

The veterinary surgeon's vade mecum : a complete guide to the cure of all diseases incident to horses, cattle, sheep, and dogs : with rules for the management of the healthy horse, feeding, stabling, grooming, shoeing, &c., the healthy treatment and breeding of dogs : together with a compendium of all veterinary medicines : the whole being the result of thirty years experience / by John Rydge.

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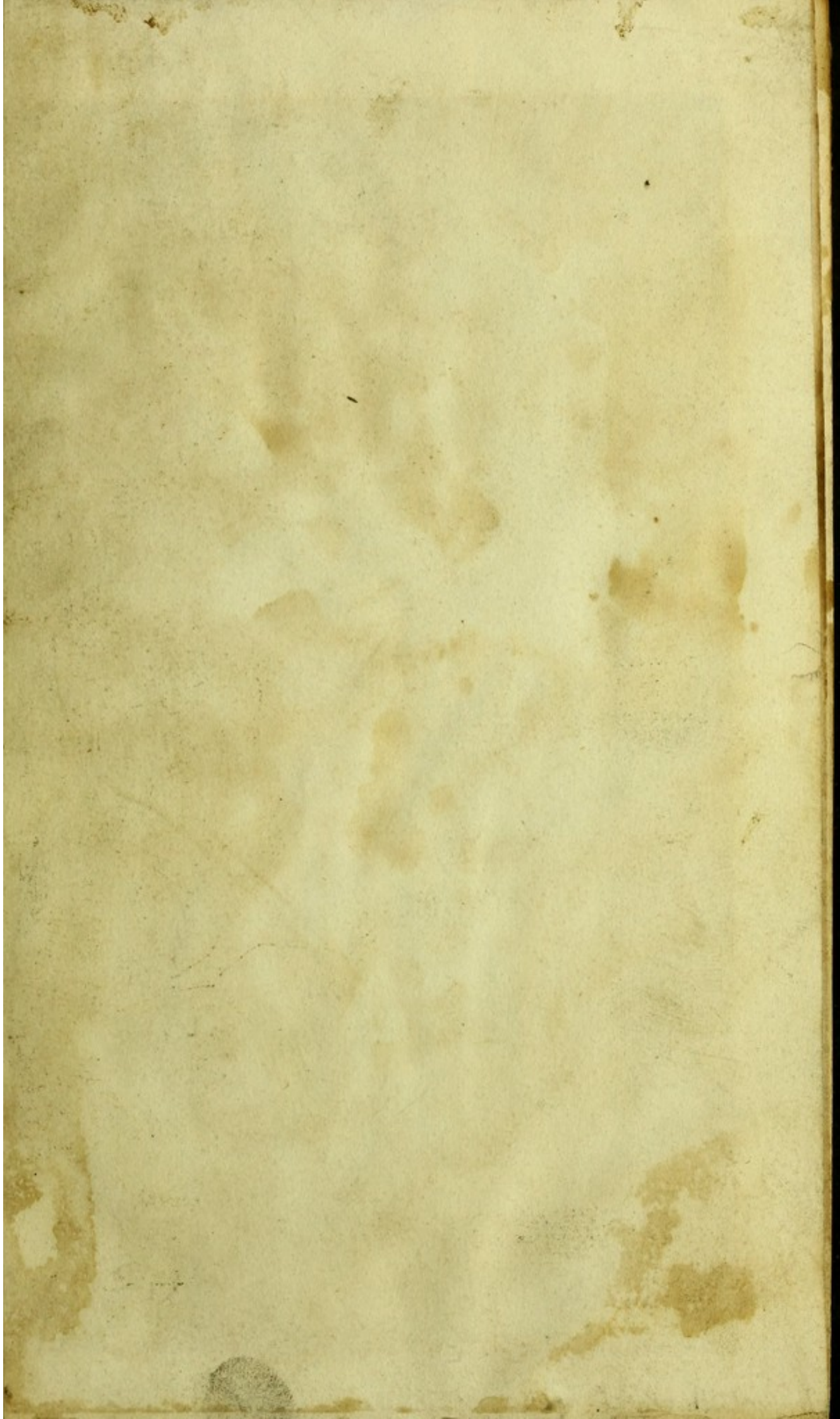
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Designed & Engraved by Theodore Lane.

THE
VETERINARY SURGEON'S
VADE MECUM.

A
COMPLETE GUIDE
TO THE
CURE OF ALL DISEASES
INCIDENT TO
HORSES, CATTLE, SHEEP, AND DOGS:

WITH RULES
FOR THE
MANAGEMENT OF THE HEALTHY HORSE,
FEEDING, STABLING, GROOMING, SHOEING, &c.

THE
HEALTHY TREATMENT AND BREEDING OF DOGS;

TOGETHER WITH
A COMPENDIUM OF ALL VETERINARY MEDICINES.

THE WHOLE BEING
THE RESULT OF THIRTY YEARS EXPERIENCE.

BY JOHN RYDGE,
LATE VETERINARY SURGEON IN THE HANOVERIAN HORSE.

LONDON:
CLERC SMITH, 36, ST. JAMES'S STREET.

1827.

THE
VETERINARY SURGEON'S
VETERINARY MEDICINE
A COMPLETE GUIDE
TO THE
TREATMENT OF ALL DISEASES
OF HORSES, CATTLE, SHEEP,
AND SWINE,
WITH
A COMPLETE GUIDE TO THE
MANAGEMENT OF THE HEALTHY HORSE,
AND THE
HEALTHY TREATMENT AND BREEDING OF DOGS,
TOGETHER WITH
A COMPENDIUM OF ALL THE MOST EFFECTIVE MEDICINES,
AND THE
MODES OF THEIR APPLICATION,
FROM THE
RESULTS OF THE MOST EXTENSIVE
PRACTICE,
BY
J. CLARKE,
VETERINARY SURGEON TO THE
ROYAL HORSE-GARDENS,
AND TO THE
ROYAL VETERINARY SCHOOL,
DUBLIN.

SHACKELL AND BAYLIS, JOHNSON'S-COURT, FLEET-STREET.



DEDICATED
WITH
THE MOST SINCERE RESPECT
TO
THE VETERINARY PROFESSION,
BY
THE AUTHOR



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PREFACE.

IN human medicine the Physician, the Surgeon, and the Apothecary, have each their VADE MECUM, and a more useful description of book is not in the medical library. To the Veterinarian, the necessity of such a work is far more urgent. The length to which medical science has been extended, renders it difficult to condense, within the space convenient for the purposes of a VADE MECUM, all that is important to the practitioner; but in the Veterinary art, (although now much improved) there is

not any thing worthy of the Veterinarian, that may not be compressed within the limits of a volume; and from the nature of Veterinary practice, a book of reference upon *every point in the profession*, which he can *at all times carry with him*, and which he may rely upon as embodying the *best opinions in the art*, must be indeed of the greatest importance. For the attainment of this end, is this work composed; and I trust I have satisfactorily accomplished the execution of its plan, which is both novel and comprehensive. I have united to the systems of treatment of diseases of the Horse, that of Cattle, Sheep, and Dogs; so that the practitioner, instead of having been necessitated to consult various different authors, as the variety of his patients required, may now, in one book, find the best and most approved outlines of his practice in all.

In attempting a new classification of disease, my object has been more to sim-

plify than to attain credit for a peculiar system; and, considering the yet imperfect models* which have preceded me in Veterinary Medicine, every attempt at improvement, (particularly when simplicity is the object,) I trust will be received with good feelings, as it is so meant. Brought up from infancy in the profession, under the early instructions of my father, subsequently a Student and Member of the Hanoverian College, and for many years the Veterinary Surgeon to a Dragoon Regiment; I trust that the profession will entertain my labours with the indulgence I claim as a devoted friend to the Veterinary art.

To the private gentleman, the farmer, the traveller, and all whose interests lie in the health of Horses, Cattle, or Dogs,

* The classification of Mr. Blaine is scientific, and perhaps the best; but is still imperfect, as mine also must be. But as a book for the student, Mr. Blaine's "Outlines" is one of the first in the English language.

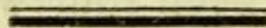
this VADE MECUM is intended as a book of great utility. Its object manifestly is, to guide them from the gross ignorance, which but too extensively pervades ordinary opinions upon the medical treatment of those valuable animals ; and to point out to them WHEN *they can trust themselves in remedies,* and WHEN *they should apply to the Veterinary Surgeon.* It will also shew them the difference which now exists between enlightenment of science, and the gross stupidity, brutality, and danger of the old system of farriery, (not *yet* old), and indicate, therefore, *where* to seek proper remedy. By this book all will be enabled to see true danger, and the necessity of consulting the regularly educated Veterinary Surgeon, and not to be blindly led by the ignorant nostrums of every rustic impostor in those diseases where none can be trusted with safety but the regular practitioner.

Since the establishment of the Veterinary

College of London, the art has rapidly improved, and to the indefatigable exertions and scientific knowledge of Professor COLMAN in this, the nation at large, and the profession in particular, are principally indebted. Yet with all precocious growth there will be something "out of nature," and so it is with some new veterinary opinions; hypothetical reasoning occasionally fills the place of what hereafter shall be demonstratively proved; and, perhaps, in lopping off the excrescences of the old school, like the French revolutionists, the veterinary reformers have gone a little too far. On this account, I have been somewhat less sceptical with regard to the ancients than my brethren of the day, and have not *wholly* disregarded their opinions. I have been profuse in giving receipts, and some of the fastidious may blame me for it; but the practitioner will find that when he is out of his study, and in the casual road of his profession, these prescriptions will furnish him with a set of

memoranda, from which he may select, in accordance to his own peculiar practice, with considerable advantage. I have also given both the *old* and *scientific* names of diseases, and have ventured also on broaching some new ideas of my own, for which I claim indulgence until they are fairly examined.

This is a VADE MECUM, and not an inquiry into opinions—a copious remembrancer for practice, and not a book of disquisition. Therefore, I trust it will be received as it is meant.



THE FRONTISPIECE

Represents a horse with the hobbles on: also the different marks of the firing iron on his legs.

Plate II. to face page 12.

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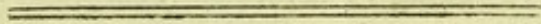
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ERRATA.

- Page 73, for *diabetis*, read *diabetes*
 Page 123, for *surpineary* ligament and *flexon* tendon, read
suspensory ligament and *flexor* tendon.
 Page 237, for *fronted* worms, or *æshus* ovis, read *frontal*
 worms, or *æstrus* ovis.
 Page 271, for affections of the *internal* canal, read affections
 of the *intestinal* canal.

THE
VETERINARY SURGEON'S
VADE MECUM.

SECTION I.

THE MUSEUM

OF THE HISTORY OF THE

ARTS AND MANUFACTURES

OF GREAT BRITAIN

AND IRELAND

IN THE

VETERINARY DEPARTMENT

OF THE

ROYAL MUSEUM

OF THE HISTORY OF THE

ARTS AND MANUFACTURES

OF GREAT BRITAIN

AND IRELAND

IN THE

VETERINARY DEPARTMENT

THE
VETERINARY SURGEON'S
VADE MECUM.

SECTION I.—HORSES.

CHAPTER I

SKETCH OF THE ANATOMY OF THE HORSE.

THE body is composed of bones, cartilages, muscles, tendons, ligaments, membranes, glands, nerves, arteries, veins, lymphatics, cellular substance, blood, and other fluids.

Bones are the hardest parts of the body, serving as a fulcrum to the softer parts.

Cartilages are substances, whitish, flexible, and smooth, in a certain degree elastic, harder than ligaments, and softer than bones; their use is to unite or connect the bones. They are commonly known by the name of gristle. Bones are originally cartilaginous before they become bones.

Muscles are fleshy bodies, or rather bundles of fibres arising and inserted into the bones, capable of contraction, and are thereby the medium of motion.

Tendons, commonly called sinews, are white substances, and are the termination of muscles, by which they are attached or inserted into bones.

Ligaments are parts more flexible than cartilages, of a white, close, and compact nature; they are more or less elastic and difficult to be broken. Their use is that of connecting and binding parts together.

Membranes are a sort of net-work, forming sheaths, &c. for the better division of other parts.

Glands are bodies of a solid consistence, such as the liver, kidneys, &c. and are organs destined to separate the different fluids from the mass of the blood, such as the bile, urine, saliva, &c.

Nerves are white cords, distributed to all parts of the body, and arising from the brain and spinal marrow, thereby acting as the medium of sensation to its seat the brain. They are solid outside, and contain a thickish and white fluid internally.

Arteries are the great canals which carry the blood from the heart to all parts of the body—white elastic tubes of various diameters, larger as they are near the heart and *vice versâ*. They may be compared to the branches of a tree, the root of which is the heart. Their elasticity enables them to contract and collapse according to every pulsation of the heart.

Veins are blood vessels which accompany the courses of the arteries, and which carry back that blood to the heart which has been distributed by the arteries. Their structure differs from that of the arteries by not having an elastic coat, and in possessing membranous valves, or flood gates, at various intervals throughout.

Lymphatics are a set of vessels, whose office is to take up various fluids, like so many suckers, and deposit them in the mass of blood. This system of vessels is called the absorbent system. The lacteal vessels, which with innumerable mouths suck up the chyle from the stomach and carry it to the blood, are a part of that system.

Cellular substance.—This is a semi-fat substance, deposited in cells which are placed in almost every part of the body, acting as a connecting medium to the parts.

Blood is that fluid formed out of the chyle or nutriment of the stomach, and out of which is formed all parts of the body.

The other fluids are *bile, urine, saliva, semen, perspiration, &c. &c.*

THE PARTICULAR CAVITIES.

The body is divided into four great cavities; viz. the cavity of the cranium or skull; the cavity of the thorax or chest; the cavity of the abdomen or belly, and the cavity of the pelvis or basin.

CAVITY OF THE SKULL

Contains the organ of sense and feeling, the brain or cerebrum, and the little brain or cerebellum so called, but which I think is only part of the brain itself; the whole would be better designated by saying it is divided into the cerebrum and cerebellum. The cavity of the skull contains also the origin of ten pair of nerves, whose office is to constitute the senses of seeing, hearing, smelling, and tasting, as well as to supply the face, tongue, lips, &c. with motion. It also contains the origin of the spinal marrow. The brain itself fills principally the cavity of the skull, and is enveloped in thick membranes like parchment, called the *dura mater* and *pia mater*. There are small cavities within the brain itself called *ventricles*, and which are often the seats of disease, such as water on the brain, or dropsy of the brain, and in sheep a disease is produced in one of the ventricles

by a little bladder of water, and is named gid, or giddiness.

CAVITY OF THE CHEST

Contains the heart, the lungs, with its membranes, the thymus gland in colts, and the great trunks of the blood vessels which arise out of the heart. The chest of the horse is formed like the keel of a ship, and is separated from the belly by a floor, or partition, of strong muscular construction, called the midriff, or diaphragm.

The Lungs are the organ of breathing, or respiration; the blood is there oxygenated by the air, which comes in contact with it at every inspiration. They are composed of cells and little vessels, which are minute continuations of the trachea, or wind-pipe, which enters the lungs. The lungs may be called a complete mesh of little vessels, and being so immediately necessary to life, an inflammation of them is of the greatest danger. They are divided into lobes, occupying the right and left parts of the cavity of the chest.

The Heart is a muscle, and, from its peculiar construction, of great power and strength; it is enclosed in a membranous bag called the pericardium, which serves to restrain its over action. The heart is divided into two chambers, or cavities, called ventricles, and has two appendages called auricles, which are themselves little chambers, or cavities, all for the purpose of circulating the blood.

The Thymus Gland is evidently for the use of the foal and young horse, as it diminishes and disappears soon after a year old; but what that use is does not sufficiently appear.

The Diaphragm.—This partition assists much, by its contraction, in breathing; there are apertures at that portion of it next the back bone for the passage

of the great blood vessels and the œsophagus, or canal, through which the food passes into the stomach. It is muscular and tendinous.

CAVITY OF THE ABDOMEN OR BELLY.

This contains the stomach, the liver, the spleen, or melt, the pancreas, the mesentery, the intestinal canal, and the omentum.

The Stomach is the grand organ of digestion, and is situated under the diaphragm; it is composed of several closely woven coats, the internal of which secretes or forms the gastric juice, which has the power of dissolving the food in conjunction with the saliva swallowed from the mouth. The superior opening into the stomach is called the cardiac orifice, and the inferior is called the pylorus.

The Liver is a large viscus situated in the right side of the belly immediately under the diaphragm, and attached to it, as well as to the back bone, by ligaments. It is a gland, and its office is to form the bile and pour it into the first portion of the intestines next the stomach. In all other animals except the horse, ass, and mule, there are gall bladders, but with them there are none; the bile, or gall, instead of being reserved in a bladder, as in other animals, is poured by a duct into the intestines, then mixing with the chyle, or dissolved food, fulfils the digestion by separating the fæces from the nutritive portion of the food.

The Spleen, or Melt, is a smaller viscus than the liver, and situated at the opposite side. Its use is not properly known. Mr. White says it is for the purpose of holding the superabundant blood which may be engaged in the stomach and liver; but this is mere supposition, although perhaps containing more reason than many other opinions upon the subject.

The Pancreas is a small gland situated close to the back bone, the same as what is called the sweet-bread in calves. Its use is to secrete, or form, a white fluid,

which is poured into the intestines along with the bile, and which assists digestion.

The Mesentery is the membrane which connects the intestinal canal to the back bone, and along which pass the lacteals, or vessels which suck up the prepared food called chyle.

The Intestinal Canal is the gut which runs down from the stomach to the anus. It is divided into the small and large intestines, and is about eight and twenty yards in length. The first portion of this next the stomach, for about twenty yards, is called the small intestines, or alimentary canal, and the remainder, the excremental canal. The alimentary canal is subdivided into three nominal portions; namely, the duodenum, the jejunum, and the ilium; the excrementary canal is also divided into three portions, and with more propriety, the cæcum, or blind gut, the colon, and the rectum. The termination of the rectum is called the anus, and is closely bound round by a strong muscle called the sphincter, which keeps it firmly closed, except when the dung is discharging.

The Omentum is a membrane which folds down over the whole of the intestines, and in cattle is the receptacle for large quantities of fat.

CAVITY OF THE PELVIS, OR BASIN.

This contains the kidneys, the ureters, the bladder, and the vesiculæ seminales.

The Kidneys are two glands situated one on each side of the spine below the liver. Their office is to separate the urine from the blood.

The Ureters are two small tubes arising out of the hollow of each kidney, and running down to the neck, or rather to the narrow part of the bladder, where they enter obliquely, and thus convey the urine to the bladder.

The Bladder is a large receptacle for the urine,

composed of tunicae, or coats, one of which is muscular and has the power of contracting, thus forcing out the contents. It also possesses another strong muscle which surrounds its neck, and acts as a sphincter in keeping in the urine, and in dilating lets it pass out.

The Vesiculæ Seminales are two small receptacles for the semen or seed, which in the horse, when full, are like two little bladders; and this has given rise to the assertion that the horse has three bladders. These vesiculæ are situated at the neck of the bladder, and receive the semen which is secreted in the testicles. They have a small duct, which carries their contents into the urethra in the act of covering.

SKETCH OF THE CIRCULATION OF THE BLOOD.

The blood having undergone oxygenation in the lungs, during the inspiration or drawing in of the breath, is sent back through the pulmonary veins to the left auricle, from thence it passes into the left ventricle, and by the contraction of the heart is sent at one pulse to every part of the body through the aorta, or great artery, which arises out of the left ventricle. This blood is brought back by the veins through the great cava, or trunk of the veins, into the right auricle; the blood then goes from this into the right ventricle, which being continuous with the pulmonary artery, is by the pulse of the heart driven into the lungs to be oxygenated, and again returns, after undergoing this change, into the left auricle by the pulmonary veins; so that at every pulse of the heart, both right and left ventricle discharge their contents into the aorta and pulmonary artery, and, during the cessation, the blood, in both right and left auricle, falls into the ventricles, to be ejected at the next pulsation or contraction of the heart; and in order that these

different qualities of blood should not be intermixed, there is a provision made by nature, which is a set of valves, or flood-gates, that open only one way, and shut up upon the least move backwards of the blood.

THE PULSE.

The pulse is the vibration of arteries acted upon by the volume of blood propelled through them at every contraction or beat of the heart. It is soft and moderate in its action when the horse is in health, being about forty-five or fifty beats in a minute. In the colt it is quicker, being from sixty to sixty-five. During great inflammations the pulse is hard and like a cord to the finger, it is likewise quick in proportion to the force of the disease. A slow, small pulse accompanies debility, and a quick, small, and irregular pulse generally attends fever. In mad staggers, and other affections of the brain, it is slow, full, and intermitting.

It is common to feel the pulse over the heart itself, or the carotid arteries which run along the hollow of the neck; but it can also be felt at the base of the ear. Mr. Blane has the merit of first pointing out the artery under the jaw-bone, near the edge, as a good place to feel the pulse: this is a branch of the inferior maxillary artery. My opinion is, that wherever the pulse can be most plainly felt is the best place.

CHAPTER II.

OPERATIONS.

SECURING THE HORSE FOR OPERATIONS.

Putting on the hobbles.—Hobbles are composed of four leather straps, with buckles, one fastened between the fetlock and hoof of each leg; on each strap is an iron ring, through which a rope is passed by fastening one end of it to the fore leg strap of the opposite side to which you mean to throw down the horse; the other end of the rope is then to be passed through the ring of the hind leg of the same side, then through that on the other hind leg, then through the opposite fore leg, and lastly, through the ring to which its other end is fastened. Care should be taken to have plenty of straw, or what is softer and better, dung, placed upon the spot where the horse is to fall, so as to prevent injury to the animal. A steady man is then to hold him by the head, while the end of the rope, which has been passed through the rings, is pulled by several hands, which will instantly throw the horse down upon his side. His head is then to be held firmly down, and he should be spoken kindly to, and patted upon the neck and flanks, to abate the fright which the fall occasions. The more certain way to secure the falling of the horse on any particular side, is to pass a strong piece of web round the fore arm of the fore leg, and let the end of it be drawn over his shoulder and pulled by an assistant.

The Side Line.—This is a method of securing the hind legs of the horse, now very generally in use in minor operations, particularly in cases where the animal is disposed to kick. It is done by putting a hobble strap on one of the hind legs, and passing the rope belonging to it over the withers; then passing

it back under the neck, like a slipping collar. The hinder leg can thus be drawn back as far as possible, without lifting it off the ground; and this effectually prevents the possibility of kicking with either leg.

The Trevis.—This is seldom used, except in cases where horses are extremely refractory. It is much used on the Continent; but, I am of opinion, that it ought never to be resorted to, if possible, as sometimes the death of the horse takes place from the violence of his own exertions. The machine in which the animal is secured should be well padded, to prevent injuries.

The Twitch and the Barnacles.—These are very useful auxiliaries in operations, but very often used unnecessarily. Many a horse is tortured thus, when the mere holding of his ear, and rubbing the end of it, or blindfolding (which should be done in all cases), or holding up the fore foot, would have answered every purpose.

THE NERVE OPERATION.

The horse having been secured upon his side, an incision, about three inches above the most prominent part of the fetlock joint, that is the most prominent part when viewed sideways, and just within the back sinew. The incision is to be made quite through the skin to the cellular substance, and the instrument should be sharp, so that the first stroke of it may be sufficient to make the incision, and thus be the less painful to the animal as well as more creditable to the operator; however, care must be taken not to carry the incision deeper than the cellular substance, which will appear white on opening the skin. This must then be carefully dissected away, and the nerve will appear, and immediately behind it a vein of a bluish colour. A crooked needle, armed with a small ligature, or twine, is now to be carefully passed under the nerve from within outward, and the operator must

not touch the vein with the point, lest it be wounded, and so embarrass him with the blood which must consequently flow. To avoid this, the needle should be a little blunt at the point. When this is done, the needle is to be removed from the twine, and the nerve having been gently drawn out by the ligature, the cellular substance underneath it is to be cautiously dissected away, taking care not to wound in the slightest degree the nerve itself. A curved bistoury is now to be passed under the nerve, as high up as can be admitted, and at one steady, keen, and well-directed cut it is to be divided. The bistoury must be as sharp as possible, and the cut be *drawn*, and not by pressing the blade directly upwards, as the least laceration of the nerve is dangerous, as well as unnecessarily painful to the animal. The operation itself, of *dividing* the nerve, gives excessive and sudden pain, which causes the horse to struggle violently: this must be guarded against; but when the division is complete the pain is over. The inferior portion of the nerve, or that which remains next the hoof, is to be drawn out by forceps, and cut out to the extent of from half an inch to an inch. The skin should then be closed, and one stitch applied, which concludes the operation. No dressing or bandage is necessary, and the wound will heal in about three weeks. It will be advisable to turn the horse out to grass a little before the wound is healed, and he should be kept there for about a fortnight, or three weeks, or perhaps more.

Mr. Coleman advises the operation to be performed in the pastern of both sides, cutting out a portion of the nerve which runs down behind the artery, and to leave the anterior branch untouched, which will serve to convey a portion of sensibility to the foot, and therefore give the horse more use of it. This is certainly an improvement. However, in performing this operation greater caution is necessary, so as to avoid wounding the artery.

In Plate No. 2, I have given two figures; the first of which represents the part where the operation is to be performed. Fig. 1, is the place to perform the upper operation. Fig. 2, is the lower. Fig. 2, shews the relative situation of the nerve, artery, and vein. 1. The nerve. 2. The artery. 3. The vein.

Mr. Sewell prefers the lower operation generally, and Mr. Blane is in favour of the upper.

CASTRATION.

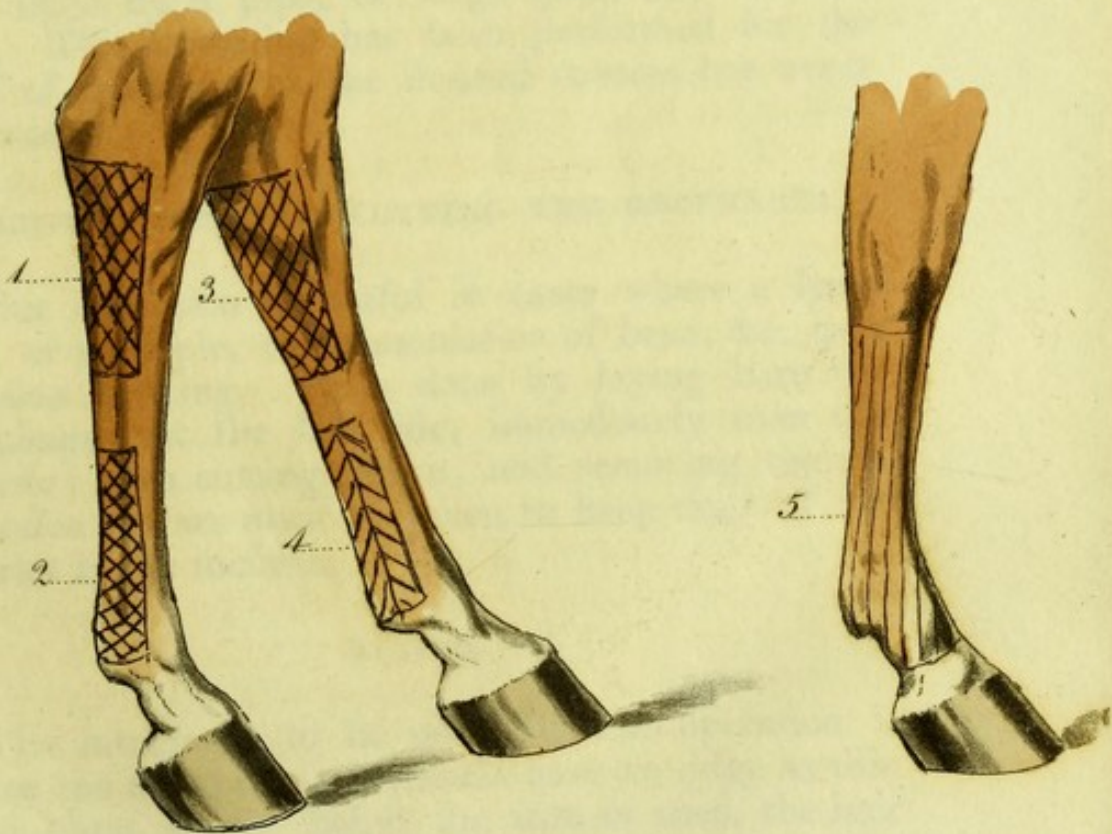
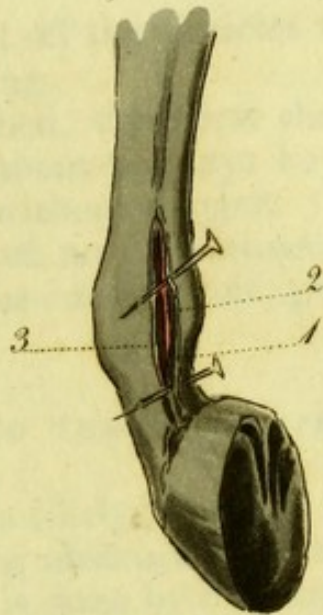
The best time to castrate is when the animal is about one year old. The horse is to be thrown down upon the left side, and the right hind leg drawn up, to the shoulder, by means of a strong piece of web passed round it in a noose. The testicle is then to be grasped by the operator in his left hand, and pressed gently, so as to render the skin upon it tense. An incision should be then made through the outer skin, and about three inches in length. Having done this, the knife is to be gently used until the vaginal sac is cut through, which will be known by the issuing of water from it. One of the blades of a pair of scissors is then to be introduced, and the vaginal sac cut up as far as the external incision. The testicle will now protrude and contract, but in a little time the cord will relax, when it is to be placed in the clams, leaving the testicles and upper portion, called the epididymis, outside them. The clams are to be made tight, so as to prevent the possibility of the slipping up of the cord after it is cut. This being done, the cord is to be cut with a nearly red-hot firing iron. This is all the searing that will be necessary, and the clams are to be then taken off, when the other testicle is to be operated upon in the same manner. No dressing is necessary, and but little, if any, bleeding will follow. Too much searing often causes bleeding, the very thing it is meant to pre-

Nerve Operation

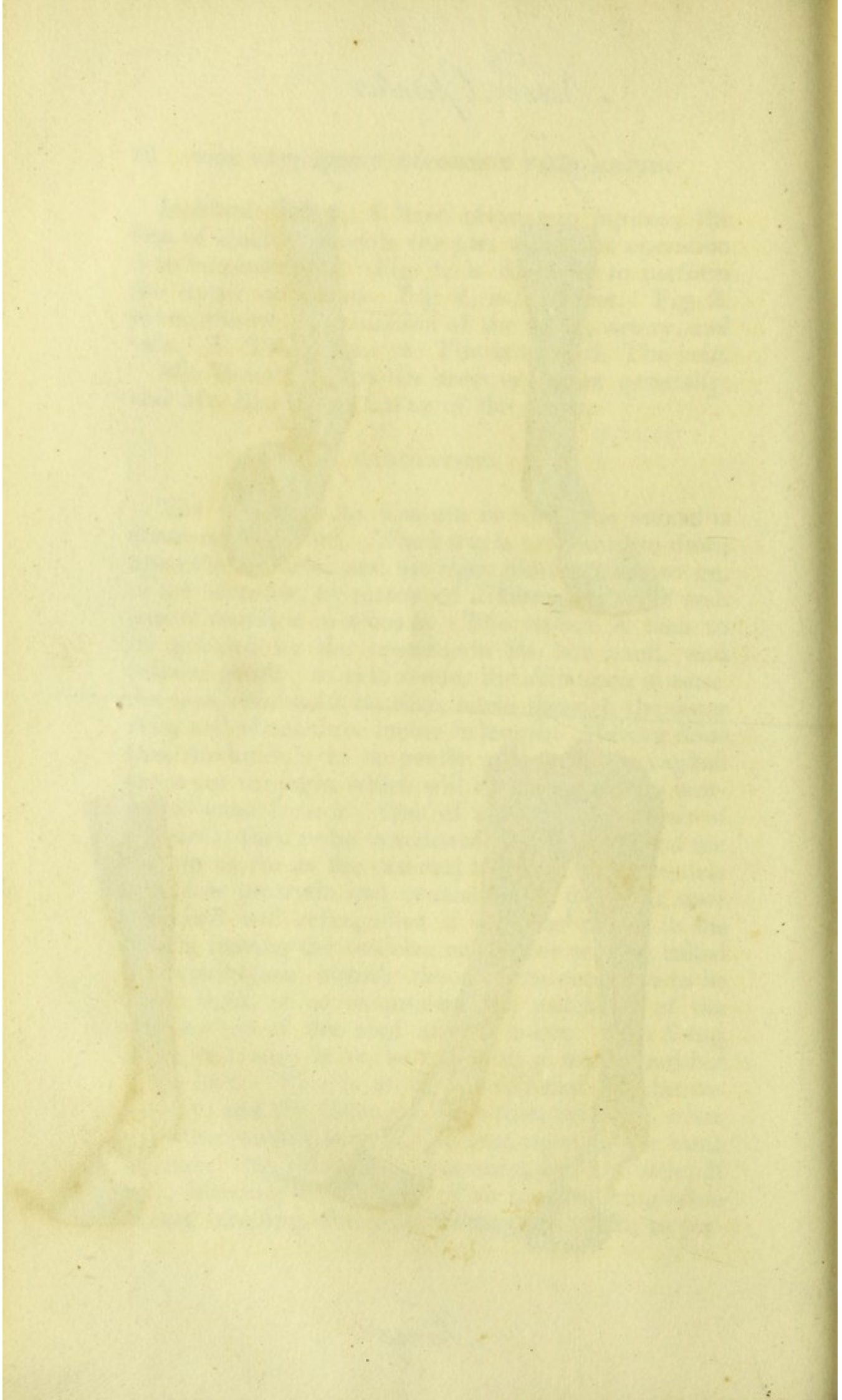
Fig. 1.



Fig 2



Firing



vent. It is quite enough to cut off the testicles with a hot iron without further searing.

When the operation is finished, the horse should be turned into a box, and in about ten days he will be well and may be worked without danger. The swelling which occurs after is of no consequence, it will go away; however, if it be considerable, physic should be given.

BRONCHOTOMY, OR CUTTING THE WIND-PIPE.

In cases where suffocation is likely to ensue from the windpipe, or trachea, being obstructed, this operation becomes necessary. It is done by first making a longitudinal incision through the skin, so as to lay the trachea bare: then with sharp scissors cut out a little square portion of the cartilage, so that the animal can breathe through the opening, until the cause of suffocation be removed. The aperture is to be kept open by a pipe, or large quill, cut at both ends. This operation has been performed for the relief of roaring, but the desired success has never followed it.

ŒSOPHAGOTOMY, OR CUTTING THE ŒSOPHAGUS.

This operation is useful in cases where a large ball, or an apple, or accumulation of bran, &c. may occasion choking. It is done by laying bare the œsophagus, at the left side, immediately over the tumour; then cutting into it, and removing the obstruction. Care must be taken to keep clear of the arteries in the incision.

FIRING.

The instrument to be used for this operation is called the firing-iron; it should have an edge as thin as a blunt adze. Before the iron is used, the hair

should be cut off from the part to be operated upon as closely as possible. The iron should then be applied after the following forms: (*see Plate II.*)

Fig. 1, Firing for the curb. 2. Firing for strain of the fetlock joint, or back sinews. 3. Firing for the bone spavin. 4. Another mode of firing for strain of the fetlock joint. 5. The method practised by the college for the same.

The instrument should never penetrate the skin, but merely the outer surface of it, or cuticle, leaving a brown mark, which if properly done, will exude a fluid soon after the operation.

If the back sinew or fetlock joint is to be operated upon, the uppermost leg is to be secured and kept straight by webbing fastened from the knee to the hind leg above the hock, and another piece of the same material passed round the pastern, and securely held by an assistant. The under leg should be secured similarly. In operating on the hind leg, it will of course be the under one, and it should be taken out of the hobble; it should be drawn out by an assistant, and held by a piece of webbing. In firing the back sinew, or pastern, of the hind leg, the leg must be drawn towards the fore leg, or shoulder, by two pieces, one passed round the pastern, and the other round the hock, both fastened to a collar placed round the horse's neck. In sprains it may be secured in a similar manner.

When the operation is over, the parts fired should be rubbed with blistering ointment; the horse may be then put into a loose box, with a cradle on his neck, and may be turned out to grass in a fortnight, if the disorder do not appear to warrant a different mode of treatment.

ROWELS.

Rowels are a kind of drain, and as good as setons. They are produced by an incision in the skin when it

is loose, and about an inch long. The incision done, the instrument, called a cornet, which is the tip of a horn, is to be introduced, or else the finger, and the skin separated from the flesh for an inch round. A round piece of leather, with a hole in the middle, is to be introduced into the opening, first having been covered with tow and smeared with simple ointment—basilicon or hog's-lard. The opening is then to be stopped up or plugged with tow, and left there until matter forms, which will be in four or five days. The rowel is then to be removed, cleaned, and replaced; which is to be done every day after, as long as it is necessary to keep the wound open for a discharge.

SETONS.

A seton is put in by passing an instrument, called a seton needle, through the skin, armed with lamp cotton, or tape, or threads. The object is to promote a discharge of matter from any particular place, and keep up an irritation there. A seton is easier done, and altogether a more useful operation than the rowel. The lamp cotton, or tape, is to be drawn a little out every day, so as to let the new part of it be in contact with the wound.

DOCKING.

Docking, when done early—that is, when the colt is a mere sucker—may be performed with any common knife, and tied up with a common string, to prevent bleeding; but if the operation be deferred until the horse be full grown, a docking knife is to be used. The hair is to be cut closely off the part of the tail to be cut, and the instrument's edge placed so as to come over the hollow between any of the rings or bones of the tail—a simple motion completes the operation. Some sear the tail with a

hot iron after the operation ; but, I think, that if a strong twine be tied on the part just above the incision, and before the operation, there will be nothing to warrant searing. In the absence of a docking knife, a strong carving knife, or some such instrument, may be used, by making the assistant hold a block under the tail, placing the edge of the knife over it, and striking it with a heavy instrument—a mallet, for instance. One blow will be sufficient, if the knife and block be properly placed.

NICKING.

This is a fanciful operation, performed for the purpose of making the horse carry his tail neatly and elegantly. It is necessary when this operation is performed, to pay attention to the state of the atmosphere, which should be dry and temperate, avoiding the extremes of heat and cold.

The horse must first be thrown down ; then four or five nicks cut across the under side of the tail, according to the length. Let the first nick be made about two inches from the rump, and continued at equal distances from each other. The only art in nicking is, to cut deep enough on each side of the under part of the tail. All that is to be guarded against in nicking is, to prevent a re-union of the tendons, of which there are two on each side: this will always be effected by a proper application of the pullies on the tail.

When the operation is completed, apply to each wound a small pledget of lint, dipped in Friar's balsam, and cover the whole with dry tow ; then let a proper bandage be applied over each wound, to secure the dressings : the horse must then be walked about gently until he is quite cool, when the bleeding will cease ; after which put him into the stable, and the second night cut the laps, taking care that the dressings are not disturbed : the next morning they

should be removed, and the following tincture applied:—

Compound Digestive Tincture.

Take Egyptiacum, four ounces ;
Tincture of Myrrh, one ounce ;
Friar's Balsam, one ounce and a half ;
Spirits of Turpentine, two ounces and a half.
Let them be put into a bottle, and well shaken when used.

Take a small pledget of tow, and dip in this tincture, applying it along the course of each wound, bandaging it over in the same manner as before: about two hours after this dressing has been applied, the horse should be put into the pullies, taking care not to apply too great a weight on the first occasion, as it may produce startling, and thereby cause injury to the tail. The particular manner in which the horse carries his tail, after recovering this operation, will depend entirely on the care and management he undergoes during the first week he is placed in the pulley. Let the pullies be fixed about a yard above the horse's shoulders, so that the end of the tail may be brought within four or five inches of the croup. It must be fixed according to the position in which the horse is placed.

If the animal be placed more on one side of his stall than the other, the pullies must be fixed to that side, so as to retain the tail in a proper position. Let the dressings be repeated every second day for ten or twelve days; after which, anoint the wounds daily with a large camel's hair pencil dipped in the tincture, sprinkling a little powdered resin over the wounds immediately after. Repeat this daily until he is well. Let the horse be gently exercised every day, and should swelling of the heels and tail take place, with a considerable discharge of matter, it will be necessary to take some blood from him, and administer a few of the following balls:

Diuretic Ball.

