a

round knob at each end; the larger two inches and a half in diameter for larger cattle, the other less for lesser cattle. These knobs are formed of the twine rolled hard, and when formed, may be strengthened in their position, by being sewed by means of a shoemaker's awl or *brog*, and a waxed bristled thread, such as they employ. The thread knobs are made tapering up the canes from their broad extremity; but it must be remarked, that the surface of this extremity is not rounded like a clue, but hollowed into the form of a cup. The intention of this hollowed form is, to make certain of catching hold of the obstructing body; as, if the knob was round, it might pass by it. After the knobs are formed, they are covered with soft leather, which by its flexibility will adapt itself to the hollow end of the knob as soon as it reaches an obstacle. The knobs must be securely fixed to the canes, for if they fall off, they leave an indigestible substance in the stomach." The above constitutes Mr. Alexander's probang, the only obvious improvement on which, says a recent writer, "is to make the knobs of sponge, firmly fastened to the canes, by passing twine through holes bored in them, and adding to each end two or three bights of twine, for the purpose of catching hold of any obstacle, thus making the instrument almost exactly like a surgeon's probang. The sponge is preferable to the twine, as it will not be so liable to injure the animal's throat by its hardness, will adapt itself more readily to any form of the obstacle, and may be more firmly fixed in the canes."

MILK FEVER.

Causes.—This is a disease peculiar to cows in high condition at the time of calving: whether young or old, all are liable to be attacked with it. Whenever it takes place, either at home or in the field, it is distressing to the animal, as well as troublesome to the owner; they seldom are able to rise in less than two or three days after. The puerperal, or milk fever, is most frequent during the hot weather of summer. The cows most liable to be attacked with this fever, have large udders that are full of milk for several days before calving, and often very much inflamed and swelled. It is a very dangerous disease when severe, and often proves fatal even under the most judicious treatment. The milk fever most commonly attacks the cow about the second or third day after calving. We have remarked above, that those cows which are in high condition at the time of calving, are the most subject to this complaint; however, it sometimes attacks lean cows, especially if they are deep milkers. We conceive its immediate cause to be an inflammatory state of the udder, which is frequently induced by the animal taking cold, and from a redundancy of blood in the system. About the second or third day after calving, a much greater quantity of blood than usual is determined to the udder for the purpose of the secretion of milk, but when the udder is inflamed, this act does not take place, and the blood is in consequence transferred to some other part or parts, as the peritoneum, the bowels, kidneys, &c., which deranges the whole animal frame and produces the milk fever.

Symptoms.—This disease is first perceived by the animal refraining from food and looking dull and heavy. A cold shivering fit comes on, accompanied with so much debility that the beast commonly drops, and is unable to rise, until she obtains some relief from medicine. The animal becomes very restless, and appears to experience great pain in the body, as she often looks towards the flanks, and kicks with her feet, and seems very much distressed. The head, as the disease proceeds, is in general so severely affected that the cow loses her senses, and will knock and bruise her head against any thing, and do herself much injury if great care is not taken. The pulse is quick, being about seventy in a minute; and the tongue parching dry. The bowels are costive; there is no secretion of milk; and the slimy discharge from the barren ceases. As the disease advances, the belly becomes enlarged; if purging medicines lessen the swelling of the body, it is a good sign; but if they are made use of and the belly still increases in size, there are little hopes of her recovery.

Cure.—If the feverish symptoms run high, attended with much pain, it will be proper to take three or four quarts of blood. A purging drink should always be administered as early as possible. The following is highly recommended by some practitioners:—

Nitre . . .	2 ounces,
Ginger, powdered .	1 ounce,
Epsom salts . . .	1 pound,
Aniseeds, powdered . .	1 ounce,
Treacle . . .	4 ounces.

Pour three pints of boiling water upon the ingredients, and let them be given when new milk warm.

This drink must be repeated in the space of eighteen or twenty hours, if it does not operate before that time. If the bowels are moved with difficulty, the following clyster may be injected having racked the animal previously :—

Common salt . . .	half a pound,
Treacle . . .	4 ounces,
Spirit of turpentine . .	half a pint,
Thin gruel . .	3 quarts,

Mixed, and when new milk warm, it must be injected or forced up the anus.

This clyster will promote the evacuation of fæces, and tend to remove the swelling of the belly.

When the bowels have been opened, and the animal still appears low and unable to rise, it will be requisite that the following cordial drink should be administered :—

Salt of tartar . .	half an ounce,
Oil of turpentine . .	1 ounce,
Ginger, powdered . .	half an ounce,
Flour of mustard .	2 ounces,
Grains of paradise, powdered .	half an ounce,
Treacle . .	4 table-spoonfuls,
Carraway seeds, powdered .	2 ounces,
Aniseeds, powdered .	2 ounces,

Mixed and given in a quart of warm gruel, to which may be added a wine-glass full of gin or brandy.

This drink will tend to invigorate the system, and promote the secretion of milk. It may be repeated once a day or every other day, for three or four times. Should the bowels be inclined to be bound any time during the complaint, recourse to a purging drink should be had immediately.

Cows afflicted with the milk fever should be taken great care of and be well nursed. It is re-

quisite that the stall where they lie should be well littered; and it is frequently necessary that, when they are cold and shivering, they should be covered with a blanket or some other warm clothing. To assist in subduing the inflammation of the udder, it should be rubbed two or three times a day, about half an hour each time, with soft soap, or pipe-clay, and cold spring water.

To solicit the flow of milk, the paps should be drawn occasionally; it is a good sign when the milk begins to be secreted. As they are frequently unable to take a sufficient quantity of support themselves, it becomes necessary to horn some nutritious food into them. Good gruel is well adapted for this purpose, and two or three quarts should be given three or four times a day. Linseed porridge, sweetened with treacle, is also proper to be given at this time. The beast must be constantly attended to when the head is much affected, otherwise she may do herself some serious injury.

THE GAD-FLY.

The *gad-fly* is an insect which is very troublesome to cattle. Mr. Bracey Clarke has accurately described the various species of these insects, and their effects. The species called *Oe bovis* chiefly attacks cattle, through the skins of which it pierces, to deposit its eggs. The pain which it inflicts, in depositing its eggs, appears to be much more severe than what is excited by any of the other species. When one of the cattle is attacked by this fly, it is easily known by the extreme terror and agitation that seizes the whole herd. The unfortunate object of attack runs bellowing from among his

fellows, to some distant part of the pasture, or to the nearest water, holding his tail, from the severity of the pain, extending straight from the body, in a line with his back, with a tremulous motion, and stretching out his head and neck to the utmost. The rest of the herd, infected with the like fear, though not attacked, fly also to the water, or disperse to the different parts of the pasture.—"Such is the dread and apprehension in the cattle, for this fly," says Mr. Clarke, "that I have seen one of them meet the herd, when almost driven home, and turn them back, regardless of the stones, sticks, and noise of the drivers; nor could they be stopped till they reached their accustomed retreat in the water."