Take Liquorice Root, in powder, six ounces;
 Nitre, in powder, eight ounces;
 Yellow Resin, in powder, eight ounces;
 Castile Soap, four ounces;
 Ginger, in powder, five ounces;
 Spirits of Turpentine, two ounces.

Make into balls, with a sufficient quantity of treacle, and let each ball weigh two ounces.

PHLEBOTOMY.

The great vein of the neck is decidedly the best to bleed from in all cases requiring general blood-letting. The operation, although simple, is frequently done in a most clumsy manner, and serious injuries often follow the improper use of the fleam. I prefer a lancet in most cases; but if the fleam be used, let the operator gently rise the vein, by pressing his finger softly upon it, and at the part immediately above where the vessel divides into two branches, open it by a well-directed stroke. The common brass pins, I think, ought to be abandoned, and a needle substituted, for tying up the orifice; for irritation is often caused by the quality of the pin. Care should be taken not to touch the wound with the hand that has been examining a glandered horse, for the matter may thus be communicated.

Bleeding from the eye vein, I believe, to be of no more benefit than bleeding from the neck; and taking blood from the mouth, I look upon, to be totally useless. Opening the temporal artery, in affections of the head and eyes, is an operation of great importance, and often relieves when other bleedings fail. Bleeding in the toe, as it is called, is topical, and therefore is of great use in affections of the foot; and so, perhaps, bleeding from the veins of the thigh may be found beneficial, as a topical remedy; but, as I said before, in all cases requiring general deple-

tion, the vein of the neck will answer every purpose. The quantity of blood to be drawn, is, for a full bleeding, from one to two gallons, but in very violent inflammations of the lungs, I have known four gallons to have been taken with good effect.

CHAPTER III.

GENERAL INSTRUCTIONS ON PROPER GROOMING.

THIS subject may be considered under three principal heads, viz.: What is the most wholesome and nutritious diet for horses?—What is the best system of stabling for the preservation of their health? and, what quantity of exercise is necessary to keep them in regular health?—First, then, we shall consider

FEEDING.

Hay and oats, of the best quality, are decidedly the most nutritive provender for horses. Moderate quantities of each should be given in three separate proportions: the first in the morning, the second in the afternoon, and the third at night. For saddle horses, and those whose exercise is not excessive, *one peck* of oats, and *ten pounds* of hay, divided equally into three feeds, as just directed, will be quite sufficient every twenty-four hours. However, in cases of over-work, an additional quarter, or half-peck of oats, and about four pounds more of hay, may be necessary. It would much facilitate the mastication, and contribute to the wholesome digestion of the food, if the oats and hay were lightly moistened with good water. Beans are frequently given to

draught and waggon horses, in large quantities, which must be prejudicial to the constitution, and lay the foundation of various diseases, as such provender is of a most indigestible property. If given at all, it should be in very small quantities, well bruised, and mixed with good oats. I by no means approve of the custom of bruising the oats, and cutting up the hay in small particles, from the mistaken idea that mastication and digestion will be improved by it. On the contrary, the latter must be seriously injured by this plan, as the horse will swallow his food with such eagerness and rapidity, that the digestive organs must be impeded in their natural operation. The old system is decidedly the wisest; but, let the hay and oats be of the *very best* quality, and let the quantities be given, in moderate proportions, as already directed. The next head for consideration is

STABLING.

Good stabling is a most important object, and much is it to be regretted that it is too frequently neglected. Every stable should be sufficiently elevated to admit a free action of air; say, from sixteen to eighteen feet high. Each stall should be from eight to ten feet wide; as by this space being allowed, each horse can move his limbs about, and thus prevent his feet from being swollen. The depth of the stable should be at least from twenty to twenty-four feet. The rack and manger of each horse should be kept, if possible, separate from the other, whereby they will not be able to intrude on one another's provisions. While horses stand in stable, they should have a small quantity of straw, lightly shaken under them, which may receive their urine; and when they are taken out for exercise, the straw should be removed, and the stalls well washed with a broom and a few buckets of water. This will not alone preserve cleanliness, but also purify the

atmosphere of the stable. In case it be not convenient to erect stables according to the extent in height, depth, &c. as recommended, it will be necessary to have a window or two, which may be left open for a time, to cause a free currency of air in the stable, or the introduction of *ventilators* in the windows would be most useful for this purpose, as they would constantly promote a free, equal, and temperate atmospheric action through every part of the stable. The mangers should be sufficiently deep, wide, and lengthy, for the spreading of the oats, so that the horse may not take his corn in large mouthfuls, and consequently swallow a great part of it unmasticated; and to prevent him from wasting his corn, in throwing his head about while feeding, it would be well, during that time, to shorten his collar, by which means such waste will not occur.

The third and last subject for attentive remark, as regards the most proper system of GROOMING, is

THE EXERCISE OF THE HORSE.

The anatomical structure of the horse distinctly proves that he was intended for exercise; but that, like other animals of speed and burden, such exercise should be commensurate with his physical powers. It is, therefore, a melancholy fact, of which we have every day numerous examples, that, instead of duly reflecting how far this valuable animal may undergo a sufficient proportion of toil and fatigue, without prejudice to his constitution, too many *biped* brutes overwork horses beyond their natural strength, at an early period, and prematurely subject them, by such abuses, to the most fatal diseases. In another part of this work, the treatment of stage, post, cart, and waggon horses, has been minutely examined, and proper directions given, as regards the quantity of work and exercise sufficient for their physical strength. It is, therefore, needless, in this chapter, to intro-

duce further observations on that subject. Saddle horses, hunters, &c. should, before their morning feed, be exercised about two hours regularly; and, if just taken from grass, they should, for the first ten days at least, not be allowed to exceed a walking gait. During the first ten days, after being stabled, let their regimen of diet be as follows:—When they have returned from their morning exercise of two hours, let them have cold bran-mashes, consisting of about a quarter of a peck of good bran, and about one quart of bruised oats, mixed up together. Then give them about four pounds of sweet hay, moistened with water; when they have finished this allowance, let them have about four quarts of clear water, in a clean bucket. In two or three hours after, give them about three pounds more of hay, moistened as before; in two hours after, two pounds more, and another cold bran-mash. Between three and four o'clock, two pounds more of hay, and a similar quantity of water; continue the same quantity of hay every two hours, until the horses are to be done or made up for the night. Give each a cold bran-mash, as before directed, the same quantity of water, and about three pounds of hay. This is decidedly the most approved system of exercise and training, now extant in England.

CHAPTER IV.

INFLAMMATION IN GENERAL.

INFLAMMATION is not, as Mr. White says, “a disorder of the blood-vessels, occasioned *by having too much blood in them,*” but a diseased *action* in the *vessels themselves*, depending on the irritability of their nerves. It is divided into *acute* and *chronic*,

and its terminations are by *re-solution*—or putting back, as it is usually termed—*suppuration*, or bringing to a head—and *gangrene*, or mortification.

In almost every disorder that affects the horse, inflammation is to be met with. When it is external, we can easily detect it, by the swelling and tightness, the part being highly sensible, and of increased heat. When the eyes and nose are affected by inflammation, we can see considerable redness. When the animal has been injured by a strain, or wound, or bruise, the part hurt is tumefied, and feels hotter than usual, and the horse flinches from the touch. Pain, heat, and swelling, invariably accompany inflammation.

Inflammation of the eyes or lungs, or swelled legs, or grease, result from high feeding and inadequate exercise, or from a sudden removal from the straw-yard to a hot stable. Too long pressure of the saddle will inflame the withers, and possibly cause a bad ulcer. Bones are highly sensible when inflamed; and this affection occasions bone spavin, ring bone, &c., which are cured by stimulating with a blister. The sinews and ligaments are liable to inflammation, resulting from sprains; and that which farriers call "*breaking down*."

Inflammation is a valuable process of nature; it places those parts that have been injured in a better state. If, for instance, we cannot put back a tumour, we must bring it to a head: after this, the cavity would not heal, unless for inflammation; and this we cause or promote by using stimulants. We sometimes pour water, nearly boiling, into an abscess, and it frequently produces good effect; caustics act on the same principle—that of excitement.

What we have described is acute or general inflammation: there are chronic and specific inflammations, such as glanders, farcy, grease, inflammation of the eyes, &c. Here the vessels are acted upon by the peculiar disease. To prove this, I will state that the inflam-

mation of the glanders is quite different from common inflammation; because the discharge from the nose is more considerable, and of a quality entirely different; and, moreover, the disease is easily communicated to other horses, who drink from the same pail, &c. In the common cold, the discharge from the nose cannot produce similar effects; in fact, the discharge from the latter is the result of common inflammation, while, in the former case, it arises from specific inflammation.

Inflammation, as I before observed, ends in three ways—it is driven back, or brought to a head, or mortification follows. In the horse, the latter termination is always preceded by *violent* inflammation; as, in severe wounds or bruises; and a burning and offensive discharge flows from the part mortified. The pulse is quick and hard before, and soft and quick after mortification.

When inflammation runs high, we bleed in the neck, taking blood according to circumstances: we also give six drachms, or one ounce of nitre, twice a day; diuretic balls are useful; one pint, or one pint and a half of castor oil, or a mild purge, made of aloes, should also be given. When the symptoms are of a milder form, we must take blood from the part affected, adopting, of course, the other remedies. When the disease is in the joints or windgalls, bog spavin, &c. blister the part; but if, in spite of all our endeavours, the tumour continues to increase, and matter shall be formed within it, we must apply poultices and fomentations, in order to advance the process of nature; and then we must cease to use cool and purging medicines. When the swelling is moderately well filled with matter, opening with a lancet facilitates suppuration. Sometimes, in spite of us, mortification will take place, and then we must strengthen the constitution by strong tonics. The following is useful, and must be given twice a

day, or oftener, if necessary, in a pint of warm ale:—

Take Peruvian Bark (powdered) one ounce.

Ginger Powder half an ounce.

Opium half a drachm.

We should also apply a poultice of oatmeal and yeast, in a state of fermentation every four hours.

When inflammation attacks the lungs or brain, or other *internal* organs, the symptoms are different, according to the seat of disease. When the lungs are inflamed, for instance, the horse is continually standing, and breathes with difficulty: when the bowels are attacked, the horse is restless, rising up, and laying down, alternately, and exhibiting pain and fear: in inflammation of the brain, as in mad staggers, the horse first appears insensible, drowsy, dull, but soon he becomes furious and raging: when the membrane of the nose is attacked, as in cold, glanders, &c. the discharge of the nose is increased; whereas, in inflammation of the membrane of the windpipe, there is a division of the pipe into two spaces, and the complaint, called “roring,” is produced, chiefly resulting, however, from improper treatment. We must always employ active remedies for the cure of internal inflammation—bleeding, blistering, rowelling, and purging; nitre and tartar emetic are in general use, but bleeding is the most to be depended upon, and we must regulate the quantity of blood to be taken away by the extent of the disease, the age, and constitution of the animal, &c.

Bleeding, as I have just remarked, is the most valuable remedy at command in inflammation—indeed, the rapidity with which it produces good effects, is sometimes astonishing; it is extremely useful in spasmodic attacks, and in cases of convulsions, choleric, or stoppage of urine.

As bleeding is the sheet anchor in the treatment of inflammation, I shall consider it here.

THE USE OF BLOOD-LETTING.

If we have occasion to weaken the system of a horse, we generally bleed in the neck vein (the jugular); but if we merely require to reduce inflammation in one particular place, we bleed at that place, or as near to it as possible. In some inflammatory disorders it is necessary to use both local and general bleeding; as in inflammation of the eyes, &c. Bleeding lessens the quantity and circulation of the blood; it reduces pain by diminishing the action of the nerves, and by weakening the action of the heart and blood-vessels, and it prevents many bad consequences of inflammation—such as formation of matter, mortification, &c.

Of course, we must be guided in bleeding, by the symptoms of the disease, and the age, size, condition, and constitution of the horse. From a very powerful horse, you may generally take, at first, from four to six quarts, and then bleed in smaller quantities, as necessary. A large opening should be made in the vein; it is more beneficial than a small one. *Always employ a measure when you bleed a horse*, or you cannot ascertain the quantity you have taken. In some complaints, when the danger is remote, as in colds, bruises, severe wounds, and strains, bleeding is also very useful; it likewise relieves the pain, which the process of teething occasions to young horses.

In these instances we never bleed to the extent we do in fevers: sometimes, in fact, we confine our treatment to other remedies, as will be hereafter stated.

Moderate bleeding (from two to four quarts) is generally useful in the removal of too full a habit of body, which is generally accompanied by slight symptoms of fever. Blood, to a certain quantity, is necessary to the existence of the body: if there be not sufficient, the body becomes weak and lean, but

too much blood oppresses the functions; the eyes are dull and heavy, inflamed, and generally closed; there is a small pulse, and that oppressed; a slight increase in the heat of the body, swelled legs, and a disposition of the hair to fall off. These unfavourable symptoms are generally present, when a horse has been taken from grass into a hot stable, and then gorged with heavy food, without having sufficient exercise; but *frequent* bleedings are liable to cause too full a habit: the better plan is to regulate the quantity of food, and to apportion proper exercise. This, with occasional laxatives, will be sufficient after the first bleeding, and a brisk purge of aloes.

CHAPTER V.

PARTICULAR INFLAMMATIONS.

INFLAMMATION OF THE BRAIN, BRAIN FEVER, PHRENITIS, OR MAD STAGGERS.

THE leading symptoms of this disease are—unusual drowsiness, loss of appetite, and an inflamed appearance under the eyelids. As the disorder advances, the animal becomes suddenly ferocious, endeavours to bite and destroy any other horse near, or any being who attempts to approach him. After those convulsive efforts, he sometimes lies down; and, when recovered from exhaustion, rises up suddenly, and resumes his furious operations. This desperate disease originates sometimes from worms in the stomach, called *botts*; and, in other cases, too much confinement in the stable, and high feeding. The horse should be immediately secured in this violent stage of the disorder; the *two*

jugular veins should be opened, and, as in the case of "inflammatory fever," the animal should be bled even to fainting; and, if convulsive symptoms should again appear, the operation must be repeated. When the animal is thus rendered quiescent, he should be served with a few emollient clysters, and one or two purgative doses. As soon as his strength is sufficiently recruited, give him occasional bran-mashes, and green herbage, in small proportions. In some time after (if the weather be favourable), send him to grass, on a light, wholesome pasture. The remedies to be relied upon most are, repeated bleedings and purging.

INFLAMMATION OF THE LUNGS, PLEURISY, BRONCHITIS, PERIPNEUMONY, THE ROT, OR RISING OF THE LIGHTS,

Is of frequent occurrence, and is one of the most destructive diseases which the horse is subject to. As such, therefore, it merits our peculiar attention. The lungs are of a delicate texture, and it is necessary for the certain existence of the animal functions that the lungs should perform their duties without being impeded by disease. When inflammation has attacked the lungs, we must immediately resort to the most prompt and efficacious remedies. Among these, bleeding certainly is the most useful; and, on some occasions, the practitioner has carried it to an extent almost incredible.

A distinction has been made between inflammation of the lungs and inflammation of the membranes containing them. The distinction, if a correct one, is of little value; for similar treatment in both cases is necessary, and one disease, in the horse, seldom exists without the other.

The first symptoms are invariably those of fever, common to all inflammatory complaints; then are loss of appetite, cold shiverings, restlessness, de-

pressed head, beating flanks, and difficulty of breathing. This last symptom increases in extent, in proportion to the advance of the disease, which may be known by the following symptoms:—Very quick and difficult breathing, violent working of the flanks, restlessness, expanded nostrils, for the admission of a greater quantity of air, head depressed, and inclining to the part affected, expressing pain and trouble. The horse seldom attempts to lay down during this sickness, but sometimes the animal falls suddenly, and dies. His extremities are generally cold, but the body is suffering under a strong fever, attended with a dry short cough, and a discharge at the nostrils; the mouth is dry and parched, and the pulse which, at first, is generally strong and hard, but which is afterwards more oppressed, rises when you take blood. In some cases there is more difficulty of breathing than in others: this depends upon the extent of the disease; the horse finds he breathes more at ease when standing than when lying down. This difficulty of breathing arises from the lungs containing too much blood, which lessens the size of the air cells, and, beyond doubt, diminishes their number. From this cause, the horse, so often as he breathes, cannot admit so much air into his lungs, as is sufficient to enable them to perform their functions: hence he breathes more frequently. The quantity of blood in the lungs is greater, and circulates slower than when in health; thereby, its free return from the head and neck is checked, and the eyes and membrane of the nose are frequently red and inflamed, while the veins of the neck project with over distension.

The causes of this dangerous disorder are various: anything which tends to check perspiration, drinking cold water while in a heavy sweat, too much or too little food, or food of a bad quality, insufficient exercise, or neglect of bleeding, standing too long in the cold when much heated, hard riding in cold and wet weather, or swimming or washing a horse when he is

perspiring: in fact, inflammation of the lungs, as well as every other local inflammatory disease, generally is the result of a sudden stoppage to perspiration when overheated.

Inflammation of the lungs is, in the earliest stages, sometimes mistaken for choleric; but a great difference exists between them. When seized with the latter complaint, he lays and rolls about; he turns his eyes up; he rises suddenly; he stamps; he has not many symptoms of fever; his intervals of ease are very short; he is suddenly attacked with cold and clammy sweats; and these continue until he is relieved.

We may consider the horse in a fair way of recovery, when we find the breathing becoming easier; when he is disposed to lie down, and he looks more cheerful; when the fever decreases, and the pulse rises on bleeding: but when the following unfavourable symptoms prevail, we must give up all hopes of his recovery—high appearances of fever, increased difficulty of breathing, the horse troubled and exhausted, rattling at the throat, &c. After death, the dissection shews us the lungs inflamed, or mortified, watery fluid in thin cells, in the branches of the windpipe, or in the cavity of the chest; and it is the diffusion of this fluid in the windpipe that causes the rattling.

The lungs are such an important organ, that it is requisite to be early and vigorous in our treatment when disease has attacked them. Bleeding is one principal remedy. We must take the blood from a large orifice; and we can tell whether the operation be attended with utility, by the pulse rising after each bleeding. The instant you ascertain that inflammation of the lungs does exist, bleed the horse to the extent of four or six quarts, keeping in view the violence of the symptoms, the age and constitution of the animal; repeat the bleeding to a diminished extent six or seven hours after, if the bad symptoms be not relieved. This you may do three or four times,

gradually diminishing the quantity, and at shorter intervals, if the breathing be oppressed. The next thing to be done is to cool the body, act upon the kidneys, and purge the bowels. The following plan is an excellent one:—

Take James's Powder, two drachms ;
 Prepared Kali, half an ounce ;
 Nitre, half an ounce ;
 Castile Soap, two drachms ;
 Confection of Roses, half an ounce.
 Beat them into a ball.

Give this ball immediately after bleeding, and, while the inflammation continues, repeat it two or three times a day. Six hours after bleeding, give him the purging drink, recommended under the head of Fever (*which see.*) Let this be repeated every morning until the bowels be freely opened. You may assist the operation of the purging drink materially, by using the following clyster:—

Take thin Water Gruel, four quarts ;
 Nitre, one ounce ;
 Glauber's Salts, four ounces ;
 Linseed Oil, half a pint.

Dissolve the salts in the gruel, and give it to the horse when luke-warm.

Observe the general rules which I have laid down previous to the exhibition of a clyster. You may inject, as above, once a day until the medicines operate: you may also employ blistering to great advantage. The use of the following, rubbed well in, and extensively over the chest, until it is well blistered, will be found serviceable:—

Take Eypthiacum, two ounces ;
 Vinegar, two ounces ;
 Hartshorn, two ounces ;
 Turpentine, one ounce ;
 Oil of Origanum, one ounce ;
 Euphorbium, two drachms ;
 Spanish Flies, two drachms.

Put them in a bottle, and shake them well for use.

Some people recommend rowelling; but the delay necessary before the effects of this operation are manifested, prevents its being of much utility. When the appetite returns, give the horse the following drink:—

Take Peruvian Bark, one ounce;
Nitre, half an ounce;
Ginger Powder, half an ounce.
Mix and give it in a pint of warm gruel.

Give this drink every other day while necessary, and finish the cure by giving the following balls every second or third day:—

Take Barbadoes Tar, three ounces;
Venice Turpentine, three ounces;
Castile Soap, one ounce;
Prepared Kali, one ounce.

Beat well in a mortar, then add—

Carraway Seeds, one ounce;
Anniseeds, one ounce;
Liquorice Powder, one ounce;
Squills, in powder, one ounce;
Honey enough to form balls of two ounces each.

A frequent termination of this disease, when improperly treated, is the foot-founder: the inflammation leaves the body, is transferred to the feet. In this disease, the treatment should be cautious, but vigorous; the heat of the stable should never be more than at 60° of Fahrenheit; the diet should be warm mashes and water twice a day; and the horse should be regularly exercised when he is capable of undergoing it.

CATARRH, INFLUENZA, INFLAMMATORY COUGH, OR DISTEMPER.

This disease is generally caused by sudden transitions from heat to cold, where the animal, in a state of excessive perspiration, and overcome by great exertion, is immersed in cold water, or, (as is too frequently the

abused practice,) drenched with buckets full, by way of refreshing the horse. The general symptoms are, severe cough or catarrh, excessive drowsiness, moisture from the eyes and nostrils, quick pulse and breathing, quinsey in the throat, universal debility, &c. The best remedy is immediate and free bleeding; then turn out the animal to a well inclosed and sheltered pasture, where in due process of time, with the assistance of wholesome grass, and good air, the disease will be effectually removed. If the horse cannot conveniently be stirred from the stable, he should be fed on light bran mashes, and very small portions of the very best of hay; if grass could be obtained, it would be much better. The best medicine is *nitrate of potass*, (nitre) to be given in three doses; the first in the morning; the second at one o'clock in the afternoon, and the third at night, in the quantity of half an ounce to each dose. Clysters should also be served sufficiently frequent to keep the body in a free and cool state. The above regimen and treatment should be continued until the animal be in a state of perfect convalescence; then very small proportions of oats, well bruised and wetted, may at intervals be allowed him.

GASTRITIS, INFLAMMATION OF THE STOMACH, OR STOMACH STAGGERS.

The stomach is sometimes, when in a diseased state, affected by acute inflammation, from receiving into it poisonous or highly stimulating substances. However, this is not a case of very frequent occurrence. *Botts* are supposed to produce sometimes a species of chronic inflammation in the stomach. The principal indications of acute stomachic inflammation, are general heaviness, quick breathing and pulsation, legs and ears, chilly, &c. If an over quantity of arsenic, blue vitriol, or corrosive sublimate be received in the stomach, the best antidotes against their

poisonous effects are liver of sulphur; a solution of soap, with an infusion of flax seed; a solution of gum arabic or arrow-root boiled, is also recommended. If acute inflammation ensue from the action of violent stimulants, such as an excessive dose of nitrate of potass, linseed infusion is considered the best anti-stimulant. The animal should also be bled. If the stomach be inflamed by *botts*, doses of olive or castor oil should be given, and clysters of oil and warm water be thrown up. As the disease abates his regimen of diet should be very temperate, nutritive mashies of bran, and a small portion of bruised oats; also green herbage, as grass, &c. are the best diet.

Various diseases of this organ arise from the absurd custom of allowing young horses at first to overload their stomachs to such a degree, that they, from habit, contract a false appetite for gormandizing; whereby, from its overladen and vitiated state, the stomach becomes diseased, the bowels beget worms, the wind of the animal is often seriously injured, and general debility pervades the system. Therefore, too much caution cannot be observed in the regimen and exercise of young horses, whereby their constitutions, if preserved for the first five or six years, will afterwards be sound and serviceable to their owners.

INFLAMMATION OF THE BOWELS, PERITONEAL INFLAMMATION, RED COLIC, OR MOULTEN GREASE.

This disorder is called *peritonitis* when the covering membrane of the intestines is inflamed, and *enteritis* when the canal or gut itself is inflamed, and proceeds from the quick removal of a horse into a close stable, having previously enjoyed the benefit of good grass, air, and free exercise; it may also originate from excessive high feeding, in order expeditiously to restore a horse to flesh that has been in a debilitated and emaciated state; it may likewise arise from an injudicious use of corrosive sublimate in the attempt

to drive a cutaneous disorder into the bowels. This class of the disease is discoverable by the following indications: excessive lowness of spirits, unusual lassitude, slight dysenteric affection, restless in the stall, breathing and pulsation quick, appetite reduced, film of the eye inflamed and red, and if proper remedies be not at this critical stage of the disorder immediately applied, the pulsation becomes rapid, and violent dysentery ensues, accompanied by severe costiveness, the horse stools but little at a time, and his urine is of a deep red colour; at last the poor animal, overcome by cruel torture, dies distracted and exhausted. The first remedy in this case is, spontaneous bleeding, even to fainting; doses of castor oil should also be given every alternate hour, and clysters of warm water and castor should also be thrown up, until a copious discharge has freed the bowels, and removed the dysenteric action. Fomentations and rubbing are sometimes used, but it is esteemed a preferable plan, to apply the fleshy part of fresh sheepskins to the back and belly, whereby a free and constant perspiration is kept up. If the above directions be attended to, the animal will in a short time be out of danger. His regimen should be nutritive bran mashes, and fresh herbage, if it can possibly be obtained. This food must be continued until the horse appears in a healthful state, when his diet may be altered for more solid provender.

Inflammation of the intestinal canal (or *enteritis*), proceeds sometimes from suddenly over-working a horse in very full condition, and heretofore not used to much exercise; it may also be produced by severely working a horse just taken into stables from grass. This disease is frequently called molten grease, in consequence of the slimy matter apparent in the excrement of the animal, which some veterinarians suppose may be the fat thus converted into slime. A liquid blister on the belly, after the bowels are free, often checks the disease.

SPLENITIS, OR INFLAMMATION OF THE SPLEEN.

Although veterinarians have gravely *described* this disease, yet I think such descriptions can have no good foundation. The symptoms are the same with inflammations of other intestines; but as the horse cannot point to the part where he feels pain, and as there is no external appearance of disease *over the region of the spleen*, I think it would be only leading my readers astray to affect a *particular* description of this disease.

The treatment is the same as that of inflammation of the bowels or liver.

HEPATITIS, OR INFLAMMATION OF THE LIVER.

When the liver becomes the seat of active inflammation, the symptoms are nearly the same with those of enteritis, or inflammation of the intestines, except that the pain is not so intense on pressing the belly with the hand; the extremities are cold, the flank heaves, the pulse hard and wiry, and the mouth, nostrils, and eyes are tinged somewhat with a yellow colour. In proportion to the violence of the disease the horse's strength fails, and in some cases he can scarcely stand. The bowels may be either very costive or the reverse, as this will depend upon whether the inflammation stimulates the liver to throw off a great deal of bile, or to prevent it from its office almost entirely; in the former case, fœtid black purging takes place, and in the latter, costiveness and extreme yellowness of the nostrils and mouth. There is great thirst in this disease, and the skin is mostly dry.

In the early stages of the complaint bleeding must often be resorted to, after which the following purgative must be given, so as to clear out well the intestinal canal.

Take of Castor Oil, eight ounces ;
Gruel, half a pint.

Glysters may be thrown up, and when the bowels are well open a liquid blister must be applied immediately on the region of the liver. Warm mash, green food, and plenty of gruel should be given, and the above purgative administered every day, unless *great* purging follow. This is all that will be necessary for active inflammation of the liver, except keeping the air temperate. Chronic inflammation often however follows ; or rather when the active stage goes by, a slight affection remains, which deranges much the secretion of the bile. In this case, gentle exercise must be resorted to, with alterative balls to be given every second day. The following will be the best.

Take of Calomel, half a drachm ;
Aloes, one drachm ;
Honey sufficient to make a ball.

Warm clothing, drinks, light diet, and exercise will complete the cure.

INFLAMMATION OF THE KIDNEYS AND BLADDER.

This disorder may arise from *peritonitis*, (inflammation of the bowels) excessive over-exercise, or from drawing weighty loads beyond the animal's physical strength, whereby the loins become seriously affected. The horse, in such cases, should be bled copiously, until the inflammatory appearances subside. A warm embrocation should be applied to the diseased parts, composed of oil of turpentine, hartshorn, and olive oil. The best embrocation, however, is the following :

Oil of Turpentine, one ounce ;
Liquor of Ammonia, two ditto ;
Olive Oil, four ditto ;
Spirits of Camphor, one ditto.

The bowels must be kept cool and free, by doses of castor oil, and clysters of olive oil and warm water. The indicating symptoms of this disorder are, an endeavour on the part of the animal to stool, but with little or no effect; the small quantity at intervals, so discharged, is of a deep red, or bloody colour, and frequently of a thick muddy consistence. The hinder parts appear contracted and stiff, and on every occasion, when the horse, by his position, attempts to pass urine, he appears to suffer most excruciating torture. The remedies already prescribed should be immediately adopted, and when the inflammation has been completely removed from the parts, the horse should be fed on light cold bran mashes and grass, until perfectly restored to health.

OPHTHALMIA, OR INFLAMMATION OF THE EYES.

Some diseases of the eye proceed from external injuries; there are, however, some that arise from internal causes, which affect also the contents of the eye. Plethora, or the existence of too much blood in the body, is a frequent cause of diseased eyes.

When the complaint is the result of external injury, use a little of the following eye-water:

Take Goulard's extract, one ounce;
 Rose water, one quart.
 Shake together in a bottle.

In all cases of inflammation of the eyes a purging ball must be given, first with a mash, and then on using the following eye-water:

Of sulphate zinc, three drachms;
 Of common water, one pint.

Mix and wash a little into the eye. This is the best possible eye-water for all sore eyes; the eyelids must be well bathed with this water three or four times a day, fine linen rag must be used, and when you wish

you can easily separate the lids and draw the rag over.

If the swelling and inflammation be very considerable, when the part is dry, anoint it with an ointment made thus :

Spermacetic Ointment, four ounces;
Camphor, two drachms.

Powder the camphor and mix it well with the ointment; rub this on the affected part, and then apply a warm bread and milk poultice, with a little olive oil on it; but if the inflammation should be lengthened, an astringent poultice, such as the following, can be used with very great advantage.

Take vinegar, one quart, boil it with rye flour until it is as thick as an electuary, then add two ounces of elder ointment: stir, and apply it when moderately warm. Observe, either poultice must be spread on strong linen, or enclosed in a cotton bag. If these will not reduce the symptoms, you must bleed and purge, persevere also in the use of the warm water and mash; when the eyelids are wounded, ascertain accurately the extent of the injury, and dress with the following mixture.

Take Compound Tincture of Benzoin, two ounces;
Honey of Roses, one ounce;
Aqua Fortis, twenty or thirty drops.
Mix in a bottle for use.

This application must be applied on tow, and if the part be swelled, apply a poultice, or an ointment of marsh mallows and elder. If, after the above treatment, there be any film remaining, the following will be found useful.

Sal Ammoniac, two drachms;
Putty prepared;
Lump Sugar, of each one drachm.
Powder separately and mix.

You may blow a little of this powder once a day into the affected eye, afterwards bathing the eye with

the eye-water recommended ; but do not continue the powder more than three days.

PERIODICAL OPHTHALMIA, MOON EYES, MOON BLINDNESS,
OR LUNATIC.

This is a severe inflammatory complaint, generally attacking the horse when he is about five or six years old.

A dim cloud over the eye, swollen and inflamed eyelids—generally closed, the globe of the eye red and dull, increased sensibility, and a disposition to avoid light ; if the eyelids be separated, the membrane is seen covering a great portion of the eye, in order to protect it from the light, and to supply the office of the eyelids, a hot burning humour runs from the eye, irritates the cheek and destroys the hair in its course ; sometimes the surface of the eye, from an effusion of lymph, appears quite opaque.

The vessels in the white of the eye are much inflamed, and contain red blood, so are the smaller, the vessels of the apple of the eye—hence the defect in the vision of the horse. This disease can be cured, but it is apt to return, and by repeated attacks cataract is formed ; this is a complaint which consists of an opacity in that part of the eye which should be transparent, by it the sight is injured, but after cataract has formed the inflammation never returns to that eye.

Too much blood in the horse, too little exercise, confinement in close and foul stables, violent and excessive exertion, deranging the whole system, and determining blood to the head—all these excite the disease, and especially if there be any predisposition to it in the horse.

First blind the horse, and then bathe the eye three or four times a day with the eye-water, give him a mash of scalded bran twice a day for a few days, and then give him the following ball.

Take Tartar Emetic, one drachm ;
James' Powder, one ditto ;
Calomel, half a drachm ;
Castile Soap, two drachms.

Make this into a ball, give it to the horse at night, and the following purge next morning fasting.

Take Barbadoes Tar, six or seven drachms ;
Castile Soap, two ditto ;
Powdered Ginger, half an ounce ;
Oil of Juniper, half a drachm ;
Nitre, two drachms.

Make a ball with buckthorn syrup ; two hours after you give this, give him a mash and warm water, and physick him moderately every five or six days for two or three times.

You will find it useful to rowel the horse under the jaw, or on the breast, or to blister his cheek with the blistering essence (*see page 31*). If the inflammation, in spite of these remedies, should continue high, you must drop general bleeding and resort to local bleeding, such as scarifying the inflamed vessels with a lancet, or fixing six or eight leeches just beneath the eye. When the disease has somewhat abated, you may use the following lotion, it is a valuable one, and its application should be continued for two or three weeks after the disease is conquered.

Eye Lotion.

Take Goulard Water, six ounces ;
Decoction of Oak Bark, six ounces ;
Laudanum, half an ounce.

Dip a clean linen rag into this and apply it to the eye and eyelids night and morning or oftener. At first it rather irritates, but soon the eye is accustomed to it. When the first physicking ball has ceased to operate, you must commence with the lotion.

INFLAMMATION OF THE FOOT, OR FOUNDER OF
THE FOOT.

All veterinary practitioners, of eminence and experience, have universally admitted that it is impossible, at least up to the present time, to effect a radical cure for this too general and fatal disease. Its origin has been attributed to various causes, viz. :—to bad shoeing, over-working young horses, before their strength is sufficiently matured to bear it, &c. It may partly proceed from both these causes. It will be found, upon inquiry, that the draught and post horses of this country are constantly subject to this disorder; and there is no doubt that, in those cases, the evil is materially increased by bad shoeing, which, as observed in another part of this work, lays the foundation for a series of diseases of the foot. It is a melancholy fact, which too frequently occurs, that extensive proprietors of draught and post horses make cheap contracts with their smiths, which are so far below the fair price for labour and shoeing materials, that the animals are shod in a careless and slovenly manner. Corns are, in consequence of this defect, generated; the horse is continually worked hard, until he has not a leg left on to stand on; and when, at last, the complaint has advanced to such an extent that remedies are unavailing, the horse is left to the mercy of some quack farrier, who, by his improper treatment, may confirm the lameness of the animal for life. If, on the contrary, those owners of horses attended to the preservation of their feet themselves, and also paid the smith a just and proper remuneration for his labour, attended diligently to their feeding and stable comforts, and also take care that they should not be over-worked beyond their physical strength, veterinary advice would seldom be required; and the horses thus treated would be serviceable to their

owners at least double the period of time that they generally are, from the abusive practice above alluded to.

Chronic, or periodical lameness, varies in its action on the horse. When it first appears, if his feet be kept constantly well pared, cool, and moist, he is capable of going through his usual work; a wide hollow shoe should be put on, and the soles stuffed with tar ointment. The adoption of this method will afford temporary relief, and retard the violence of the disorder, which cannot possibly be effectually cured. The utmost talent of the first veterinary surgeons in Great Britain has been exerted to discover an efficient remedy for founder of the foot, but without success. The opinion of some eminent practitioners is, that the disease originates principally from excess of labour, and we are disposed to acquiesce in that opinion; at the same time that bad shoeing materially aids in the confirmation of the disease.

In addition to the foregoing article, on "Founder of the Foot," I extract the following opinion of that eminent and experienced veterinarian, Mr. James White, on the origin and progress of that destructive disease, and the remedial benefit arising from the NERVE OPERATION, in such cases. Mr. White says,

"I believe at this time all veterinarians agree in the opinion of its (founder of the foot) being absolutely incurable. I have stated that it is caused by excessive exertion, and this is the manner in which it is produced. The hoof, like every other part of the body, is formed by the action of arteries, and the action of arteries depends upon the sensorial power they derive from the brain. When an artery, or any part of the body is thrown into increased action, there must be a proportionate expenditure of its sensorial power. This sensorial power is derived from the brain; that organ is itself limited in power, and, after a given degree of exertion, is completely exhausted. If the proprietors of horses will work them

in the immoderate manner they do, they will of course proceed rapidly towards this state of complete exhaustion: but when the sensorial organ languishes, the vital organ is still continued in office for the purpose of preserving life; and it is by means of this supply that the arteries of the feet are enabled to perform their office so long as they do. Thus we find that when a horse, whose sensorial and muscular power has been nearly exhausted by excessive exertion, has a portion of the metacarpal nerve cut out, the hoofs frequently drop off, because the sensorial power of the secreting vessels had been previously exhausted in consequence of their remoteness from the heart, and from the excessive action they had been exposed to. The metacarpal nerve, however, from its connexion with the great sympathetic nerve, supplies the secreting arteries so as to enable them to perform their office, though languidly and irregularly; but when this supply is cut off by the nerve operation, as it is termed, the secreting arteries die, and the hoofs drop off, either soon or gradually. Chronic lameness then is a disorder that never can be cured, however it may be palliated, and its progress retarded in its earlier stages. There is one method, however, which completely relieves the horse, and often for a considerable time, and that is the nerve operation. If the horse's sensorial power has not been much injured, and the lameness depends only upon great tenderness of the elastic membranes of the foot, the nerve operation will succeed completely, and the horse will be restored for many years. Four years is the longest period I have heard of, and the operation has not been invented much longer. I have heard of horses hunting two or three seasons after the operation, I forget which. Chronic lameness is not always of this favourable kind; sometimes the sensorial power of the secreting arteries has been nearly or quite exhausted, and then the nerve operation will be followed by a deficiency of horn, or a

total loss of the hoof. In some cases the secretion appears to go on at the coronet; but the secretion from the elastic membranes is so deficient, that the hoof appears to wear out after two or three shoeings. Chronic lameness is sometimes brought on, I may say I believe often, by working a horse, or rather colt, when he is only three or four years old, perhaps younger. At this tender age that which would be moderate work for a horse of six years old, that had not been abused in his youth, will to him be excessive exertion, and produce such debility of the sensorial organ as cannot be recovered. Such horses are old in constitution at six, and their feet are completely foundered; their whole muscular system is also in a state of considerable debility. In such cases, though much may be expected from the nerve operation on account of the animal's age, the result is sometimes unfavourable, especially when a run at grass is not allowed afterwards. Chronic lameness, however, is sometimes of a more local nature, not often perhaps wholly so, there being generally some degree of injury in other parts; but a horse sometimes strains the coffin joint, as it is termed, that is, a ligament is ruptured, and in consequence the animal becomes lame. The lameness not being attended to, or properly treated, inflammation takes place in a considerable degree, bony matter is formed, and the horse is incurably lame, except in the walk, and in that pace the lameness is scarcely discernible. Sometimes the ossific inflammation extends upwards, and the two pasterns become immoveable upon each other. In this accident also there is but little lameness in the walk; but in the trot it is very considerable. Now in these cases the nerve operation alone can afford relief; but when the horse steps out boldly, which he will do if urged to it after the operation, there is danger of a fracture and dislocation between the two pasterns, and then the horse comes down upon the fetlock joint. In violent chills, as

they are termed, when the foot is so inflamed that the horse can scarcely stand, and the sole becomes flat or convex, the nerve operation will afford complete relief for a time; and I have known such a horse work in a coach eight months after the operation, and work well; at this period his hoof was quite worn out, and it became necessary to destroy him. Sometimes chronic lameness of the foot is complicated with debility, or a contraction of the muscles of the shoulder or chest; in that case the relief of course will be only partial, but always considerable, and sufficient to justify the operation. After considering this subject with great care, and endeavouring to obtain all the information I could upon the subject, I am of opinion that the nerve operation is an important discovery, and should *always be resorted to in chronic lameness, when a horse becomes incapable of doing work.* It is not only absurd, it is a cruel and useless expense, to fire and blister in such cases, as it never has nor ever can do any good.