Should one of these flies happen to attack oxen that are attached to the plough, there is frequently considerable danger, since the animal becomes quite ungovernable, often rushing directly forwards with the plough, through hedges, or whatever opposes his career.

Steers, heifers, and the younger cattle, are most commonly attacked by this fly; the strongest and most healthy beasts are generally selected by it; thus furnishing a very estimable criterion of goodness to the dealers in cattle. Tanners also have frequently observed, that their strongest and best hides have usually the greatest number of holes in them.

The larvæ of the *Oe bovis* are generally distinguished among country people by the various names of *wormals*, *wormils*, or *warbles*.

The larvæ, or the *Oe equi* are commonly termed *bots*, and the puncture they make called *puckeridge*, is often attributed to the bite of the goat-sucker.

In order to accomplish the destruction of the larvæ thus deposited, some recommend the parts to be pressed, and afterwards well rubbed with a little oil of turpentine, or some other stimulating application, or the injection of a little oil of turpentine into each hole.

The following is the usual remedy for cattle bitten by these insects:—

Tar	2 ounces
Hog's lard . . .	4 ounces,

Melted together and applied to the bitten parts.

LICE.

Those cattle are most subject to lice, which through bad keep and poverty, are reduced to a low state, so that Nature is unable to cast off her old coat, and consequently an extra harbour is left for the vermin to accumulate in. The best method of destroying those vermin, is by rubbing their hides with an ointment composed of staves-acre, or cayenne pepper, mixed up with hog's lard. Mr. Clater recommends the following:—

Staves acre . . .	half a pound,
Tobacco (cut small) . .	2 ounces,

Boiled in one gallon of urine down to three quarts.

When the wash is cold, the beast should be sponged on all parts of the body where lice are found, and repeat it a second time, if necessary, in five or six days after.

FOG-SICKNESS.

This is a common disease amongst neat cattle, and is attended with symptoms of the most dis-

tressing nature. It requires speedy relief, or the animal will be suffocated from the confined air in the two first stomachs, or a rupture of them takes place, which soon terminates the life of the beast. Hoven usually proceeds from a voracious and greedy disposition, incident to cattle when permitted to satiate their appetite with food of which they are most fond; such as vetches, rich fog, red clover, or different kinds of grasses; also potatoes, turnips, corn, and sometimes chaff.

Causes.—The immediate causes of this disease is a preternatural distention of the two first stomachs from confined air. It is, as before mentioned, in general occasioned by the animal feeding for a considerable time upon rich succulent food, so that the first stomach or paunch becomes overcharged, and they, through their greediness to eat, forget to lie down to ruminate or chew their cud. A fermentation of the food in the paunch takes place, and a considerable quantity of air is consequently generated, which so distends the first two stomachs, that by their pressing against the skirt or midriff, the capacity of the lungs for air is diminished, which causes the difficulty of breathing, and suffocation is sometimes produced. This complaint may be occasioned by turning cattle into fresh aftermath pastures, in autumn; at which time the grass is changed in quality, and the weather frequently wet or foggy, and then is called fog sickness.

Symptoms.—This complaint is well-known to most cattle keepers. The wind generated in the stomach causes the beast to swell, and a difficulty of breathing is produced, with much apparent distress. If relief is not soon obtained, the difficulty

of breathing increases, and the animal is unable to stand, and generally dies suffocated.

CURE.—When the beast is hoven or blown by eating too much succulent grass, Mr. Clater recommends the following, as efficacious in checking the fermentation in the first stomach :—

Salt of tartar	3 ounces,
Epsom salts	1 pound,
Ginger, powdered	2 ounces,
Aniseeds, powdered	2 ounces,

These ingredients may be placed in a pitcher, and three quarts of boiling water poured upon them. When they are new milk warm, add a wine glassful of gin and give the whole for one drink.

Dr. Monro, senior, of Edinburgh, in the year 1793, contrived an elastic tube, that might be introduced down the throat into the stomach of the animal, and thus speedily and effectually evacuate the air. The tube is to be composed of iron wire, as large as a common stocking wire, or about one-sixteenth part of an inch in diameter, twisted round a smooth iron rod, three-eighths of an inch in diameter, in order to give it a cylindrical form; and after taken off the rod, it is to be covered with smooth leather.

To the end of the tube which is intended to be passed into the stomach, a brass pipe, two inches long, of the same size as the tube, and pierced with a number of large holes, must be firmly connected.

In order that the tube may be prevented from bending too much within the gullet, at the time of passing it down into the stomach, an iron wire, one eighth of an inch in diameter, and of the same length as the tube, is put within it, which

is to be withdrawn when the tube has entered the stomach.

He has ascertained that the space from the fore-teeth of the under-jaw, to the bottom of the first stomach of a large ox, measures about six feet, and he has passed such a tube, five feet and nine inches long, into the gullet and stomach of a living ox. The tube ought therefore to be six feet in length, or rather longer, that it may be sure of answering in the largest ox.

After the tube has passed into the stomach, it may be allowed to remain for any length of time; as when it is pressed to one side of the throat, it does not intercept the breathing of the animal. The greatest part of the elastic and condensed fixed air will be readily discharged through the tube; and if it be thought necessary, the remainder of it, or the superfluous drink, may be sucked out by a bellows fixed to the upper end of the tube, with two valves, one at its muzzle, and the other at the side of it, so disposed as to allow the air to pass in the direction from the stomach upwards.

By means of such a tube, the air is not only more certainly discharged than by stabbing the animal; but the dangers avoided which are occasioned by stabbing, not so much by the irritation which the wound creates, as that the air, and the other contents of the stomach, getting into the cavity of the belly, between the containing parts and the bowels, excite such a degree of inflammation as frequently proves fatal to the animal. This tube will also be found useful for the purpose of introducing into the stomach stimulating medicines, when the contraction at the upper orifice would

prevent their being given without some similar contrivance.

Mr. Blaine has somewhat improved this mode of relief, by the invention of an instrument, for which he was rewarded by the London Society for the Encouragement of Arts, with fifty guineas. This is simply a cane six feet in length, and considerable diameter, for oxen; to which a knob of wood is affixed at the end, to be introduced into the stomach. He also invented a contrivance for sheep, which is considerably smaller, and only three feet in length. This instrument is much preferable on account of its simplicity, and is found to occasion the evacuation of the air as effectual as the other. In cases of emergency, the flexible part of a common cart whip might, no doubt, answer the purpose, if applied by a judicious hand.

In performing this operation an assistant is to lay hold of the cow's horns with one hand, and the part which divides the nostrils with the other. The operator is to take the tongue in the left hand, and with his right he is to force the instrument down the gullet. A great quantity of air will rush out as soon as it enters the paunch. The instrument may remain in the stomach until the air is fully evacuated, without injuring the animal.

Any person unaccustomed to handle cattle would feel some difficulty in using the above instruments, but if the part which divides the nostrils be grasped firmly with the right hand, and the horn be held firmly with the left, the cow will, in general, submit quietly to the operator.

As soon as the animal has obtained some relief by these means, the following drink may be given:—

Spirit of nitrous ether . .	2 ounces,
Oil of peppermint , .	30 drops.

Powdered ginger	half an ounce.
Warm water	1 pint,

Mixed for one dose.

Or,

Ginger	2 drachms,
Powdered carraways	1 ounce,
Warm ale	1 pint,

Well mixed together.

An infusion of camomile flowers or ginger is likewise a good stomachic in such cases; and it might probably be much improved by infusing the ingredients in hot ale instead of water.

When cattle have experienced a severe attack of this disease, the stomach is usually much weakened by it; and, consequently great care is requisite to prevent a return of the complaint: they should be fed rather sparingly, or not be permitted to eat much at one time for some days after. One of the above drenches may be administered every morning and evening for three or four days.

LOSS OF THE CUD.

Causes.—Though this disease usually arises from over-feeding in rich succulent pastures; it is, however, sometimes owing to the diseased state of the liver.

Symptoms.—In the early stages of this complaint the animal appears dull and languid, and generally has a tight skin, and a rough unhealthy coat. As the disease advances, the appetite is diminished, and ultimately he ceases to chew the cud. The eyes and mouth usually appear yellow.

Cure.—When the liver has become much affected, the disease commonly terminates fatally; a cure should, therefore, be attempted at an early

period. If there be any appearance of costiveness, the following warm laxative should be first given:—

Castile soap	6 drachms,
Ginger	3 drachms,
Barbadoes aloes	half an ounce,
Cascarilla bark	2 drachms,
Warm water	1 pint,

Mixed.

The bowels, however, are generally in a loose state, and the dung has an unhealthy appearance. When this is the case, give the following tonic drench morning and evening, and let the animal be kept warm:—

Carbonate of soda	2 drachms,
Ginger	3 drachms,
Cascarilla bark	3 drachms,

To be given in a pint of ale.

THE JAUNDICE, OR YELLOWS.

Causes.—It generally arises from a debilitated state of the stomach, which being distended with food from slow and difficult digestion, particularly the manyfold, press upon the bile ducts, and prevent the bile flowing into the intestines. The bile being thus obstructed, is taken up by the lymphatic absorbents, and conveyed into the circulating mass of blood, and gets diffused throughout the body. Milk cows are the most subject to it in the spring, and the latter end of the year, yet they are not exempt from it at any other time. The fluctuating state of the weather appears frequently to give rise to this complaint; when the weather is very changeable, and they appear not well, great care should be taken to place them within doors.

Symptoms.—This disease is first apparent in the whites of the eyes, which appear of a yellow tint, and the whole skin becomes impregnated with the same yellow hue as the disease increases; the eyes, ears, mouth, and tail, are the parts where it is most conspicuous to the sight. The animals have a weakness and considerable debility of the nervous system, a want of appetite, and an aversion to move, in every stage of this disease. When in the pasture, they are continually wandering about by the side of the hedges in a dejected manner, by themselves. When a milk cow has this disease, the secretion of milk is lessened; the fore teeth sometimes loosen; and the bowels costive.

Cure.—In the early stages of this disorder, the warm laxative directed in the preceding complaint will generally effect a cure; it may be repeated after an interval of five or six days, and in the interim, the following drink may be given every morning and evening:—

Venice turpentine . .	half an ounce,
Ginger . .	3 drachms,
Castile soap . . .	half an ounce,
Powdered gentian root .	1 ounce.

The soap and turpentine may be rubbed together in a mortar, till perfectly incorporated; after which a pint of water may be gradually added, and afterwards the gentian and ginger.

The liver becomes generally much injured in the more advanced stages of this disorder, and a cure is then almost impossible.

A recent author makes the following sensible observations on this subject:—"In cattle, a vomit of emetic tartar may be tried at the first appearance of the disease, as the effort of vomiting may assist

in promoting the passage of the gall-stone. If, however, the disease should arise in consequence of previous inflammation of the liver, vomits will be of no use, and the best remedies will be mercurial purgatives with soap. The food should consist of succulent and watery substances, especially of fresh grass; as it is found that when cattle affected with this disease are sent to pasture, they commonly soon recover. Warm mashes of bran or malt should be given frequently, both to obviate costiveness, and as being good articles of diet. If the disease should continue obstinate, and the use of mercurial medicines should be found necessary, the animal must be confined within doors during night and bad weather. It will be proper whenever the weather and other circumstances permit, to give the animal regular exercise in the open air; but if necessity obliges us to keep him within doors, the whole body, but especially the belly, should be well rubbed for a considerable time twice or thrice a day. This friction will be proper, even though regular exercise can be taken in the open air."

SNORES.

A gathering of thick clotted matter sometimes takes place within the nostrils, which very much impedes respiration when arrived at any height, and produces a snivelling noise when the air passes through the nostrils. This affection is termed the *snores or snivels*, and is almost peculiar to cattle. The swelling thus caused in the nostrils usually proceeds to suppuration, and when it breaks the animal is relieved. It should therefore be hastened by the application of warm stimulating fomenta-

tions or liniments. It is usual to inject the oil of bays up into the nostrils; but probably the steam of warm water would answer, and it might be easily applied by placing a warm bran mash into a canvas bag, and tying it to the animal's head; repeating it till the imposthume breaks. In the interim, the animal should be kept in the house, and fed on good nourishing diet.

COW-POX.

In the publications issued by Dr. Jenner, who formerly practised at Berkeley, in Gloucestershire, where he had frequent opportunities of witnessing this disease amongst cows, its symptoms and origin are ably described.