“If the nerve operation should not prove completely successful, it will always afford relief in lameness of the foot, from whatever cause it may arise. The duration of the relief can only be foretold by a careful examination of the foot, and an inquiry into the history of the lameness, as well as of the horse. At all events the operation is adviseable in every point of view, not only as it regards the proprietor's interest, but likewise with respect to the comfort of the animal: for in those chronic lamenesses he is in constant pain while standing in the stable or even lying down; but immediately after the operation the pain in his feet entirely ceases, and the operation itself appears to be much less painful than firing.”

Inflammation of the womb resembles very much inflammation of the bladder or kidneys, and is to be treated in the same manner. Inflammation of the heart, I think needless to mention. Mr. Blane refines too much when he describes it.

CHAPTER VI.

FEVER.

FOUNDER OF THE BODY, ACUTE FOUNDER, OR
CHILL,

Is nothing else but *fever*, notwithstanding its being thought a different disease. The symptoms vary according to their early or advanced stages. At first there is only a partial stiffness of the limbs and frame; but, in a confirmed stage, the whole system is apparently paralyzed. Sometimes the shoulders or hind-quarters are more seriously affected than other parts of the body; the pulse beats quick, the kidneys are inflamed, the urine red coloured, and sometimes bloody; the muscles of the jaw contracted, and the internal parts of the eye-lids violently inflamed. This disorder is produced by over-working, which creates general nervous debility throughout the system. It is also much aggravated by exposing animals, thus over-worked and exhausted, to the inclemency of sharp winds, rain, &c. while in a state of violent perspiration. Ignorant farriers frequently give the poor animals stimulating *cordials* (as they call them), which only tend to increase the inflammatory action of the disorder, and are consequently most destructive. Copious bleeding, in the first place, even almost to fainting, is necessary; the bowels should also be kept free by clysters, or occasional aperients, made up in balls, consisting of about *six* drachms of aloes each, mixed up with a few shavings of Castile soap, and a few grains of finely powdered ginger. If the first or second ball open the bowels, it will be unsafe to give more. Warm drinks of fine oatmeal and water, and light bran-mashes, should be given to

nourish the system, and, at the same time, keep the body cool. By attending to this treatment and regimen, the horse will gradually recover. However, if the disease subside not, and the joints remain stiff, soon after the first blood-letting, it will be necessary to phlebotomize again, until it is completely subdued. If the feet appear to be violently inflamed, remove the shoes immediately, cut away the surface of the sole, and wrap up the feet in emollient cooling poultices.

The following is a good *fever drink* :—

Take of Nitre, an ounce;
Of Mindererus Spirit, half a pint;
Of Milk Whey, two quarts.

One-fourth to be given every third hour.

Fever Powder.

Take antimony crocus, finely powdered, nitre, cream of tartar, and flour of sulphur—of each four ounces.

Powder and mix them well together. Of this, a table spoonful, every night and morning, may be given in a bran-mash, or in a feed of corn, moistened with water. This powder is particularly valuable for horses that are principally fed on dry meat, and for stallions in spring; they cool and relax the body, and produce a proper cast of the coat. If there be a pressure of blood on the brain, stomach, &c., bleeding reduces it, and equalizes the circulation, preventing apoplexy, palsy, cholick, &c. If these disorders be not prevented or checked, fatal consequences are liable to occur; therefore it is frequently necessary to take blood in considerable quantities.

The disease is produced by plethora, or an over-fulness of habit, and is caused, in most cases, by too high feeding, confinement in a close stable, and little or no exercise, shortly after the horse has been removed from grass, where he was accustomed to green nutritious food, good air, and sufficient exercise. The best remedy in such cases is, to bleed

immediately and spontaneously, in proportions, according to the condition of the horse's constitution. If the symptoms be desperate, he should be bled, even to fainting; and, if the disease be not overcome in a short time after, more blood must be taken from him, until the fever has subsided. A moderate aperient may be given, with nutritive bran-mashes, and a small quantity of the very best hay; a little gentle exercise is necessary each day, and the stable should be kept clean and temperately ventilated. Veterinarians in general are of opinion that the horse never suffers from typhus or low nervous fever; but Mr. Blane's reasoning on that subject proves, that it is a disease of the horse as well as of man. It, however, seldom occurs; and, when it does, every symptom of debility is present; the mouth is dry and discoloured; a stinking fluid comes from the nostrils; the eyes assume a heavy and watery appearance; the pulse quick and weak; the breathing rapid, and dissolution soon follows.

Bathing the horse with warm vinegar, giving gruel with nitre, and also warm cordials, warm ale, &c. are the means of treatment; but few cases recover.

CATARRHAL EPIDEMIC FEVER, OR DISTEMPER.

This is a contagious fever, generally arising in the spring, and is to be treated as the above. Young horses are most liable to it.

CHAPTER VII.

ON COUGHS AND COLDS.

THESE are complaints of very variable character, and frequent occurrence. They result from checked perspiration; and hence arises inflammation of the membranes of the nose, throat, or windpipe, and an increased discharge of mucus, accompanied with slight

fever. When a horse has caught cold, he is sometimes seized with slight shiverings; his eyes are dull and heavy, sometimes inflamed; there is a watery discharge from the nose and eyes, and a cough.

CATARRH, OR MORFOUNDING.

Catarrhs are generally occasioned by a sudden change from heat to cold, standing too long while warm, drinking cold water after violent work, or going into rivers or ponds while heated. They seldom result from a cool or hot atmosphere, as some suppose. Nothing is more dangerous than to suffer a horse to drink his fill of cold water, when he is warmed with exercise; but a post-horse, in the hot season of the year, may be allowed five or six swallows of cold water, and suffered to stand for a minute or two before he resumes his work. The better plan is to wet the hay with water, and after he has eaten that, let him drink a small quantity.

The results of cold, when not properly treated, are roaring, thick wind, chronic cough, farcy, glanders, &c. &c. When the inflammation has attacked the windpipe, and a peculiar change has been effected, the horse becomes a "roarer:" the sound which has occasioned this name increases with the pace of the horse.

If the horse be healthy, with this exception, take from him two or three quarts of blood, and then give him as follows:—

Take Aniseeds and Carraway Seeds, fresh powdered, of each one ounce;
Dover's Powders, two drachms;
Balsam of Sulphur, two ounces.

Beat the balsam with the yolk of an egg; then mix the powders, and give the whole in a pint of warm gruel, with two tea-spoonfuls of treacle, and repeat it every night, or every other night, for two or three times. It is a good drink; it restores the perspiration, and frequently cures the cold in one applica-

tion: give a warm bran-mash after the drink, and repeat two or three times a day. By it his bowels will be relaxed, and the medicines will be assisted.

It will be well to be certain that the seeds be fresh powdered—much of their efficacy depends upon this.

When the horse begins to cough, give him the following drink:—

Take of Elicampane, Nitre, and Cream of Tartar, of each one ounce;
Balsam of Sulphur, two ounces, mixed with the yolk of an egg;
Tincture of Opium, half an ounce.

Mix them together in the shape of an electuary, dissolve in warm water, and give it the horse fasting. Give him no food for two hours, and then let him have a mash of scalded bran and oats, with warm water. If the cold be violent, repeat the drink night and morning, or otherwise once a day. Keep your horse clothed and warm, exercise him in the middle of the day; give him the mash twice a day or oftener. Take care to keep the bowels open by mild purging balls. Should the kernels swell, rub them with hartshorn and sweet oil. If sore throat take place, which will be known by the horse *quidding* his food, give warm drinks.

CHRONIC COUGH, OR DRY COUGH,

Generally proceeds from colds badly treated, and the discharge from the nose becomes irritating; sometimes it arises from worms; and sometimes it is dependant on glanders, thick or broken wind, &c. The following mixture will be the medicine to adopt in this disease:—

Take Barbados Tar, one ounce;
Balsam of Sulphur, one ounce;
Mix them with the yolk of an egg—then add
Nitre and Laudanum, of each one ounce;
Ginger, half an ounce.
Mix them all together.

This must be gradually mixed, in a pint of warm ale or linseed tea, and given in the morning fasting. The horse must not be fed for two hours: then give him the mash already mentioned, and proceed as in the last disease.

ASTHMA, OR THICK WIND,

Proceeds from the causes I have already mentioned. It is an effusion of coagulable lymph in the air cells, which destroys their substance, and impairs their elasticity; consequently their motion is increased as their contents diminish. In asthma, we have a quick, short breathing, the flanks heaving violently, but equally; and if the horse be trotted or run in hand, there is a wheezing, like that of a man in a fit of asthma.

The disease is sometimes slow, and may be checked in time. If the *wind* of the horse be quicker than usual, apparently the result of cold, remove two or three quarts of blood, and give him a mash of bran, with a little nitre. After that give him this purge:—

Take Tartar Emetic, and Calomel, of each one drachm;
Castile Soap, and Ginger, of each two drachms.

Form this into a ball, and give it to the horse the night after the mash. The next morning give him a mild aloetic purging ball, with a drachm of squills in it; repeat the mashes and warm water twice a day, while the physic is operating. If he be not recovered within a week, give him the following:

Take Gum Ammonia, in powder, one ounce;
Rub this in a mortar, with four ounces of Squill Vinegar—by degrees then add
Ginger and Liquorice Powder, of each one ounce;
Calomel, two scruples;
Opium, half a drachm.
Mix and form an electuary.

Give this fasting in the morning, and repeat it two or three times a day, if necessary, in warm new milk.

When the cure is advancing, give one of these balls every day:—

Barbados Tar, Venice Turpentine, and Castile Soap, of each three ounces;
 Prepared Kali, one ounce—beat them together.
 Carraway Seeds, Aniseed, and Liquorice Powder, of each four ounces;
 Squills, in powder, one ounce and a half;
 Honey sufficient to make a mass, which divide into balls of two ounces each.

They must be given, of course, as requisite.

BROKEN WIND.

This disease may arise from over-distension of the stomach, producing rupture in the air-cells of the lungs. It frequently proceeds also from some previous inflammation, as frequent catarrhs or colds, for instance; or from hard riding, when the stomach is filled with water or food; girding the saddle or belts very tight, and too much over the flanks; close confinement in stable, badly ventilated, want of proper exercise, bad appetite, eating litter, chaff, or bad hay—any of these will occasionally cause this disease.

The lungs in this disease lose their natural and independent power of action, and the horse consequently is obliged to use the muscles of respiration with greater force: this is, in fact, the broken wind, and is received into the lungs without any check or impediment; but there is a difficulty in respiration, because the lungs have, as I said before, lost their power of collapse. Hence there is a greater and longer effort of the muscles of the belly and other places requisite to expel the air from the lungs; and instead of that process being gradual, and almost imperceptible, the air is sent forth in sudden gushes. The lungs of those that die of this complaint are denser, more livid, tuberculated, and less elastic than those of horses dying free from this disease; they are never collapsed after death.

Nothing is so eminently useful in this disease as a strict attention to diet and management: keep the horse in the stable, and feed him with the best provender; give him a mash of scalded bran or oats every day, or a moderate allowance of corn: carrots are useful and proper: he should have half a pail full of water three times a day, or oftener, according to the extent of his exercise. Care should be taken that his belly be never over filled, but he should have regular and gentle exercise; and, in fine weather, he may be turned out a few hours each day.

Bleeding, in the early stages of the disease, is beneficial. Independent of the violent beating of the flanks, there is mostly an obstinate dry cough, although, in other respects, there is every appearance of health, and the horse takes his food as if he were perfectly sound. In these, or in cases more advanced, take three quarts of blood from the horse, and at night give him the following ball:—

Take Tartarized Antimony, one drachm;
Calomel, one drachm;
Castile Soap, two drachms;
Ginger Powder, two drachms;
Syrup enough to form a ball.

The next morning give him this purging ball:

Take Barbados Aloes, seven drachms;
Castile Soap, two drachms;
Ginger, two drachms;
Squill Powder, one drachm;
Oil of Juniper, half a drachm.

Make into a ball, with Syrup of Buckthorn.

Treat the horse then as you would if he were suffering under asthma, or thick wind (*which see.*) After the operation of the purging balls, give him one of the following pectoral balls twice or thrice a week:—

Take Barbados Tar, two ounces;
Venice Turpentine, two ounces;
Squill Powder, one ounce;
Calomel, three drachms;

Beat them together, and add—
 Nitre, two ounces ;
 Aniseed, fresh powdered, one ounce ;
 Carraway Seeds, fresh powdered, one ounce.

Beat them into a mass, with honey and liquorice powder, and divide it into ten balls.

Bleed and purge a week or two after, and continue the balls for some time.

(For directions *how to discover broken wind, &c.* see last chapter, section first.)

ROARING.

This disease is of the same genus as that of chronic cough, although different in its symptoms, &c., as it frequently is unattended with any cough, but merely a wheezing noise from the throat, in case of quick respiration. It is, when once settled in the system, considered to be irremediable. At the same time, if an animal, afflicted with roaring, be taken proper care of, as regards his regimen and diet, and that he be moderately worked, he may do useful service for his owner many years; but if the work be too severe, the animal will become confirmedly broken-winded. Roaring proceeds generally from a swelling of the larynx, or a thickening of lining membrane of the wind-pipe, occasioned by previous inflammation. It also happens that ulcers will take place. The horse is beyond the veterinarian's skill as to his recovery in most cases of roaring.

CHAPTER VIII.

DROPSIES.

ANASARCA, OR GENERAL DROPSY.

YOUNG horses, while teething, are very frequently exposed to this disease; the torture they endure at

this period prevents them from chewing their food sufficiently, whence arise various affections of the stomach, which produce general dropsy. The animal exhibits, in such cases, general drowsiness, inability to exercise, or eat; the sheath, belly, and chest, appear much swollen. At length the whole surface of the body becomes affected, and on pressing with the knuckles or fingers on the animal, the impression remains a little time, and then fills up. Horses, aged, and hard worked, when turned into bad grazing and damp grounds, are much exposed to this disease. The horse should be taken in, and a few diuretic and purging balls should be given; he should be regularly exercised, in order to create a sudorific and diuretic action. If these remedies prevail, let his regimen consist of warm bran-mashes, and small portions of the best hay; and when his bowels are well opened, the following tonic draught should be given every morning:—

Of Ale, two pints;
Tincture of Opium, two drachms;
Tincture of Muriate of Iron, three drachms.
Mix.

The animal must also take a diuretic ball every night (*for which, see page 70*), as the greatest hope we can have of removing the disease is, by keeping up a good discharge of urine.

Occasional purges of aloes and calomel should be also administered.

The diet must be good; carrots and speared corn will be found of great benefit.

WATER FARCY.

This is only another name for the foregoing disease, when ulcers are the consequence of the dropsy. The treatment in every respect is the same. Farriers call every partial dropsical affection *water*

farcy; but those affections have nothing to do with the disease called *Farcy*.

ASCITES, OR DROPSY OF THE BELLY.

This disease often accompanies general dropsy. The seat of it is the cavity of the abdomen, immediately within the lining membrane, called the peritoneum. The treatment is the same as that of general dropsy, with the exception, that when the belly becomes much distended, tapping is necessary; and this is done by puncturing in the centre of the abdomen, half way between the naval and sheath. Diuretics, purgatives, good living, with gentle exercise, will often cure this disease.

HYDROTHORAX, OR DROPSY OF THE CHEST.

Dropsy of the chest is usually the consequence of inflammation of the lungs, or pleurisy. When the pleura, which is that membrane immediately enclosing the lungs, has been suffering from inflammation, a debility remains after the inflammatory action subsides, and the fluid which its surface naturally secretes for the necessary purpose of lubrication, is so increased, as to accumulate within the cavity of the chest to the extent often of many gallons, and that in no very great space of time.

The symptoms are, great difficulty of breathing, enlargement of the sides, of the chest and belly, loss of appetite, the animal becomes thin and haggard, restless, and cannot lie down but for a short time, and sometimes not at all. So like are the symptoms to inflammation of the lungs and pleurisy, that the veterinarian must form his decision from the history of the disease. If the horse has had either of those diseases, and then becomes attacked with these symptoms, it will pretty nearly decide; and if they have been coming on gradually, and not *suddenly*, it is, in

my mind, a clear proof that dropsy of the chest is present.

Great caution is necessary to distinguish between these diseases, as the treatment differs materially. Bleeding, in the inflatory diseases of the lungs, is the sheet anchor; but in this disease bleeding must only be resorted to when respiration is extremely difficult; and even then the operation of opening or tapping the chest would be a better remedy than to attempt temporary relief of oppressed respiration by bleeding.

The disease may be first treated by medicine, such as opening the bowels occasionally, using diuretic balls daily, with a drachm of calomel every second night, and proper diet; but when the bad symptoms appear rather to increase than decrease, the operation of tapping will be necessary. This is done by puncturing the cavity through the ribs, near their cartilaginous ends; and between the seventh and eighth, or eighth and ninth ribs, will be the best place to puncture. The skin must be divided by a scalpel, and the trochar pushed in and rather backwards, and close to the anterior edge of the rib, to avoid wounding the artery. The canula is then to be left in until the water be drawn off, and taken out quickly, so as to admit as little air as possible. A dressing of sticking plaster is then to be put on.

DROPSY OF THE PERICARDIUM.

This disease is formally mentioned by writers; but, it is my opinion, that we never can either ascertain positively that such disease is present, or do anything more for its relief than to keep the horse regular and quiet, administering occasional physic and diuretic balls. The nature of the disease is a superabundant increase of the lubricating fluid, which the pericardium, or bag, in which the heart is enclosed, secretes. It is mostly fatal.

HYDROCEPHALUS, OR WATER OF THE BRAIN.

This disorder may arise from a plethoric habit, a determination of blood to the head, a debility of the brain in performing its natural functions, or from water lodged in the cavity or cavities of the brain. The symptoms vary according to the early or advanced stages of the disease; the horse appears heavy, drooping, and stupefied; he often suddenly rears up, staggers about, becomes violently convulsed, and then lies down exhausted. Hydrocephalus is, in nineteen cases out of twenty, considered incurable by our most experienced veterinarians. However, if attended to carefully at *first*, the animal may survive for years. When the first symptoms are apparent, bleed profusely: if the horse be of a plethoric habit and used to high feeding and little exercise, let purgative doses be given; and if so constipated as to render their operation insufficient, let clysters of castor or olive oil, with warm water, be served, until the bowels are free, and all appearance of inflammatory action ceases. Let his regimen of diet consist of nutritive bran-mashes and fine cut herbage; if it be necessary, take more blood from him, keep his bowels cool and open. Mercurial frictions on the head, every second day for a fortnight, may be tried, as also rowels in the neck. Half a drachm of calomel every day is a good alterative, and a favourite medicine in hydrocephalus with many veterinarians. The disease is often a consequence of inflammation of the brain. Mr. White recommends bleeding to fainting; but, I think, he confounds the disease with internal inflammatory affections, when he recommends it; for, in *confirmed* dropsy of the head, there is no inflammation: however, this is the difference which must regulate bleeding.

DROPSY OF THE LEGS, OR SWELLED LEGS.

Swelled legs always arise from debility: cold, heat, indigestion, bad feeding, and too high feeding, equally produce the disease. Want of due and gentle exercise, and turning a horse suddenly out from a warm stable to a straw-yard, or *vice versâ*, are the most frequent causes. When ulcers or cracks succeed in the legs, they are called *grease*.

To remove swelled legs requires great attention. The animal must be physicked, and a diuretic ball administered every second day. The legs must be hand-rubbed every day, and the horse walked about morning and evening. A bandage, well and equally applied upon the leg, will greatly assist in removing obstinate swellings, and in cart-horses hay-bands may be substituted for flannel rollers. In cases where such treatment fails, firing will often succeed; but the firing lines must be longitudinal, or straight down, as the intention is to contract the skin, so as to make it act like a perpetual bandage.

 CHAPTER IX.

AFFECTIONS OF THE INTESTINAL CANAL.

DIARRHŒA, OR LOOSENESS.

Most animals are afflicted with this disease more frequently than the horse, yet veterinary surgeons who are in very extensive practice know that confirmed cases are not unfrequent. It will be produced either from an increased secretion of bile, or from impaired action in the absorbent vessels, which prevents their taking up those fluid particles that enter into com-

ination with the dung. The appearance of the stools is generally liquid, and they come from him in small quantities at every slight movement that he makes.

Hard riding, giving the horse an increased quantity of food, or administering that which is unwholesome, green food too long cut and exposed to damp and partial putrefaction, together with affections arising from colds, are the general causes of this disease; morbid changes in the secretions of the stomach and intestines are also causes from which it sometimes proceeds. When the sweating is suddenly checked by incautious and partial exposure to the cold, the disease is frequently occasioned. To distinguish it from dysentery, it is necessary to pay attention to the appearance of the dung, which is of a liquid quality and more copious, looking like the natural dung, without that slimy appearance which is seen in dysentery. At the same time there is an absence of fever in diarrhœa, compared with that which prevails in all cases of dysentery; neither are those efforts which are made to expel the contents of the bowels attended with that pain; diarrhœa, on the contrary to dysentery, is most prevalent in winter and cold weather.

In the cure of this disease apply a fresh sheepskin over the loins, keeping the body of the horse moderately warm by covering it with a rug, and exhibiting the following drink twice a day until the purging ceases.

Absorbent Drink.

Take Aniseeds and Carraway Seeds, powdered, of each
one ounce;
Prepared Chalk, two ounces;
Fine Opium, half a drachm;
Mix in a pint of linseed gruel, and administer.

Should the purging continue three or four days after this drink has been given, it will be necessary to give

the following astringent medicine three or four times a day.

Astringent Drink.

Take of Powdered Ginger,
Dover's Powder, of each, two drachms ;
Prepared Chalk in powder,
Pomegranate Shell powdered, of each one ounce ;
Tincture of Catechu, one drachm and a half.

Let these be mixed in one pint of warm gruel, and administered twice a day.

Should the horse be much reduced and debilitated after the diarrhœa is removed by the above remedies, let him take the following ball, and repeat it daily until his strength is sufficiently restored.

Tonic Ball.

Take Subcarbonate of Soda,
Powdered Ginger, of each, one drachm ;
Peruvian Bark,
Colombo Root in powder, of each half an ounce.

Mix together with a sufficient quantity of treacle or honey to form a ball.

DYSENTERY, OR MOULTEN GREASE.

This distressing complaint was formerly described by veterinarians as a melting down of the fat occasioned by excessive heat, and a discharge of that fat by the anus, accompanied by purging ; even now farriers believe it to be the same thing, nay some modern *writers* have thought it such ! No man acquainted with the physiology of the horse can for a moment entertain so absurd an idea. The fact is, the disease is a constriction of parts of the intestines, accompanied with chronic inflammation of the inner coat, discharging a fœtid matter and sloughing away in films, and in severe cases blood is discharged. The disease differs widely from the diarrhœa both in

nature and treatment, and therefore requires skill in the practitioner to distinguish, as the treatment which applies to diarrhœa, if adopted in dysentery, must kill the animal. Chalk, opium, and other astringents are necessary and salutary in the treatment of the former, but poison in the latter.

The symptoms very clearly mark the difference in both diseases; in diarrhœa there is nothing but an excessive purging; but in dysentery there is a discharge of matter apparently mixed with fat, and often blood, generally accompanied with *costiveness*—little or no dung is discharged. Fever sometimes accompanies these symptoms, and sometimes the disease degenerates into inflammation of the bowels.

The first thing to be done is to bleed the horse, then, the same day, administer the following:

Castor Oil, four ounces;
Gruel, two pints;
Ipecacuanha, one drachm.
Mix.

If the castor oil be too expensive, salts may be substituted; but the horse must be purged, and castor oil is the best purgative. An injection must also be thrown up. The next day may be allowed to pass if the physic has operated, and then the day after it must be repeated. If the symptoms be very violent, blister the belly after the operation of the physic. Let the horse have linseed tea and gruel frequently, and a sheepskin over the loins. In a word, keeping the bowels open by castor oil and clysters, and administering diluting and mucilageous drinks, with bleeding, if the habit be very full, and a blister when the symptoms are violent, will form the proper treatment.

THE SPASMODIC, OR WINDY COLIC.

This is generally produced by too much juicy food, as clover and different grasses, new corn, or

new hay ; or by eating too much after great fatigue ; or by checked perspiration, from whatever cause that may happen. The health of the bowels is disturbed, and they are distended in some parts and contracted in others.

The symptoms are restlessness of the horse ; he rises with rapidity and lays down again ; he stamps with his fore hoofs and strikes his belly with his hind feet, and he rejects all food. When violent, it occasions convulsions ; his limbs are extended as in death, and his eyes are turned up ; his extremities are alternately hot and cold ; sweating and shivering fits succeed each other ; he cannot stool, and his head is frequently turned towards his flanks ; he falls suddenly down, and rolls over on his back. The best plan of treatment is the following :

Take Oil of Turpentine, Sweet Spirits of Nitre, Oil of Junipers, and Laudanum, of each half an ounce, mix in a phial.

Caraway Seeds and Ginger powdered, of each one ounce.

Mix the powders in a pint of warm peppermint water, and add the contents of the phial, and give the whole immediately.

If he should not be better in two hours repeat this, and remove four quarts of blood, this will assist in removing the spasms ; but if he be restless two hours after bleeding, give him the following drink and clyster.

Take Castor Oil, one pound ;
Prepared Kali, half an ounce ;
Ginger, one ounce.

Mix in a pint of warm gruel, and give it immediately.

This clyster and drink generally succeed in procuring an evacuation through the bowels ; but if twelve hours after using them, that effect be not produced, you must repeat them.

If the following be rubbed over the belly when the pain is not too great, much good will probably result.

Take Egyptianum and White Vinegar, of each two ounces ;
Hartshorn, Spirits of Turpentine, and Oil of Origanum,
of each one ounce ;

Euphorbium and Cantharides, of each one drachm.

Put them in a bottle, and before using shake them well.

When the horse is getting better, a gentle laxative and restorative drink is useful.

Take Peruvian Bark and Nitre, of each one ounce ;

Lenitive Electuary, four ounces ;

Ginger, Carraway Seeds, Castile Soap, of each half
an ounce ;

Laudanum, two drachms ;

Warm Gruel, one quart.

Dissolve the ingredients in the gruel, and give it in new milk warmed, or any of the milder cordial balls may be given for the purpose I have mentioned.

DRY GRIPES

Is a dangerous and distressing disorder. It is first discovered by the horse frequently straining to dung. The rectum and the end of the intestines are overloaded and pressed to the fundament ; this causes constant endeavours to expel the contents. The tail of the horse has a quick and frequent motion, and he frequently tries to stool, which he can only partially effect, as the dung presses on the neck of the bladder.

The disease seldom requires more than the clysters I have mentioned to afford relief, or the following :

Take Warm Gruel, four quarts ;

Then dissolve a handful of Common Salts, two ounces
of Epsom Salts, and half a pound of Treacle ;

Sweet oil, half a pint.

Mix them well, and use.

INFLAMMATORY COLIC—(*see inflammation of the bowels.*)

OF WORMS.

There are three species of worms common to

horses: these are called the botts, round worms, and ascarides. The botts are distinguished from all other species of worm by their shape and length; they are of an oval form, and their length varies from half an inch to one inch; in shape and general appearance they resemble casks in miniature; the basis of their colour is red, always presenting, however, a dark brown or yellow hue. Botts are frequently found in great numbers, resembling solid masses, and adhering firmly to the internal coat of the stomach, by means of two strong curved fangs, situated at the smaller end, and by a series of very short feet, arranged on each side of the belly; the body of the bott is composed of ten or twelve circular hoops or joints, and the mouth is generally supposed to be placed at the smaller end, between the two fangs already mentioned. In the superb museum of Joshua Brooks, Esq., which contains the most valuable preparations on comparative anatomy in this kingdom, and, perhaps, in the world, are many preparations of the bott, admirably illustrating the manner by which they adhere to the stomach. It is generally found that botts make their appearance in the months of May, June, or July; and this has been attributed to the green and juicy food on which they feed at those times, as well as to the frequent scarcity of water, and irritation produced by the great increase of temperature.

The symptoms of the botts are few in number, and fortunately not easily mistaken. At first, we find the worms voided with the dung, and not unfrequently they are discovered adhering to the rectum, near the fundament; from which position they are frequently removed by, and expelled with the dung; the appetite of the horse fails him, and he gradually becomes much emaciated; his face, like that of a horse suffering with surfeit, assumes a staring appearance; he is troubled with a short tickling cough or wheezing, and except when on these

occasions his head is protruded forward and erected, it is depressed, and his eye exhibits a dull, glazed appearance; he breathes quickly, and with difficulty; he loses his natural spirits and vivacity, and appears desponding and oppressed with anxiety, like horses that are troubled with gripes, &c; he is constantly striking his hinder feet against his belly. In addition to the causes already stated, horses are frequently attacked by being suffered to drink of water remaining in ponds, nearly dried by the heat of the sun, mudded by frequent visits of cattle, and swarming with myriads of insects and other animalculæ. To this cause principally we attribute the fact that, in low countries, abounding with fens and marshes, hundreds of valuable animals are annually destroyed, whose stomachs and intestines, when examined, are filled with botts.

Botts, at all times, produce constitutional irritation; the extent of this, however, being dependent on the progress of the disease. When death is the result, it is principally caused by ulceration and erosion of the coats of the stomach and intestines.

Round Worms.

Although these worms are not so frequently met with as the bott, they are considered more dangerous. They, at all times, produce inflammation of the bowels and colic; they are with difficulty expelled, and they leave behind them chronic disorders that defy the skill of the veterinary surgeon. In shape, and other circumstances, the round worm differs materially from the bott; its colour is usually white; its appearance much resembles that of the common earth-worm; its length averages from eight to ten inches; and it is generally found infesting the small intestines.

Ascarides.

Ascarides differ in every respect from the preceding species of worms; they generate exclusively in the larger intestines, and, although they keep the horse in a poor condition, they scarcely ever prove fatal; and then only when the constitution of the animal has been much decayed. Both the ascarides and the round worm are frequently voided with the dung.

The treatment of all three species of worms is now pretty well understood. It is similar in each case, and by paying a due and prompt application to the following line of treatment, a cure may be easily and speedily effected.

Mercurial Ball for the Worms.

Take Calomel, one drachm;
Castile Soap, one drachm.

Mix this into a mass, with syrup of buckthorn, and give it to the horse at night. In the morning it will be necessary to administer either the following purging drink or ball, as may be preferred:—

Purging Drink for the Worms.

Take Barbados Aloes, according to the age and strength of the horse, from three to six drachms;
Worm Seed, in powder, half an ounce;
Powdered Gentian, half an ounce;
Powdered Carraway Seeds, one ounce.

Mix these, and administer it in a pint of strong decoction of wormwood. This drink must be repeated in four or five days time, but the mercurial ball must be omitted after the first exhibition. Should it be judged prudent to administer a purging ball, the following will be found efficacious:—

Purging Ball for the Worms.

Take Barbados Aloes, eight drachms;
Ginger Powder, two drachms;
Castile Soap, two drachms;
Oil of Savine, two drachms;
Form a ball, with a sufficient quantity of Syrup of Buckthorn.

The proportion of aloes in this ball is that which is adapted for a powerful horse, and of course can be diminished as requisite; six or seven drachms of aloes will however be generally found sufficient after the mercurial ball. In the chapter on purging, rules have been laid down, which instruct how to give mashes, warm water, and proper exercise to the horse; and in the treatment for worms, these rules should be rigidly observed, as much of the future cure will depend on judicious treatment of these points.

The destruction and removal of the different species of worms from the stomach and intestines will generally be effected by giving the above mercurial and purging balls three or four times, but not oftener than once a week. When the vermin are completely destroyed, the stomach remains enervated, and the appetite and digestion are weakened: in these cases, it is necessary to give tone to the stomach, and to stimulate it to digestion. The following drink has been given with much advantage:

Strengthening Drink after Worms.

Take Sal Volatile, one ounce;
 Sweet Spirit of Nitre, one ounce;
 Powdered Gentian Root, one ounce and a half;
 Peruvian Bark, half an ounce;
 Hicra Picra, powdered, half an ounce;
 Horsespice, two ounces.

Mix them well in three pints of ale, and give one-third part every morning fasting. Two hours after giving the horse this drink, let him take a mash and warm water.

In the cure of horses that have suffered under long continued diseases, or who exhibit lowness of spirits, or are much debilitated, and whose flesh is relaxed, or whose appetite is weak, or have been exercised too violently, either on the turf, in the field, or on the road, this drink, or one resembling it in effect, may be employed with great benefit.

JAUNDICE OR YELLOWS.

As the horse has no gall bladder, but a simple duct, by which the bile is passed from the liver to the intestinal canal, the diseases of the biliary system are not frequent. Jaundice seldom or ever arises as a disease in itself, but very often as symptomatic of other complaints. The symptoms are a yellowish tinge on the inner surface of the eye-lids, eye-balls, nostrils, and mouth, costiveness, dry and hard dung, with debility, loss of appetite, thirst, and high-coloured urine.

The object to attain, in the cure of jaundice, is to promote a good secretion of bile and urine: for this purpose, calomel and aloes, in the following proportions, must be given every other day:

Purging Ball.

Take of Calomel, one drachm;
Of Aloes, two drachms.

Beat up into a ball, with a little mucilage of Gum Arabic.

When this operates, it need not be repeated; but if it do not, a dose of salts and gruel must be administered, to assist its operation.

On the succeeding day give the following

Diuretic Ball.

Take of Squill pill, a drachm;
Of Nitre, half a drachm;
Of Calomel, a scruple.

Make into a ball, with a little Soap.

Continue the alternate uses of the above medicines, assisted by mashes, warm ale, &c. until the dung becomes of a healthy appearance, and the yellowness abates, which will be in a few days, unless other diseases are connected with jaundice. Let the horse be walked about twice a day, and covered in the stable during the cure.

ACUTE INDIGESTION.

This arises from over-eating, and, although very common in cattle, is not very much so with horses. It is most likely to occur from eating grains or clover. The symptoms are very rapid in their progress, and much resemble those of *staggers*; so much so, that the disease is by some called *stomach staggers*. The first symptoms are—the horse becomes uneasy, stops from eating, stamps, looks at his sides, and sweats, the belly is swelled, and he at length becomes delirious, or drops down. Purgatives are of little use, from the rapidity with which the fatal symptoms proceed; but by stimulating the stomach, we may hope to cause it to act in expelling its contents, therefore let half a pint of strong brandy or rum be given, with half an ounce of hartshorn added to it; or two ounces of hartshorn, and three of oil of turpentine, every three hours: perhaps, a few drops of the powerful purgative lately introduced, *the oil of croton tiglium*, might be attended with good effect.

In the beginning of the disease, if the horse will admit the operation, he may be bled with advantage.

CHRONIC INDIGESTION.

For this complaint, see "*Condition*."

HABITUAL COSTIVENESS.

Purgatives only increase this disease. The animal must be fed on mashes and green food—carrots in winter; he must be exercised gently, well groomed, and have an occasional laxative of calomel and aloes, in the dose of half a drachm of the former, and six drachms of the latter; he should also have an occasional dose of nitre.

HERNIA, OR RUPTURE.

Hernia is a protrusion of a portion of the intestinal canal at some of the natural openings. This often happens in the groin, through the passage which the testicle takes to the scrotum; but the gut seldom passes down into the scrotum itself, particularly in geldings. When we can push back the gut, it is called *reducible* hernia; but when we cannot, it is called *irreducible*; and if the gut becomes obstructed, it is called *strangulated*. It is only in the last that we can be of any real use; and that is, to prevent immediate death, by reducing the gut into the abdomen; for nothing can remove the common affection of *reducible* hernia but *pressure*, and this cannot be permanently applied with horses. Our services can only be required in *strangulated* hernia. To reduce this, the horse must be thrown down with hobbles and secured; the legs are then to be placed so, as to relax the muscles of the belly, and then the arm gently introduced into the anus, when, by cautious pressure, the gut may be brought back into the abdomen; however, this will not happen often, and if it do not on the first trial, recourse must be had to a clyster of tobacco smoke and cold application to the tumour; but time must not be wasted with such remedies, and the operation must be resorted to in the following manner: an opening is to be made *cautiously* into the external integuments, so as not to wound the gut itself, which would be *fatal*. The finger is then to be passed up the opening along the spermatic cord, and so as to feel where the stricture or tightness is; and then a blunt pointed bistoury is to be steadily passed on the finger, so as to divide the stricture, which, when done, will allow the gut to pass back immediately. When this is performed, close the wound, and apply such compress and bandage as will prevent the return of the gut.

CHAPTER X.

AFFECTIONS OF THE KIDNEYS.

BLOODY URINE OR PISSING BLOOD.

THE symptoms of this disease are obvious, and the treatment simple. It arises from hurts generally, and sometimes from stone. Diuretics do harm in this complaint, by stimulating the already but too irritable organs of urine, therefore we must merely give gentle laxatives, mucilaginous drinks, hay broth, with linseed tea in moderate quantities, and keep the horse perfectly quiet. Astringents, such as logwood, alum, and dragon's blood are recommended; but the best of that description is sulphate of zinc, the following is recommended by Mr. Blane.

Acetate of Lead, ten grains;
Sulphate of Zinc, two scruples;
Catechu, four drachms.

Mixed and made into a ball with conserve of roses.

DIABETIS, PROFUSE STALING, OR PISSING EVIL.

This appears by the horse making inordinate quantities of urine, which in confirmed cases is attended with emaciation, and at length death. When it arises from strong diuretics, it will most probably be soon removed by quiet, and Mr. Blane's medicine above-mentioned under the head of *Bloody Urine*; but when it arises from a disorganized state of the kidneys it will be very difficult of cure. In this case we must attend to the bowels by gentle physic, and give the following draught daily.

Take of Uva Ursi, four drachms;
Of Catechu, two drachms;
Of Opium, half a drachm.

Mix with a pint of the decoction of oak bark.

Broth and tripe liquor may be given with advantage.

Mr. Blane recommends belladonna and nitrate of silver, ten grains each, made into a ball with conserve of roses; and when other remedies fail, I think, it may be tried with hopes of success.

STONE IN THE BLADDER AND KIDNEYS.

In the beginning of this disease diuretics will serve, but when it is confirmed little indeed can be done.

It often produces bloody urine from rubbing against the inner coat of the bladder.

CHAPTER XI.

GLANDULAR DISEASES.

STRANGLES

Is a disease affecting the kernels and other glands of the neck. Most horses have it before they die. The period of attack generally is between the fourth and sixth year. This disease never appears more than once in the same animal. The glands are subject, however, to subsequent inflammation; and some ill-informed farriers mistake this latter attack for the strangles—its proper name is *vives*.

General fever, swelling of glands, under and within the lower jaw, cough, drought, and loss of appetite; sometimes there is very little general fever, and the glands swell, suppurate, and burst, without much notice; generally, however, the disease is mistaken for the distemper. It is distinguished from this by the swellings, which are hot, more tender, and larger, than in the distemper. A similar case, in each treatment, is proper; but it is advantageous to bring the swellings to a head in strangles as soon as possible; for this purpose use strong, hot, stimulating poultices. In the distemper, we must use a linament of harts-

horn, vinegar, and oil : if we are in doubt, therefore, we must use only warm fomentations ; this removes tightness and irritability, without occasioning suppuration. Sometimes, in strangles, there is a discharge from the nose, before the kernels come to a head—this is called the bastard strangles.

When the fever is considerable, we must not bleed, unless upon a great emergency ; that is, when the pulse is hard and quick, the flanks heave, the legs cold, the cough painful, and the nostrils red ; if the throat be sore, stimulate it, but do not blister ; apply constantly a nose-bag, with a warm mash in it, frequently changed ; rub the swellings with an ointment, made of equal parts of suet and turpentine ; do this twice a day, and keep on a warm poultice ; if necessary, shave the hair off the kernels. When the swellings burst internally, nature must effect the cure : the horse must have light food, and mild exercise. When there is a proper point to the abscess, open it with a lancet, and press out the matter gently ; then keep the wound open with a piece of lint, covered with lard, and continue the poultice for a day or two. For treatment in other respects *see Colds*.