"In this dairy country," observes Dr. Jenner, "a great number of cows are kept, and the office of milking is performed indiscriminately by men and maid servants. One of the former having been appointed to apply dressings to the heels of a horse affected with the grease, and not paying due attention to cleanliness, incautiously bears his part in milking the cows, with some particles of the infectious matter adhering to his fingers. When this is the case it commonly happens that the disease is communicated to the cows, and from the cows to the dairy maids, which spreads through the farm, until most of the cattle and domestics feel its unpleasant consequences. This disease has obtained the name of the *cow-pox*. It appears on the nipples of the cows in the form of irregular pustules. At their first appearance, they are commonly of a palish blue, or rather of a colour somewhat approaching to livid, and are surrounded by an erysipelatous in-

flammation. These pustules, unless a timely remedy be applied, frequently degenerate into phagedenic ulcers, which prove extremely troublesome. The animal becomes indisposed, and the secretion of milk is much lessened.

Another kind of eruption it sometimes apparent on the udder of the cow, which has some resemblance to the cow-pox, and may easily be mistaken for it. It consists of a number of white blisters on the nipples, and these blisters are filled with a whitish serous fluid. They are to be distinguished from the pustules that take place in the cow-pox, by their not having the bluish colour of the latter, and by their never eating into the fleshy parts, being confined to the skin, and ending in scabs. This eruption is also considered infectious, though not in so high a degree as the real cow-pox.

Dr. Jenner conceives that this spurious eruption is chiefly produced by the transition which is made by the cow in the spring, from a poor diet to one that is more nourishing, by which the udder, at this season, becomes more than usually vascular for the supply of milk. There is, however, another species of inflammation and pustules, which is not uncommon amongst the dairy counties of the west of England. A cow intended to be offered for sale and possessing naturally only a small udder, is neither milked by the milker, nor is her calf suffered to have access to her for a day or two previous; thus the milk is preternaturally accumulated; and the udder and nipples become greatly extended, inflammation and pustular eruption frequently ensue.

FARTHING-BOUND.

This disease is, we believe, chiefly confined to the Weald of Kent, and the neighbouring parts of Sussex. It is a particular stoppage in the bowels, that causes the fæces to dry up in the intestines, whence it is sometimes called *knit*. For by the motion of the intestines, one of them, or part of it, is surrounded with a strong ligament that totally impedes the passage, and adheres to the inside of the loin. The indications of this malady are, loathing of food, and frequent moving of the hinder legs inwardly, and up towards the belly. The only remedy at present known is, to throw the beast on the ground, and make an incision in the flank, sufficiently wide to admit a hand; so that the operator will be enabled to discover a ligament, which he must immediately separate with his thumb nail, by which the intestine will be released, and returned to its proper position. The incision must then be sewed up, and in a short time, the cow will perfectly recover.

THE SHOOTE.

This is a most fatal disease to calves, which it in general attacks a few days after their birth. The usual symptoms are at first, a colic that is more or less violent, and is frequently very dangerous and severe, but more especially when it is contagious. The calf is relieved by a discharge from the bowels taking place, when the colic is terminated; though this will sometimes prove fatal before the shoote makes its appearance: and secondly, a refusal, and

loathing of food, even prior to the discharge, and which will increase and decrease according to the violence and duration of the disease. When the *shoote* prevails, the cheapest, and probably the most efficacious medicine which has been in general administered by experienced breeders is, eggs and flour well mixed with oil, melted butter, and linseed, aniseeds, or other similar mucilaginous vegetables; or, as some recommend, milk well mulled with eggs, may be administered to the distempered animal.

VENOMOUS BITES.

There are but few venomous animals in this country, compared with those that are found in warmer climates, and where they often prove fatal both to man and beast. The adder or viper is most common in this country, and the bite of this reptile is frequently attended with very dangerous consequences. Neat cattle are much more liable to be stung by this reptile than any other of the domestic animals. Instances have been known to have proved fatal, when the tongue of the animal has been stung while grazing. Cattle are seldom attacked by adders except they disturb them whilst grazing; and this is the main reason why so many are bitten about the head, and sometimes about the feet. The sting of the wasp, hornet, or bee, are frequently attended with considerable pain and inflammation, and require a similar treatment as the former.

Cure.—The following liniment will be found a powerful remedy in checking the progress of the poison, and destroying it in the part affected:—

Spirit of turpentine . .	4 ounces,
Olive oil . . .	half a pint,
Strong spirits of hartshorn . .	4 ounces.

Let them be put into a bottle together, and well shaken every time before using.

The part affected must be well rubbed with a sufficient quantity of this liniment two or three times a day, until the inflammation and swelling abate.

WOUNDS.

Wounds are most commonly produced by cattle goring each other with their horns, or by breaking through fences; and when deep or extensive, considerable inflammation usually proceeds.

The proper treatment of wounds depends on the part where they are inflicted, and the instrument that caused them. A clean cut made in the muscular parts is soon healed by the early application of slips of sticking plaster, in order that the edges of the wound may be kept close together; or, if plaster cannot be speedily applied, a stitch or two may be taken through the edges of the wound, and the strings tied gently together. When the edges perfectly adhere, the strings must be cut away, and the holes caused by them will soon fill up. It is particularly necessary that all wounds should be perfectly cleaned, before any attempt is made to heal them. It will occasionally happen that the wound is so situated as not to admit of its being sewed up; but when this occurs, silver or steel pins may generally be passed from the edges, about an inch apart from each other, and a thread twisted crosswise from one to the other, thus forming

what is called the *twisted suture*. In every case where it is necessary to use sutures, a sticking plaster should be applied over the edges of the wound. But this mode of treatment can only be adopted in those superficial wounds where a flap of the skin is separated; and when this occurs, it is not requisite to apply any stimulating fluid, as some writers advise. When there is any dirt or other matter collected about the wound it may be washed off with warm water.

Where the wound is considerable, and important parts are affected, the most decisive means should be speedily employed to prevent a fatal inflammation from ensuing. Bleeding is generally the first remedy resorted to; immediately after which, a purgative, or relaxative drink should be given, and the parts be fomented with a decoction of mallows, hemlock, or elder until the inflammation subsides.

After the inflammation caused by the wound has subsided, it should be examined with a probe, in order to ascertain if any matter be confined; as it is sometimes necessary to give it vent by enlarging the original wound, or make an opening in another more depending situation, that it may run off freely. It may be requisite to apply at this period, the following ointment:—

Common turpentine . .	6 ounces,
Hog's lard . . .	8 ounces,
Bees' wax . . .	1 ounce.

Melted together.

When taken from the fire, one ounce of powdered verdigris may be added; and the mixture must be constantly stirred until it is cold.

Should a lotion be preferred, the following stimulating solution will be found useful:—

Sublimate . . .	12 grains,
Tincture of myrrh . .	2 ounces,

Mixed.

One pint of oil of turpentine, to two quarts of sweet oil with good digestive.

In deep wounds or when the parts are much divided, sewing is not advisable. Wounds of the belly, through which the bowels pass out, are very dangerous, and require the most delicate management. As soon as an accident of this description happens, the bowel should be put back into the belly as tenderly as possible: and if any dirt, hair, or other matter, be observed upon the gut, it must be carefully washed off with warm water. When the bowel has been replaced, the wound must be stitched up by means of a crooked needle and threads doubled, or small twine well waxed (with bees' wax:) a roller, or bandage should then be applied. The animal must be kept at rest, on an opening diet, of grass or bran; and, if costive, a dose of castor oil should be administered. The treatment of the wound is of little consequence; the principal object being to keep the bowel in its proper situation. A considerable quantity of air will occasionally get into the gut, after it has escaped from the belly, by which it is so distended, as to render it very difficult, if not impracticable, to replace it through the original wound. Should this, on examination, be found to occur, the wound must be enlarged, in order to allow the gut to be replaced, which must be done in the most cautious manner, the knife being properly guarded by the fore-finger.

Should it be thought necessary to stop the bleeding from the wound, the most effectual method o

doing it, next to that of tying the blood vessel, is by placing bolsters of tow or sponge to the bleeding part, and supporting it firmly with bandages. If the new flesh should rise above the surface, and appear to be produced too luxuriantly during the progress of the wound, it may easily be checked by sprinkling on the part a little powdered blue vitriol.

STRAINS AND BRUISES.

Bleeding is most advisable whenever these accidents occur in a considerable degree, or an important part is injured; fomentations are at first the most proper applications, in consequence of inflammation being the common effect of these injuries; but when the inflammation has subsided, the liniment recommended in a preceding article on the swelling of the udder, may be rubbed on the part twice or thrice a-day. When any part of the limbs is so strained as to occasion lameness, and it continues after the above application, a blister should be used. In bruises that occur from the pressure of the yoke, or other slight causes, the lotion prescribed below will be found of service:—

Goulard's extract . .	half an ounce,
Vinegar . .	4 ounces,
Water . . .	1 pint,

Mixed.

TO DRY A COW OF HER MILK.

Mr. Clater observes that this is a subject with which every gentleman grazier should be well acquainted. It is frequently found necessary to dry cows of their milk at all times of the year, in

order that they may the better be fed for the shambles. Some cows are more difficult to dry than others, by reason of their giving too large a quantity of milk, and the gross habits of body peculiar to some beasts.

Without great care and management these will be liable to the downfall, either in the udder or foot; or otherwise it may terminate in some fatal inflammatory disease.

Cows that are apt to milk themselves, are difficult to dry; they should, therefore, be dried early in the spring, while at dry meat. Others may be dried either in the pasture or in any other place. Such cows as are in the pasture give a considerable quantity of milk, and are in good condition, ought to be brought into a foldyard over night, and from three to four quarts of blood taken from them, and the next morning the following drink administered:—

Bole Armenic, powdered . .	2 ounces,
Roach alumn, powdered . .	6 ounces,

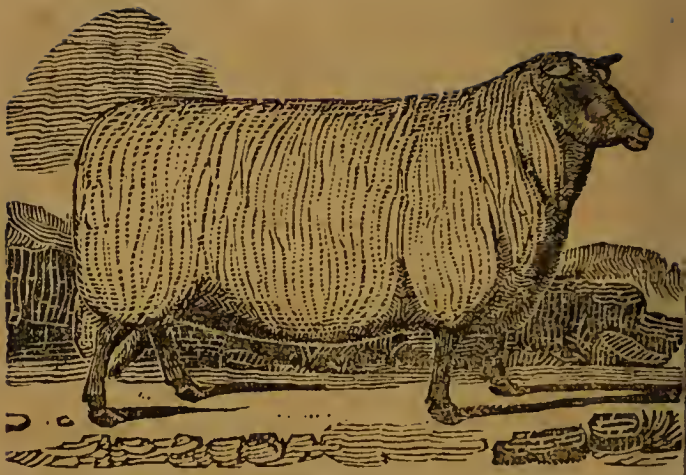
(But if a large beast, 8 ounces.)

Mix and put them in a pitcher, then pour a pint and a half of boiling ale upon the ingredients. Afterwards add one pint of good vinegar, and give when new milk warm.

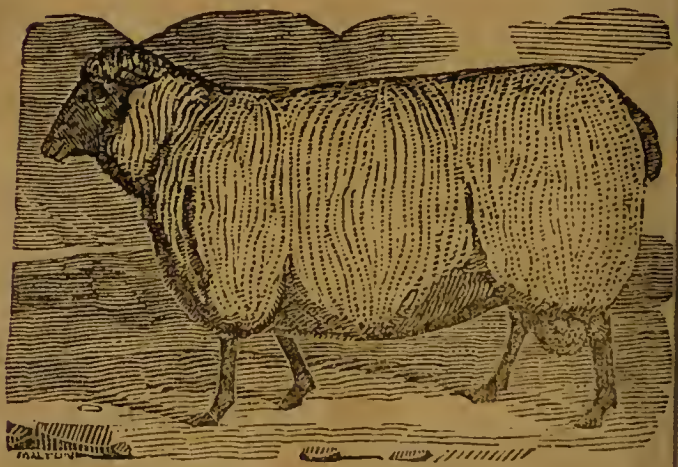
The cow must be milked clean at the time the above drink is given, and two hours after may be turned into her pasture. About four days after, if her udder appears hard and full, let her be brought out of the pasture, milked clean, and the drink be repeated as before.

This is generally sufficient to dry any cow of her milk; but as some cows give so much that it renders them very difficult to dry, it is therefore fre-

quently found necessary to repeat the drink and milking every fourth day, for three or four times, before they can be completely dried.



DURHAM, OR TEESWATER BREED.



LEICESTER BREED.

DISORDERS OF SHEEP.

On account of the very extensive ranges which sheep are allowed to possess on large farms, there is some difficulty in discovering a sickly animal previous to the disorder having made considerable progress, and consequently rendering it exceedingly difficult to cure.

THE STAGGERS, OR STURDY.

Causes.—The most common species of this disease arises from animalculæ, called hytatids; in which case the water is contained in cysts, or bags, connected with the brain, and, on which, if not prevented, it acts fatally by pressure. It would appear too, that a long continuation of the pressure occasions part of the brain to be completely disorganised.