VIVES, OR TUMOURS OF THE PAROTID GLAND.

Diseases of this kind are sometimes caused by the neglect of farriers in phlebotomizing with a fleam or lancet previously infected with bad matter from a disordered animal. It may also be occasioned by incautiously using shears or scissors, (similarly infected) in dressing a horse's ears, whereby the virus is immediately communicated to any fresh scratch or puncture made in those parts, however small the orifice may appear. The parotid or great salivary gland, situated close under the ear, becomes inflamed and swollen, and if the vein should have received glanderous poison, the inflammation may reach the heart, when the rapid destruction of the horse must be the consequence. If the excretory passage or duct

of the parotid gland be only affected, there is no danger; it is merely necessary to let the matter flow off from the orifice, and not prevent its current; the secreting powers of the gland and the gland itself, will be at last annihilated without any injurious effects to the animal. When the infection is only cutaneous (except it be the virus from a glandered horse) the part will heal of itself in time. Where the jugular vein is infected, strong styptics or the searing iron should be used to stop the bleeding, and the animal's sustenance should consist of light mashes for some time, until the sore or wound be completely cicatrized. An occasional aperient, if necessary, should be given to keep the body cool and bowels free. As soon as the orifice is perfectly closed, send the horse for a few weeks into a light pasture.

CHAPTER XII.

SCROFULOUS AFFECTIONS.

GLANDERS.

This disorder is general among horses, mules, and asses; and, after the most minute investigation, and extensive experience of the first veterinarians in Europe, it is acknowledged universally to be *contagious*. Some years back, a French veterinarian was of opinion, that glanders were merely a *topical* disease; he tried a remedy accordingly for its removal, by piercing the bones that cover the nasal and frontal sinuses, and then passing astringent injections through the openings. The experiment was tried in a similar manner in England, and other parts of the United Kingdom, but without any salutary result. Fumigations of arsenic, cauterizing the swollen glands under the jaws, &c. have been resorted to; but, unfortunately, no effi-

cient remedy has as yet been discovered for the radical extirpation of this fatal and devastating disorder. It cannot be disputed that glanders may, in many cases, be produced by bad treatment, bad keep, and excessive over-working, exclusive of any contagious influence. Almost every disease to which the horse is exposed may originate from those abuses. Draught, stage-coach, and post-horses are, from ill-usage of this kind, especially exposed to contract the contagion of glanders, from the exhausted state of their constitutions, more than any others; and, for the same reason, the rapidity of the disease, towards its close, is considerably greater among those animals than among saddle-horses, &c., who are well kept and moderately worked. In some cases, it is very difficult, for a general observer, to distinguish between the symptoms and appearances of a severe cold or catarrh and this disease; they assimilate so closely, in the ulceration of the nostrils, the consistence of the foul matter, &c. The general symptoms of glanders are, a discharge, mostly from the left nostril, seldom from the right, and sometimes from both. This running, at first, is inconsiderable, and in substance resembles the white of an egg. The membrane within the nostril is unusually red; the swelling of the glands or kernels under the jaw, and between the parts of the lower jaw, is almost invariably observable on the same side as the infected nostril. In other respects, the animal exhibits every appearance of soundness, as regard its appetite, condition, spirits, &c. The urine is generally crude and transparent. Glanders are not unfrequently accompanied by a cutaneous disease, of a scorbutic character, called farcin or farcy.

Glanders may be divided into two stages; namely, the acute, or rapid violent stage, and the chronic, or slow mild stage. The acute glanders are frequently accompanied by acute farcy; in that case, large painful tumours in various parts, ulcers about the face,

neck, or lips appear; also inflammation and ulceration of the fore or hind legs, testicles, and sheath. In short, when the disease has arrived at this frightful stage, all hopes of cure are gone, and it would be an act of humanity to destroy the suffering animal at once, and rid him of his torture. It would also be the wisest plan, in order to prevent farther contagion among other horses.

Chronic glanders are of an opposite character, and in the early stages, so mild in their progress, that the health, condition, or appetite of the horse is not at all affected. If the animal be well kept and moderately worked, he may continue a useful servant to his owner many years. The symptoms of chronic glanders, in their advanced stages, are ulcers inside the nostrils, which if too high up to be visible, may be known to exist from the suppurated running that drops from the nose; sometimes it exudes in such quantities, and is of so sticky and thick a substance, that it adheres to the orifice of the nostrils and upper lip, so as frequently to impede free nasal respiration, and cause the animal to snuffle and snore. Sometimes the matter has a sanguineous appearance, and if the animal be over-worked in this advanced stage of the disorder, he will often bleed profusely from the nose. If in the mild or early stage of chronic glanders blood flow from the nose, or the matter have a foul smell, it is a sure signal of the second stage coming on; consequently, the running flows more copiously, and becomes more offensive; the glands under the jaw increase in size and hardness, and adhere close to the jaw-bone. Matter appears also in the inner corners of the eyes. The horse falls off in condition, has a constant inclination to stool, coughs violently, and in a short time death closes the sufferings of the poor animal.

It has been indisputably proved, by numerous experiments, that a sound horse cannot be infected by the matter of a glandered animal, if applied to, or

even injected into the nostrils of the former. But, on the contrary, if by process of *inoculation*, the smallest portion of this foul matter be communicated to the sound animal, in a short time the part where the incision was made, and the infectious matter introduced, will become ulcerated, the poison will pervade the whole system, and the horse will at last exhibit all the symptoms of confirmed glanders. As the mere application of glandered matter to the nostril of a sound horse produces no contagious effects, it is not to be wondered at, that sound and glandered horses have been left together in the same stable, and that the former have escaped uninjured. An absurd opinion prevails amongst some people, that this disorder may be communicated from inhaling the impure vapour arising from glandered matter. This argument has been completely refuted by repeated experiments, where horses in the advanced stages of acute and chronic glanders have been stabled together, (in separate stalls,) for many months, with healthy horses, and yet the latter were never in the least affected by the effluvia of the glandered animals. It has been ascertained by some veterinarians, that if a sound horse *swallow* glandered matter, at different times, at last he becomes infected with the disease. From the foregoing remarks, it may be inferred that glanders are contagious in two cases; viz. if the matter be communicated by process of inoculation, or by swallowing repeated portions of the glandered matter. However, it is here necessary to observe, that horses whose age exceeds *twelve* years, seldom, if ever, are afterwards contagiously infected with glanders, as has been proved in many instances. As many mistakes occur in ascertaining positively whether a horse be glandered or not in the early symptoms of the disorder, Mr. James White, that experienced veterinarian, discovered, and successfully, we believe, adopted a method whereby any doubt on that question can be soon removed. Mr. White remarks,—

“ In doubtful cases, that is, when there is much difficulty in determining whether the discharge from a horse's nostril is glanderous or not, and such cases often occur, I have for some time made use of a *young ass*, which costs only a few shillings, in order to decide the point beyond all possibility of mistake. If the matter is really glanderous, a peculiar kind of sore or chancre will be produced by inoculating the young ass with it in any part of the body. From this ulcer corded lymphatics, or veins as they are termed, will proceed, and farcy buds or small tumours will take place. After a week or two, the animal will begin to run at the nose, and then in a short time he will be completely glandered. The disease in this animal is almost always quickly fatal. If the matter be *not* glanderous, no effect whatever will be produced by it. However mild the glanders may be, though no kind of ulceration can be seen within the nostril, and the quantity of matter discharged is but small, and the animal in good health and condition, the ass will be as certainly infected by the matter, as if the disease were in the last stage, or in the most virulent degree. The following is the method of performing the inoculation:—Cut off a little hair from the side of the neck, or any other part of the body, for about the space of half-a-crown; then take a lancet, and pass it under the cuticle, or scarf-skin, for about a quarter of an inch; it should not wound the skin much, but be sufficiently deep to tinge the lancet with blood, or make one or two drops appear. The matter may be introduced into this opening (first wiping off the blood) by means of a thin slip of wood, of the form of a lancet. If the matter be glanderous, the part will become sore in two or three days, and a scab will form on it, which in a few days will be thrown off, leaving a peculiar kind of ulcer, which will often spread rapidly, causing a painful swelling of the adjacent parts, with corded lymphatics and farcy buds. In about a fortnight the glanders will appear.”

The remedies proposed by veterinarians of the foreign and national schools, for the cure of this disease, would of themselves fill up a moderate sized Pharmacopœia. It has been allowed by all, that the disease is now decidedly incurable in an *acute* stage, and equally so in an advanced stage of chronic glanders; therefore, the matter for consideration is, what are the best remedies and treatment for the radical recovery of a horse in the first or mild stage of chronic glanders? It is the opinion, that *mercury*, in the preparation of calomel, or Ethiop's mineral, (equal portions of sulphur and quicksilver beat up together in a mortar, until they become incorporated) given in *moderate* doses, daily, is the most effectual remedy as yet discovered among veterinarians. Ethiop's mineral, and antimonial powder (equal proportions of finely powdered antimony and Ethiop's mineral) are the *safest* medicines, and should be given in doses of about *two* drachms each, one every day, or two if the constitution of, or progress of the disease on the horse require it. It may be mixed up in his corn, as it is not in the least offensive to his palate. These doses must be repeated until the mouth, appetite, and bowels are affected by the operation of the medicine. The stable must be temperately ventilated, and the rack, manger, buckets, &c. should be kept in a constant state of cleanliness. During the mercurial course, the animal should be moderately exercised every day, and fed with good hay, and about half a peck of oats, divided into two feeds every morning and evening. His nose should be sponged with clean water, whenever any running is observable about the nostrils; and it must also be recollected, that as long as the least moisture appears in the nostril, the animal is not in a state of convalescence. The following case is related by Mr. Gibson, the veterinarian, who states that he effected a perfect cure of *confirmed* glanders, by balls composed of cinnabar, myrrh, Castile soap, saffron, and

gum guaiacum ; and occasional draughts, consisting of sarsaparilla, dock root, and guaiacum wood boiled up together. Mr. G. also used an injection to heal the soreness of the inside of the nostrils, composed of spirits of wine, Egyptiacum, and vinegar. Mr. G. says, " I had him (the glandered horse) removed to an infirmary stable belonging to the troop, where he could be kept warm, and in the hearing of other horses, which greatly cheered him. He was walked out every day, and had his exercise in the open air. He was constantly curried and dressed thoroughly, and had his rack and manger often washed and scraped, and his pail cleaned and washed almost every time it was used, (a useful precaution, as he was thus prevented from swallowing his own poisonous matter.) This induced him to eat and drink what was sufficient, and by that means contributed greatly to his recovery ; for though there was little alteration during the winter in the swelling under his jaws, or in the running from the nose, yet he got strength daily, his flesh grew firm, and his coat began to look smooth and shining. The horse had fallen off in appearance, and began to grow weak before he was removed to the infirmary stable. In the spring following, the kernel began to lessen, the running at the nose looked whiter and of a better consistence ; and towards the end of the summer, the swelling was no bigger than a hazel nut, and the running for the most part quite gone, and at last ended in some few drops of clear water, which used to distil now and then from the nose, so that it was somewhat above a year before the cure was completed." Mr. G. states another case of confirmed glanders, where the symptoms were different, but the cure effected by the same medicines and treatment. " The other horse baffled all the efforts I could make for six or seven months, though he took the same medicines, and had the same care taken of him, till at length he broke out in biles in several places, which every one that

saw him pronounced to be the farcy; but I was of another mind, for these never followed the course of the veins, but appeared in some interstices between the tendons of the muscles. The matter was laudable, and of a good consistence, and though many of these biles came in succession, one after another, yet those that broke soon healed up; the horse grew hearty and active, the kernel and running at the nose lessened and abated gradually, and in a few months after he was perfectly cured." In the French school of veterinarians, glanders are separated into first, second, and third degree; viz. In the first degree there is a discharge only from one nostril, of a pale colour, and inconsiderable in quantity; the membrane of the inner nostril appears red and inflamed. The animal, exclusive of those symptoms, enjoys good health, and appears in good condition. The indications of glanders, proceeding from communication with a diseased horse, differ distinctly from those caused by over-work, bad treatment, and inferior sustenance. In this case, diminution or total loss of appetite, accompanied by a heavy cough and unusual dejection of spirits, are the leading symptoms. The next (second) stage as to the indication of glanders is, that the matter issuing from the nose appears more thick and sticky in consistence, whereby it fixes around the orifice of the nostril; the swelling and soreness under the jaw increases, and clings more closely to the jaw-bone. The last (third) stage indicates a darker nasal running, intermixed with sanguinous matter of a foul smell; it is sometimes all blood, and runs from each nostril; a rise of the bones of the nose and forehead, together with a swelling of the under eyelids; lost appetite, general weakness, catarrh, tumefaction of the limbs, sheath, &c.; ulcers inside the nostrils, soreness of the glands or kernels, &c. &c. are all symptomatic of the last stage of this direful disorder. In this advanced stage it would be humane to shoot the animal instantly. Those indi-

cations just explained are not altogether symptomatic of glanders, as some of them shew themselves, in a similar manner, in peripneumony, pleurisy, distemper, strangles, bastard strangles, &c. The difference is this, whereby the diseases may be distinguished:—The discharge from the nose, swelling of the glands, ulcers in the nostril, &c. are equally symptomatic in the above mentioned diseases as in glanders; but in the former, those indications appear at the same time, and *not* so in glanders. They are on their first appearance *acute* in their action, so as to threaten the immediate destruction of the animal, although shortly after those ominous symptoms decrease, and the horse soon recovers. But the glanders are *chronic* in their action; the first degree, slowly and mildly progressive; the second and third stages gradual, as already described, until the animal expire from the devastation of the disease. We have now given as extensive a view as possible, of this melancholy contagion, as far as the best theoretical and practical information could supply regarding its origin, and the best remedies for its removal.

FARCY.

This disease is also called *farcin*; it terminates in glanders, and may either be connected with constitutional disease, or merely local. Other diseases bearing resemblance to it have been confounded with it—such as the *water farcy*; but that is nothing more than common dropsy of the legs, the sheath, or the belly. It is the opinion of many, that farcy may arise from unwholesome food, chills, close stables, over-exertion, or other weakening causes, and that it is not always connected with glanders. The disease is also supposed by some not to be contagious; but this is wrong: farcy is, in its advanced stages, decidedly contagious. The disease, when caught by contagion, is generally from either the horse rubbing

some parts of his body against the manger, where a glandered horse has stood, or, perhaps, being touched with a currycomb that had glanderous matter upon it, or from the diseased horse biting or scratching another or himself; in short, by any means that brings the matter of a glandered horse in contact with a sound one. It is well known that a single drop of that poisonous matter is sufficient to produce both farcy and glanders: however, farcy is much more frequently caused by bad living and hard work than by contagion; and if it proceed in its course, it terminates by glanders and death. Farcy has been, by the old farriers, thought to be a disease of the veins; but it is now fully proved to be a disease of the absorbent or lymphatic vessels; and *farcy buds*, as they are called, are the enlarged glands of that system in which the virus is acting, and are what, in the human system, are called buboes: like them, they are difficult to heal when once ulcerated. The ulceration of these *farcy buds* are termed *farcy pipes*, in the language of farriery. There are two kinds of farcy—one which commences in the surface of the body, and is termed the *button*, or *bred farcy*; the other commences in the hind legs, and sometimes in the fore. The swellings called farcy buds are not so apt to be found near or over the joints, but between them, and they may be distinguished from these tumours called *surfeit*, by not being so diffused, or so broad and flat, and by not being on the *outside* of the limb, or on the body, where *surfeit tumours* appear most commonly. Farcy buds are knotty, and when on the legs are to be found *inside*. Farcied limbs become swelled; but they differ from the swelling of mere debility in this, namely, that exercise and rubbing will remove the latter, but in farcy it cannot be removed, and there are knotty tumours to be felt, and an evident enlargement of what might be thought the veins, but what, in reality, are the absorbent vessels. The tumours of farcy, if allowed

to go on, break and degenerate into foul ulcers, the matter of which is contagious. Bad cases of *grease* will become farcy, if neglected. Lameness sometimes attacks one leg, and then suddenly changes to the other. That farcy, in its full form, is constitutional, there can be no doubt, no matter whether arising from contagion or other causes; therefore the attention of the veterinarian must be directed to all those general remedies tending to health, as well as the particular modes of local treatment.

The treatment must be regulated with judgment, as regards the stage of the disease, and the strength of the animal. The sheet-anchor of the modern practitioners is the mineral medicines—muriate of mercury, arsenic, and sulphate of copper; and these medicines, when used prudently, are no doubt of great benefit; but in all cases of *farcy*, I would first try *diluted sulphuric acid*, from this simple reason, that I have seen it cure diseases in men, the symptoms of which were analogous to those of farcy. The dose I recommend is, about a drachm, three times a day, given in a pint of water. I would also advise a prescription of Mr. Blane's every evening, consisting of

Six ounces of the expressed Juice of Goose-grass;
Six ounces of the Decoction of Hemp Seed; and
Six ounces of the Essence of Spruce.

Which should be given, though the minerals be tried. If the above plan fail, then begin with eight or ten grains of corrosive sublimate, daily increasing it, if no uneasiness be occasioned, and observing the process of salivation. Some practitioners give small doses of arsenic, corrosive sublimate, verdigris, and blue vitriol, all at once. If this be tried, let it not be continued more than ten days, if benefit be not discovered in the animal. After all, my hopes are so strong in the diluted sulphuric acid, that I would give it two months trial in all cases, unless the disease advanced very rapidly against it. I am satisfied that,

like the treatment of the *venereal disease* in man, too much mercury is given here, and that the acid, with constitutional nourishment, will do more than the minerals. The horse's food, in all cases, must be nutritive and soft; such as tares, turnips, carrots, parsnips, &c., or, if none of these can be procured, speared corn and malt, and mashes, gruel, &c.

The local treatment of farcy is, to cauterize the *farcy buds* in the first instance, and in ulcers, to dress them with stimulants—such as a solution of *blue vitriol*, or lunar caustic.

CHAPTER XIII.

AFFECTIONS OF THE NERVES.

EPILEPSY, STURDY, TURNSICK, OR MEGRIMS.

FITS of epilepsy are not very unfrequent with horses, no more than with men, although I am inclined to think the disease is not so permanent or constitutional with the former as with the latter. Veterinary writers agree in saying it is an effect of pressure on the brain from blood; but I am of a different opinion—it is no more occasioned by pressure on the brain in the horse than in the man; if it had been, bleeding would relieve it, which we too well know does no good in human epilepsy. I am of opinion it depends upon the same causes in both, and perhaps their causes may be looked for in spasmodic affections of the nerves connected with respiration and digestion, rather than in the brain itself.

The symptoms are as follows: The horse at first stops suddenly, shakes his head, and looks frightened; he then proceeds as before. The symptoms increase in proportion to the violence of the attack, and he

perhaps falls, suddenly becoming violently convulsed, during which convulsions he passes his urine and dung involuntarily. After a few minutes he recovers his senses, and appears as well as before the fit.

Although I think that true epilepsy is not the effect of pressure on the brain, yet symptoms similar to the above may arise from too much blood pressing on that organ, and on that account, if the horse be of a full habit or in good condition, bleed him by all means, for this may relieve if from the latter cause, and can do no harm in true epilepsy; but if he be thin and out of condition, bleeding will do no good.

The cure consists in purging the animal every second day gently by calomel and aloes, and then turning out to grass for a couple of months or more, bleeding him once a month.

SPASMS.

There are few spasmodic diseases in the horse within our power of relief except spasmodic colic, of which I have spoken in the Chapter on Colics. If, however, a twitching or spasm take place in any of the muscles it must be treated with gentle frictions with a brush, opening the bowels, and then administering opium liberally. The best form to give this powerful, and I may say *only* antispasmodic in veterinary medicine, is as follows:

Take Infusion of Bark, a quart;
Of Tincture of Opium, half an ounce.
Mix.

This may be given with advantage twice a day. Rest is absolutely necessary for the animal afflicted with spasms.

STRINGHALT.

This is a spasmodic affection of the hind leg or

legs well known, there is little inconvenience arising from it, and it is out of the power of the veterinary art to remove it. Mr. Blane gives the best opinion as to its immediate cause, which is that "some nervous twig in its passage meets with continual irritation, probably from mechanical obstruction over an exostosis or ligamentous enlargement; or from some pressure, as nipped between two tendons," &c. &c.

When the affection is in both hind legs it is not so remarkable, as the animal appears only to lift them a little higher and more suddenly than others.

TETANUS, LOCKED JAW, OR STAG-EVIL.

The indications or symptoms of this horrible disorder, are, spasmodic contractions of the muscles of the jaw, which prevent the animal from chewing his food, and, in some extreme cases, the jaws are so completely locked that it is impossible even to give him a drench; and any attempt to force the mouth open, tends not only to torture the poor animal, but also to heighten the disorder. The spasmodic action communicates itself to the muscles of the neck, back, legs, &c. A general paralyzed stiffness of these parts is apparent, when the animal vainly attempts to move; and what renders the situation of the poor beast more afflicting is, that his appetite is excellent, although unable to consume any nourishment.

This melancholy disease may originate from various causes, viz. :—bungling operations in gelding, nicking, or docking, worms (called Bots), in the entrails of the horse, over-working, wounds in the feet, &c. The principal antidotes at present used in the removal of this disorder by veterinarians, are *camphor* and *opium*, which are injected into the stomach by clysters, if the medicine cannot be passed down by the mouth; the animal may also be supplied with nutritious clysters, until the jaws expand sufficiently to enable him to swallow his food. Wilkinson, who

seems to have effected many successful cures in locked jaw, proposes the following treatment:—In the first place, he recommends an emollient clyster and a purgative; unless the pulsation be very quick, he does not approve of blood-letting. The jaws and every other part spasmodically affected should be thoroughly well rubbed with liquid ammonia, mustard, olive oil, and oil of turpentine, mixed up together. Then, all the parts so affected, should be covered with fresh sheep-skins, the fleshy sides of the skin to be kept *inside*; they must be changed as frequently as is requisite, in order to keep the parts in continued perspiration. When the purgative has operated, a drench, composed of asafoetida, camphor, and opium, about one drachm each, is given; and, at the same time, he serves the horse with a clyster of similar medicines, with the addition of a decoction of rue. Should the horse not improve, but appear costive, Mr. W. recommends the purgative and emollient clyster to be repeated, and the opiate to be discontinued, until the purgative has fully operated. Mr. Gibson, a surgeon, in 1750, published a work on Farriery, which was universally esteemed the best treatise on that art ever written. His observations on this direful complaint, and the mode he adopted in successfully communicating nourishment to the stomach by clysters, when the animal's jaws were completely locked together for a period of three weeks, are worthy of the attention of all veterinarians. Mr. G. observes, that the horse was seized with this kind of convulsion, viz. locked-jaw, which was first noticed as he was leading out to water in the afternoon. He came reeling along with his nose turned out, his eyes fixed and immoveable, with all the other signs that usually attend this disorder; and when he came to the trough could not reach the water, in consequence of the cramp and stiffness in his neck; and when it was held to him in a pail, he could not drink, although he shewed an eagerness

for it, his mouth being shut up so close that it was scarcely possible to put a knife between his teeth. It was found impracticable to administer any kind of medicine, until by rubbing his cheeks, jaws, temples, and his whole neck, for a considerable time, a shift was made with great difficulty to thrust down part of a calomel ball on the end of a small stick, and then to pour into his nostrils a very small portion of a strong cephalic drink, thinking by that means to convey the ball downward into his stomach, which, however, had but little effect, any further than this, that he had not such sudden fits and agitations as were visible in others in like circumstances, but continued more quiet; neither did his fever increase, as usually happens when the disorder is gaining ground. But all this while his mouth continued so much shut, that *he could neither eat nor drink for three weeks*, only by continually rubbing his jaws and neck, he would sometimes make a shift to suck about a handful of scalded bran, or sometimes a little oatmeal, moistened with warm water, but in so small a quantity, that it is possible he might have starved, had not other methods been taken to keep him alive. Mr. Gibson had often observed, that forcing the jaws open by violent means, put a horse into such agonies that it rather increased than abated the symptoms; and, therefore, he contrived to give him both his food and physic by the fundament, through a pipe, fourteen inches long, by which he seemed to receive great benefit, as the symptoms were perceived to abate daily. His flanks grew more quiet, he stood more still, and free from sudden fits and startings—all which symptoms are usual in the increase and continuance of this disorder. The clysters were made in the following manner, viz.:

Rue, pennyroyal, and chamomile flowers, of each a handful, boil in two quarts of water, for ten or fifteen minutes, in a covered vessel; then add the other ingredients, the castor oil and asafoetida, cut up in small pieces, and tied

up in a rag; still keep it over the fire for about ten minutes longer, then strain off the liquor, and add linseed oil and treacle, of each four ounces, and half an ounce of unrectified oil of amber.

This clyster was repeated once a day for a fortnight; and, by way of diet, *was given every day three or four quarts of milk, boiled with oatmeal and water*, a bag with a long pipe being left in the stable, for that purpose only. This horse *retained* every thing that was administered that way, which the intestines appeared to suck up, their natural motion being inverted for the purpose; and as he scarcely ate more in *three weeks* than was sufficient to support him *one day*, there can be no doubt that he derived much nourishment from these diet-clysters. Two men constantly looked after him, who had orders to rub his whole body often, which greatly helped to relax his skin, and remove the crampness of his muscles; and although he had not, for the first fortnight, recovered the use of his jaws, yet he was observed daily to move with less stiffness, and often to lick the manger, as if he craved for food. He also breathed with less difficulty, and had several other good signs. Mr. G. then determined to try the effect of an *opium clyster*, which, he thought, might be of service to remove the contractions of the muscles about his mouth and jaws, which all this time continued in some measure obstinate, and, without some powerful relief, might prove fatal. Therefore, *half an ounce of crude opium* was dissolved in the clyster, and this produced immediate good effects. Mr. Gibson repeated the opiate injection frequently together with the other remedies, and the animal in a short time recovered.

Notwithstanding the opinions in favour of cold applications, among which formerly was Mr. Blane's, I am decidedly against it; it is only adding torture to torture: and in all cases, if favourable symptoms do not begin soon to shew themselves, the poor suf-

ferer ought to be shot ; for greater suffering cannot exist than in this horrible malady. Every muscle of the body appears pulling violently against each other, until the animal sinks exhausted. Opium, in full and repeated doses, opiate clysters, warmth, and constant frictions on the contracted muscles, with a strong purge of calomel, and supporting life by milk, are the best, and perhaps, only means of cure. The milk, as well as medicines, may be given by a long-necked bottle through the nostrils : if this cannot be done, and the mouth closed tightly, the anus is the only way left. If lock-jaw arise from a wound, the part should be cleansed and poulticed.

CHAPTER XIV.

VENOMOUS BITES.

BITES OF ADDERS.

THE only bites of consequence, from venomous reptiles, likely to happen in Great Britain, are from the adder. In such cases, the part is to be rubbed with spirit of wine, hartshorn, or, in case of necessity, with a strong solution of brine, or salt and water. The horse should then have administered to him a strong purging ball. If the swelling of the wounded parts increase, it must be fomented with a decoction of chamomile flowers, and poulticed with linseed meal ; but, in general, no dangerous consequences further will arise. If great inflammation follow, bleeding must be resorted to, and all other means recommended in treating of it.

HYDROPHOBIA, OR BITE OF A MAD DOG.

Within these few years several cases of hydro-

phobia occurred in horses from the bites of rabid dogs. It is by some thought not very often the certain follower of a rabid bite; but whenever a horse has been attacked by a mad dog, he has to thank the thickness of his skin more than the unsusceptibility of his system for escape.

We can do nothing for the cure of this disease when once established; but with the wound, immediately after infliction, we can do everything; and this is forthwith to cut out the parts bitten, and afterwards wash the wound with blue-stone water. If cutting out cannot be done conveniently, then a strong solution of blue-stone, or what is better, of lunar caustic, should be applied and continued for several hours. The symptoms of the disease occur generally from six weeks to three months after the bite, and will kill the horse in about twelve hours of frantic madness. Whenever it appears fully, the animal ought to be shot instantly.

CHAPTER XV.

POISONS.

MINERAL POISONS.

WE are seldom able to do any good in these cases, from not being sufficiently soon made acquainted with their nature, as such seldom arise, except from malicious administration of the mineral. The symptoms are the same as colic, except that in this case the horse discharges a frothy, offensive, and very hot mucous from the mouth; he also, perhaps, passes blood by the anus, and frequently attempts to dung and stool. The most common poisons are arsenic, corrosive sublimate, and oxalic acid. The

best thing to administer is, as much soap-suds as possible, in order that the alkali of the soap may neutralize the poison. We may also give oil and gruel, and (what is lately recommended) the whites of eggs.

The appearances of the stomach and intestines on dissection will palpably point out the cause of death.

VEGETABLE POISONS.

Nearly all the vegetable poisons which affect human life also act upon the horse, but as *emetics* cannot be used in the latter, we must be content with administering strong tea, in considerable quantities, also gruel and oil mixed, both of which remedies may be given alternately. Three ounces of vinegar diluted should be given also; and if the poison be opium, the animal should be kept moving about, for he will be much inclined to droop and to lie down. The symptoms are an intermitting wiry pulse, shaking of the head, frothing at the mouth, and convulsive starting; the eyes look wild, and the pupil much dilated.

After death, no morbid appearances of the stomach present themselves, but the lungs shew great distension of blood vessels.

CHAPTER XVI.

RHEUMATISM, CHEST FOUNDER, OR FLYING LAMENESS.

SOME modern practitioners have disputed the existence of this disease, and the ancients attributed the lameness arising from it to some disorder in the foot; there is, however, little doubt but it is rheumatism. There is an affection of the muscles of respiration, some of which support the body, and advance

the fore-legs. There is also an affection of the diaphragm; from which, as well as the increase of the disease, after considerable exercise, with every appearance of the lungs partaking of the attack, obtained for it the name of bastard peripneumony. In this disorder, the muscles of the shoulder and chest are of a diminished size, with a contracted motion of the fore-legs, and weakness of all the supporting muscles. The feet will almost always be found affected in horses labouring under chest-founder, from their partaking in the rheumatic affection; but often disease of the foot is mistaken for chest-founder: however, examining the foot will often decide, and if no apparent cause of lameness appears then, and yet the horse suddenly becomes stiff and lame after heats, swimming, &c., we may conclude it is rheumatism. All that it is necessary to say on it is, that horses so affected are fit only for very moderate work in harness, for the muscles of respiration, and of the shoulder, are so affected as to render them quite unsafe for the saddle. It is to be regretted that such horses are frequently used in stage-coaches and post-chaises, and urged to exertions far beyond their powers. Horses labouring under this disorder have generally been possessed of great spirit and power, and will, if fed high, and urged by the whip, appear to go on with spirit for a short time, but after standing, they suffer great pain, and terminate their short career by a miserable death.

The animal should not be exposed to cold, and should be covered with a rug in the stable. He should be kept regular by aloetic and antimonial balls, and often have a warm mash, with nitre. Perhaps the mustard seed might be given with advantage; and blister on the chest, which, I think, better than rowels.

CHAPTER XVII.

BLINDNESS.

CATARACT.

PREVIOUS to describing this disease, a sketch of the anatomy of the eye will be necessary. The ball of the horse's eye, like that of other animals, is situated in a bony cavity, surrounded by fat and cellular substance. It is moved by several muscles inserted into it, the terminations of whose tendinous portions are spread out, and assist in forming and strengthening the ball itself. It is supplied like the other parts of the body with arteries, veins, and nerves, and the great optic nerve enters into it at the back and inferior part, to receive the impressions of light and transmit them to the brain.

The eye-ball contains the *aqueous humour*, the *vitreous humour*, and the *crystalline lens*. The *aqueous humour* occupies the fore part of the eye, the *vitreous* the back, in which also is placed, fixed in imperceptible cells, the *crystalline lens*. This lens is the seat of *cataract*. Anatomists also describe a set of *coats* to the eye; viz. the *conjunctive* or external membrane over the ball, and turning up to line the eyelid; the *sclerotica*, which is the white and dark case forming the ball, the dark part being called the *cornea*; and lastly, the *retina*, which is the inside lining of the ball, and is nothing more than the expansion of the *optic nerve*; and whose office is to spread a sufficient surface for the impressions of external objects to be conveyed to the senses. The internal oblong fringed opening is called the pupil; the fringes are little muscular fibres, which contract and dilate, lessening or expanding the pupil according to the obscurity or intensity of the light applied to the eye. These fibres are always dilated and in

sensible when the brain becomes pressed by any substance; or when narcotic poison is operating on the animal.

The *lens* is the seat of cataract: it is in its natural and healthy state clear and transparent, of a semi-dense substance, and by constitutional derangement it becomes whitish and opaque, sometimes all through, and sometimes partially. This constitutes the disease, cataract, and is easily discovered by examining the eye—its cure however is difficult. Nothing but an operation will remove it; but even this can never be looked upon as a perfect restoration of sight to render the animal *safe*. The operation may still be performed, for it will enable the horse to see his way, and so far it is useful; but unless both eyes are affected to *total blindness*, I would not advise the operation at all.

The mode of performing it is to make an incision into the edge of the cornea, so as to admit a long mounted needle; with this instrument the operator is to rupture the cells in which the *lens* is held, and then depress it entirely into the bottom part of the ball, where it will soon be absorbed, and the rays of light be received unobstructed on the retina, though not so perfectly as when transmitted through the transparent lens. The horse is to be kept in a dark place until the inflammation which may follow subsides.

GUTTA SERENA AMAUROSIS, OR GLASS EYES.

This affection is not very easily discovered by looking at the eye, unless great attention be paid. It only shews itself in that organ by something of a greenish *glassy* hue, which is not very easily discerned; yet the horse is completely blind, or very nearly so. It is from this particular appearance of the eyes that farriers call the disease *glass eyes*. The cause is constitutional, and, I believe, arising from disease of the digestive organs. We cannot even

hope for a cure. In distinguishing this disease, the veterinarian should pass his hand close to the eyes; and if they do not wink, it will point out his blindness. The pupil is also stationary even when light falls on it.

EFFUSION ON THE CORNEA.

This affection is known by the name of a pearl on the eye; it is occasioned generally by inflammation either having been very violent and obstinate, or from having been badly treated. In its commencement a cure may be attempted by two or three strong purges, and blowing about three grains of powdered alum into the eye; but this ought to be only once tried. No more time should be lost, as the case is hopeless.

MOON-BLINDNESS, OR MOON-EYES.

(See *Ophthalmia*.)

CHAPTER XVIII.

WOUNDS.

SIMPLE INCISED WOUNDS.

By simple incised wounds is meant a simple cut or division of parts. The treatment will be to unite the lips of the wound either with sticking plaster, or by stitching and sticking plaster both, as may appear necessary; a pledget of tow should then be laid over it, and the whole secured with a bandage. Should there be much inflammatory swelling or approach of suppuration, let it be anointed twice a day with the following oil, and warm poultices applied.

Oil for Wounds.

Take Oil of Thyme, half an ounce;

Oil of Vitriol, six drachms;

Neat's-foot Oil, one pint.

Put them together in a pot, excepting the vitriol, which must be added by degrees, keeping them stirring till well mixed, then put into a bottle for use.

The stitches should be divided on the fourth or fifth day, and the wound dressed with a piece of tow dipped in the digestive ointment before mentioned, and passed into the wound. Let this dressing be continued daily until the swelling is removed, and a purulent or thick white matter discharged; after which this dressing should be discontinued. Should, however, the edges of the wound be far separated, dip a camel's hair pencil or feather in the tincture for wounds, and apply it over them, then take an equal quantity of bole armoniac and verdigrise in powder, and place a thin layer over the edges; the wound will then heal, and the granulations be prevented from appearing above the surface.

Another Digestive Ointment.

Take Powdered Verdigrise, two drachms and a half;

Resinous Ointment, ten ounces.

Let the Ointment be melted and the Verdigrise added by degrees until it cools.

This will be found a good ointment as an early application. It should be melted over the fire in an iron ladle, and poured into the wound warm; it may likewise be applied on a piece of tow or lint rolled up lightly and dipped into the ointment; the smaller this pledget is in proportion to the wound the better, as more ointment is thereby conveyed with it. As soon as matter of good consistence is produced in wounds of short duration, this dressing should be

discontinued, except in some instances where the healing process does not go on rapidly from the bottom, when a small pledget may be applied between the edges of the wound every third or fourth day. Where wounds are of that nature or extent to require stitching, they should be sewn with ligature thread, which is made for the purpose. Threads of white leather have been recommended, but they are apt to break: waxed silk is the best, and the needle should be the improved one lately brought into use. The stiches should be two or three inches apart. The system of tenting and forcing hurds into the wound with pieces of stick is highly injurious, and is the cause of ruining many horses. By such practice the wound becomes choaked, foul, and ulcerated, in consequence of the matter being unable to escape, and if a cure be effected it is difficult and tedious. Where the surrounding surface of the wound is much swollen and inflamed, and the discharge is of a dark brown colour, it is evident that gangrene has commenced; should the part become black, soft, and insensible to the touch, losing its natural heat previous to suppuration, accompanied by a putrid smell, the mortification is then complete, and the most active and powerful remedies must be immediately resorted to.

The *fermenting* poultice is now to be applied every three or four hours, until the mortified parts separate from the sound, which may be accelerated by making judicious incisions into the former. The constitution of the horse is to be supported by tonics; and sulphuric ether may be occasionally given. Between the applications of the fermenting poultice use the following

Fomentation.

Take Poppy Heads, fifteen in number, let them be well bruised;

Chamomile Flowers, half a pound;

Dregs of Ale or Water, three gallons.

Let them be well boiled, and the part kept fomented with flannels wrung hot out of it.

CONTUSED, PUNCTURED, AND LACERATED
WOUNDS, &c.

As the above named wounds never heal by the first intention, the best universal remedy in the first instance, is the application of warm and emollient poultices. In very bad cases, aperient medicines, to keep the body cool, and copious bleeding immediately after the accident, should be resorted to. The horse should also be fed principally on grass and light bran mashes. If it be difficult to apply poultices to the injured part, the best substitutes are repeated fomentations of warm water, until the inflammation has completely subsided, which is easily discovered by the cessation of pain, the reduction of the swollen part, and the matter discharged by the process of suppuration; when this appears, the poultice may be removed, and the injured part must be washed with warm water and dressed with turpentine and tallow ointment in a melted state, by dipping a small portion of tow into it, and then lodging it thus anointed in the extreme part of the wound. This process being repeated as often as may be necessary, the internal wound will be radically healed in a very short time.

In some instances it may happen, that wounds are attended by injury of a tendon, cartilage, ligament, or bone, whereby the cure is frequently protracted to a considerable length of time. In cases of this kind, the flesh and skin most commonly heal in a short time; but a very small opening exudes in little drops, hardly perceptible at first, a consistence of foul matter, forming a sinus or *pipe*, or narrow channel which runs down from the surface through the wound. This sinus may be frequently caused by the bone having been injured. An incision should be then made from the opening to the extremity of the sinus, if its locality will permit the operation, and the matter discharged. A tent of tow, dipped in tincture of myrrh, or Friar's balsam, should then

be passed to the bottom of the affected part, and repeated until the cure be completed. It occasionally happens that those pipes or sinuses exist even when the inflammation has ceased. When they run in a horizontal or superficial direction, near the surface, an incision to the full extent of the pipe is easily made, and it will heal in a short time. But should those pipes or channels run internally in a direction impossible to cut, the treatment should be to apply tents of tow, dipped in a solution of blue vitriol, and continued until the sides of the pipes or sinuses have been consumed, and that the utmost extremity of the diseased part is perfectly distinguishable to the touch of the probe. In other cases, where two or three of those pipes communicate and run in different directions, tents of blue vitriol should be repeatedly applied, until they are reduced to one distinct sore, the bottom of which, if bone, should be well and thoroughly scraped, and then a dressing of Friar's balsam should be applied to the diseased part. Some veterinary practitioners have successfully treated those pipes by passing into them narrow slips of paper filled with corrosive sublimate, or blue vitriol finely powdered; repeated slips of paper thus loaded have been successfully passed to the extremity of the wound, by the aid of the probe, until at last the pipes were completely filled by this caustic matter. In about a week after this application a large slough has been taken out, and the pipes completely destroyed; but should the first lodgments not be sufficient to eradicate the pipe or pipes, so that the bottom of the wound can be discovered, a second application of similar nature must be resorted to.