Symptoms.—This complaint is also termed the *Hydrocephalus*, *Goggles*, *Turn-sick*, *&c.*, and is particularly incident to young sheep. This disease consists of a limpid fluid, like water, contained in a thin transparent vesicle, or bleb, which is situated in the head, and deranges the healthy functions of the brain. A sheep that has the staggers, appears very stupid, turns round and round, and frequently the eyes are as though they were fixed in their or-

bits. As the water increases in quantity the sheep becomes more and more affected; the sight of one or both eyes is impaired or lost; when drove for a short distance the sheep staggers to one side: and different parts of the body are seized with palsy; and in time it dies quite emaciated.

CURE.—Numerous methods of relieving the pressure on the brain have been discovered, and when practised by skilful and experienced individuals, in most cases have answered. But the principal method, and one which has succeeded in repeated instances, is that of perforating the cyst; dicovered by Mr. James Hogg, who tried the experiment while a herd boy, to rid himself of trouble. He laid hold of every sturdied sheep that came in his way, and, (being employed in knitting stockings,) he thrust one of his wires up the animal's nose, and forced it through the skull into the brain. In those cases in which wiring proves fatal, it is probable that the instrument does not reach the cyst. There may, certainly, be some portions of the brain more delicate than others; and though this operation is usually successful, it must be considered as somewhat hazardous; but desperate diseases require desperate remedies; and the operation is exceedingly simple.

The more delicate and nice operations of trepan, and extraction of the cyst, are only fit to be in the hands of skilful surgeons.

RED-WATER.

This complaint is sometimes called the *resp*, and is generally supposed to originate from sheep feeding too freely on turnips, clover, and other rich suc-

culent vegetables. Frequent driving about, and the use of common salt are said to be successful remedies in the red-water, which may be prevented by giving the animals dry provender in the course of the night after they have been feeding on the vegetables above mentioned. The use of parsley in this disease is also said to be beneficial.

Mr. Hogg, in his Shepherd's Calendar, says, "Red-water is a disease that but seldom appears in this country, and is almost never fatal. In cases where the disease is violent, a little blood should be taken in the manner described. The sheep should be placed in a fold by itself, the blisters slit up, and a little infusion of tobacco put into them, and the following medicine may be given three or four mornings successively :—

Sulphur . . .	2 ounces,
Honey, treacle, or syrup . .	3 ounces.

Mix them, and divide them into six doses, of which one may be given every morning in half a mutchkin of warm water. If this be found unsuccessful, half an ounce of nitre, mixed with the foregoing receipt, will be attended with good effects; after which a dose of salts may be given, and the body washed with lime-water upon the parts affected."

ERYSIPELAS, OR WILD-FIRE.

Symptoms.—This complaint, like the preceding, affects the skin, and if not promptly attended to, generally spreads very rapidly amongst the flock. It is accompanied with a greater degree of inflammation than the last; and but seldom with blisters

over the body. It is usually prevalent in the months of August and September, and rarely continues more than eight days at a time, although sheep that are affected by it are subject to a relapse. In former times, a superstitious notion prevailed with shepherds, that if they buried those sheep affected with this disease at the door of the fold, with their feet upwards, it would act as a charm to drive it from the flock.

Cure.—Mr. Stephenson observes, "It is necessary for the cure of this disease, to follow the same method recommended in the red water. An ounce of salts, dissolved in warm water, given every morning, for three or four days, answers remarkably well to begin the cure, when the last mentioned receipt, with the addition of nitre, may be continued, till the disease disappears." But Sir G. Mackenzie thinks, that giving salts in warm water, is liable to objection. The effects of the medicine, he remarks, will be more powerful, and more beneficial, when the solution is administered cold. For washing the body, goulard water is the best application.

ITCH, OR SCAB.

Causes.—This disease is very infectious, and chiefly prevails in wet situations, and during rainy seasons. It seldom appears among sheep which have been smeared: however, when it does, it most probably proceeds from the touch of a diseased animal, of a stone, or a tree, or paling, on which scabbed sheep have rubbed themselves.

Symptoms.—This infectious, troublesome, and destructive disease, is well known. Whenever a sheep

is in the least affected by it, it proceeds to scratch itself, and to rub its sides and buttocks against every thing it meets. Immediately the disease is discovered, the whole flock, among which the scabbed animal has been feeding, should be carefully searched, and every one which has an appearance of being fretted on the skin, should be taken away to be cured.

Cure.—The following efficacious remedy was communicated by Sir Joseph Banks :—

Common oil . . .	half a pound,
Quicksilver . . .	1 pound,
Venice turpentine . . .	half a pound,
Hogs' lard . .	4 pounds,

Let it be titurated in a mortar till the quicksilver is thoroughly incorporated with the other ingredients. In applying this ointment, the head of the sheep must be first rubbed; after which a furrow is to be drawn with the finger, from the region between the ears, along the back to the point of the tail, so as to divide the wool, till the skin be exposed to the touch. Then the finger being dipped into the unguent, must be drawn along the skin; and similar furrows should be made down the shoulders and thighs, as far as the wool extends; and if the sheep be much affected, two other lines, or furrows ought to be drawn parallel to that on the back; and one should also be traced downwards on each side, between the fore and hind legs. After this application, it is remarked, that the sheep may be turned out among the flock without fear of communicating infection, as the blotches will in a few days dry up, the intolerable itching will subside; and the animal will be perfectly cured without any injurious effects resulting from the use of such une-

tion. But this external remedy, in the opinion of Sir Joseph Bankes, should not be delayed longer than Michaelmas.

Mr. Hogg, in his Shepherd's Guide makes the following observations :—"The most effectual cure is that which can now be got in any apothecary's shop, known by the name of *sheep ointment*. It is a strong mercurial composition ; and the most safe way is, for the apothecary to put it up in small balls, each of which he may deem sufficient, and safe to be rubbed on a sheep at once ; for as different hands may make it of different strengths, the most experienced applier can hardly be a competent judge how much is sufficient for each animal without some such precaution. Let the shepherd, then, take one of these balls at a time, and mix it with three gills, or a mutchkin, of train oil, and if the animal be thoroughly infected, put the whole of this upon it, as close to the skin as possible ; but if it is only scabbed, or itching in some parts of its body, each of these mixtures may serve two. If the infected parts are mostly on the back, or upper parts of its body, the shepherd must make a shed, or opening of the wool, exactly on the very ridge of the back, from the crown to the tail; let him shed it clean to the skin, and keep it open with both hands, while another pours in the ointment from a common tea-pot. He must not keep the wool too close down with his hands, else it will cause the ointment to drip upon it. In this case, a few sheds or openings, will do; but if it is scabbed about the belly and throat, it must be used very thick, and the ointment rubbed on the skin with the fingers, as it cannot then spread in the skin by running. Let it always be done in dry weather ; and it is a

safe and certain remedy, though perhaps the scab may again appear in the offspring of this flock."