Punctured wounds of the sheath of tendons, and the capsular ligament of joints, which frequently occur near the fetlock and hock joint, and in the back sinew, are followed by violent inflammation. Such wounds require very different treatment from those already explained; the use of the probe, or any other

application that may promote irritation must be carefully avoided. Poultices may be in general safely applied, but it too frequently happens that they are not sufficiently efficacious in the reduction of the swelling or inflammation. In wounds of this nature, it would be better in the first instance to touch the wound with lunar caustic, which must be pared down to a point, and passed into the wound about the depth of the sixth part of an inch, it should then be turned round in it and removed. This experiment has proved a successful remedy where poultices and fomentations were altogether ineffectual, and actually increased the swelling and inflammation.

A writer of the old school observes—"In cases of lacerated wounds, where perhaps the skin, flesh, and muscles may be much torn, the muscles should *never* be sewed up; the skin may be stitched together, but it is a task almost useless; it has hardly ever been known such an union has been successfully effected, unless on the forehead of the horse, and then the tear has been longitudinal and fine, unaffected by any bruise whatever. In lacerated wounds, the flap or hanging skin should be cut off at once, as notwithstanding the part be sewed together ever so carefully it will never join, but at the end of a week or so be as open as it was before the sewing. By attending to these directions, the external wound will be hardly perceptible, as after a short lapse of time the skin and hair will grow again over the orifice."

This is the old school; but modern practitioners find it far better to *try*, in every case where the parts injured *can* be retained together, a union without cutting off the flap; for this purpose, sutures or stitches judiciously applied, with proper sticking plaister and bandage pressure, will often succeed; if it do not, the part can be afterwards just as advantageously removed.

In *all* cases of *laceration*, we particularly recommend the use of poultices, or if the locality of the

injury will not admit of their application, the best substitute is constant and repeated fomentations of warm water. When wounds remain open for a long time they assume the character of ulcers, and, of course, must be treated as such, for which due instructions have been given in another part of this work.

GUNSHOT WOUNDS.

Military veterinarians of former times paid no attention to gunshot wounds, but left the animals so wounded to their fate. However, it is now different, and the veterinary officers in charge of regiments have turned their attention much to the treatment of horses wounded in action.

When the leg is so injured as to give no hope of recovery, the animal should be destroyed; or when injured in an equal degree in any other part it will be proper so to do; but in flesh wounds, &c. every attention should be paid. The treatment of gunshot wounds is simple. Let the parts be poulticed constantly until the slough comes away, and then let the ulcer be dressed and managed as directed under the head of *Ulcers*. Let there be no *cutting out of balls*, or enlarging the wounds, except indeed the ball lie close to the surface; simple poultices, with due attention to the rules laid down for the treatment of inflammation, will be all that is necessary.

STAKING IN HUNTING.

In this branch of field sports, serious injuries frequently occur in crossing a close country. If the animal should unfortunately be staked, in such case the wound should be minutely examined, and every portion of the stake be immediately removed from the part injured. He must be copiously bled, to the extent of from seven to eight, or even nine quarts, according to the violence of the wound, and the consti-

tution of the horse. The wounded part should be frequently bathed with luke-warm water, and clysters applied, in order to render his body cool, and thereby retard an inflammatory action. His diet should consist of a small quantity of the best hay each day, and occasional bran-mashes. This regimen will, if not prevent, at least diminish, topical inflammation, as the bowels will be kept open, and the system remain cool and temperate. So long as the wound is painful and inflamed, it should be constantly bathed, as directed, in luke-warm water. As soon as matter is observed to issue from the wound, it should be sponged clean, and then be dressed, with a tent of tow, to the bottom, impregnated with healing ointment, composed of equal proportions of tallow and turpentine, melted together over a slow fire. After a few dressings, if it be merely a flesh wound, the cure will be complete; but if the bone or tendons be affected, the cure will in all probability be protracted considerably. If the horse be wounded by a stump, the part should be minutely examined, and every portion of the stump extracted by a pair of pliers; cooling poultices must be constantly applied, and as soon as all symptoms of inflammation have subsided, remove the poultice, and dress the wound with tow, dipped in tincture of myrrh, or Friar's balsam. If a thorn enters any part of the foot or leg, and remains there any time unnoticed, violent inflammation may be the consequence; in such case, cooling poultices should be applied until all inflammatory symptoms disappear; but if this treatment be not sufficient to reduce the inflammation, the part should then be blistered. If the wound from a thorn be observed on the instant, it is only necessary to extract every part of it, and anoint the wound with tincture of myrrh, or Friar's balsam.

WOUNDS FROM OVER-STEPPING AND OVER-REACHING.

These injuries not unfrequently arise from the extraordinary length of the toe of the hind foot, whereas, it should have been squared off in proper time. An inexperienced horseman, either by checking the animal suddenly, or by starting him off in a false gallop (that is, with the *wrong* foot foremost), may also originate such accidents. In cases, where any portion of the skin hangs from the wounded part, it must be cut off instantly, as any attempt to replace it would, in the first place, be without avail; and, secondly, if an adhesion of the part were effected, it would produce a lump, which must so disfigure the limb, that the lump should be finally reduced or cut off. Various remedies have been tried for the cure of wounds of this nature, but we are, from experience, fully satisfied that the application of a poultice to the injured part is the most safe and speedy mode of cure. As soon as the inflammation is got under, from the allaying action of the poultice, the following healing paste should be applied to the wound; a fresh dressing, every second day for a week, will leave the part perfectly healed. When each dressing is removed, the wound should be bathed in warm water, until the paste of the first dressing is washed off; then repeat a fresh paste dressing.

Healing Paste.

Alum, well pulverized, two ounces;
Pipe-clay, of the finest quality, two ounces.

Mix, with a small proportion of water, sufficient to reduce it to a thin paste. As soon as the part is quite healed, rub it over occasionally with a little Florence or sweet oil, which will mollify the external part of the wound, and cause it to be less observable,

WOUNDED OR BROKEN KNEES.

Wounds in those parts are of a serious nature; as,

if they be severe, the animal may, from the accident, be reduced in value to, perhaps, a tithe part of his original price. If, in such cases, any portion of the skin hang from the wound, it must instantly be cut off, and a poultice should be applied for about a week, until all appearance of inflammation ceases; then the healing paste should be applied in a similar manner, as already directed, in wounds from over-reaching. A small proportion of the tar ointment, mixed with a little sweet oil, should afterwards be laid on the part as soon as the new skin has completely covered it, as this is the best means for producing a re-growth of hair upon the bare part. If the front of the fetlock joint be bruised in breaking down, similar treatment, as above, should be adopted. When the upper part of the eye is fractured, or otherwise injured by a fall, it should, in the first place, be poulticed, and, on the subsiding of the inflammation, an ointment, composed of an equal quantity of turpentine and tallow, should be applied. In some cases, where, notwithstanding those applications, the wound does not heal, it should be well probed, and if a decay or bareness of the bone be discovered, it must be well scraped with a drawing knife, and afterwards dressings of Friar's balsam, repeated three or four times, to the wound, will cause, in a short time, a perfect recovery of the part so affected.

PASTE FOR BROKEN KNEES.

Take of Pipe-clay and Alum equal parts, powder them finely, and mix with water into a thin paste of the consistence of cream. As the paste soon gets dry, water should be added to it each time it is applied.

A stronger application is sometimes necessary, such as red precipitate and burnt alum. When the wound is healed, apply tar ointment, coloured with bole or lamp black.

BAD WOUNDS FROM PHLEBOTOMY.

The wound from the fleam will often become troublesome when the operation is done clumsily; the vein will swell and suppurate; in this case poultices with fomentations, quiet and febrile medicines, are the means of cure. The inflammation has sometimes proved fatal. When a tumour containing matter forms near the wound, it should be punctured at the lower part, and the contents discharged.

WOUNDS OF JOINTS, JOINT OIL, OR SYNOVIA.

Wounds often occur in the joints, producing a discharge of that fluid which is contained within the capsular ligament or great band which envelopes the joint, and is termed synovia. These wounds require great attention, and are not sufficiently understood by the generality of writers. It is evident in wounds of this kind, that the capsular ligament must be divided, and the synovia escapes through the external aperture. It is necessary in these cases to close the wound immediately, which may be done by the actual cautery in slight wounds made by any pointed instrument. Applying afterwards the oil for wounds (page 100) on a pledget of lint, fastening it with a roller. Where the cautery is used, it should be done with a smooth pointed iron, taking great care to sear only the external surface of the wound.

In those wounds which are made with a sharp-edged instrument, a stitch or more, according to its extent, should be inserted, and where they are of long duration, and the lips separated, one of the following applications should be used.

Tincture for Wounds in the Joints.

Take Egyptiacum,
Compound Tincture of Myrrh, of each, four ounces;
Put into a bottle and mix.

Or the following

Take Sugar of Lead,
 Blue Vitriol powdered, of each one drachm and a
 half;
 Corrosive Sublimate, two scruples;
 Spirit of Salt, two drachms;
 Tincture of Myrrh, three ounces.
 Put them in a phial and mix.

The discharge of synovia will be stopped by an application of either of these tinctures: the first is the mildest, and will generally be found to possess sufficient efficacy; but where the discharge is considerable, and the wound of long standing, with carious bone, the latter will be found to possess more power in cleansing the ulcer. These applications should not be used after the ulcer is perfectly cleansed, when the following styptic will be sufficient.

Styptic Tincture.

Take Spirit of Turpentine,
 Egyptiacum, of each four ounces; put them into a
 pot that will hold three or four pounds, then add
 by degrees
 Nitrous Acid, one ounce;
 Oil of Vitriol, half an ounce; after which
 Spirit of Wine, eight ounces;
 Tincture of myrrh, three ounces.
 Mix the whole well together and put into a bottle for use.

This tincture is to be used in the following manner. Pour a small quantity into a tea-cup or gally-pot, and syringe the wound with it twice a day for two or three days, applying afterwards a pledget of lint dipped in the tincture over the surface of the wound, so that it shall retain the dressing; a compress should then be placed on it, and the whole secured by a bandage; the tincture should after this be continued only once a day, and applied on a camel's hair pencil or feather, and secured by the compress and bandage.

The knees being more subjected to bruises than

any other part of the limb, from the manner in which they are exposed, wounds on them are consequently those difficult to heal. If there be no injury of the cartilage or bone, which the introduction of a probe will ascertain, the tincture above named will generally be found sufficient to effect a cure. As, however, on the first receipt of the injury the parts are generally much swollen and inflamed, let the following fomentation be frequently applied.

Fomentation.

Take Saltpetre,
Muriate of Ammonia, of each one ounce. Dissolve in a quart of hot water, and add two quarts of vinegar, and it will be fit for use.

Continue this for about three-quarters of an hour, and in three hours afterwards the following lotion:—

Take of Goulard Water, a pint;
Nitre,
Sal Ammoniac, of each six drachms;
Strong Vinegar, ten ounces;
Spirit of Camphor, two ounces and a half.
Let them be mixed and put into a bottle.

A cure will, however, speedily be effected if this lotion be often applied, and one of the preceding tinctures used with care and perseverance, securing the dressing with a bandage. Where ulcer of any description exists, the state of the constitution should be accurately observed; and if the secretions be at all impaired, and the inflammation round the injured part considerable, bleeding and purging should be resorted to. In the first place take away that quantity of blood which appearance may require, and in the course of the day give two mashes of scalded bran and some warm water; the following morning administer a purging ball, repeating the mash. Should it be necessary, continue the physic alternate mornings once or twice. As stiffness is often the result of wounds on the joints, the following blistering oint-

ment should be rubbed in as the lotion above described, after the wound is quite healed :—

Take Mild Blistering Ointment, †
 Spanish Flies finely powdered, one ounce ;
 Yellow Basilicon, four ounces ;
 Copperas powdered, two drachms ;
 Euphorbium in powder, half an ounce ;
 Strong Mercurial Ointment, one ounce.
 Melt the Ointments, then mix the Powders with them,
 and keep stirring until cold.

STOPPING HEMORRHAGE.

Hemorrhage is a consequence of wounds, and sometimes of the most serious nature ; this is when the bleeding is from considerable sized arteries. In moderate bleedings from wounds, styptics, such as blue vitriol, alum, and agaric will be sufficient, and in general mere *pressure* will be all that becomes necessary in wounds of the horse ; but sometimes a large artery is opened and resists every application, except tying the mouth of the vessel with a ligature. This operation is simple—it is nothing more than applying the ligature with sufficient tightness to compress closely the sides of the artery in such a way that it will cut through it in a few days. If the artery cannot be got at without a tenaculum, that instrument is to be stuck into the mouth of the artery, and cautiously drawn out to a convenient position for the application of the ligature. The ends of the ligature are to be left hanging out of the wound, and removed in a few days, when they separate from their hold. In wounds of the veins, compress will generally be sufficient ; but if not, the same mode is to be adopted as with the arteries. Sometimes the vessel cannot be come at by the tenaculum ; in this case a curved needle, armed with a ligature, should be dipped deeply under the bleeding portion, and the whole of that portion be included in the knot.

General Rules to be observed in the Treatment of Wounds.

1st. Clean well every wound without injuring or irritating the parts; if possible *without washing*.

2nd. Stop the bleeding either by styptics or tying the wounded vessels, or by compression.

3rd. Restore the injured parts to their original situations as near as possible.

4th. Endeavour to promote the cure without *suppuration*, which is to be attempted by keeping the parts untouched after the dressing.

5th. Subdue the inflammation if possible by bleeding, purging, low diet, and topical applications.

CHAPTER XIX.

BRUISES.

HORSES are at all times subject to accidents of this kind. When the bruise is of trifling importance, there is nothing wanted but an occasional application of one of the following astringents. When, however, the injury is considerable, attended with rupture of the smaller blood-vessels, a different plan of treatment is required.

Take Verjuice, four ounces ;
Spirits of Turpentine, one ounce ;
Tincture of Myrrh, one ounce ;
Goulard's Extract, one ounce and a half ;
Oil of Origanum, half an ounce.
Mix in a bottle for use.

Apply this oil on the bruise twice a day for several days. When the inflammation is subsiding, once a day will suffice, or the following repelling application :—

Take Compound Soap Ointment, four ounces ;
 Hartshorn, one ounce ;
 Turpentine, one ounce ;
 Laudanum, one ounce.
 Mix them in a bottle.

or this—

Take Camphor Spirits, six ounces ;
 Laudanum, two ounces ;
 Goulard Water, two ounces.
 Mix.

These are excellent in saddle bruises ; and every gentleman who keeps a stud of horses for the turf, hunt, or road, should be provided and prepared with these medicines. When a horse has been severely bruised, take from him two or three quarts of blood. Great care must be taken to avoid the consequences of inflammation. After bleeding, keep the part wet with cold Goulard water, alternate with sal ammoniac and vinegar ; purge, and observe strict rest. When the inflammation subsides, use the following :—

Take Linseed Oil, Turpentine, Hartshorn, and Olive Oil—of each an equal part.

Mix and rub the part well twice a day : and give the horse the following drink, if he should appear dull or stiff, and his appetite fail. Also give a purge—

Tonic Drink.

Take Peruvian Bark, one ounce ;
 Nitre, one ounce ;
 Powdered Gentian, half an ounce ;
 Mithridate, half an ounce.

This is to be given in a pint of warm ale. Let the horse take it every, or every other morning, until the appetite returns, and the other symptoms removed. Give warm mashes twice a day.

WARBLES, NAVEL, HARNESS AND SADDLE GALLS.

The above injuries come within the general denomination of bruises. Emollient poultices should in

all such cases be applied to reduce the swelling and inflammatory action until suppuration ensues. An orifice, if necessary, should be then made for the free discharge of the foul matter, and if a pipe or channel appears to exist in the wound, an incision should be made as directed in similar cases in another part of this work. A dressing of turpentine and tallow ointment should then be made, and as soon as its operation has been effectual, the sore should be dressed with the HEALING PASTE, (*see page 107*) and it will be well in a short time.

CHAPTER XX.

STRAINS, OR EXCESSIVE EXTENSIONS.

WHEN any particular part has undergone excessive extension it is denominated a strain, and those parts which are liable to such accidents are the muscles, ligaments, and tendons, with their appendages. Strains are, however, generally of a more serious nature than those injuries arising merely from excessive extension, and depend on a rupture of some of those parts. To dwell long on this subject is unnecessary, and in speaking of the cure generally but few words are requisite. Bleeding, though not the most essential, is the first remedy that must be resorted to, and from six to eight quarts should be drawn; but without rest, until the inflammation has subsided, no good can be done. This copious bleeding is not only applicable to severe strains, or strains of important parts, but is a practice to be pursued in all strains in whatever degree, or in whatever part they may occur. Though bleeding and rest are essential remedies in all strains, yet those of particular parts vary according to situation in the use of

local or inferior remedies, and as a description of each may be necessary, each shall be separately considered.

STRAIN OF THE LOINS.

When horses are injured in those parts, unless proper remedies be timely applied, they in very few instances completely recover. Waggon and cart horses are more exposed to such injuries than any others. Wheel horses, when oppressed by a load beyond their physical strength, either in dragging up hill or descending a declivity, are, from the extraordinary exertion, frequently, and sometimes dangerously affected by strain of the loins; and, as is too often to be observed in London, the poor animals in this endeavour sink beneath their load, whereby the pelvis may be dislocated, and the spine seriously injured. The symptoms of such strains are, either a partial stiffness of the back, and an involuntary yielding of the horse to any weight placed upon him, or in very bad cases, general lameness ensues. The animal should, as soon as possible after the accident, be freely bled, which, together with rest, may be sufficient in slight injuries; but if otherwise, in addition to bleeding, even to faintness, the following embrocation should be applied to the loins: viz.—

Embrocation.

Liquor of Ammonia, two ounces;
Oil of Turpentine, one ounce;
Olive Oil, three ounces.

A fresh sheep skin, with the *fleshy side in*, should be laid across the strained parts. As soon as by this treatment the animal's strength is gradually restored, he should be sent to grass until completely recovered. It will be necessary on his removal to grass, to cover the back and loins with a light horse cloth, in order

to prevent the sudden action of cold upon the parts affected.

STRAIN OF THE HIP JOINT, FEMUR, HURDLE BONE,
WHIRL BONE, OR ROUND BONE.

Injuries of this kind are frequently brought on by negligence in riding or driving, and sometimes from a sudden slip of the animal's hind feet on a bad road or pavement, whereby he is thrown upon his side; in some cases, the head of the bone, or cup of the joint may be affected; in other cases, the thigh and hip joint are so severely injured, that violent inflammation and lameness of the parts ensue. When the strain has been of a slight nature, it may not be perceptible at first, further than a tenderness in leaning on the limb affected when in exercise; however, when he is left to stand for a short time in the stable, on his being taken out the lameness will be obvious. In this case, the horse must be kept quiet in stable for sometime afterwards, until by repose he gradually recovers his strength. In severe strains a strong blister should be applied to the part, and if necessary it would be proper also to fire the limb injured, and of course bleed and purge.

STRAIN OF THE SHOULDER.

Horses are very often exposed to those injuries when crossing a heavy country in hunting or coursing. Race horses, when in training exercise, are also exposed to similar accidents. Strains of the shoulder appear trifling in some cases at first, and lameness is not observable until the horse cools; in strains of a severe or desperate nature, the animal can hardly lay his foot to the ground, and stands upon three legs. In all slight cases copious bleeding, and confinement to the stable, in a spacious stall, so that he can move about, will be sufficient; but in severe strains it will be necessary, besides bleeding, to in-

roduce a rowel to the chest, and if that be not effectual in removing the strain, the shouder must be blistered, or the same embrocation as prescribed for strain of the loins should be well rubbed into the chest and shouder. Send him out to graze in a well enclosed field, and he will gradually recover. Swimming a horse in a pond or river has been recommended, which may be beneficial in suppling the shouder without any pressure of the injured parts.

STRAIN OR INJURY OF THE STIFLE.

The stifle joint is subject to a peculiar affection, which is often mistaken for a strain, and has not yet been satisfactorily accounted for or sufficiently explained. As far as we can decide on the cause, it appears to depend on the horse endeavouring to avoid cutting, in doing which he attempts to go wide behind, and in order to avoid that which receives the injury, throws out the striking leg. Those muscles named abductors are thereby thrown into greater action than is their proper portion in travelling; from this cause, when he is suddenly moved in the stall, there is a want of regularity in the action of the muscles, and the consequence is a partial dislocation of the patella. This causes considerable pain, and the horse keeps his hind leg for a short time extended. The tone of the muscles will, however, soon be brought to an equality, and the patella will fall into its place with a noise. This description explains the remedy. When the cause is removed, the disease being only of a temporary nature, goes off. There is no necessity for any application. The other injuries to which the stifle joint is liable are of so serious a nature, as seldom to admit of recovery. Rupture of one of the ligaments of the patella, with dislocation of that bone, often occurs, and is an incurable accident; the horse, however, should be turned to grass, and allowed to take his chance. Extension of the capsular ligament,

from excessive and long continued exertion, will produce another disease of this joint. The secretion of what is termed joint oil, is in this case increased. Long rest is the only thing that can do good when this occurs, and the horse may eventually be able to do moderate work. I am inclined to think there is seldom any good derived from the application of blisters, which are so commonly used. There is sometimes fracture of the patella, as well as the tibial ligament; but such cases are extremely rare, and when they do occur, must defy all the assistance of art.

STRAIN IN THE COFFIN JOINT.

Those accidents are more difficult to ascertain at first, than strains in any other part of the horse, as the lameness is hardly perceptible for some time after the injury has been received. In gentle exercise, the coffin joint is excited to little or no action; but in a quick pace, a tenderness and slight lameness will be observable. Unless remedies be applied in proper time, strains in the coffin joint are the most difficult to cure. The animal should be bled freely, his bowels kept cool by moderate purgatives, and the foot, from the fetlock joint down, should be well poulticed every morning and night with Goulard water and linseed meal. He should be kept quiet, and the poultice continued for a week or ten days, and longer, if the case require it. After this, he may be turned out to grass, until the joint is restored to its original strength and flexibility.

STRAIN OF THE HOCK OR CURB.

This was formerly spoken of as exostosis, but now it is admitted under the more proper head of strains. The back part of the hind leg is that which is affected by this disease, arising from the articulation

of the same bones affected in spavin, and is succeeded by the formation of a considerable tumour a little below the hock. It is generally the consequence of a strain, accompanied with inflammation, the coagulable lymph which is thrown out is often left, and causes a hardness to remain. If the affection be observed in its early stage, those applications which are used in strains of the back sinews will generally effect a cure. Should the pain and substance however continue ten or twelve days after having had recourse to this treatment, a more powerful plan must be pursued.

When this is the case, cut the hair close, and use the following blistering spirit :

Blistering Spirit.

Take Euphorbium,
 Spanish Flies powdered, of each two drachms;
 Oil of Thyme,
 Spirit of Turpentine,
 Pure Ammonia Water, of each one ounce;
 Vinegar,
 Egyptiacum, of each two ounces.

Let them be put into a bottle, and well shaken before they are used.

Let the part affected be well rubbed with the hand for six or seven mornings following. After which turn the animal out to grass for five or six weeks; if at this period the curb should not be entirely removed, the blistering spirit should be again resorted to.

This application will be found a very powerful one in these affections, and where it is necessary to have recourse to it a second time, the horse should be turned to grass for two or three months. In curbs of long duration, where the enlargement is hard and callous, firing is generally resorted to; but it is a practice I am averse to, and one which, I think, is seldom attended with any beneficial result; if, however, it should be tried, let it be done with a light hand, taking care that the irons be thin and smooth on the

edge, and not applied too hot; the iron should be passed in a circle round the curb; three strokes should then be passed downward, one along the course of the main tendon, and one on each side, then across in the usual manner. A blister should then be applied two or three mornings following, spread on the part with a spatula; rest is absolutely necessary after such treatment, and the horse must be turned to grass.

STRAIN OF THE KNEE JOINT.

There is a correspondence between the knee joint of the horse and the human wrist, and the stifle joint with the human knee. When the knee joint is strained it is mostly accompanied by that common accident called broken knees, and is in consequence distinguished with difficulty. Bleeding and rest must, however, be employed here, as should the case turn out to be simply a broken knee, bleeding will be found extremely serviceable. Whether the injuries of the knees be complicated with a strain or not, an emollient poultice is the best remedy, applied in the leg of a worsted stocking, and confined by listing or a flannel bandage. A cord should not be used, particularly below the knee, and the ligature should not be tighter than is absolutely necessary; above the knee it is unnecessary, as the stocking is easily kept in its situation by bringing a listing or tape over the shoulder. After the inflammation has yielded to this mode of treatment, which may be in a few days or a week, depending on the extent of injury, the poultice should be laid aside, and the knee wet once or twice a day with vinegar.

STRAIN OF THE FETLOCK.

The symptoms of this injury are similar to those of strain in the back sinews; the fetlock joint appears

swollen and inflamed, attended by lameness. The horse must be copiously bled, and kept tranquil in a roomy stall; in slight cases this will be sufficient. A few emollient poultices, in bad cases, will be necessary, and the body should be kept cool by moderate aperients. Firing the limb is frequently practised by veterinarians as a sure preventive against the recurrence of the injury; this operation also tends to strengthen the joint. After a rest of about a fortnight in the stable, he may be turned out to grass in an inclosed field, when he will gradually recover.

CLAP OR STRAIN IN THE BACK SINEWS.

This accident may happen in either fore or hind legs, and may be either a simple extension of the tendons, or accompanied with some degree of laceration of the cellular substance or ligaments. It occurs generally from down-leaps, false-steps, or sudden attempts at recovering the feet from a slip. There are frequently hard lumps remaining after the inflammation abates and the strain is recovered, which arise from the coagulable lymph being thrown out in the accident and ultimately becoming callous. These lumps are early felt, they are not of very great consequence, but in general a slight lameness accompanies them, which goes off when the animal trots a little and becomes warm; but if the horse be much worked, the lameness returns, from the constant action upon the parts.

The treatment will be in the first instance nearly the same as in other strains; next bleeding, purging, and cold applications to the injured limb, with a moist diet. Warm fomentations in the first stage I do not approve of, so much as cold, from practical observation upon this point; and instead of *rubbing* the part injured, it must be merely kept covered with clothes wet in goulard water, or sal ammoniac and vinegar.

Cold poultices should be applied every morn-

ing and night, which should enwrap the limb from above the knee joint downwards. The best poultice is—

Linseed Cake, six ounces;
 Bran (sufficiently wetted), three pints.
 Mix.

It will be more beneficial to look to the horse's constitution; and lessen the action of the blood vessels according to the strength and irritability of the animal, than to depend on local remedies.

When the inflammatory stage has gone by, it will be then right to use rubbing with linaments and oils, such as camphorated linament, soap and spirits, &c. and to bandage the limb. If this plan do not quite remove the swelling in a fortnight, a blister must be applied; and when healed, the horse turned out to grass. It may be a long time before a perfect cure can be established, and the only hope is in repeated blisters at the interval of a month between each. When, however, full trial be given to this, firing may be resorted to.

**BREAKING DOWN, OR RUPTURE OF THE SURPINEARY
 LIGAMENT AND BACK SINEW, OR FLEXOR TENDON.**

The rupture of the flexor tendons of the foot is not at all so common an accident as that of the ligament, although often mistaken for the latter; nothing but the most powerful force could accomplish a rupture of these tendons. Both accidents are termed *breaking down*, in the common phrase. The great symptom marking the difference between the two accidents is, that when the ligaments only are ruptured, the horse can bend the foot, but he cannot do so if there be a rupture of the tendons. The greatest degree of lameness immediately follows the accident, the horse can scarcely touch the foot to the ground, and it is a most difficult thing to remove the effects, and restore perfect soundness. Every measure to

subdue inflammation is to be actively pursued, and the limb is to be kept bent at the joint, which will be found a difficult business, unless the horse be placed in slings, and even then not very easy. Bleeding in the first instance, and repeating it according to the violence of the inflammation, together with ample purging, will be highly necessary in this accident, and cold saturnine applications, with constant rest, will here be particularly requisite.

General Rules to be observed in all cases of Strains.

1st. Bleed.

2nd. Administer a purging ball.

3rd. Give mashes.

4th. Avoid *particularly* that *rubbing* of the part affected, so common with farriers, for there will be *injury enough* by the accident without adding to it by *friction*; merely let the remedies be applied, without rubbing. But when the inflammatory stage is gone by, then rubbing will be of great advantage.

5th. Observe entire rest of the part, for while it is allowed to move, the cure cannot well take place.

CHAPTER XXI.

ULCERS IN GENERAL.

CONFIRMED AND FOUL ULCERS.

WHEN a part is bruised or otherwise injured, there is an increased local action in the circulation; and from this, as well as other causes, the softer parts are taken up by the absorbent vessels, the increased action of which on the part produces a hole or sore, termed an ulcer, and matter, serum, or some vitiated discharge, is thrown out from the termination of the secreting vessels: the bones are liable to this ulcera-

tion, which is termed *caries*; the texture and colour of the bone becomes changed under a state of disease, and is generally accompanied by an offensive ichorous discharge. When wounds or ulcers are thus situated, the treatment is troublesome and the event precarious. The first step necessary to be pursued is to attempt a removal of the caries, by cutting it out with a strong knife, a little curved at the end, and the point rounded. Should this not fully succeed, it must be destroyed with caustic. Should much bleeding follow the use of the knife, it will be stopped by covering the part with equal portions of wheaten flour and blue vitriol, powdered and well mixed together; secure it on the wound with a pledget of tow, and bandage it tolerably firm with a roller. This dressing should not be removed for three days; after which, clean the wound and dress it with the simple digestive ointment, on which a little of the escharotic powder above-mentioned should be sprinkled. Where it is requisite to apply caustic in cases of caries, the lunar caustic or sublimate should be used, and the mode of application will depend on the part of the body affected, and is explained in the treatment of fistulas, poll evil, &c.

Those ulcers which are situated on parts that will admit the application of a bandage, are more readily cured than those which are so situate as not to allow a support to the dressing.

Where the joints or tendinous parts are affected by foul ulcers, the following mixture will be found efficacious in cleansing and healing them:—

Cleansing Mixture.

Take Corrosive Sublimate, in powder, two scruples;
Spirits of Salts two drachms and a half;
Tincture of Euphorbium, half an ounce;
Tincture of Benzoin, one ounce and a half;
Mix well together, and put into a bottle.

If the opening be small, this should be thrown into it by means of a syringe; where it is of sufficient size

it may be introduced on a pledget of lint soaked in it; cover the whole with a plaster made of digestive ointment, spread on a piece of tow, and properly secured by a bandage. It will be necessary in ulcers of long duration to administer one or two purging balls, and the following alterative ball every second day, as long as may be judged necessary.

Alterative Balls.

Take Saltpetre in powder,
 Castile Soap sliced,
 Finely Variegated Crocus of Antimony, of each two ounces;
 Flour of Sulphur, five ounces;
 Powdered Soccotrine Aloes, two ounces;
 Emetic Tartar, three drachms;
 Beat them into a mass with treacle or honey. The weight of each ball should be an ounce and a half.

These observations on ulcers, if properly attended to, will be found sufficient under most circumstances.

POLL EVIL.

This abscess is so called from its being situated between the poll-bone and first vertebre of the neck. It arises from separate causes, such as bruises arising from external violence, or inflammation transmitted to the part from fever. This last requires the greatest attention, the other will be easily cured by rubbing the astringent embrocation for tumours (page 133) gently upon the part daily. He should be bled and a mild dose of physic given, which it may be necessary to repeat twice or thrice. When he has been properly purged and bled, and the embrocation often applied, it may be expected in most cases of short duration to yield to this treatment.

In the event of the swelling or tumour suffering no abatement after this line of practice has been pursued for sixteen or eighteen days, the hair should be cut off, and a blistering spirit well rubbed in for

nearly a quarter of an hour three or four mornings running. This will either cause absorption to take place, or bring it to suppuration. If the latter occur it will be easily ascertained by pressure of the finger, under which there will be evident fluctuation: an incision should then be made along the course of the tumour with a sharp knife made in the shape of a lancet, curved slightly at the point. Care should be taken to carry the point of the knife close under the skin, so as to avoid the possibility of dividing the ligament which supports the head. If the horse's nose be twitched and held up, the ligament will be slackened. The operator should in the first instance examine the wound attentively, and when he finds himself able to introduce the fore-finger of his left hand under the ligament, he must introduce a sharp knife, held in the right hand, into the wound, close to the finger which supports the ligament, and cut up to the poll-bone, taking a course along the side of the mane as far as it appears ulcerated or hollow. This may be ascertained before the tumour is opened, for the ulceration will always be found to extend under the ligament to the extremity of the swelling. The knife should be used cautiously, making but a short incision at a time, so as to prevent its coming in contact with the ligament, the situation of which must always be ascertained by the finger.

The only danger which is to be apprehended in performing this operation, is the division of the ligament, which occurrence would render the horse useless; but if care is taken in following the rules laid down, there is no reason for apprehension. Should both sides be affected, the same treatment must be pursued in each. When this is done, pass the finger under along the course of the ligament, for the purpose of ascertaining whether there is any roughness or decayed bones remaining; if so, the drawing-knife must be used to remove them. After which, the wound is to be dressed with the following styptic:—

Styptic.

Take Sublimate, in powder, two drachms ;

Spirit of Salts, half an ounce ;

Oil of Vitriol, six drachms.

Let them be mixed and put into a bottle.

After the wound is cleansed, introduce this styptic on a thin piece of wood, barely an inch in width, which if turned on one side will allow a little of the styptic to be passed under the ligament. When this is done, the following mixture should be used :—

Acid Mixture.

Take Egyptiacum,

Tincture of Myrrh, of each three ounces and a half ;

Corrosive Sublimate, four drachms ;

Oil of Vitriol, two ounces and a half ;

Add the Vitriol by degrees in a large pot, and then bottle.

When the wound has been again cleansed with a sponge, introduce the wooden spatula as before, then let a little of this mixture be poured into the wound so as to reach its termination ; repeat this three or four times every third day, after which once a week will be sufficient to effect a cure. After applying this highly beneficial remedy for two or three weeks without effect, the scalding ointment may be used.

Scalding Ointment.

Take Bee's Wax, two ounces ;

Tar,

Mutton Suett,

Resin, of each four ounces ;

Melt them together, and add Spirit of Turpentine, four ounces, Distilled Verdigrise, in powder, one ounce and a half : let them be well mixed, and kept stirring till nearly cold.

The sponge and warm water must be used for the purpose of cleansing the wound previous to the application of this ointment. When the wound is cleansed, the styptic should be used on the spatula as before ; after which, let some of the ointment be

heated over the fire in an iron ladle, then take a broad wooden spatula and introduce into the wound, then turn it so as to make a sufficient opening to admit the ointment, which should be poured in scalding hot. After you have done this, let a small roll of tow be placed along the whole course of the surface of the wound, then insert three or four stitches, and bring the edges in contact. Let this dressing remain undisturbed twelve or fourteen days, then remove it, cleanse the wound as before, and repeat the dressing in the same manner; in sixteen or eighteen days it must be similarly renewed. Every care should be taken to keep the neck clean, but on no account should the wound be touched during the interval of dressing. The discharge from the wound will generally continue three weeks or a month after the last application. This treatment has succeeded in very serious cases, and where these directions are carefully and implicitly followed, success will generally attend the efforts of the practitioner. When fungus makes its appearance in the interval of dressing, it should be touched with lunar caustic. It will be advisable after the third dressing to take away some blood, and administer a dose or two of physic; after which, a few of the following balls will be found serviceable:—

Alterative Ball.

Take Gentian Root,

Soccorine Aloes, in powder, of each one ounce;

Precipitated Sulphur of Antimony, six drachms;

Nitre, two ounces;

Spanish Flies, in powder, one drachm and a half;

Calomel, two drachms.

Mix and make into balls, with a sufficiency of treacle or honey. The weight of each ball must be an ounce and a half.

Horses diseased by mange are frequently exposed to the above complaint; as from the uneasy itching of the disorder, the animal will rub its head against

the manger, and by sudden involuntary motions when in the stall, strike that part so severely as to produce at last violent inflammation of the spinal joints of the neck, &c. It is a trial of great difficulty to effect an opening for the discharge of the suppurated matter, as the main arteries of the neck lie so contiguous to the inflamed part, that it requires a very skilful operation to make an incision with safety. The use of caustics is on the whole preferable, and by care and perseverance are generally successful. The probe should also be used occasionally, in order to discover whether the bone be bare, when it must be thoroughly scraped, and if any fragments or splinters of bone are felt by the probe, they should be removed. In some cases setons have been successfully inserted on the discovery of the direction of the pipes, when a passage has been obtained by laying the parts open. Arsenic mixed with lard, although a very desperate and dangerous remedy, has in a few cases effected a perfect cure of this disease.

WINDING ULCER, OR FISTULA OF THE WITHERS.

The above-named injury, although it derives its origin from the severe pressure of the fore part of the saddle, and, if taken in time, would be easily cured, is, from neglect and repeated bruises, extended to a dangerous inflammation of the spinous parts of the joints of the back bone. The result is, that an internal abscess is formed, and searches in various directions inwards, until at last it appears on the surface, in form of a violent inflamed ulcer. In this advanced stage of the disease, a moderate incision must be made to allow the suppurated matter to pass off. If, upon examination, the seat of the disease cannot be discovered, tents of tow, steeped in solution of blue vitriol, must be forced into the wound as far as possible, and, in about a week, when the coat or

core of the pipes or channels has been removed, the probe must be used, in order to determine the winding direction of those pipes, and the extremity of the diseased part. When it is found that the pipes are not destroyed, and the seat of the wound is ascertained, if it appears from the feel of the probe that the bare bone is sensible to its touch; in such case, the bone should be well scraped, and, afterwards, a few dressings of Friar's balsam, or tincture of myrrh, will effect a speedy and perfect cure. In some cases, where the caustic application has, in the first instance, destroyed those pipes, any further operation of scraping the bone will be unnecessary, and the wound may be perfectly healed by dressings of Friar's balsam, or tincture of myrrh, and sprinkling a little of the following powder on the part before dressing it, every second day.

Take White Vitriol, and
 Burnt Alum, of each three drachms;
 White Lead,
 Yellow Resin,
 Bole Armoniac, of each one ounce and half.
 Mix well together.

CHAPTER XXII.

TUMOURS IN GENERAL.

SPECIFIC ABSCESS.

SWELLINGS or tumours are often the effects of fevers and other internal causes; in such cases it is wrong to promote absorption, unless they fall on the lower part of the limb, such as the coffin joint and pastern, whereby the horse would be in danger of foundering. When this occurs it will be necessary to foment the part with the fomentation used in joint oil (page 111)

twice a day, for two or three days, after which let camphorated oil be gently and frequently rubbed in, and a flannel bandage applied to the part; by pursuing this line of treatment, and giving the horse two or three mild purging balls alternate mornings, the joint will be kept in a continued state of insensible perspiration. Those swellings which appear in the groin, behind the ears, on the poll, under the jaws, and withers, should be rubbed with the softening ointment, made of spirit of turpentine and hog's lard, called black ointment, used in wounds; a poultice of rye flour and milk, boiled together and made of a proper consistence, adding to it a little elder ointment, should be applied night and morning, fomenting the part each time with a fomentation of poppy heads and chamomile flowers, after which, use the softening ointment before mentioned. When suppuration has taken place, and the tumour begins to fluctuate under the finger, it should be opened with a lancet, and dressed with the emollient oil.

SIMPLE ABSCESS.

This tumour is a simple collection of matter, the effect of inflammation. Before it is perfectly full and pointed, warm poultices will be the best applications to bring it forward. If it do not break of itself very soon, it should be opened in the most pendulous part, and the contents discharged, when a poultice may be again applied. It is then to be treated in every respect like an ulcer. In every case where the abscess can be opened by a lancet or bistoury it should be done. [§]I do not approve of opening abscesses with either caustic or seton.