THE FOOT ROT.

CAUSES.—This disease usually arises from sheep feeding on long lank grass in wet seasons; but inattention to cleanliness will also produce it.

SYMPTOMS.—This disease is known by lameness, which increases as the disease becomes more inveterate, by the oozing of a disagreeable fetid matter from between the claws, and by the appearance of proud flesh in the more advanced state of the malady; at length, if it be not discovered in time, the foot becomes so completely mortified by the cancerous humour corroding every part of it, as to become incurable, in which case the skin is the only valuable part of the animal. It is remarkable that sheep should retain their appetite throughout the progress of this disease, and, to all appearance, feed as well as when they are in perfect health; though they very soon fall away, and continue declining till they have lost all their fat. Their appetite, however, remains to the very last stage; and instances have been known to occur, in which they have been so eager as even to crawl on their knees for food.

CURE.—Various remedies have been recommended and tried for the cure of this contagious disease, of which the following appears to be most deserving of notice. Immediately after the disease is discovered, the sheep should be separated from the rest of the flock, and let the part affected be cleansed and parted, so as not to touch the quick, and at the same time carefully to remove the gravel,

if there should be any contained there, after which any of the following remedies may be applied :—

Bole Armenian, powdered . .	half a pound,
Honey . . .	4 ounces,
Pulverized burnt alum . .	2 ounces.

To be mixed in as much train or other fish oil as will make the various ingredients of the consistence of salve. The honey should be first dissolved gradually, and the bole carefully stirred in, and then the alum and oil are to be added.

The above was invented by Mr. Culley, an eminent grazier in Northumberland.

The following is by the late eminent Mr. Bakewell :—

Alum . . .	4 ounces,
Verdigris . .	3 ounces,
White mercury . .	1 ounce and a half,
Vitriol . .	4 ounces,
White copperas . .	1 ounce.

Let them be reduced to fine powder, and gradually dissolve the whole in one quart of white wine vinegar.

The following is recommended by Mr. Hogg, in his Shepherd's Guide : "When a sheep is first observed to be affected by it, let it be brought in, and the sore foot well washed with soap and urine ; then let it be well bathed with turpentine, and afterwards rubbed all over with tar, and bound up with flannel ; and, if the sheep be then turned into a clean dry pasture, the cure is certain."

THE ROT.

This disorder has proved more fatal to sheep than any other ; and, having carried off great num-

bers at different times, it has occupied the attention of the learned, who have, at various periods, favoured the public with a variety of opinions; the symptoms, however, of this fatal disease, cannot be more accurately stated than in the following description given by Dr. Harrison :—

"When in warm, sultry, and rainy weather, sheep that are grazing on low and moist lands feed rapidly, and some of them die suddenly, there is reason to fear that they have contracted the rot. This suspicion will be further increased, if a few weeks afterwards, the sheep begin to shrink and become flaccid in their loins. By pressure about the hips at this time a crackling is sometimes perceptible. Now, or soon afterwards, the countenance looks pale, and upon parting the fleece, the skin is found to have exchanged its vermillion tint for a pale red, and the wool is easily separated from the pelt.

"As the disorder advances, the skin becomes dappled with yellow or black spots. About this time the eyes lose their lustre, and become white and pearly, from the red vessels of the *tunica adnata* and eyelids being contracted, or entirely obliterated.

"To this succeeds debility and emaciation, which increase continually till the sheep die; or else *ascites*, and perhaps general dropsy, supervenes before the fatal termination.

"These symptoms are rendered more severe by an obstinate purging which comes on at an uncertain period of the disorder. In the progress of the complaint, sheep become what the graziers call *chockered*, that is, affected with a swelling under

the chin; which proceeds from a fluid contained in the cellular membrane under the throat.

"In five or six days after contracting the rot, the thin edge of the small lobe of the liver becomes of a transparent white, or bluish colour, and this spreads along the upper and lower sides, according to the severity of the complaint. Sometimes it does not extend more than an inch from the margin. In severe cases the whole peritoneum investing the liver is diseased; and then it commonly assumes an opaque colour, interspersed with dark red lines or patches.

"The upper part of the liver is sometimes speckled like the body of a toad, to which it is said to bear a striking resemblance; round the ductus communis choledochus and heptic vessels, jelly-like matter is deposited, which varies according to the severity of the attack, from a table spoonful, or less, to five or six times that quantity. Upon boiling, the liver loses its firmness, and separates into small pieces in the water, or remains soft and flaccid. Several graziers and butchers, with whom I have conversed at different times, having observed that sheep are much disposed to feed during the first three or four weeks after being tainted, omit no opportunity of producing it, to increase their profits.

"When the first stage is over, flukes begin to appear in the pori biliacii, the ductus communis choledochus, and the gall-bladder. At first, the quantity of these creatures is small; but as the disease advances, they increase; and, before death, are often very numerous.

"In the last part of the complaint, they are sometimes to be found in the stomach, as well as in the intestines and liver. This, like the visceral disor-

ders of the human body, may terminate in resolution, effusion, or suppuration, or schirrus.

"First, the complaint is said to terminate in resolution, when the inflammatory action goes off, without destroying the state and texture of the parts. However, I am strongly inclined to believe, that every considerable inflammation in the human body, and in other animals, although it ends in resolution, leaves behind it some remains, which may be discovered by an experienced anatomist.

"When the vessels are thrown into inflammatory action for a few days only, effusion commonly takes place, and the coats become thicker, and assume a buff colour. These changes in the sanguinary system often continue through life, and lay the foundation of many chronic and incurable diseases. Sheep that recover from the rot exhibit very different appearances after death, according to the severity of the attack; but the taint is seldom or never entirely removed. I was desired within these few days, to look at the liver of an old ewe that died fat, and contained fourteen pounds of suet in her body. The back part of the small lobe was dappled with whitish spots; the coats of the ductus communis and pori biliaeii were considerably thickened and more solid than usual. In colour, they resembled the human aorta in old people, and were full of flukes; in other respects the liver appeared to be sound and natural. The butcher asserted that this was occasioned by a taint of long standing, which had not been considerable enough to disorder the economy, or impair the health of the animal sufficiently to prevent its feeding.