VARIX, OR BLOOD-SPAVIN,

Is a disease of the veins. The only species the horse is liable to, is called "blood spavin," and this results

from the "bog spavin." Pressure is the only remedy known for it, and a bandage must be made to enclose the hock generally, but to press especially on the diseased vein, with even force. Apply also some astringent application—for instance,

Take Soap Lineament, eight ounces;
 Spirit of Hartshorn, two ounces;
 Spirits of Camphor, two ounces.
 Mix in a bottle for use.

or take—

Soft Soap, two ounces;
 Spirits of Hartshorn, four ounces.
 Stir them well in a marble mortar, and add—
 Spirits of Turpentine, two ounces;
 Strong Camphor Spirit, four ounces.
 Mix them well, and keep them in a vial for use.

WINDGALLS.

The term windgall is given popularly to swellings situated on the joints, and which are enlargements of the *bursæ mucosæ* or mucous bags, with which every joint is furnished, to contain a lubricating oil. These enlargements are termed, according to their situation, *bog spavin*, *thorough pin*, *capped hock* or *capulet*, *windgalls of the knee joint* and of the *elbow*.

The diseased enlargement of the *bursæ mucosæ* arises from hard work, and, if we attempt a cure, this must be discontinued. Horses once affected in this way are always liable to a return if worked hard again.

Let it be *particularly* remembered that this tumour is *never to be opened*: the worst of consequences would follow such a step. Pressure, by flannel bandages and pads, placed between the folds, upon the tumour, and continued a considerable time, with strict rest, will often cure, and should be first tried in all cases. Then, if not successful, blister the part; or perhaps firing it will be better, as the marks of the iron leave a contraction in the skin, which acts

as a bandage perpetually. In using pressure by bandage and pads, a solution of sal ammoniac and vinegar should be poured upon it occasionally, so as to wet the bandage through. Goulard water may be used in the same manner.

BOG SPAVIN.

This is a bruised swelling on the *inner* part of the hock, and often occasions *blood spavin* or a varicose enlargement of the veins of that part. In bandaging this swelling, let the *point* of the hock be *free of the bandage*; apply it so as to let the joint move without stretching the bandage; otherwise the pressure will be lost.

CAPPED HOCK OR CAPULET.

This swelling is situated on the outside and upper part of the hock, near the point; it is of no great consequence when small; but when large it is very unsightly, yet does not produce lameness. Some have punctured it, but I would never recommended such an operation. Its treatment is the same as other bruised swellings.

THOROUGH PIN.

This is only a bursal swelling, passing under the tendons of the great flexor of the foot, and of the gemini; it is discernible, therefore, at both sides; whence it derives its name.

BURSAL SWELLINGS OF THE ELBOWS AND KNEES.

The elbows frequently are affected by such swellings, often occasioned by the shoes in lying down when the horse sleeps with his fore legs doubled under him. Sometimes there is a *hard* tumour

formed by the same cause; in this case the tumour might be dissected out safely.

The swellings on the knee occur seldom, and are of no consequence.

LAMPAS.

This is a warty excrescence, which makes its appearance in the roof of the horse's mouth, commonly on the first bar. It is generally removed with a hot iron, but it is a cruel operation, and requires care and judgment in its performance. Those who perform it are too much in the habit of taking out more than is requisite; in using the iron, care should be taken not to go too deep, or beyond the first bar. The part should be afterwards washed with a strong solution of common salt. I, however, prefer using the following application, twice a day, instead of the iron.

Take Burnt Alum,

Bole Armoniac powdered, of each one ounce;

Honey, three ounces.

Nitre, six drachms.

Let them be put into a jug, and a pint of boiling vinegar poured on them, when cold, put into a bottle.

Tie a piece of sponge or linen rag on the end of a stick, and after dipping it in the mixture introduce it into the mouth, and let the part affected be well rubbed, this should be done twice a day, which will remove the soreness, and harden the mouth, rendering the application of the iron unnecessary. Lampas is occasioned by bad digestion and should be treated constitutionally.

BONE EXCRESCENCES.

As the symptoms of these affections are so well and generally known to farriers, veterinary practitioners, and all who have the management of horses, it is not necessary to enter into their minute detail, I shall therefore confine myself to their distinctions.

BONE SPAVIN.

Bone-spavin is a hard tumour or excrescence, formed on the inside of the hock ; it sometimes occurs on the lower part of the hock, at others it is more deeply seated in the centre of the joint ; the latter is by far the most painful.

RING-BONES.

The term ring-bones are given to hard swellings extending round the fore part of the foot, in the form of a ring ; on the lower part of the pastern near the coronet ; they occasionally appear a little above the coronet only on each side, they are then termed splinters of a ring-bone.

The causes of these affections are various ; they are produced by strains, blows, and other causes, which occasion a diminution of synovia, when the great and little pastern bones enter more closely into contact with each other, producing stiffness of the joint. The former as frequently arises from a blow as any other cause, the latter from a stub ; they are said to be occasionally hereditary.

SPLINTS.

Hard excrescences which form on the shank bone of the horse are termed *splints* ; they vary in size and shape, and are sometimes so large as to press against the back sinew, causing stiffness, and in some instances decided lameness. Those of a smaller kind are seldom of much importance, unless situated on or near the joint. The treatment in all these cases requires but little variation. The horse will be very lame on the first appearance of these excrescences and for some time previous, requiring judgment on the part of the practitioner to ascertain the cause. Gentle treatment must be had recourse to in the first in-

stance, and the following blister will be found efficacious.

Blistering Spirit.

Take Spanish Flies,
Euphorbium, of each two drachms and a half ;
Egyptiacum,
Strong Vinegar, of each two ounces ;
Spirit of Turpentine,
Water of pure Ammonia, of each ten drachms ;
Oil of Thyme, one ounce.

Mix, and put into a bottle, shaking previous to using.

This blister may be relied on as being one of the best that can be used ; it should be well rubbed on the affected part with the hand for thirty or forty minutes, and repeated daily seven or eight times. Powdered glass has in some instances been added to it, and certainly assists the action of the blister by slightly dividing the skin. Splints, ring-bones and spavins of long duration will be removed by the action of this medicine. The mouths of the absorbent vessels become opened, serum is secreted, and the effects of the blister are felt on the ligamentous capsula which surrounds the joint. It will be found of great service as an application to callous sinews and strains of long duration.

Splints and spavins, when first observed, may be removed by the following embrocation.

Absorbent Embrocation.

Take Borax in fine powder,
Camphor, of each half an ounce ;
Highly rectified Spirits of Wine,
Tincture of Spanish Flies,
Tincture of Euphorbium, of each half an ounce ;
Oil of Thyme, one ounce.

Dissolve the Camphor in the Spirit of Wine, then mix the whole together and shake well.

The part affected should be well rubbed with this embrocation, applied on the fingers, for seven or

eight following mornings. In cases where the pain has been nearly removed by these remedies, and there is but little formation of callus, I have no objection to the application of a light firing iron, which will generally have the desired effect. After this has been done, let the following ointment be laid over the part for three or four following mornings.

Blistering Ointment.

Take Hog's Lard, one ounce;
 Bee's Wax, three ounces;
 Train Oil, four ounces;
 Common Turpentine, three ounces : Melt over a slow fire, and when dissolved, put into a jar, then add
 Spirits of Turpentine, two ounces;
 Corrosive Sublimate in powder, one drachm and a half;
 Spanish Flies,
 Euphorbium, of each, in powder, half an ounce.
 When nearly cold, add two drachms of Oil of Vitriol.
 Stir well together until it stiffens.

This ointment should be applied over the part that has been fired, with a spatula ; the horse's head must be tied to the rack, so as to prevent his reaching the part with his mouth, and kept so for six or seven hours ; after which set him at liberty as before. In a few days after the last application of the blistering ointment, he should be turned to grass, unless in the winter time, when a straw-yard will be preferable.

In cases of long duration, attended with great pain and considerable extention of callus, and which have not yielded to the above treatment, it will be necessary to have recourse to more powerful remedies; too much attention, therefore, cannot be paid to the following method.

An iron instrument, made for the purpose, is commonly used for stamping or striking them ; but this is a system more generally productive of harm than good, and should never be attempted. In the first place, the hair must be close cut, and the callous part

punctured all over with an instrument about an inch long, sharp on both sides, and coming to a point somewhat like a lancet; care should be taken to pass it through the callous substance without going deeper. After this has been properly done, the part should be bathed with vinegar, and the following ointment applied in the course of two hours.

Strong Blistering Ointment, No. 1.

Take Blistering Ointment before ordered, ten drachms;
 Spanish Flies in powder, one drachm;
 Oil of Thyme, two drachms;
 Oil of Vitriol, one drachm.
 Mix together, and keep covered in a gallypot.

Strong Blistering Ointment, No. 2.

Take Blistering Ointment before ordered, one ounce;
 Spanish Flies in powder, two drachms;
 Sublimate in powder, half a drachm;
 Egyptiacum, half an ounce;
 Blue Vitriol,
 White Vitriol, of each, in powder, one drachm;
 Oil of Thyme, two drachms.
 Mix together, and keep covered in a gallypot.

Either of these ointments must be applied, in small portions at a time, with a spatula, and well rubbed in with it every morning for five or six times. The latter will be found very efficacious in these excrescences, particularly bone spavins and splints. It is only necessary, on the first application of the ointment, to spread it on the part, rubbing a bit of hog's lard round the edge to prevent its spreading. The following blistering plaster may be applied with advantage, after the above treatment is completed and the part nearly well.

Blistering Plaster.

Take Common Gum Plaster, two ounces;
 Oxycrocum Plaster;
 Strengthening Plaster, of each one ounce;

Black Pitch,
 White Pitch, of each four ounces;
 Euphorbium,
 Spanish Flies in powder, of each two drachms.
 Let the plasters be melted together, then add the two last,
 and stir well.

Spread a sufficient quantity of this plaster on a flannel before it is cold, and apply it over the whole of the affected part. In two or three days the horse should be turned to grass. A small flannel roller must be lightly sewed round the part, and removed by degrees. Should any lameness remain after he has been two or three months at grass, he may be taken up, and the blistering ointment and plaster repeated as before. By strict adherence to this mode of treatment, spavins, ring-bones, and splints of long standing, will be cured, after having been subject to other plans of less efficacy.

SIT-FASTS.

These tumours consist of a thick, hard, and dark excrescent skin; they must be poulticed for a week; they may then be removed by a pair of small pincers or pliers; if that is not sufficient, they should be pared off with a sharp knife. After this, lay on a dressing of the healing paste, which may be repeated three or four times, allowing about thirty hours between each dressing; the fungous skin should be cut off at every fresh dressing. When completely healed, it would be well to rub the part occasionally with Florence or sweet oil, as it will render the skin pliable. The back is frequently injured by the pressure of the saddle, which should be remedied as soon as discovered, by directing the saddler to stuff the sides, so as to leave a hollow, which could not affect or press upon the injured part. When inflammation, or a scalding soreness, affects horses on long journeys, in wet weather, either from friction or

other causes, fomentations of warm water are the best and most safe remedies. In some cases, washing the parts with *sugar of lead*, dissolved in water, has been found both a cooling and healing application.

ANCHYLOSIS.

This is a deposition of bony matter thrown out in the joints, and arising from hurts and bad treatment of punctures of the joints—every joint is liable to it. The effect is to render the joint completely stiff and useless. We can do nothing to remove it—but a great deal to prevent it.

EXOSTOSIS.

This is an excess of bone, a super-abundance of osseous matter being thrown out to various sizes. Pressure and blistering, in the first instances, will be proper to try: further applications are useless.

ANTICOR.

Every swelling on the breast was by farriers called anticor. The real disease is seldom met with in England. It is marked by an extensive swelling on the chest, often extending down the abdomen, and attended with fever. The remedies are the same as in inflammation and fever. Warm fomentations to the part will be here of great use.

ANEURISM.

This is a diseased enlargement of a part of an artery, arising from either a weakness in its coats at a particular place, or from blows and punctures. It will be known from all other tumours by *its pulsation*; the motion from every beat of the heart can be seen

plainly. The only remedy, or rather palliative, is constant pressure, by some permanent means, to keep the tumour from still enlarging and ultimately bursting, which must cause instant death.

CHAPTER XXIII.

FRACTURES AND DISLOCATIONS.

FRACTURES.

THESE accidents and consequences of brutal treatment towards horses often occur. - Unhappily for the animal, very little can be done to remedy the injury, except that the parts can be so fixed as that motion will not displace the end of the bone when placed in apposition by the veterinarian. In *fractures of the jaws and nose*, however, more can be done than in fractures of the limbs. The broken bones may be assisted in their restoration by bandages, according to the nature of the injury. Sometimes it may be necessary to tie both jaws tightly together, and feed the animal through the nose on nutritive liquids; also by nutritive clysters; and in all cases of fractures of the jaws, no *hard* food should be allowed.

In *fractures of the ribs*, (an injury very frequently inflicted by brutal farriers and stable-men with hammers and pitchforks, and which, I trust, Mr. Martin's Act will tend to lessen,) nothing can be done but give rest, bleed largely, open the bowels, and guard generally against inflammation, and immediately apply a bandage round the body over the fractured ribs. If the lungs be wounded by *spiculæ* of the rib, air will insinuate itself into the cellular membrane; in which case a puncture may be made into the skin. Inflammation of the lungs is a common consequence

of fractured ribs; in which case, it must be treated as directed under the proper head.

Fractures of the limbs are the worst of all to treat, as we find so much difficulty in keeping the injured parts from being displaced. Without either slinging the horse, by a strong sheet or otherwise, so as to keep the limb from pressing on the ground, we can do little. To keep the ends of the broken bones in apposition is our duty, which must be attempted by splints, bandages, slinging, &c., and to guard against inflammation. According to the temper of the horse, success may be counted. If he be an animal that will assist the cure by remaining quiet, either by lying on his side or in slings, a cure will follow; if he be restless and violent, the fracture most likely will be fatal.

In *fractures of the skull* the trepan may often be of service, and it should where the bone is depressed—if other means fail it ought to be tried.

In all cases of fracture, a solution of sal ammoniac and vinegar, or of goulard water, should be applied cold over the bandages.

In *compound fractures*—that is, where the broken bones protrude from the skin, the difficulty of cure becomes manifold. However, the rules as in simple fracture apply; but in compound, the ulcer, which must necessarily follow, is to be attended to. The air ought to be excluded from the fracture as much as possible by a poultice and close dressings.

DISLOCATIONS.

It is needless to dwell upon this accident. It is of rare occurrence, from the natural strength of the ligaments; and when it does happen, we can be of little assistance, except in dislocations of the *patella*, or *whirl-bone*, which are more frequent than others. In attempting to reduce the luxation, the limb must be brought forward and extended by an assistant keep-

ing the hand on the inner side of the stifle. The operator should then depress the outer angle of the patella, and raise the inner suddenly and dexterously, so as to let it slip into its socket, which it will do with a snap. To prevent a recurrence, (which is almost certain,) it is recommended to fire the joint, so as to contract the skin over it.

CHAPTER XXIV.

AFFECTIONS OF THE FEET.

CONTRACTED FEET, OR CHRONIC FOUNDER OF THE FEET.

IN whatever degree founder of the feet may exist, it is always the consequence of excessive exertion, and never, as is often supposed, produced by sudden changes of temperature only. This affection is of two kinds, chronic and acute. The latter has been before mentioned as the result of what is termed a chill, and is often so serious as to produce separation of the hoof from the foot, and even the foot and pastern from the leg. The disease, however, very often occurs in a chronic form; yet attended with exceeding heat and pain in the foot, which renders the horse unable to stand, except occasionally to feed. The foot becomes altered in shape, its upright form is changed, and falls towards the horizontal line: the concavity or hollow of the sole gradually falls down, terminating first in flatness, then convexity. Where the attack is less violent the inflammation often abates, the effused blood remaining within the front of the hoof, until the hoof grows down. On the first occurrence of muscular exhaustion, and the inflamma-

tion which follows, and is called a chill; this disorder may be prevented by bleeding to faintness. If, however, the feet be affected, previous to consulting the practitioner, the old operation, named bleeding in the toe, is the best thing to be done, freely opening the arteries as well as the veins. When the operation is properly performed, a gallon of blood may be drawn from this part; and it is the best remedy that can be used. Rasping away the sides or quarters of the hoof as thinly as possible, paring away the sole with the flat part of the drawing knife, until you perceive it springs to the thumb, must always be pursued. Then wrap the foot in a large soft poultice, which repeat often, and keep very moist. A dose of physic must always be given. In this case there is not that danger to be apprehended, as in the inflammatory attack of the hind leg previously mentioned. When the horse is able to stand, he should be turned to grass, and left entirely to nature. The soles will require no artificial defence, as they will soon acquire sufficient firmness to admit his going to grass. In such cases blistering may be tried. If these remedies do not effect a cure, the disease may be considered incurable. Chronic founder in this country is so common a disorder, that by the time our horses have been at work a few years, nearly two thirds of them are in some degree affected by it. This can be referred to two causes only: the first is that of breaking young horses, and working them before they are four, and often three years old; the second is the violent and immoderate exertions to which they are commonly subjected. A morbid heat in the foot is the most conspicuous symptom in this disease, often causing the heels of the hoof to approach each other, and compress the sensible frog, sometimes producing a discharge from the part; which disease has been called contraction of the heels and thrush. The sole of the foot has sometimes become convex or projecting, acquiring that thinness which renders it unable to

protect the sensible sole. In this stage the disease is called pumice foot, and it is said the ball of the foot has fallen down. The hoof and sole will sometimes acquire such a degree of thickness that their elasticity is lost, and the inclosed parts are suffering from compression. The hoof flattens in at the top in this case, and the lameness is attributed to a strain in the shoulder, or chest founder. When the lateral cartilages become ossified, the lameness is only occasional, and the horse is said to have ring or quittor bones. Temporary relief in chronic founder is all that can generally be effected. Contraction of the heels and thrushes may be removed, but the lameness will generally continue. By defending the thin and tender sole by a suitable shoe, pumice foot may be relieved; but no essential alteration can be produced in the form of the foot. Rasping the quarters of the hoof, and paring the sole thin and carefully, then stopping the foot with tar ointment, and keeping the horse at grass until a new hoof grows, will tolerably and sometimes completely cure compression of the sensible foot. When chronic lameness exists in a slight degree, great relief will be obtained by thinning the soles, and keeping them stopped with moistened clay, and not with cow dung, as is generally done, which being of a putrid nature is liable to injure the frog, while the clay may be used when the frog is soft and moist: in that case, it should be covered with tar or hoof ointment. Some relief may be afforded in most cases of chronic founder by keeping the feet moist and cool, and the horse may be enabled to work moderately; but it is sometimes so bad, that nothing but the nerve operation will afford relief.

In a great number of dissections of the feet of horses affected with chronic lameness, it has appeared that the small bone of the foot, named the *nut* bone, has been diseased, either on the surface over which the great tendon of the foot passes, or that surface

which articulates with the small pastern or coffin-bone. Professor Coleman is of opinion, that the lameness arises from a want of synovia or lubricating fluid, and a consequent friction of the cartilaginous surfaces of the bones; for however small the quantity of synovia may be, it must prevent the actual contact of the surfaces. The bone must in time become abraded by a continuance of this friction; and if the horse be kept sufficiently at rest, ankylosis, or an obliteration of the joint by an effusion of bony matter will probably ensue. This disease then may justly be called lameness of the coffin-joint.

It is not now necessary to enumerate all the cruelties and contrivances that have been practised for the cure of chronic founder, as their uselessness is universally known. The disease was formerly named hoof-bound, and was commonly subject to the painful operation of tearing off the sole. This cruel and useless operation is now quite given up, but has been succeeded by firing, blistering, and mechanical contrivances for forcing open contracted heels. The sole cause of lameness has generally been attributed to this contraction of the heels; the contraction can, by Mr. Blane's method, be removed, and a new and better hoof formed; but the lameness remains incurable. To say the best of the contrivances that have been suggested, they are ingenious. Firing and blistering on those occasions are, I fear, still employed, particularly the latter. In no disease of this confirmed kind can either of them be of the least service; to use them then, without an obvious cause for their application, is not only an improper infliction of severe pain, but a useless expence to the owner. The best palliative after all is a run at grass, excepting the operation lately introduced, and which is called the nerve operation; and passing a seton through the frog. Though the latter operation may afford relief at an early stage of such lameness, and if the horse be allowed to run at grass for some time, and after-

wards moderately worked, may sometimes be permanent ; yet it must be plain that no material benefit can be derived from it when the lameness has been of long duration. A shoe, thick at the heel, or a bar shoe, will sometimes afford slight relief. In cases of chronic lameness, particularly when it has been fluctuating, I have often observed the horse at one time going pretty well, at others, dead lame, as it is called, without any obvious cause. The lame foot, in such cases, will be found colder than the other, from which it is likely that the nervous structure of the foot has undergone derangement. The same cause, however, may even be applied to this, as well as to all other chronic lamenesses of the foot, viz. that early and immoderate work is the source of the evil.

CORNS.

In nine cases out of ten, this afflicting and frequently dangerous complaint, is solely attributable to the gross neglect, or ignorance of the smith in shoeing horses carelessly or improperly. All sporting gentlemen and dealers in horses should, therefore, be particular as to the capacity of the farrier before they submit their horses for his shoeing operation.

Corns are produced from the heel of the shoe, either by pressing immediately on the sole, which may be too slight to bear it, or by pressing the heel of the case or crust (as it is termed) internally. The sensible sole and thin coats become bruised, and the blood passes into the pores of the horn, which may be perceptible (when the shoe is taken off and the sole is scraped) from its livid appearance. This bruised portion, as well as that around it, cannot possibly bear the impression of a shoe from the soreness and inflammation attending the wound ; therefore, a sufficient quantity of the sole, crust, and bar must be pared off, so that when the bar-shoe is put on, it shall be at least three quarters of an inch separate from the

surface. The shoe should be taken off occasionally, and the parts pared off, according as their growth increases. In most cases of this kind, it will be necessary to reduce the hard substance on the heel by well rasping it, otherwise the frog is perpetually exposed to the severe pressure of the bar-shoe. If the feet feel unnaturally hot, wet cloths or poultices should be applied constantly, until the heat is removed. Some ignorant horse-doctors cut out the corn only, so that the bar and crust are left to form a juncture with the heel of the shoe; but even if the shoe were made so as to bear off the quarter it would avail little, for in the course of exercise, the horse's weight must press upon the shoe, and consequently injure the affected part. Inattention to a proper mode of treatment, in the first instance, is the cause of so many fine animals being left upon *three* legs during the whole period of their lives. The only remedy in this *extreme* stage of corns, is the application of emollient poultices, and a complete excision of the diseased horn. When all inflammatory symptoms have subsided, the sensible portions should be dressed with a solution of caustic or blue vitriol, and finish with the tar ointment. However, this may be considered the only effectual remedy in desperate stages of the complaint, a little timely care on its first appearance would prevent the fatal results, which must inevitably ensue to the animal when it is long neglected. In those advanced stages of the disorder, notwithstanding the remedies proposed, the sensible portions of the foot will ever be in a tender state; therefore, the protection of the bar-shoe, as already directed, is absolutely necessary, and should be constantly used.

SAND CRACK.

This complaint is most general among horses whose hoofs are of a dry and fragile substance, on

which account the horn at the upper part of the inner quarter is liable to break and crack. Those sand cracks in most cases affect the sensible portions of the foot. The crack or cleft should, in the first instance, be opened with a drawing knife, and all the hollow portions of the horn, as far as they extend under the crust, should be thoroughly cut out; also every portion of horn detached from the sensible parts must be cut off. Some tow steeped in a solution of blue vitriol should then be applied, and the hollow parts afterwards should be filled with tar ointment. When the foot appears lame and inflamed, it must be poulticed for about seven or eight days; after this it would be well to send the animal to grass for a month, when a small portion of new hoof will be seen growing above the sand crack. The whole of the crack should be laid over with tar ointment, and the part where the crack appears should be reduced as much as possible by the use of the rasp. By attention to these instructions, sand cracks are not unfrequently cured, without much trouble. When the animal is taken out from grass, the soles must be pared thin, the foot stuffed with tar ointment, and a wide easy shoe put on. In some time after, when the horse improves, a smaller shoe can be substituted in its stead. If the feet be unusually hot, apply wet cloths constantly to them until the heat be removed. The frog should be kept well pared or rasped, and overlaid with tar ointment, which should also be applied to the coronet and the heels of the frog, if dry or cracked. In very bad cases of sand crack, the cautery, or burning iron is sometimes used successfully; a blister on the coronet above the sand crack has also produced beneficial results.

NARROW HEELS.

These defects, which generally arise naturally, are, from bad shoeing, considerably increased, and

often rendered incurable. Practitioners are too frequently in the habit of using their drawing knife to the feet of narrow-heeled horses, to such an extent as to cause bleeding over the whole surface of the foot; although the pain is for a time eased by this severe use of the knife, yet the contraction increases more rapidly from the support being removed. Permanent lameness, termed founder of the feet, and treated on under that head, is the general result of this destructive practice. It is necessary to remove the decayed and rotten parts, which should be done with great caution, paring the feet as little as possible, without leaving much of a hollow in shoeing. The following ointment will be found highly serviceable in dryness and hardness of the feet, and with which they should be filled every night. The stuffing must always be removed previous to his going to exercise or work, and fresh put in on his return.

Take Hog's Lard,
Tar, of each, five ounces;
Common Turpentine, one ounce.
Melt together in a ladle.

Pledgets of tow must be dipped into this ointment while warm, and stuffed into the feet, placing two pieces of stick crossways under the shoe for the purpose of keeping it in. It is a common practice among grooms to oil or grease those hoofs which are dry and brittle; this practice is highly injurious, and is often the destruction of the hoof. Old urine used once or twice a day is the best preservative, and will strengthen and promote the growth of the hoof; it will also rest the nails so as to prevent the clinch from starting after he is shod, till he again requires it; on the contrary, oiling will cause the clinches to rise, and the hoof to crack as far as the extent of the nails.

Firing should never be employed in affections of the feet, it is in all cases, and at the best of times, a

doubtful remedy, and attended with great pain to the animal. In these cases it can never be of service, and may be productive of injury; the mechanical contrivance of forcing open contracted heels should also be abolished. When this affection is increased by bad shoeing or great exertion, and attended with any inflammation, bleeding in the toe should be resorted to, paring the foot as before described, and rasping the hoof so as to make it as yielding as possible; the whole of the foot must then be wrapped in an emollient poultice, which should be kept moist and frequently renewed. When the horny substance has acquired a sufficient firmness, he should be turned to grass without his shoes, and allowed to remain until fit for work.

HOOF-BOUND.

The hoof in this case resembles the shape of a bell, from being contracted round the instep where the hair begins to fall over the hoof, and expanded below. This affection is often produced by bad shoeing, and particularly where the shoes are made hollow and broad; it may also arise from fever falling into the feet, and producing inflammation. The same pernicious practice of paring and drawing away the sole is pursued in this as in the last case; the result of which is, the support of the foot is removed, and in a short time the coffin drops, rendering all prospect of relief hopeless. Where this disease is the result of bad shoeing, it may always be cured; and if proper care and attention be pursued in the latter case, success will generally crown the efforts of the practitioner. The treatment in this disease should be similar to that in narrow heels.

THRUSH.

In this disease the frog is ulcerated, causing a

discharge of foetid matter from the cleft or division. It is not always productive of lameness, particularly where the hind feet are affected, which is always the result of negligence, in allowing the horse to stand in his dung. The horny frog becomes soft and rotten, and the acrid matter penetrating through it inflames the sensible frog, and instead of horn being secreted for its defence, a foetid and acrimonious matter is discharged.

Contraction in the heels will sometimes produce thrushes in the fore feet, but it is more generally the consequence of want of elasticity and increased thickness of the hoof. The treatment of thrush must depend on the cause by which it is produced. That in the hind feet will be cured by proper washing and removing the filth, which occasions it; where however it has gone so far as to produce ulceration of the sensible frog, it must then be dressed with a solution of blue vitriol or oxymel of verdigrise, after cleansing the frog thoroughly with tow. One dressing will be sufficient to effect a cure. The tar ointment ordered in narrow heels should be applied hot, to promote the regeneration of horn. Thrush in the fore feet must be treated differently. The cause must be first removed, which is an increased quantity of blood thrown into the frog, from the compression the sensible foot undergoes from the contraction of the heels. In this case, the animal suffers pain from his ineffectual efforts to expand the inelastic and inflexible heel; this causes him to lift the frog, and go chiefly on the toe. Thus it is that stumbling and falling are so common in this disease. By attempting to stop this kind of thrush with those preparations commonly used, the lameness is often increased. All that is necessary is to rasp the quarters and heels thin the soles, and cover the frog with tar ointment; the foot should then be wrapped in an emollient poultice. Slight cases will be effectually relieved by this treatment. Should however the thrush remain

after these applications, apply the following mixture :—

Take Tar, four ounces ;
 White Vitriol, half an ounce ;
 Alum, in powder, two ounces, mix them, and add gradually,
 Sulphuric Acid, three drachms.

Spread a sufficient quantity on a thick pledget of tow, and apply all over the thrush, keeping it fixed with two pieces of stick. The foot should be dressed once a day ; if the horse is obliged to work, the dressings must be previously removed. In cases of this kind, two or three purging balls should be given, or some alterative medicines continued as long as appearances require. In old and bad cases, where partial benefit only can be expected, unless a new and better hoof be produced, the quarters should be rasped, and the sole thinned until spots of blood appear ; the feet must then be stopped with tar ointment, and the horse turned to grass.

It rarely occurs that thrushes happen in the fore feet from dirt, as in the hind ; when they do, the same treatment will remove them.

It is necessary to describe a third kind of thrush, which is, in point of fact, nothing less than the commencement of canker ; it is not so common as those already treated on. This species of thrush may be always removed by carefully cutting away from the frog all the horn that is detached from the sensible frog, and afterwards applying Egyptiacum with a few drops of oil of vitriol. The part affected should be kept clean with a sponge and warm water ; and when the ulcers are healed, the regeneration of horn must be assisted by applying the hoof ointment used in narrow heels.

CANKER IN THE FOOT.

This obstinate and often incurable disease first

makes its appearance in the frog, spreading from thence to the surrounding parts, and at times affecting the coffin-bone. In the first place it is necessary to pare the foot down, carefully removing every particle of horn which may conceal any part affected. This must be repeated each time the foot is examined, which should be daily. All the putrified flesh must be removed with the knife, taking care not to go deeper than the decayed part, otherwise the coffin-bone will be in danger of injury. When this is properly done, let the shoe be fixed with two or three nails only on each side; and if it is necessary to stop the bleeding, lay over the incised part a handful of salt, and secure it with pledgets of tow. This application must be removed the following day, and the hoof examined, to ascertain whether or not it presses upon any tender part; if so, pare it thin, or if thought necessary, remove it.

Take Corrosive Sublimate, two scruples;
Muriatic Acid, two drachms;
Friar's Balsam,
Compound Tincture of Myrrh, of each two ounces.
Mix them, and put into a bottle.

Let this tincture be applied over the whole of the diseased part, after which, take pledgets of tow and dip in the following mixture, applying them all over the affected parts:—

Take White Vitriol,
Blue Vitriol, in powder, of each two drachms;
Alum, in powder, half an ounce;
Egyptiacum, four ounces;
Sulphuric Acid, twenty drops.
Mix well.

Spread pledgets of tow with this mixture, as before stated, and fill up the vacancy over them with other pledgets spread with the tar mixture ordered in thrush: this is the best method of effecting a cure. The foot must be dressed every day, and should any

fungus make its appearance, it will be easily removed by touching it with lunar caustic, or sprinkling over it a little powdered verdigrise. The cure is rendered more difficult in these cases where the horse loses his hoof, which sometimes occurs, and always occasions great inconvenience in dressing. If the hoof is in such a state as to prevent the shoe being fastened to it, the dressings must be secured by a boot made for the purpose. The quantity of cloths or rags which are generally applied, often produce such heat in the foot as to increase the injury, every precaution must therefore be taken to prevent the hoof separating from the foot, and the following astringent lotion should be applied once or twice a day.

Take Sugar of Lead,
 White Vitriol, of each half an ounce ;
 Alum, five drachms ;
 Vinegar, nine ounces ;
 Water, four ounces.
 Mix and put into a bottle.

This lotion must be applied to the foot and instep as high as the fetlock joint, previous to its being dressed, and some of it may be poured round the fetlock joint, or at the edge of the cloths so as to be allowed to find its way down at any other part of the day. By pursuing this plan the hoof will often be preserved from entire separation. It is necessary to give two or three of the following balls.

Take Calomel, one drachm ;
 Ginger, two drachms ;
 Red Nitrate of Quicksilver, finely powdered, one scruple ;
 Castile Soap, two drachms ;
 Add a sufficient quantity of syrup to make a ball.

One of these balls should be given every third night and worked off the following morning with a common purging ball ; by this treatment the blood will be cooled and improved, and the disease checked. In

about three weeks after he has taken the last ball, it will be necessary to give him two or three mild alterative balls every second night. By pursuing this plan of treatment with attention, a cure may be effected in the most serious cases.

GROGGY FEET.

This is a diseased softening of the joint and ligaments. Blistering and entire rest only are useful here.

GRAVEL, OR DIRT IN THE FOOT.

This complaint is caused by the introduction of gravel or dirt at the heel, between the crust and sole, whereby suppuration ensues either above or beneath the sole, and not unfrequently breaks out on the coronet. The heel must be pared away, and every portion of horn detached from the sensible parts must be cut off. The dirt or gravel must be completely removed by the application of tents of tow dipped in warm water. Should the parts appear inflamed, poultices must be laid on. When the inflammation ceases, tents of tow or lint, steeped in a solution of blue vitriol, should be introduced, and afterwards the cure may be completed by Friar's balsam and tar ointment. Until the sole and heel are firmly joined together, a bar-shoe must be kept on the injured foot.

HURTS AND ACCIDENTS FROM SHOEING.

The sensible portions of the foot are frequently seriously affected from the farrier's neglect, in driving a nail too far into those tender parts, whereby inflammation, in the first place, ensues, and then suppuration. When the animal exhibits any signs of lameness, the shoe must be immediately removed, in

order to afford the free discharge of the suppurated matter; otherwise, it will extend beneath the sole, separate the sensible from the horny part, and finally inflame the coronet. In some cases, however, where the nail has not penetrated far into the sensible part, the inflammation is more slow in its progress, and lameness may not be perceptible for a week or ten days after the injury received. But it is easy to prevent the danger arising from those hurts in shoeing; if the farrier drive a nail too far, in an improper direction, the horse will invariably signify it by a sudden exertion to withdraw the foot. In such case, the shoe must be instantly removed; that part of the sole, into which the nail has been driven, should be pared off, and the foot poulticed. In a few days, the part affected will suppurate, when a small portion of the horn of the sole should be pared off, whereby the foul matter collected may pass off; by the application of the probe, the extent of the wound can be discovered; it will then be necessary to take away the detached sole, so far as the extent of the injury has been thus ascertained. When this treatment has been attended to with punctuality, the following ointment should be applied, and, in about ten days, the animal will be completely cured:—

Tar Ointment.

Tar, twelve ounces;
Tallow, twelve ounces.

Let the above be melted together over a slow fire, and when taken off, the ointment should be stirred round with a small piece of stick, until it is quite cold.

If the animal appears lame in a short time after being shod, and, upon the removal of the shoe, any matter issue from any part where a nail has been injudiciously driven, then the sole around that injured part must be pared off very close, and if a black mark on the horn be perceptible, this mark should be opened, when a livid foul substance will issue from

the part; as has been already observed, the probe should then be applied to ascertain the extent of the wound, and every portion of the horn that had been detached must be completely cut off, so that the smallest particle of it shall not remain. If there should be an ulcer or ulcers on the sole, they should be slightly washed with a solution of blue vitriol, and afterwards the tar ointment, as above directed, must be applied, and the part continued to be dressed until a cure is accomplished. Inflammation is also often occasioned by the wreckless cutting away of the sole and frog by ignorant and careless farriers; nay, in some diseases of the foot, they do it by degrees as a means of cure. Such fellows ought never to be allowed to touch a horse's foot. The barbarity of the old practice in founder of the feet, was also a glaring specimen of the lengths to which cruel ignorance will go; the farrier used to tear away the whole hoof from off the bleeding and lacerated flesh! This will excite execration, but what feelings must we have when we reflect that even in this time wretches are to be found to commit this horrible action?

In wounds on the sole from the knife, as above described, the treatment must be emollient poultices, and rest, with bleeding from the neck, if the inflammation should spread. In very slight cases, when the blood merely oozes, a solution of sulphate of zinc in water applied to the sole with cloths, will be found sufficient; or, perhaps, wetting it with common gin or spirits of wine and water would be better, attending particularly to rest.

INJURIOUS BRUISES OF THE SOLE.

Bruises of the sole may arise from two causes; first, a natural flatness and slightness of that part, or rendered so by the injudicious act of the horse smith, in cutting a concavity at the bottom of the foot, whereas the horn is not capable of admitting so deep

an excision, and consequently the sole is rendered liable to bruises from the repeated strokes of the hammer in the act of shoeing. The sole is also exposed to bruises from the unskilful use of the drawing knife, when the smith pares off so great a quantity, that he not unfrequently injures the sole, but also bruises the sensible sole and the coffin bone. The result is, that the part beneath the horny sole becomes suppurated; in this case the animal may be relieved by giving free vent to the collected matter, and by cutting away the whole of the hollow horn. In some instances, matter may have formed between the coffin bone and the sensible sole, it will then be necessary to make an opening at that part, and give sufficient vent for the matter to exude, and also to pare off the horn round it. After this, apply an emollient poultice to the foot; it may be removed in about thirty or forty hours after its application; and should any portion of the coffin bone appear bare, upon examination by the probe, it must be well scraped with a proper instrument, as used in such cases; and if the wound be then dressed by an application of tincture of myrrh, (which we particularly recommend) the horse will, in about ten days, be completely recovered. The hollow should be filled up with tar ointment, until the sole of the foot be perfectly indurated.

QUITTOR, OR CONTUSION OF THE CORONET.

This injury arises when a horse, in frosty weather, endeavours to recover himself from falling on his side, which causes the animal to step in a most violent manner on the inside foot; it also is occasioned by punctures, &c. Quittor is, properly, a degenerative and ulcerative state of it, generally attended with pipes, and the inner parts seldom escape injury. In such cases, the winding and extent of the pipes should be ascertained by the probe. Then prepare a piece of

light brown paper, cut into small pieces, and grease them with a light surface of lard; after this, get some corrosive sublimate, finely powdered, and sprinkle it over them; then roll them round, and twist them at each end, and pass them, by the aid of the probe, one after the other successively, to the extremity of the pipe, until it is completely stuffed; after this, lay on a small pledget of tow, and bandage the part. In about a week remove the bandage, when the core will be extracted, and an extensive open sore will be visible. By this process, the extent of the wound will be ascertained. Tents of tow or lint should be then steeped in solution of blue vitriol, and lodged in the bottom of the wound; when the carious parts are sufficiently corroded, apply a few dressings of tincture of myrrh, or Friar's balsam, and in a very short time the animal will be in an advanced state of convalescence.

FALSE QUARTER.

In the above case, if the entire quarter be affected, and unequal to admit of pressure, a bar-shoe is the most proper; the false quarter must be constantly kept pared down, so as to leave it at some distance from the action of the shoe, which will always prevent it from pressing on the part. This injury originates from bruises of the band, or ligament of the coronet, and the hoof has frequently a long cleft in it, from the imperfect nature of the new horn found on it.

POMICED FEET

Is the consequence of inflammation. It is a thickening internally, which displaces the coffin-bone so as to make it bear on the sole. A pomiced foot is flat or convex on the sole, and fallen in on the front of the hoof. We can only palliate the disease.

CHAPTER XXV.

LAMENESS.

THERE are, perhaps, no diseases of more serious importance than those which affect a horse's limbs; requiring every due consideration for the prevention and cure of lameness; and on this subject the application of the old proverb, that prevention is easier and far better than cure, should be the motto of every practitioner. The variety and numerous causes which produce lameness, and often so obscure, that to discover the seat with accuracy is a mark of professional superiority to which every practitioner should aspire. He should not, however, by this consideration be led to give a hasty opinion in such cases; on the contrary, let him carefully investigate, reflect deliberately upon each circumstance, and be assured that he has ascertained the seat and nature of the lameness before he offers an opinion. Lameness exists in a variety of degrees, and what may be termed shades between soundness and positive lameness are so numerous, that to give each a name is impossible. I shall, therefore, describe lameness under the names commonly employed. Particular attention has been directed to this subject from the serious loss and inconvenience arising from lameness, though in its treatment, as well as in the art of shoeing, considerable improvement has been made. It is a fact, I believe, generally acknowledged, that a large proportion of the cases that occur admit only of palliation, and that a considerable number are incurable, particularly those in the feet.

The boasted improvements in the French system of shoeing I think absurd, excepting that part which applies to the nailing of the shoes; although, it must be admitted that lameness is more frequent in this country than in France, and should be the more

lamented, because the remedy is evident. It may then be asked on what does the frequency of lameness in this country depend? The French say on shoeing; on the contrary, I am of opinion that taking the English shoeing generally, it is the best in the world. The early age at which the animal is brought into work, the cruel and immoderate manner in which he is worked, is the cause of the frequency of lameness. In attending to the prevention of lameness, as an object of the highest importance, I shall describe those constitutional affections by which it is caused, and observe upon the mode of treatment. Active inflammations, when very extensive, will often produce lameness: so will fever, and the means by which they affect the legs are through the muscles. A stiffening of these fibres is a most frequent symptom also, as well as consequence of fevers in general. Such may be called *muscular lameness*.

Different diseased states of the muscles will produce lameness, and must be considered under distinct heads.

Over-exertion will produce muscular lameness, often followed by acute inflammation, and consequent exhaustion of sensorial power. The same affection may be divided into classes, amongst which is that of excessive fatigue, expressed by the animal while at rest, lying stretched out on his side, the head generally reposing at the full length of his halter. If the fatigue be great, groaning and sudden stretchings occur. From the same cause we often see horses after rising stretch out their legs alternately, draw up the body, and yawn; this denotes great fatigue, and requires attention. Horses, when not over-fatigued, repose as a cow when ruminating. The debility often existing in the joints and muscular system of old horses, together with stiffness, prevent their lying down; should their attempt however succeed, assistance is necessary to raise them by sling-

ing. When this is not at hand they exhaust their strength, or otherwise injure themselves.

A horse cannot lie long on the side at full length, without feeling great pain; for the weight of his body, and peculiar formation of the muscles, prevent his reposing easily in any other position than that of the ruminating cow. Horses that are stiff and weak in the muscles, will be relieved by a support of the breeching kind, which is a good method for supporting a lame horse, and may be often used instead of slinging. That degree of muscular affection, commonly called a chill, does not, as is often supposed, depend on suppressed perspiration, but on partial exhaustion of muscular power. The cause of its being so named, and apparently produced, often happens that after violent exercise a horse is suffered to stand in a current of air to cool, or by neglect left there until he can scarcely move. But a more common method, too often used with coach and post horses, is that of plunging them into a pond; and not content with sudden immersion, keeping them there for the purpose of washing the carriage also. This practice saves trouble, and is, I believe, the only inducement for it. Immediate and perceptible injury does not always follow; but post-masters may rely on it, that some degree of muscular debility must always be produced. Immersion in cold water so long must produce injury, but in the summer, when horses have no work, but merely exercise, they are greatly refreshed and benefited by it. Previous exhaustion of muscular power, from excessive exertion, produces the mischief, which may be so great as to cause immediate death. A *chill* then, or second degree of morbid muscular affection, depends on exhaustion more or less of the muscular sensorial power. Stiffness of the body, practical incapability of motion, are the symptoms produced. The hind parts are sometimes more affected than the fore, often both,

so much so that the horse is incapable of moving, drops down, and dies exhausted. A violent effort of nature will sometimes produce what is called a reaction of the system, the blood is thrown towards the surface and extremities, violent perspiration and inflammation of the feet ensues.

As far as regards the horse, whose feet are of such great importance, the effect is as bad as the original affection; for if they cannot be restored, he is rendered useless. The remedy then, which will be pointed out, should be pursued to its full extent, to prevent that destructive effect which is the result of such an effort. Inflammation is sometimes so violent as to produce a separation of the hoofs; and I have occasionally known the feet to slough off as high up as the fetlock joint.

The third degree of muscular affection produces death in a few hours. I believe such cases occur only during a severe chase, bleeding to the *extent of two gallons* is the only relief. If fainting occurs, it may be considered favourable; if not, it may be advisable to take more blood. The same remedy applies, and is equally necessary to the second degree of muscular exhaustion. Rest is the only remedy in the first degree, or excessive fatigue. Cordials are improper—purgatives dangerous—clysters always useful, when so administered as to empty the large intestines. A fresh sheep-skin, with the flesh side next the skin, should be placed on the back and loins, when there is an affection of the muscles of the loins and urinary organs: copious perspiration will ensue, and relief be afforded. The warm clothing generally used is prejudicial: coolness cannot be too much attended to with such horses. The sheep skin should be renewed when offensive to the smell. This remedy is of importance, particularly in locked jaw.

Over-exertion of the muscular system will commonly produce suppression of urine, which appears in a frequent desire to make water, accompanied with

pain and difficulty. A few drops only are passed, of a high colour, near to that of blood. The pain is dreadful, and the horse appears griped; if able, he lies down, groans, tries to roll, gets up again, and renews his efforts to stool. These symptoms indicate inflammation of the kidneys. The sheep skin is here an essential remedy. Affections of the bladder may take place independent of the kidney, in which case there is an appearance of violent pain in the muscles of the loins. The back seems to be broken, or what is termed *chinked*, as if pressure was made on the spinal marrow; sudden falling of the hinder extremities, with difficulty in rising, recurring on an attempt to turn, and when down intolerable pain in struggling to get up again; great anxiety to stool, inability to stretch out, with trembling and fear of repetition; copious perspiration, arising from pain, without ability to stool, or the urine very deficient in quantity, or of an unusual colour; turbidity of the urine however succeeds, and the stooling in diminished quantity becomes more frequent. Partial paralysis of the bladder, affection of the muscles of the loins, previous ankylosis from fracture, producing pressure on the spinal marrow, and inflammation, occasion these symptoms. Not only the kidneys and bladder, but the stomach, lungs, intestines, and even heart itself participate in the affection termed *chill*. The horse appears peculiarly uneasy, refuses food, shivers considerably; his ears and legs are cold, with a quick and oppressed pulse. If the animal be not relieved by bleeding, lameness and swelling of one or both hind legs eventually take place—sometimes suddenly attended with acute pain and heat of the limb. The animal relieved from his internal pain, the febrile symptoms cease, and appetite returns. If a purging ball be given at this period, so as readily to dissolve in the stomach, the consequence is likely to be fatal.

The heel under the fetlock is the part of the limb

on which the inflammation generally fixes; it however sometimes occurs above the fetlock joint. These swellings are painful, and generally terminate in sloughing. Enormous swellings of the legs sometimes occur. As inflammation subsides, the swelling lessens; but the limb generally remains swollen during life. In these affections, it is of the utmost importance to bleed to faintness; but when the vital organs are also affected, life is only to be saved by such an evacuation. If sufficient bleeding be neglected in either affection, the animal will be rendered almost, if not altogether, useless. From which we have founder, pumice feet, chronic lameness, chest founder, and other diseases, which are almost incurable. If bleeding be, however, pursued on the first attack of these chills, (avoiding those poisonous drenches or balls too commonly given,) and carried to the extent I have named, that is, to faintness, and the animal kept cool, instead of putting on warm clothing, and shutting him in a hot stable, he would speedily recover. A second attack is more readily produced, and more likely to prove fatal, the cause should therefore be carefully avoided.

The muscles of the back, in cases of over exertion, are often in death found tender and pale, separated from the attachments to the spinous processes of the vertebræ, and pulpy as if macerated in warm water; the kidneys and lumbar muscles diseased, the heart inflamed, and the lungs choked with blood. In some cases, the spinal marrow is inflamed, and in fact the whole system has partaken of the inflammatory action, forming as it were one general affection, which caution and proper treatment would almost certainly have prevented.

CHAPTER XXVI.

AFFECTIONS OF THE SKIN.

MANGE.

THIS is a well-known disease, highly contagious. It however as frequently arises from debility, as from contagion. The horse first begins to rub and scratch, the hair, then, at various parts, falls off, leaving bare patches; and if the disease be suffered to continue, the animal falls away amazingly.

The cure of mange is simple: common sulphur ointment rubbed well in, all over the animal, once a day, will cure it in a week. The following remedies are also effectual: —

Lotion.

Take of Tobacco and White Hellebore, three ounces; and boil in two quarts of water to three pints, then add an equal portion of Lime Water. Wash the horse all over with this every day.

Ointment.

Arsenic, one drachm;
Sulphur, eight ounces;
Lard, a pound;
Train Oil, sufficient to improve its consistence.

In curing the mange, the horse should have a purging ball first, and then in a day or two a dose of nitre and cream of tartar. His food should be green if to be got, or, if not, turnips, carrots, or speared corn.

SURFEITS.

There are different causes which produce surfeits, but they mostly occur from bad food. When the coat of a horse is of a dirty colour and stares, he is said to labour under a surfeit. The skin is covered

with scurf and scabs; these return, although rubbed off. Sometimes the surfeit appears on the skin in small lumps, like peas or beans; this is often occasioned by the horse drinking much cold water when he is unusually heated. This kind of surfeit will be cured effectually by a gentle purge and bleeding. In some cases the scabs appear covering the whole of the body and limbs; at times moist, and at others dry. The irritation is generally so great, as to cause the horse to chafe himself, producing rawness in many parts, and degenerating into *mange*.

In the first instance, it will be requisite to give him a dose or two of mercurial physic. Should his condition be good, and able to bear it, he may subsequently take the following balls, which will produce a gentle purging and perspiration on the skin, and lead to beneficial results:—

Take Crocus of Antimony.

Flour of Sulphur,

Nitre,

Venice Soap,

Barbados Aloes, of each in fine powder, four ounces;

Precipitated Sulphur of Antimony, one ounce.

Let them be mixed, add a sufficient quantity of honey or treacle, and liquorice powder, and make them into a mass fit for balls. The weight of each ball should be one ounce and a half.

The horse must be treated as described under "*Condition*."

MALLENDERS.

This is a scurfy eruption at the back part of the knee, or bending of the joint. The affection, if allowed to remain, degenerates into a disagreeable discharge. By washing the parts with soap and water, and drying them with a soft cloth or sponge, and then anointing with the following ointment once a day, the disease will be removed:—

Take of Mercurial Ointment, an ounce;

Sulphate of Zinc, a scruple.

Mix.

SALLENDERS.

This is the same disease as mallenders, only that it affects the inside of the hock joint. Its treatment is precisely the same.

HIDE BOUND.

When the skin of the horse is tight to his body, and cannot be pinched up. It is more a symptom of being out of condition than a disease itself. (*See "Condition."*)

WARTS.

When they are of such a nature as to admit of a light thread being tied upon their neck or base, it will be sufficient. If not, the knife may be used, or the following ointment applied every day:—

Take of Sal Ammoniac, three drachms;
Savin, in powder, one ounce and a half;
Common Lard, two ounces.

Mix.

GREASE.

This very frequent disease is a discharge from the skin of the part immediately above the hoof, sometimes attended with cracks and swellings extending higher up. It is caused by weakness of the parts, occasioned by long standing in a stable, or by cold from repeated washing of the legs without rubbing them dry, or from moisture constantly under the feet. Grease may be sometimes owing to constitutional debility, particularly in young horses, brought on suddenly by changes in their diet, &c. and the want of exercise.

The hind legs are oftener attacked than the fore; perhaps, because they are not so well rubbed and dried; and, perhaps, from the stretch kept upon

them in stalls which slant downwards. Although a horse may be fat, and apparently in good condition, still the disease may be caused by this very fulness, producing a partial debility in the feet.

Grease may be either a simple discharge, as I said before, or connected with *cracks* and *swelled legs*. The treatment, therefore, must be adapted to the different degrees of the complaint.

In the first instance, when the complaint is mild, the feet should be bathed in warm water, and having been dried, the following astringent lotion should be applied, by tying a rag wet with it on the parts, and repeating the application twice a day, with gentle exercise, and green food if possible, mashes, opening medicines, and nitre:—

Astringent Lotion.

Take of Sulphate of Zinc, two drachms ;
Decoction of Oak Bark, a pint.
Mix.

If *cracks* begin to shew themselves, with an icherous discharge of a thin and greenish nature, we must not use the above lotion, but first poultice the parts with warm linseed poultice or mashed turnips, bathing the parts occasionally with warm water. These applications are to be continued for eight or ten days, until a healthy discharge comes on, when the above astringent may be safely applied.

If, however, the cracks become large, and swelling of the legs follow, the above poulticing and fomenting plan must be mainly assisted by constitutional means, such as occasional diuretic balls and alterative medicines; and the following may be used after the astringent lotion is tried:—

Take of Verdigrise, half an ounce ;
Prepared Calamine Stone, one ounce ;
Chalk, powdered, two drachms ;
Tar, a quarter of a pound.—Mix.
Anoint the parts daily with this.

Confirmed grease, notwithstanding all our efforts,

will often follow; and this is when the cracks become ulcers and discharge a foul and *peculiarly stinking* fluid; horny or thick nobs will also form, called by the farriers *grapes*.

Then we must, in addition to warm fomentations, use the *fermenting* poultice, which is flour moistened and set into fermentation by yeast. This will be found to correct the discharge in a few days. The discharge, however, ought not to be too suddenly dried up when the complaint has gone to such lengths, but rowels or setons should be applied in the thighs, and allowed to discharge several days first. Then the following astringents may be applied, to dry up the discharge:—

Take equal parts of Verdigrise,
White Vitriol,
Alum, and
Sugar of Lead, half an ounce.
Dissolve them in half a pint of water.

or—

Of Oil of Vitriol, half an ounce;
Water, half a pint.
Mix.

or—

Of Corrosive Sublimate, two drachms.
Dissolved in a little Spirit of Wine, and added to
half a pint of water.

It is, of course, to be recollected in all cases of grease, that the constitution of the horse is to be attended to.

When the discharge is stopped, and the disease apparently removed, let the horse be turned to grass, or into a straw-yard; and in a week or two, fire the parts, so as to cause the skin to contract, and so establish a permanent pressure on the parts.

CHAPTER XXVII.

AFFECTIONS OF THE MOUTH.

CANKER IN THE MOUTH.

CANKER appears on the tongue and other parts of the mouth in little blotches, or brown specks, and is generally owing to the bridle-bit being rusty. If, however, it arises from any other cause, it will appear in small white specks, spreading into irregular ulcers, and in time extending nearly over the whole of the mouth. The following gargle will be found effectual in this affection:—

Take Burnt Alum,
Common Salt, of each an ounce;
Armenian bole, half an ounce;
Best Vinegar, half a pint.
Mix well, and put into a bottle.

This gargle should be applied to the horse's mouth night and morning, as follows:—Take a small piece of whalebone about two feet in length, tie round one end of it a bit of sponge or tow, dip it in the gargle, and apply it to those parts which are affected. Let him work it about well in his mouth, and after keeping him fasting for an hour, give him his usual food.

WORN AND RAGGED GRINDERS.

It will sometimes be found that horses kept on dry food will slaver at the mouth, champ their meat, and often throw it out, which is called *quidding*. When this is the case, and no canker appearing in the mouth, it will be found generally to arise from some fault in the grinders. This will easily be ascertained by examining the interior of the mouth, in the weeks of which will be found holes or wounds,

cut by the grinders when in a ragged state. Often an impartial wearing down of the teeth from use will cause the complaint.

Take a file, made for the purpose, with one side smooth, lest it injure the weeks, and file the grinders quite smooth on the side next to the sores; after which, apply the gargle recommended in canker of the mouth. The disease is very liable to return.

WOLVES, OR EYE-TEETH.

These teeth are rarely found in young horses, but old ones are sometimes liable to them. They are small, and appear on the upper jaw, about half an inch, sometimes an inch, from the grinders; occasionally on one side, sometimes on both. It is said the eyes are sometimes affected by them, and they impede mastication. They may be removed by filing them even with the gums.

CRIB-BITING.

This affection arises wholly from indigestion. It is erroneously supposed to be occasioned by a sucking in of the air, but that is to be accounted for by the eructations attendant on it, and consequently a decided proof that crib-biting is a symptom of indigestion. Bad living, musty food, high feeding without exercise; in short, everything tending to injure digestion, may produce it as a *symptom* of the injury. The horse merely bites in his exertions to relieve his stomach from the wind, which from the nature of his structure is difficult to do. In the first instance he may be cured; but if the habit be not remedied soon, it becomes established in proportion to the existence of indigestion. For the treatment, see the article on "*Condition.*"

LAMPAS.

(See the Chapter on Tumours.)

CHAPTER XXVIII.

COLT EVIL.

THIS disease generally attacks young stallions who are allowed to range about with mares before they are able to copulate. It commences with inflammation and swelling in the sheath, yard, and testicles. Dirt and other filth often lodges in the sheath, producing irritation and an increase of these symptoms, and a gleet or discharge from the urethra follows. This is easily removed by washing the parts with warm milk and water; the best way to get at them is by taking him to a mare, which induces him to draw his yard. If the affection is attended with much swelling, use the following fomentation:—

Take Wormwood,
Elder leaves,
Marshmallow Roots, of each a handful;
Poppy-heads, fifteen.

Let them be boiled in Water and Milk, of each one gallon.

This fomentation should be applied on flannels, squeezed out of it, and laid on the parts affected as hot as possible, night and morning. After which, rub them well with the following liniment:—

Take Camphor, five drachms;
Spermaceti Ointment,
Elder Ointment,
Marshmallow Ointment, of each, two ounces;
Spirit of Wine, one ounce.

Dissolve the Camphor in the Spirit of Wine, and mix the whole together; put into a pot, and keep it well covered.

The above should be rubbed gently over all the swelled and inflamed parts after each fomentation; and when these have subsided, an application of the following lotion three times a day will effect a cure:—

Take Sugar of Lead, one drachm and a half ;
 Acetated Litharge, two ounces ;
 Spirits of Camphor, four ounces ;
 Spring Water, half a pint.
 Mix together, and put into a bottle.

Administer the following purging ball :—

Take Jalap, in powder, two drachms ;
 Calomel, ten grains ;
 Barbados Aloes, half an ounce ;
 Ginger, in powder, two drachms ;
 Oil of Aniseed, twenty-five drops.
 To be made into a ball, with a sufficient quantity of
 Syrup of Buckthorn.

Three days after he has taken this ball, a diuretic,
 as follows, should be administered :—

Take Nitre,
 Yellow Resin, of each, four ounces ;
 Gum Arabic, in powder ;
 Balsam of Capivi, of each two ounces and a half ;
 Liquorice Powder,
 Lenitive Electuary, of each, four ounces ;
 Castile Soap, one ounce ;
 Spirits of Nitre, six drachms.
 Beat the Capivi and Soap together till well united, then add
 the other ingredients. Let each ball weigh two ounces.

The purging ball should be given once in ten or
 twelve days, and one of these once or twice daily,
 until the symptoms disappear.

If the discharge from the yard continue, the fol-
 lowing injection should be used :—

Take Sulphated Zinc,
 Sugar of Lead, of each, one scruple ;
 Acetated Litharge, one ounce ;
 Spirits of Camphor, three ounces ;
 Water, five ounces.
 Mix and put into a bottle.

Let a small quantity of this injection be thrown
 carefully into the urethra with a syringe ; the force
 must be sufficient to throw it about two inches and
 a half beyond the external aperture, so as to pass
 over an ulcer which is formed from an inch to two
 inches from the mouth of the urethra.

CHAPTER XXIX.

CONDITION.

WHEN a horse is in good health, he is in good condition, properly speaking; however, amongst grooms, a horse must have other more pleasing appearances than good appetite and good flesh, he must have a smooth coat, &c. &c. As the coat can be *made* smooth when a horse is healthy, and as it cannot when he is unhealthy, I will observe upon the means of restoring the health or condition, and leave the smoothing and ornamenting of the coat to the proper groom, and refer to the chapter upon the subject in the beginning of this work for a guide or an assistant to his operations.

Ill condition is *indigestion*. Let this be remembered as a general rule, from whatever cause apparently, whether from disease of any particular part of the horse, or from bad food, &c. still it will all come to this point—that the stomach becomes deranged, and deranged digestion is the consequence.

Digestion is the process whereby food is dissolved in the stomach of the horse, converted into chyle, and then formed into pure blood. Much, therefore, depends upon the wholesome nature of the provender, and the proper mastication, or chewing of it, by the animal, and nothing is so frequent a cause of ill condition than bad food, such as musty corn, damaged hay, brackish water, &c. and the sudden changing of a horse from grass to hard food. Cold or over-heating, worms, &c. inasmuch as the stomach sympathises with the disease, also produces ill condition, which, of course, can never be improved until the cause is removed.

Surfeit, hide-bound, crib-biting, and lampas, are all symptoms of deranged digestion, rather than diseases. The hair stares, the hide becomes tight, the horse, (if

young particularly) gets lampas; and often, from collections of wind in the intestines, begins to bite the manger in his exertion to rid himself of it. The skin of the horse sympathises with the state of the stomach more than in any other animal; and the mouth of every animal will indicate the diseases of the intestinal canal.

The first thing to be done with a horse out of condition, that exhibits no disease, is to regulate the temperature of his stable; and if he be young, take blood from him. Then administer the following mild purge:—

Take of Barbados Aloes, seven drachms;
 Cream of Tartar, two ounces;
 Ginger, half an ounce.

Mix, and dissolve in a pint of warm Ale.

Or, if a ball be preferred, the medicines may be made up into one, with a little treacle or paste.

The animal, if taken in from grass, must not be put on dry food, for that is often the *cause* of ill condition, but must be mashed with bran, and have green soil, if possible, for the first fortnight, or carrots, speared corn, &c. with an occasional small feed of corn and hay, moistened with water. He must also have plenty of chilled water. When the purgative has operated, and the horse has had a day's rest from the action of it, the following alterative medicines must be given every second night:—

Take of Tartar Emetic, half an ounce;
 Sulphur, four ounces.

Made into four balls with Mucilage.

Or—

Take of Nitre, two ounces;
 Precipitated Sulphur of Antimony, one ounce.
 Mix with Mucilage, and divide into four balls.

Perhaps an alternate use of these different formulæ would be advisable. Warmth is the fashion, I am aware, in treating the condition of horses; but this is often, indeed generally, carried too far. A temperate

stable with light covering, and regulated according to the season, should be attended to with less prejudice than it generally is at present.

At the end of a fortnight the purgative should be repeated, and a greater portion of corn or hay allowed, and then continue the alterative balls. It should be understood that exercise moderately used is indispensable.

If the animal be very far advanced in a state of ill condition, nothing will be half so beneficial as to turn him out to grass. This does more than any stable treatment we can devise.

In cases where the skin is too much affected, and indeed in all cases of ill condition, the brush should be preferred to the curry-comb for the first fortnight of the treatment; after which, that instrument is to be used every day.

Attention should be paid to the stools of the animal, to see if he passes worms; which, of course, will point out the true cause of the ill condition, and direct the proper plan. (*See Worms.*)

Defects in the teeth often occasion bad condition. If a young horse be defective in his grinders (which is frequently the case), and consequently incapable of chewing his hay and oats, the only preventive method against such defect is, to cut his hay short with a hay-knife, and to give him his oats in a bruised state; if both be also well moistened with fresh water, it will tend to promote the digestive process considerably. Bran mashes, grains, &c. are likewise necessary in such cases. The above mode is recommended when horses are kept in stables; but it is by far better to leave them out at grass (except in severe weather), until they are five years old, at which time the teeth become perfect, and are fully capable of chewing the food for necessary purposes of wholesome digestion. Horses that are in the habit of bolting their hay and oats should have them bruised, as already described. This can be

easily discovered, by examining their dung, when the corn, &c. will be found whole and unmasticated.

In obstinate or very weakly cases, tonic medicines should be administered after the above course is tried. The following is a good formulæ :—

Tonic Draught.

Take of Decoction of Gentian, a pint ;
Diluted Sulphuric Acid, half an ounce.
Mix.

Tonic Ball.

Take of Winter's Bark, two drachms ;
Verdigrise, one drachm.
Make into a ball with treacle.

These tonics may be given with advantage alternately, one each day.

CHAPTER XXX.

PROPER TREATMENT FOR HORSES ON A JOURNEY.

The following instructions, if duly observed, will strengthen the constitutions, and prolong the lives of the animals intended for their use on long journeys, whether they be saddle horses or in harness.

A fortnight before the horse starts on his journey, he should be moderately exercised twice a day, viz. in the morning and afternoon. His regimen should be regulated in the manner as already laid down in the article on feeding. The soles of the feet should be finely pared, the hoofs kept soft and cool, by stuffing the internal parts with tar ointment, composed of equal proportions of tar and tallow, melted and blended together over a slow fire, and when cold, fit for use. The coronet and heels of the frog may also be rubbed with it. Three or four days before he sets out, the horse should have a set of new shoes, carefully put on (*see article on shoeing*); and lest

any accident should have occurred in driving a nail in a wrong direction, or from any other defect, he should be walked out frequently every day, in order to discover whether any tenderness or lameness be apparent. The stuffing, or internal padding of the saddle, should be examined, and also the saddle and crupper of the harness, before the traveller proceeds on his journey; so that due precaution be observed in rendering them soft and innoxious in their pressure on the horse. Saddle and harness galls, and other dorsal injuries, may arise from neglect of this simple but important provision. On arriving at the end of every stage (say from ten to twelve miles), the horse should be freed from his saddle or harness, and well rubbed down, his feet carefully examined, and the hoofs well cleansed; if very warm, he should be walked about gently, until the violent heat subsides. Then give him about three quarts of good water, a few handfuls of hay moistened, and half a peck of oats. Rest about an hour and a half, and then proceed to your next stage, at an equal pace, consistent with the physical powers and health of the animal. On a general calculation, from six to seven miles an hour should not be exceeded (unless on emergency, for *one* stage only), if you wish to preserve your horse *safe and sound* at the end of his journey. Thirty miles a day is sufficient labour for horses of the best constitutions. Thirty-five miles a day (unless, as already observed, in cases of expedition), should never be exceeded. Travellers should *never depend on ostlers at inns on the road*, either as regards making or doing up their horses for the night, or in serving out their oats, &c. Their duty is to be on the spot at that hour, and to secure the animal that has safely borne them through each day's fatiguing journey, in his necessary quantity of provision, and comfortable stall for repose. The poor animals, if deprived of their food, cannot express the cruelty practised against them; it is, therefore, an in-

cumbent obligation on the master to protect his faithful servant, who toils all day, and carries him safe to his place of destination each successive night. Although the practice of casting pails of water on horses when in a heat, and rubbing them down negligently afterwards, is frequent, it is not less to be reprobated as an abominable practice. Numerous diseases, perhaps long after this absurd operation, afflict the animal, when such disorders are attributed to every cause but the REAL one. Cold water should *never* be used in this manner, unless the horse be perfectly cool, and that his dirty appearance requires it. Then he should be clean wiped and well dry-rubbed. Ten pounds of hay, moistened with good water, will be sufficient for a horse on a journey during the twenty-four hours—four pounds during the day, and the remaining six pounds when made up for the night. Two pecks of oats, one peck, divided into two feeds, in the day, and the remaining peck at night, is a proper quantity. If the traveller, in the course of his journey, be obliged, in his commercial avocations, to remain a few days in any town or place, he should reduce the quantity of oats one half at least, and supply the deficiency of his usual allowance by bran-mashes. The horse, during this interval of rest, should be gently exercised twice every day, morning and afternoon. Should the animal be internally or externally affected by any complaint on a journey, a veterinarian professor should be consulted, if resident in the vicinity, as the numberless horse-quacks that swarm about country stables are always ready with their poisonous nostrums, like the London man-quacks, to “kill or cure” their ill-fated patients.

CHAPTER XXXI.

PHYSICKING

Is a very useful remedy and preventive in disorders of the horse; they occasion additional secretion of fluid in the intestines, excite the natural motion of the bowels, and they cause a greater flow of blood to the bowels. Mild purges merely cleanse the bowels, but brisk and powerful ones affect the system generally. In fevers and inflammations, the horse should never be allowed to pass a day without two or three motions; and these can easily be procured by giving castor oil, or olive oil and Epsom salts, or calomel and aloes in diminished doses. (*See Fevers and Inflammations.*)

Purges assist bleeding, by reducing the system and in cooling the body; and, indeed, it frequently happens that a first purge alone has all the desired effect.

Mercurial purges are particularly useful in certain disorders, as affections of the liver, worms, diseases of the skin, lame joints, grease, and swelled legs. They operate upon many functions. They destroy worms, cause a healthy action, and materially alleviate chronic complaints; but in using them, be careful the horse does not take cold. Clothe him well when he is exercised, and warm his drink.

Those horses that are fed very high, and upon dry food, require to be purged periodically, say two or three times a year. Two or three doses at each time will be sufficient, allowing proper lapse between each. Stage coach and post horses are generally over-worked, and are very liable to swelled legs. These horses require purging; the use of which, in fact, would prevent many diseases from attacking this noble and valuable animal.

Some horses, after long journies, are liable to lose

their appetite, and their stomachs are clogged with crude and indigestible matter. This must be removed; for if permitted to remain, it is productive of dreadful effects. But we must not purge without preparation; this would cause a violent irritation, and by destroying the structure of the bowels, occasion mortification and death. Prepare the horse, therefore, by giving him two or three hot mashes of scalded oats or bran and hot water, for a few days previous to purging. By this you will soften the fæces, and assist the operation of the medicine.

A strong purge given to a costive horse, without having prepared him, will most probably cause a violent inflammation of the intestines; and that can only be avoided by the preparation I have mentioned.

The following are very excellent purges for a horse when he is afflicted with indigestion:—

Purging Ball, No. 1.

Take Barbados Aloes, six drachms;
 Ginger, in powder, two drachms;
 Castile Soap, two drachms;
 Oil of Aniseed, twenty drops.
 Mix and make them into a ball, with a sufficient quantity of Syrup of Buckthorn.

Another Purging Ball, No. 2.

Take Barbados Aloes, one ounce;
 Ginger, two drachms;
 Castile Soap, two drachms;
 Oil of Carraways, twenty drops;
 Syrup of Buckthorn, sufficient to form a ball.

Another Purging Ball, No. 3.

Take Socotorine Aloes, one ounce;
 Castile Soap, one ounce;
 Oil of Junipers, forty drops.
 Mix, and form a ball.

This latter ball is much esteemed for its safety. The one before it is sufficiently strong for a common sized hackney

Sometimes it is useful to administer tartar emetic and calomel combined, over night, and the purge of aloes, (No. 1,) in the morning. The following is useful:—

Purging Ball, No. 4.

Take Tartar Emetic, one drachm ;
Calomel, thirty or forty grains ;
Ginger and Castile Soap, of each, two drachms.
Mix into a ball with Syrup or Honey.

These are useful balls for coach and other horses that suffer under swelled legs and heels, attended with inflammation. The doses are calculated for moderate sized horses, and can easily be diminished or increased occasionally.

The purging ball should be given fasting in the morning. After two hours give the horse scalded bran, new warm milk, and a little good hay—often repeated. If he refuse these, give him dry bran with a handful of oats. Warm his drink, clothe him, and gently exercise him two or three times a day. If the physic be strong, give him less water and exercise ; if too weak, let him drink his fill. When the physic has ceased working, give him a good feed of oats and dry bran. Keep him dry and clean, and warm his drink for two or three days after the physic.

If you suspect worms, or want ^{st^d} to give a brisk purge to a horse, use this form:—

Purging Ball, No. 5.

Take Barbados Aloes, six drachms ;
Calomel, from thirty to forty grains ;
Ginger, in powder, two drachms ;
Castile Soap, two drachms ;
Oil of Aniseed, twenty drops.
Syrup or Honey enough to form a ball for a powerful horse. You can increase the proportion of Aloes.

If you add prepared kali to aloetic purges, you remove their griping qualities, and render them milder. In some cases horses can take enormous

doses of aloetic purge without injury, if combined with kali.

But the better way to give very strong doses, is to divide it between night and morning. Barbados aloes for horses are most to be depended on. Never unite kali with calomel or other mercurial medicines, as one decomposes the other. These are useful in all obstinate disorders, such as farcy, lame joints, greasy heels, and eruptions:—

Mercurial Ball, No. 6.

Take Calomel, thirty or forty grains, according to circumstances ;
Barbados Aloes, Ginger, and Castile Soap, two drachms each.
Make into a ball with Honey or Syrup.

Give this at night, and the purge (No. 1) in the morning. Never physic a horse more than three times in one course ; and let there be an interval of six days or a week between each dose. If the purging be too violent, attend to the following:—

Take Prepared Chalk, Ginger, and Aniseeds, in powder, of each
one ounce ;
Oil of Peppermint, fifteen drops ;
Spirits of Wine, half an ounce.
Mix the whole in a pint and a half of warm Linseed Gruel,
and give it.

Or this will have similar results:—

Prepared Chalk, one ounce ;
Compound Powder of Ipecacuanha, two drachms ;
Laudanum, two drachms ;
Ginger Powder, half an ounce.
Mix, and give it in a pint and a half of warm Gruel.

These will check the excessive purging, but the one containing opium is most certain in its effects. Either of them may be given once or twice a day if necessary. Excessive purging will occasion inflammation of the bowels, known by constant and severe pain, small hard pulse, and cold extremities. When these symptoms are *urgent*, remove two or three quarts of blood from the horse. The horse is liable to swell if physicked without being prepared. This

is dangerous, and requires a diuretic drink as follows:—

Take Yellow Resin, two ounces;
 Prepared Kali, half an ounce;
 Oil of Junipers, three drachms;
 Carraway Seeds and Ginger Powder, of each, one ounce;
 Mix, and give in a pint and a half of warm gruel.

If this be unsuccessful, in two hours,

Take Castor Oil, one pint;
 Soap Liniment, one ounce.
 Mix in a pint of gruel and give.

Walk or trot the horse in hand fifteen or twenty minutes; and if there be no evacuation by that time, give him the following

Clyster.

Take Warm Water, four quarts;
 Glauber's Salts, four ounces;
 Treacle, four ounces;
 Sweet Oil, half a pint.
 Dissolve the Treacle and Salts in the warm Water,
 and then add the Oil.

But before giving the clyster a small hand should be passed up, and the hard dung removed. As soon as the injection is in, remove the pipe and close the orifice for ten minutes. Observe these rules in using all clysters. A pipe is better than a syringe, because the horse is more quiet when it is used.

The following purging drink, for a hunter or race horse, after hard fatigue, is in much estimation:—

Take of the best Senna, two ounces; boil in a quart of Water, and afterwards leave the whole in a covered vessel for two hours. Then strain and add—
 Glauber's Salts, four ounces;
 Barbados Aloes, three drachms;
 Prepared Kali, half an ounce;
 Aromatic Powder, two drachms.
 Mix, and give it with a little warm Milk.

Give this when the horse is cool, and then let him

fast for an hour. Give him then a warm mash of bran and oats. The drink given at night operates the following morning.

CHAPTER XXXII.

BLISTERING.

THE mode in which blisters act in producing the removal of disease, is by its counter stimulus. A partial, *new* and active derangement is caused by this stimulus and nature. If I may be allowed to say, it *forgets* or suspends the original diseased action during the operation of this new one. This reasoning will apply to the repetition of blisters, when one is not sufficient to remove the disease. The best and principal blister is decidedly cantharides, or Spanish flies; and that medicine will be found fit for every purpose of blistering. If the blistered part be required to be kept open, it may be by the application of savin ointment, a weak ointment of Spanish flies or turpentine.

The mode of applying the blister, is first to cut the hair closely off the part, and then rub the blistering ointment well in; and when that is done sufficiently, a little of the ointment is to be spread over the part with a spatula or case knife. The horse must be then secured, so as to prevent his biting and scratching the part. This may be done by means of a cradle on his neck, or his head may be fastened up so as to prevent his lying down, for about three days. The cradle, however, will be found the best means.

In blistering the pastern joint, care should be taken to smear suet or lard over the heels; for *grease* often

follows a blister, and when a horse is out of condition and suddenly brought in from a straw-yard, a blister on the hind pasterns will very often produce this disease.

In cases of hard and bony swellings, the part should be rubbed well with mercurial ointment for a few days before the blister is to be applied, which will tend much to promote absorption.

When we wish to blister without destroying the hair, we apply what is called a *sweating blister*. It is merely the rubbing in of a mild blistering liquid in such a way as not to blister, but to gently stimulate the parts, which operation is repeated every day until a slight swelling shews itself.

In all blistering, the parts should be rubbed with lard, or palm oil, or fresh butter, on the fourth day of the application of the blister.

If repeating blisters be necessary, each must perfectly heal before the succeeding one be applied.

CHAPTER XXXIII.

SHOEING.

As the evils which have arisen from bad shoeing in these countries were lamentably numerous and destructive to horses, it is no wonder that, in this age of improvement, men of talent in the veterinary art turned their attention to the remedy of those evils. However, although a great deal of light has been thrown upon the causes of diseased feet, and a considerable improvement has taken place generally in the shoeing of horses, yet we must revert to our old mode of good English shoeing, as regards the general principles, and content ourselves with hoping, that

a yet more decided change for the better in this important point may take place. National prejudices are strong on every subject; but upon that of shoeing they are rooted. England, France, and the Peninsula, possess different modes of shoeing, yet neither will admit that any method can surpass their own. A Portuguese, while he operates with no less than two assistants, one holding the leg, the other the instruments, and himself hammers away at the foot, will laugh at the ease with which an English farrier does the business by himself alone. Habit does a great deal, and it is difficult to change an old custom. However, if my readers wish to read the ingenious attempts at improvement in this branch of the art, (I wish they would) let them consult the works of Mr. Colman, Mr. Bracy-Clarke, Mr. Blane, Monsieur La Fosse, Monsieur St. Bel, Mr. James Clarke, and Mr. Ozmer. With those gentlemen I leave him, while I content myself with giving him plain directions for shoeing.

When horses are to be shod all round, let only one shoe be taken off at a time; and this is to be carefully raised at the clenches, and no stumps of nails left, over tearing of the edges occurring. Then rasp the edges of the crust, so as to clear it of gravel and rough portions of the horn. Then pare evenly the sole, following its natural formation, but not hollowing or scooping out any of the crust, but let the concavity begin from the under line of it, for the crust must be quite level and flat to receive the shoe: in short, the crust and the shoe should be two planes, lying *exactly even*; for this is one of the greatest perfections in the operation, as it gives equal pressure to the hoof. The part between the quarters and the bars should be pared cleanly out. The heels are not to be left prominent, but also pared to an *equal line with the crust*; this is of great importance and but little attended to. If the inner side of the heel be less prominent than

the other, it should be allowed to grow, and to restore itself as much as possible.

The crust and sole being now pared, the frog must next be attended to, and this is very important. The frog must not be either pared too low, nor allowed to protrude beyond the general surface of the crust, but to bear exactly with it on an even line. Let there be no "*cutting away the heels*," as the smiths call it; that is, paring out the end of the crust as it turns in. This is done by way of preventing contractions; but it paves the way for them, by weakening the bars; however, where the ends bend in so as to press the frog, the cutting out will be of use, but in no other case. These things having been done, let the shoe be *exactly fitted* to the foot, and *not the foot* to the shoe, as some smiths attempt to do by paring, &c. It is of the greatest benefit to have an exact fit, and instead of applying a red hot shoe, to burn away the inequalities on the crust, the shoe should be wrought previously, in such a manner that it would lie completely in contact with a plain sheet of iron. Burning the crust thus is a bad habit, and may be avoided by attention to the cutting of the crust and the flattering of the shoe.

CHAPTER XXXIV.

THE AGE OF A HORSE.

ALTHOUGH nature has, by the teeth of the horse, furnished us with evidence of his age until he passes eight years, yet art has opposed its power to deceive us on this point, and but too often successfully.

Colts are made into horses, and old tough stagers rendered mere colts by the art of *bishoping*. To be, therefore, a good judge of a horse's age, the habit of

considering his general appearance, spirit and action will be necessary.