"Secondly, when sheep die suddenly in the first

stage of the disorder, an effusion of serum, or of wheyish coloured fluid, may be commonly discovered in the cavity of the abdomen, and then the peritoneum surrounding the liver is generally covered with a membrane or coat of coagulable lymph. This form of the rot has been frequently confounded with the resp, or red water, though it differs from the latter disorder in the colour of the effused liquor, in being much less disposed to putrefaction, and in several other particulars.

"Thirdly, abscesses in the liver exhibit another termination of the malady. They are seldom considerable enough to kill immediately; but, in consequence of the absorption of purulent matter from them, the sheep frequently waste away and die hectical or dropsical. When the collections are small, sheep will recover sufficiently to bear lambs for three or four seasons, and afterwards become tolerable mutton.

"Fourthly, the most common termination is in schirri, or what the shepherds call knots in the liver. I have seen the whole substance of this important viscus so full of small roundish lumps, or schirrous bodies, that it was difficult to find any sound part in it. The first attack is unfortunately so very insidious that the disorder is scarcely observable, before the animal begins to waste and lose flesh. In this advanced state it is said to labour under the rot, or pourriture, from overlooking the commencement of the disorder."

Equally various with the conjectures respecting the origin of this destructive disease, are the remedies which have been recommended. The late eminent botanist, Miller, advised *parsley* to be employed as a preventive, which is eaten with great

avidity by sheep, (the delicacy of whose flesh it greatly improves,) as instances have occurred where sheep, fed on parsley remained sound, while those in the neighbourhood were affected with the rot. Mr. Mills, therefore, recommends sheep to be fed with that vegetable twice in the week, for two or three hours each time. In places where the rot is usual, it will be as advisable uniformly to fold sheep, (where that practice is retained) before the dew falls, and to confine them in such folds till it evaporates, both in the spring and summer; feeding them with sweet hay or other dry provender. In the Bath papers it is remarked, that no ewe is ever subject to rot while she has a lamb by her side; and it is there recommended, to place the sheep that are affected with this distemper, in such situations that they can get at the bark and young shoots of the elder. Mr. Price recommends every farmer to remove his sheep in wet and warm seasons, from such lands as are liable to occasion the rot; but if this object cannot be attained, he directs a spoonful of common salt, and a like quantity of common flour, to be given to each sheep in a pint of water, two or three times in the course of the week, by way of preventive. And, if the disease should happen to be in an incipient state, he is of opinion, that the giving of such a dose for four or five mornings successively, will probably effect a cure; for the addition of flour and water not only abates the pungency of the salt, but also disposes it to mix more gradually, and consequently more effectually with the chyle. The late Dr. Darwin, however, conceived that salt would be more efficacious if it were combined with iron filings and flour, and made into a ball, to be given every morning successively for

a week. But Mr. Varld, an experienced agriculturist, has recommended as a preventive, a spoonful of common salt to be given to each sheep once a week, when a *rotting season* is apprehended; and when the animals are accustomed to it, he directs some dry salt to be laid on flat stones, in different parts of the pasture, as they then will lick it up without any further trouble.

THE PELT-ROT.

In this disease the wool, or hair, falls off spontaneously from the sheep. Scanty keep, exposure to much wet, or sometimes a sudden change from poor keep to full feeding, will variously produce the pelt-rot, which is also occasioned by the *itch*. When produced by the latter, the removal of that malady will of course effect a cure; but when produced by the former instances, immediately the sheep is discovered to be affected (if not of too long standing) it should be separated from the flock, and driven to a detached situation, where the diseased part should be well cleansed, and the animal anointed with a mixture of turpentine, lard, or other grease, and tar, in such proportion of each as will form it to the consistence of salve, (a piece of cloth being fastened on the animal to keep it from the cold;) and where they should be supplied with the best food, an attentive regard to the regular distribution of which, particularly during the winter, would effectually prevent this disorder.

DIARRHŒA, OR THE SCOUR.

This malady is frequent among sheep, and gene-

rally proceeds from bad and scanty keep during the winter season; and makes its appearance early in spring, as soon as the young grasses begin to put forth their succulent qualities. Sheep are not able to stand against so luxuriant a change, and in this way great numbers have fallen a sacrifice to this malady. Whenever this happens to be the case, they should be frequently removed to an inferior pasture and allowed a small quantity of hay every day, for a short time. This method of treatment is generally sufficient to check or prevent the diarrhœa in sheep. This disease, in general, rarely lasts longer than a few days; but should the symptoms still continue to increase, and the animal's life be in danger, the following powders, (recommended by an eminent practitioner,) may be administered:—

Ginger root . . .	1 drachm,
Prepared chalk . .	1 drachm,
Peruvian bark . . .	1 drachm.

Let them be finely powdered, and mixed together for one dose.

They may be administered once or twice a day, in a little warm gruel, to those sheep who appear in the greatest danger; a small table-spoonful of brandy or gin may be added to it with advantage. Should the disease be uncommonly severe, a tea-spoonful of tincture of opium may be added to each dose.

THE TICK.

This insect is small, brownish, and flat, infesting sheep; and which, if not speedily destroyed, materially injures both the flesh and blood into which it insinuates itself. As soon as they have settled,

scabs are formed on the surface, and from which a small quantity of matter issues; as these insects increase in growth, the scab becomes large in proportion, and when arrived at its full size, nearly resembles a middling-sized horse-bean. In order that these noxious vermin may be removed, (which spread very rapidly,) it has been recommended to separate the wool, and to wash the diseased spots two or three times, or more frequent, if necessary, with the following liquid preparation :—

Cream of tartar . . .	1 ounce,
Bay salt . . .	4 ounces,
Corrosive sublimate . .	1 ounce.

Let the cream of tartar and bay-salt be finely powdered and sifted, and mixed together in two quarts of soft water.

MAGGOTS.

There are few, if any, flocks of sheep, which are not subject to this kind of vermin during the summer months. As soon as the maggots begin to make their appearance on any part of the animal's body, the wool on that part becomes moist or wet, they hold down their heads, shake their tails, and run about from place to place, and should they be permitted to remain a few days in this condition, they must unavoidably sink.

Mr. Clater states, that the following mixture will be found adequate for the destruction of maggots in the worst of cases; he having prepared it for many years, and never found it to fail in effecting a cure in any one instance: in point of cheapness, it certainly has strong claim to the attention of farmers :—

Mercurial sublimate, powdered .	1 ounce,
Spirit of sea-salt . .	1 ounce,
Boiling water . . .	3 quarts.

Put them in a stone bottle, and when cold, add—

Spirit of turpentine . .	1 pint,

Mixed, and well shaken when used.

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