A foal of six months old has six grinders in each of his jaws; three on one side, and three on the other; also six nippers, or front teeth, with a cavity in each.

At one year old, the cavities in the front teeth begin to decrease, and he has four grinders on each side, one of the permanent, and the remainder of the milk set.

At two years old, he loses the first milk grinders above and below, and the front teeth have their cavities filled up just as horses at eight years old.

A three years old, or two and a half, he casts his two front nippers, and in a short time after the next two fall.

At four years old, the grinders are six on each side the permanent set; and about four and a half, his nippers are permanent by the replacing of the remaining two corner ones which have dropped. The *tushes* then appear, and he is no longer a colt.

At five years old, a horse has his tushes, and there is a black coloured cavity in the centre of all his lower nippers. The corner ones are thinner.

At six years old, this black cavity is obliterated in the two front lower nippers.

At seven years old, the cavities, or marks of the next two middle teeth of the lower jaw are obliterated, and the tushes are somewhat blunted.

At eight years old, all the cavities or marks are obliterated, and the tushes blunted. The horse is then said to be *aged*.

The nippers of the upper jaw do not fill their cavities so soon, and that may be considered as a good test. At eight years, only the two *front are filled*; at *nine* the next two, and at *ten* all are obliterated.

Amongst good judges, the appearance of the tushes form the best means of coming at the age of a horse after eight. When these teeth appear first, they are pointed and curved inwardly; every succeeding year

they become less so, and in very old horses they are like stumps.

Although a horse be "*aged*" at eight, yet this does not constitute an old horse; on the contrary, if he have not been ill used, he will be in his prime from eight to twelve years, and often much longer; it is only the two early and the two severe working which destroys this noble animal so early in life, slave as he is to his unmerciful tyrants—men (*brutes* I mean), who recompence his valuable services and patient submission with torture through his existence, and a premature and unworthy death! Mr. Martin, for the humane services he has rendered these noble, excellent and amiable animals, deserves the gratitude of mankind; yet for this protection, which he has so laudibly thrown around the horse, the *asses* of the age lift up their brutal *brayings* against him. Such deserve to be harnessed to a Greenwich stage-coach for three *fair* days, and whipped out and in to town twenty times each day. Then would they learn to pray, not *bray*, for the worthy and humane protector of dumb animals.

END OF THE FIRST SECTION.

SECTION II:

CATTLE.

SECTION II

CATTLE

SECTION II.

CATTLE.

CHAPTER I.

ACUTE INFLAMMATIONS.

IN the treatment of the diseases incident to cattle, the practitioner must in all general rules, such as regards inflammation, fever, &c. be guided by the opinions laid down in the preceding section. The principles of the treatment are the same.

INFLAMMATION OF THE BRAIN, OR MAD STAGGERS.

This disease originates from an excess of action in the blood-vessels of the brain. The first symptoms are a general dullness and heaviness of the beast, the head constantly drooping; and in its progressive stage, when there is a determination of blood to the head, the animal becomes furiously and dangerously outrageous; the eyes seem on fire, and express a terrific fierceness; the violent action of the disease so far overpowers the poor brute, that it staggers, reels about, and falls down exhausted; for some time it remains panting, then the fit returns; until, at last, the inflammation operates so powerfully on the brain, that the beast convulsively expires. When the first symptoms appear, bleeding to faintness is the only safe remedy; a strong purgative, as directed *below*, should also be given, and the beast directly removed into a short pasture. But if the disease has advanced to a desperate stage, he must be tied down instantly, and what are termed the two neck veins should be immediately opened with a lancet, or sharp fleam. Let him bleed copiously until quite weakened. Should the fever of the brain

abate under this operation, use the treatment as already directed in the first symptoms of the complaint.

Opening Draught.

Epsom Salts, seven ounces;
Carbonate of Potass, two drachms and a half;
Barbadoes Aloes, half an ounce;
Whey, two pints.

INFLAMMATION OF THE LUNGS, PLEURISY, OR RISING OF THE LIGHTS.

This disease is generated, either by over-feeding and forcing cattle, or by the unfeeling practice of severe driving when they are very fat. The appearances in the early stages of this complaint are hard breathing and panting, the head declining, violently hot in every part, and total failure of appetite. In this case, as in all inflammatory attacks, the first preventive against the further progress of the disease is immediate and free bleeding, then remove the beast into a bare pasture or common, if the weather be fine; if not, feed him very *moderately* on nutritive bran mashes and a little wholesome hay. Keep him in a well sheltered cow-shed or cow-house; and in some time after bleeding, drench him with *seven* or nine ounces of Epsom salts, dissolved in a quart of whey. Continue the spare regimen of diet until all appearance of inflammation has ceased; then let him have his original *quantum* of food.

INFLAMMATION OF THE HEART.

This disorder, although called as above, is only a participation of the heart in contiguous inflammation. It almost invariably originates from the scandalous practice of drovers, who savagely drive beyond their speed stall-fed and other fat cattle, that have not been used to such violent exertion. The lungs,

bowels, and in short every part of the system is in a state of over-action. Free and early bleeding, even to excess, until the beast actually faints from weakness and loss of blood is, in such desperate cases, the *only* preventive against immediate destruction. Should the fever abate, the beast must be kept quiet in a cool, airy situation. Whey and light mashes of bran is the best regimen, until the beast appears so far convalescent as to remove into a short sweet pasture. In very bad cases, from *nine* to *eleven* quarts of blood may be safely taken; and when the beast falls down from weakness under the operation, there is every probability of his recovery.

INFLAMMATION OF THE STOMACH.

This disease may arise from over-feeding and little exercise, by which means indigestion is caused, and the heating effects of the stagnant food in the stomach generate quantities of confined air in that organ, and inflame it and the bowels also. In the disease of "*hoven, blown, blasted,*" &c. the first stomach is affected; but, in this complaint, the attack is felt in the *fourth*, commonly termed the milk stomach in cows. In this case, when the chyle or milk passes from the diseased stomach into the udder it will inflame it, if the milk be not timely drawn off, and proper preventives also used. The appearance of the milk at such time is of a deep yellow, and slimy; and in very bad cases the colour is blood-like, the smell stinking, and the substance thick and humourous. Unwholesome provender, as bad hay and straw, is frequently the cause of this disorder; at other times it proceeds from cattle grazing in luxurious pasture, or in cows that have bred and reared many calves. The usual symptoms are general stupor and failure of appetite, much difficulty of breathing, accompanied with frequent *hoosing*. Treatment—first, bleed copiously; and if the beast be fat, bleed

even to faintness, and afterwards let the following *purgative* drench be given :—

Glauber Salts, seven ounces ;
 Castor Oil, seven ounces ;
 Carbonate of Soda, half an ounce ;
 Whey, two pints.

If this disorder should appear while the beast feeds principally on hay forage, it is ten chances to one that the fibrous portions remain in an undigested close form in the third stomach ; and in that case a purging draught, consisting of the following ingredients, should be immediately given, and also warm clysters of salt and water should be repeatedly served, until this undigested mass be effectually removed from the third stomach :—

Purgative Draught.

Epsom or Glauber Salts, seven ounces ;
 Barbadoes Aloes, half an ounce ;
 Ginger, (finely ground) one drachm and a half ;
 Whey, two pints.

The animal should be removed to an enclosed field, where the grass is short and bare, so that she must move about constantly as she grazes. Bran mashes will also be light wholesome food in those cases ; and when turned out into the field, she must have free access to good water, as it will expedite the restoration of proper tone in the digestive organs. When she appears in an advanced state of recovery, the cow may be removed into better pasture ; but great care should be taken that such is the case, before any alteration in her spare regimen of food is adopted.

INFLAMMATION OF THE LIVER.

This is more frequent in neat cattle than in horses, but in general not of so active a character. Purging generally accompanies this disease in cattle. Its treatment must be conducted in the same manner as

for the same disease in the horse. Calomel purgatives, bleeding, and blistering, are the principal means to be resorted to.

Inflammation of the liver is not a frequent occurrence in sheep.

INFLAMMATION OF THE BOWELS.

Very high and gross feeding, and also indigestible food, are the chief promoters of this dangerous complaint. From those causes the confined air forms in such quantities in the intestines, that the bowels of the animal are *blown* out in so dreadful a manner as to occasion either a rupture of the bowels, or a violent internal inflammation, which ends fatally in mortification. This complaint frequently occurs from the injudicious practice of fattening stall-fed cattle principally on potatoes, and in such copious quantities, that they consume more at a time than they can digest. A sudden removal of cattle from a thin short pasture into a luxuriant field of clover, or any other rich grazing land, will also frequently cause this disorder; in short, any excess of feeding that impedes the free action of the digestive system, must tend to the creation of this disease. The general symptoms are restlessness and loss of appetite, the body much swollen, particularly on the left side. The animal soon after appears to suffer great agony, which he shews by continual restlessness in lying down one minute and getting up the next; also, frequently attempting to rub his sides and belly with his horns and hind legs. Unless proper remedies are immediately applied, the inflammation commences in the bowels, and often in the stomach also. The animal in such case pants violently, breathes in the greatest agony, and, in a very short time after, death ensues. If the inflammatory attack be only in the bowels, the following purgative draught should be instantly given, and warm clysters also served at the same time:—

Take Epsom Salts, eight ounces ;
 Nitre, three drachms ;
 Barbadoes Aloes, half an ounce ;
 Whey, two pints.

But, if the symptoms of general inflammation of the bowels and stomach appear violent, bleeding even to faintness, as recommended in other cases, must be first resorted to. In the event of gradual recovery, the beast should be removed into a field of light pasture, where he must move about as he feeds.

INFLAMMATION OF THE KIDNEYS.

The relaxation of the kidneys has been treated on in the article on *Red Water*. Inflammation of those parts generally arises from over-exertion, strains, or a violent blow across the loins. The chief symptom is an attempt on the part of the animal to make water, which it frequently does in small dribbling portions. The colour of the urine, in such cases, is of a dark bloody hue. Copious bleeding should be first used, and the following purgative draught should then be given :—

Castor, or Olive Oil, five ounces ;
 Glauber Salts, seven ounces ;
 Whey, two pints.

If, after these remedies have been applied, the water passes freely, copiously, and without pain, but retains its dark blood colour, then let the following binding draught be given, and put into it when first warmed on the fire about a pint or a gill and a half of good old ale :—

Binding Draught.

Opium, one drachm ;
 Catechu, (Japan Earth,) two drachms ;
 Ginger, one drachm and a half ;
 Alum, two drachms and a half ;
 Table Beer, half a pint.

Should constipation ensue from this draught, a mild aperient must be given.

CHAPTER II.

FEVERS.

INFLAMMATORY FEVERS, BLOOD STRIKING, BLACK QUARTER, QUARTER EVIL, &c.

INFLAMMATORY fevers are more frequent in spring and summer than during any other period of the year. As those disorders proceed from a repletion of the blood vessels, the best early treatment is free bleeding, until the animal is quite faint; appropriate purgatives should also be given; and the beast, if the weather permit, should be turned into a sheltered field, where the pasture is short and sweet. These are the best general remedies; however, it may be more satisfactory to the practitioner to explain the various symptoms, treatment, &c. of the numerous inflammatory affections, under their several heads, as usually known to graziers, farmers, &c. &c. The above names are all applied to the same disease, which too often proves fatal, (from neglect or ignorance of proper treatment,) in four or five hours. Yearlings, up to two years old, are more exposed to this disease than at an advanced age. From the bad hay and straw, upon which cattle are fed in the winter seasons, and their exposure to cold wet situations, chiefly arises general inflammation. The blood is rendered impure by repletion of foul humours, which pass off continually from the bowels by the kidneys, and the beasts, therefore, from such repeated exhaustion of the system, become much debilitated. When

they are turned into new pasture, if, from sharp appetite and quick digestion, the blood increases too rapidly, the surplus quantity will run off so frequently by the kidneys, that the poor beasts often bleed to death. This complaint comes on very suddenly: the symptoms are a general stupor, the head hanging down, and total failure of appetite. Tumours also appear in various parts of the body, especially the back, belly, legs and shoulders. Those swellings resemble small bladders, half full of wind and water. Blisters also frequently appear on the tongue and mouth. In all cases of this kind, the *first* treatment should be immediate and copious bleeding, and soon after give a drench of *nine* ounces of Glauber's salts, dissolved in about about two pints of whey. It has been just observed, that general inflammation appears at that early age, when the digestive organs and appetite are in their full vigour, consequently, the quantity of blood so rapidly collects, that instead of nourishing, it overloads and inflames the system generally; and unless immediate copious bleeding, in the first instance, be resorted to, the disease converts from inflammatory to an infectious putrid fever. Volumes of expensive prescriptions have been, and may continue to be, written, as remedial against this desperate stage of the disorder, but it is repeated, from the most firm conviction of the fact, that early blood-letting, even till the animal almost faints from weakness, is the *ONLY* possible *preventive* against its destruction. Every beast that perishes by this disease, (the *quarter ill*,) should be immediately thrown into a hole, and covered up, or a general pestilence, as in *murrain*, will instantly spread itself around, and, perhaps, in its devastating course destroy hundreds of cattle. But, as it is easy to remove the causes which originate this disorder, it would be far better to remove them; and, instead of over-feeding, and forcing young cattle, they should be left to graze on a short wholesome pasture, where exercise must be

used to obtain their food ; consequently the blood is rendered pure, the whole system is healthy, and the animal rapidly thrives from such treatment.

MILK FEVER, OR INFLAMMATION OF THE CALF BED.

This disease frequently proves fatal to cows, from two causes ; first, from excessive grossness at the time of calving, (produced by over-feeding,) and the change of the calf into a wrong position in the calf-bed ; and, secondly, from unnecessary force or awkwardness in taking away the calf from the womb. An expert operator, in those cases, is very valuable ; yet there are so many pretenders to skill in delivering cows, that, unfortunately, in difficult cases, very few are to be found in the country who can be safely depended on in *drawing* the calf. If the cow be in high condition at this period, the force those cow-quacks use in drawing the calf, produces violent inflammation in the calf-bed, and so debilitates the poor animal, that milk fever very soon ensues, and mostly proves fatal. The best remedies are bleeding, gentle aperients, and emollient clysters. Cordial draughts are sometimes found useful. Good old ale, with the chill off, and a few drops of laudanum are very good in cases of great debility in the cow, after the calf is drawn off, as such cordials strengthen the frame, and expedite and facilitate the removal of the *after-birth*. However, if in those cases symptoms of acute inflammation appear, hard breathing and panting, quick pulse, loss of appetite, &c. those cordial draughts should be avoided, as they must tend to increase the fever. In very few instances is milk fever cured ; but, however, it can always be *prevented*, by proper timely attention to the cow's regimen. She should be allowed to remain in a short sheltered pasture as much as possible ; but if the severity of the season will not permit, the best hay should be supplied in small quantities at a time, and she must be preserved

from the inclemency of wet and cold weather. At the same time, she should have an opportunity to exercise in a sheltered enclosure, as it will tend to forward the process of regular digestion. Cows should not have access to stagnant foul water, as it will frequently cause miscarriage, and perhaps death.

**MALIGNANT EPIDEMIC FEVER, PEST, MURRAIN, OR
DISTEMPER.**

This is, by far, the most dangerous disease to which cattle are subject; and as it runs through a whole herd, the injury is to be dreaded by all those whose property is vested in cattle. It is, in fact, what may be truly termed a plague, and requires immediate precaution to separate the untainted from those affected with it. The symptoms set in with costiveness, but this is suddenly succeeded by a diarrhœa of a highly fœtid nature. The animal becomes excessively restless and debilitated, frequently lying down at full length; the eyes and nose run water—the ears itch—the animal frequently shakes his head and staggers in his gait; profuse perspirations follow, with ulcers all over the skin; and, unless the purging becomes less, and the fœces of a thicker consistence, the animal sinks into the lowest stage of debility: the skin and perspirations are cold, the breathing hot and distressed, the pulse quick and fluttering, and death soon succeeds. About the seventh day is the crisis of the disorder: it is then at its height, and soon shews which side it will take. It is supposed that at least fifteen out of twenty die of this dreadful fever.

The most approved mode of treatment is to bleed in the first instance, although I think that bleeding ought to be cautiously employed, and never after the first day or two. Indeed, unless the animal be in a very full habit of body, I would content myself with a good strong purge of salts and senna, or calomel

and aloes. The animal must then have plenty of warm drinks, and be washed all over with vinegar and water every day, or spunged with cold water if the skin be hot. No medicine need be given the day after the purgative, unless warm drinks, in which a little nitre may be dissolved. The succeeding day, I would commence with the following draught, and administer it twice a day :—

Take of Minderus's Spirit, four ounces ;
Nitrous Æther, three drachms ;
Barley Water, eight ounces.
Mix.

If the purging be great, or if, indeed, the diarrhœa be present at all, let half an ounce of laudanum be added to the above every *second* draught, beginning with the laudanum a day after the use of the other.

This is all that can be done, except in preventing contagion ; and every possible precaution ought to be taken to prevent this. When the animal dies, he should be buried deep in the ground, skin and all ; and dogs should not be allowed to go near the carcass, lest they also catch and propagate the disease. Even men should be very cautious of themselves in communicating with the diseased cattle, as they are also in some degree liable to the contagion.

CHAPTER III.

CATARRHAL AFFECTIONS OF THE LUNGS, COLD, INFLUENZA, &c. &c.

This disease is one and the same, under various names, and is most prevalent in the early part of the spring season, when the bleak winds and cold rains predominate; or, it may proceed through a quick change from excessive heat to sudden chillness, as sometimes occurs, when cattle-drivers allow beasts to drink freely in a state of perspiration. At other times, it comes on without any apparent cause, and in its advanced stages, it becomes infectious, degenerating into malignant fever or Distemper. The early or primal symptoms are;—frequent coughing and sneezing, and quick panting of the breast, the head constantly in a declining position, failure of appetite, and a disposition to wander about in a melancholy mood by itself. Water also runs from the nose, and sometimes from the eyes, and the animal shows a considerable reduction of body. If the disease be suffered to go beyond the first stages, the beast often perishes from constant looseness and scouring of the bowels. When the early symptoms appear, bleeding to faintness should first be used; and then, should the weather permit, let the animal be removed to a well enclosed field; if not, turn him into a barn or cow-shed, and feed him on nutritive mashes of bran, and give him an opening drench of *seven* ounces of Glauber or Epsom salts, dissolved in two pints of whey; but, if the cough and other symptoms do not abate, a moderate portion of *nitre*, dissolved in about a quart of whey, should be given. This disease generally arises from a bad state of the blood, and as the foul matter

cannot discharge itself, it determines to the bowels, throat, &c.; therefore, free bleeding is the only effectual mode of purifying the circulation, and removing the oppression from the heart; the opening drench affords to the lungs a free action, by drawing down the foul humours to the bowels, and the nitre-why-drench carries them off from the bowels by the kidneys. The throat must be blistered, or a seton inserted near the throat, to cause a discharge of any local humour lodged about that part, should the animal appear to suffer pain in *swallowing* its food. But in all cases of this nature, early free bleeding is the only sure preventive against immediate danger.

THE HOOSE, OR COMMON COLD.

This is an occurrence very common. When cattle are so affected, let them be put into a house, mashed, and have the following powder given in a little warm gruel:—

Take of Nitre, three drachms;
Tartar Emetic, half a drachm.
Mix.

Or the following mixture:—

Take of Barley Water, a pint;
Cream of Tartar, half an ounce;
Nitre, three drachms.
Mix.

As a common effect of colds I here insert the following disease.

CONSUMPTION.

This disease frequently proves fatal to cattle, and arises from bad food, and exposure to cold wet situations. In some delicate breeds it is hereditary, and requires timely preventive treatment. Wholesome hay and straw, or, if the weather permits, a sweet, short, sheltered pasture are the best remedies. When cows are attacked by this complaint, the improper food alters and impurifies the chyle, which affects

the mesenteric glands and artery; and, in this stage, it is very dangerous. Therefore, early preventive remedies should be applied, by opening drenches, exercise, and proper diet.

CHAPTER IV.

INDIGESTION.

BLOWN BLAST, OR HOVEN.

Cows have *four* stomachs or paunches. When the first stomach is over full, from voracious feeding on clover, or any other rich pasture to which she has not been used, the food produces such excessive flatulency in the stomach, that she finds it impossible to ruminate, or as the common phrase is, *to chew her cud*; and unless immediate aid is afforded, the animal must die from suffocation. The best remedy in that case is the **PROBANG**, which is an instrument about *six* feet long, made of three pieces of cane, tied together with twine, and a small round wooden ball fastened at the end of it. When the **PROBANG** is passed down into the stomach, the breathing is instantly relieved by a free action being given to the confined air in the paunch; and, as the animal disgorges the food into her mouth, it should be forced out of her mouth; otherwise, should she ruminate and swallow it again, the flatulency would return, and communicate with the passing of the food to the third stomach, until, at last, all the digestive organs would become generally affected. Should this occur through inattention or ignorance, the following drench or draught must be given:—

Barbadoes Aloes, (those Aloes are, by far, the best,)
 half an ounce;
 Common Rock Salt, powdered, four ounces and a half;
 Ginger, one drachm and a half;
 Water, two pints and a half.

It is also necessary to remove the animal into a poorer pasture, where exercise and moderate grazing may restore the digestive organs to their proper functions. If that is not attainable, mashes of bran, and exercise about the farm-yard, should be substituted. A repetition of this complaint should be carefully prevented, as it generally produces the *staggers*, which disorder almost invariably proves fatal. Cattle, stalled, principally on raw potatoes, and oats without chaff, are frequently exposed to costiveness; whereas, if the potatoes were boiled, and mixed up with chaff or straw cut fine, they would be a most nutritive diet. This complaint is termed *blast*, or, that the cattle are hoven, blasted, or blown. The most approved remedies in this case are clysters, composed of *four* or *five* quarts of warm water, and *one* pound of *common salt*. The following drench or draught should be given:—

Common Salt, four ounces and a half;
 Barbadoes Aloes, half an ounce;
 Ginger, powdered, one drachm and a half;
 Water, two pints.

Give this draught first, and then serve the clyster.

The *probang* should also be used if necessary; and in very bad cases, it would be well to take from the neck vein *four* or *five* quarts of blood, which will afford very great relief; and, unless the animal is prevented from pain or weakness, it should be walked about gently for one or two hours every day. Moderate exercise expedites the operation of the medicine, and facilitates the breathing. But, as a general *preventive* to indigestion, the over-feeding of cattle, on raw potatoes and unbruised oats, should be cautiously avoided. The system adopted in the feeding of cattle in the winter season weakens the digestive organs of beasts generally; but it particularly affects the *milch cow*, which is by far the most valuable animal of the *vaccine* species. The best food for milch cows is

grass and other green juicy herbage; but as the seasons and other circumstances will not admit the constant use of such nutriment, sweet wholesome hay is the best substitute; but, in general, it is very inferior in quality and nourishment. Cows exposed in winter to wet and cold, and fed upon poor diet, as also those tied up and supplied with unwholesome hay, &c. are liable to costive habits, which produce various diseases, as red water, yellows, diarrhœa, or looseness, affections of the udder, &c. &c.

LOSS OF THE CUD.

The stomachs of cattle are invariably diseased when they cannot *chew their cud*; in some cases, it proceeds from indigestible matter, collected in lumps in the third stomach, which soon affects the first. At other times, this loss of the cud occurs from the *first* stomach being overladen, and the act of rumination impeded; or, from the old common practice of *paunching* with a knife, to expel the inflated air in the stomach, where the beast is blown, blasted, or hoven. The application of the PROBANG, as already directed in the article on *blown*, should be always substituted on those occasions, as it is a much more effectual and safer operation than paunching. Where loss of the cud arises from a quantity of undigested matter in the third stomach, and a general affection of the digestive organs, and also if the beast be of a debilitated system, or grown old, or been a great breeder and milker, the following opening draught or drench is the best that can be given:—

Epsom or Glauber Salts, five ounces;
 Barbadoes Aloes, half an ounce;
 Ginger, one drachm;
 Whey, two pints.

If this complaint affects cattle who are fed on hay, or those that have been soon after turned into rich

pasture in the spring, this opening drench is the most efficacious. In cases of violent inflammation, apparent from the horns being very hot, and great difficulty of breathing, then a considerable quantity of blood should be taken from the neck vein, until the inflammation abates, and the breathing is more free. Let the following drench be given soon after:—

Whey, three pints;
Epsom Salts, nine ounces.

The beast should be then turned into a bare pasture field, where moderate food and exercise will bring her round; but if the weather be unfavourable, she must be kept in a place of shelter, and fed with nutritive mashes of bran; and in some cases, where the complaint is tedious, a pint of good old ale, warm, with a little nutmeg, ground allspice, or powdered ginger, should be given in *two* draughts every day, until signs of returning health are visible.

THE FOG SICKNESS.

This disease is caused by indigestion. It usually affects cattle about the beginning of autumn. The whole system becomes debilitated from rich pasture food and the preceding warm weather; the appetite is very irregular, in some instances it is enormous; when saturated they lay down, perhaps when the ground is covered with the frosts and cold dews of morning; thence proceeds general debility in the stomachs, and a confirmed costiveness of habit. The early symptoms of the fog sickness are a general heaviness and languor; the animal also appears in great pain, and pants violently; the belly is also much swollen, hard, and inflamed. The *PROBANG* should be applied, and used in a similar manner to that already directed under the head of *Blown*. The following excellent drench should also be given:—

Barbadoes Aloes, half an ounce ;
 Common Salt, four ounces and a half ;
 Nitre, three drachms ;
 Whey, two pints.

Clysters of salt and warm water should be served, if necessary. He should be led about after the drench has been given, and, during the day, turned into a short sweet pasture, where moderate food and exercise will very soon restore him to health. If the stomachs are very much debilitated from the severe action of this complaint, either the cordial draught, as prescribed for looseness, may be given, or from half a pint to a pint of good old ale, grated with ginger or nutmeg, is a very good cordial in those cases.

COLIC MOOR OR WOOD EVIL, CLUE, OR FARDELL
 BOUND, &c. &c.

These diseases are all the same, under different names ; they proceed from indigestion, or stomachic debility, which is created by the beast's consuming pernicious food in the winter season, and exposure to cold and wet weather. The first opening drink prescribed for diarrhoea or looseness, and a sheltered field when the pasture is short, is the best treatment. A few cordial draughts of ale, with nutmeg or ginger, may also be given. If farmers were to mow their hay earlier in the season, instead of leaving it on the land until it is deprived of its wholesome and nutritive substance, their hay and after-grass would be much improved ; and cattle would not only thrive on it, but be exempt from various diseases produced from bad hay, &c. The copulation of sound breeds, both of cattle and sheep, is also a very important consideration, as well as keeping them on the soil to which they have been used. But the great rage that now exists for crossing breeds, and removing them to strange pastures, has been most prejudicial to the

wholesome constitutions and growth of horned cattle and sheep.

WIND CHOLIC OR GRIPES.

This complaint causes great agony to the animal. Its restlessness is incessant, the belly is sore and hard, and the beast endeavours to rub it with the horns or hind legs; the appetite falls off. This disease originates from undigested food collected in the stomach, which produces this flatulency and griping. The best treatment is to give the opening drench, as in other cases of indigestion prescribed, a clyster of salt and warm water, and turn her out to grass. Or, in winter, let her remain in a cow-shed or sheltered field; and if there be not sufficient grass, serve her with mashes of wholesome bran, mixed with a little malt.

CHAPTER V.

DISEASES OF THE STOMACH AND INTESTINES.

STOMACH STAGGERS, OR PARALYSIS OF THE STOMACH.

This complaint originates from indigestion; the symptoms are, excessive stupor, bordering on lethargy, the head and eyes heavy and stupified. The animal eats and swallows the most indigestible food with an apparent good appetite; but if not taken in an early stage, this disease frequently proves fatal; as the stomachs become paralyzed and exhausted from the quantities of improper food crammed into them, where it remains in an undigested state. The best remedies are clysters of salt and warm water, served instantly, and repeated until the animal obtains relief

by the passing of the undigested excrement. A drench should also be given at the same time, composed of—

Epsom Salts, eight ounces;
 Barbadoes Aloes, seven drachms;
 Mustard, (Flour of) one ounce;
 Mixed in a quart of Whey.

Should those remedies be successful, give him about *a pint of ale warmed*, with nutmeg or ginger, every day; let him be fed on bran mashes, &c. and a little sweet hay or grass, until he is completely recovered.

DIARRHŒA, SCOURING OR SCANTERING LOOSENESS.

This complaint is very general, and very destructive to cows and oxen, unless a proper treatment is adopted in its early stages. The causes of this wasting disease proving so fatal are, bad treatment, unwholesome diet, or debility produced from excessive breeding, and inferior food. If this complaint be judiciously treated on its first appearance, then there will be no danger. For this purpose, first give the following opening draught or drench:—

Ginger, one drachm and a half;
 Barbadoes Aloes, half an ounce;
 Common Salt, four ounces and a half;
 Whey, two pints.

If the weather be fine, the beast should be turned into a bare pasture during the day-time; and every morning and night, the following cordial draught should be given, after warming it on the fire:—

Tincture of Opium, half an ounce;
 Fresh-ground Allspice, two drachms and a half;
 Newly powdered Carraways, half an ounce;
 Catechu, powdered, two drachms;
 Strong Old Ale, one pint.

If the weather be unfavourable, the animal should be kept in; the last draught should be continued every night and morning for some days after the

looseness has subsided, and the stools have a regular wholesome appearance. If the unfavourable state of the weather should prevent feeding upon grass, good hay, in small quantities at a time, should be substituted; and mashes of bran, occasionally, are very good nutriment. When confined, the water for drink should have the chill taken off it, and about half a pint or a pint of wheat meal may be mixed up in it. During confinement, the purgative drench may be repeated once a month, and five or six doses of the cordial draught may be given, one every morning and evening afterwards. By proper attention to the above preventive and remedial treatment, the system of the animal will become renovated, its complete cure effected, and good food, air, and moderate exercise will prevent a recurrence of this dangerous disorder.

Scouring in calves may be cured, by giving a little powdered chalk in their milk, or the following draught once or twice a day:—

Prepared Chalk, half an ounce;
Opium, two grains;
Milk, half a pint.*
Boil, and add a little suet when boiling.

DYSENTERY, SLIMY FLUX, BRAXY, OR BLOODY RAY.

Cow-leeches confound this disease with diarrhœa or looseness, and call it *scouring*, *scouring-rot*, &c. ; but it widely differs from common looseness, as it is a specific affection of the inner coat of the intestines, attended with ulceration. Hence the discharge differs in having mixed with it films, and often blood; it is likewise different in being more hot, fœtid, and frothy. The two diseases are wholly different, and require most opposite treatment. Astringents cure the former, but the latter is to be only treated by *purging*; for although there is a great discharge, yet this is not of the fœces or dung, but a fluid produced

by straining and inflammation; and costiveness always attends this complaint.

The first medicine must be either castor oil, (which is the best,) or salts and water, to which a little of the castor oil may be added. This must be given until a *free* motion of *dung* come forward, then a clyster of oil and water may be thrown in during the operation of the purgative, to assist it. Warm drinks and mashes will be proper; and, above all, the beast must be kept warm: a sheep's-skin over the loins will be of great benefit. If the animal be plethoric, bleeding in the first instance should be adopted. Opium must be cautiously avoided.

CHAPTER VI.

BILIARY AFFECTIONS.

THE YELLOWS.

THIS disease is less prevalent amongst oxen than milch cows: it frequently affects the first stomach, which totally prevents the beast from ruminating or chewing its cud; in other cases, it attacks the first, third, and fourth stomachs. Its early symptoms are, a hard and inflamed appearance of one of the *quarters of the udder*, and the milk from that part is of a yellow cast and slimy consistence. In some cases it is a very slight affection, merely causing an alteration in the colour of the milk; but in very bad stages the milk not only appears polluted, but the smell of it is also very foul, the appetite is affected, rumination ceases, the eyes and nostrils and sometimes the inside of the mouth become yellow, and a general languor pervades the whole system.

The most proper plan to be adopted in this complaint will be the alterative: first clear out the bowels by a brisk purgative; then give, every night, a little nitre and cream of tartar in a quart of gruel, and every third day, a ball, consisting of ten grains of calomel and twenty of antimonial powder, mixed with a little conserve of roses, and the inflamed udder should be gently rubbed with olive or sweet oil. If those timely remedies be neglected, the udder will at last burst, and suppurated matter issue from the part, and the sore sometimes heals afterwards; but in many instances the udder continues in a callous state, and the *quarter affected is altogether lost*. In the first symptoms of this complaint, the beast should be immediately removed into a field with bare pasture, where air, exercise, and good water would aid much in the cure.

JOINT YELLOWS, OR TAIL ROT.

This disease is generally consequent to the scouring rot, and is of a consumptive character. Both diseases derive their origin from a vitiated state of the bile, brought on by bad feeding in general. The best treatment is change of food and situation, a well enclosed and sheltered field, or during inclement weather, a comfortable barn or cow-shed, with a good bed of straw, mashes of bran mixed with malt, and small portions at a time of good sweet hay. The opening draught or drench is the best, with occasional cordial draughts of good old ale, (about a pint a day,) with a little ground allspice or ginger. But if the looseness or scouring be active, then the following cordial binding draught should be given, having previously warmed it over the fire:—

Fresh-ground Allspice, two drachms and a half;
 Newly Powdered Carraways, half an ounce;
 Catechu, powdered, two drachms;
 Strong Old Ale, one pint.

The cause for naming this disease *tail-rot* is, that the animal cannot lift its tail when passing its dung or water; therefore the hinder parts are in a very filthy state at this period, and the loins and rump are very sore. Dog-doctors, with the greatest mock solemnity, (in spite of the first medical authorities having clearly proved the contrary) still persist that there is a *worm in every dog's tongue*; but the cow-doctors pretend to find one in the cow's tail; and, therefore, in this disease, the supposed worm is the source of the *tail-rot*! These gentry accordingly make an incision of three or four inches in that part of the tail where the joint is most weak. This creates great pain in a short time after, and through excessive agony the animal endeavours to move it about, in which exertion she is assisted alone by the drenches, &c. and better food previously given; but, the cow-quack imputes it all to the banishment of this invisible worm! When this dropping of the tail, &c. appears, the first remedy should be the opening drench, as in diarrhœa, and afterwards the cordial draught above prescribed, together with the other treatment directed. If those medicines, &c. do not succeed, the animal must perish. It is much to be lamented that farmers, graziers, &c. whose interests are so dependent on the health of their cattle, do not use the proper preventives against those disorders; or, at least, apply the proper remedies at an incipient stage of the disease, when it is so easy to do so at very little expence. We are aware, that after the disease has proceeded beyond the first stage expensive stimulants and other draughts may be given, which may protract the life of the poor beast a few weeks, and perhaps cure; but in most cases the money has been thrown away uselessly on cattle quacks, and the animal dies; its flesh being also totally unfit for human consumption.

CHAPTER VII.

AFFECTIONS OF THE KIDNEYS.

RED WATER.

THIS disease is very frequent among, and often fatal to, cattle. It is caused by the vessels of the kidneys being relaxed, whereby the blood passes through the urinal channels. This derives its origin from feeding on inferior coarse hay, which produces a general debility of the stomach, and impoverishes the blood, the impure part of which passes off by the kidneys. If an excessive quantity of blood be formed from change of diet, it sometimes is carried off so spontaneously with the urine, that the poor beast wastes to death. At other times, however, the bowels and stomachs are the seat of disease, and the quantity of blood that is carried off with the urine is trifling. The gross pasture of some lands often creates red water, as the beast eats of it more greedily, and digests it more quickly, whereby the stomachs are weakened, and the excess of blood will either produce internal inflammation, or pass off by the kidneys, in such copious quantities that the animal's life is endangered. Sometimes a looseness and loss of appetite attend this complaint, from the large quantity of water which the animal drinks when feeding upon such pasture. This severe flux should be removed by serving a warm clyster, which will cause the excess of water and hard excrements in the stomach to pass freely off; and should the passage of the fundament be impeded by any lumps of hard dung, the fingers should be pushed up that part to remove them. There is another species of red water, called *strain water*, which is caused by severe blows and contusions. If the bowels and stomachs are not af-

fect, and the flow of blood from the kidneys is the only apparent symptom, then it must proceed from internal inflammation. Red water, arising from costiveness, is peculiar to cows of weak systems, and those that have been very fruitful in giving milk and breeding many calves. Red water, arising from inflammation, is generally peculiar to young steer, and plough or draught oxen, when they are laid by for fattening. This complaint is more prevalent in the spring and summer seasons, than during any other period of the year. For cows affected with red water, from weakness and indigestion, the following draught or drench should be given:—

Tincture of Opium, half an ounce;
 Barbados Aloes, half an ounce;
 Common Salt, four ounces;
 Ginger, one drachm and a half;
 Water, two pints.

Half a gallon or three quarts of gruel should be given every third hour successively, to promote the operation of the medicine; and if it be fine weather, the beast should be turned into a field rather barren in pasture. But if the animal appears hot about the nose and horns, and breathes with difficulty, a copious quantity (if the inflammation be violent) of blood should be taken from the neck vein, and the following draught should be given immediately after:—

Castor Oil, seven ounces;
 Epsom Salts, seven ounces;
 Water, one pint and a half.

There are various other remedies applied for the cure of red water, but the above recipes and directions for treatment are decidedly the best. As was before observed, bad hay, bad water, and close confinement in the winter, are the principal causes of this and various other disorders in cattle; therefore, every endeavour should be made to prevent the existence of those causes.

STRANGURY, OR RETENTION AND SUPPRESSION OF
URINE.

This complaint immediately proceeds from the pressure of the neck of the bladder on the bones of the pelvis, whereby the passage is stopped up. The disease originates from indigestion and excessive flatulency in the stomachs and bowels, through confined air. Cows, a short time before calving, if fed altogether on hay and grains, are very liable to strangury. The following opening drench should be given in those cases:—

Epsom Salts, seven ounces ;
Barbados Aloes, half an ounce ;
Tincture of muriated Iron, half an ounce ;
Ginger, powdered, one drachm and a half ;
Whey, two pints.

Clysters should also be served, as they are most essential remedies in this complaint. (For inflammation of the kidneys, see page 202.)

CHAPTER VIII.

WOUNDS, BRUISES AND STRAINS.

WOUNDS.

CATTLE are frequently exposed to desperate wounds from violent contests with each other ; and as their only natural weapons are the horns, any gore or cut inflicted by them may produce dangerous inflammation if not timely discovered, and proper treatment adopted for healing them. In attempting to break through strongly fenced enclosures, they also lacerate and wound themselves in a dreadful manner. Cattle-doctors and farriers, (like lawyers,) endeavour to shew, that the mystery of the healing art is of so

complex a nature, that none, except men LEARNED in those intricacies (themselves) can possibly attempt even to examine a bad wound. However, we shall endeavour to shew, that a competent knowledge of this branch of the healing art is very simple, and easily acquired, by proper attention to appearances and treatment in those cases. If a wound be very severe, and has been inflicted in any serious parts of the body, the violent applications often used by those self-styled cattle-doctors inflame the wound to such an excess, that the animal dies from mortification; and even in slight cuts or bruises, similar improper treatment delays cure, and sometimes endangers the life of the beast. The following suggestions and directions will, therefore, be found useful. If the chest, belly, joints, or tendons be afflicted with any serious and deep wounds, the earliest means must first be adopted to stop dangerous inflammation. Therefore, copious bleeding, a purgative drench, and fomentation of the wounded parts are the immediate remedies to be adopted. As soon as the inflammation has abated, and the wound throws out a purulent or wholesome humour, the following ointment should be prepared, and a small portion of it, spread upon a bit of fine lint, should be placed gently inside the wound, and renewed every day until the interior part is completely healed:—

Healing Ointment.

Common Turpentine, two ounces;

Hog's Lard, two ounces;

Place them on the fire, and when dissolved, put in—

Verdigrise, finely pulverised, half an ounce; then take the

Ointment off the fire, and keep stirring it with a spoon until the Ointment cools, when it is fit for use.

If the orifice of the wound be so small that the humour cannot exude freely, it should be extended by a slight incision, so that not the least portion of bad matter may remain in the internal part of the

wound. If a wound bleeds freely after the accident, it is a very favourable sign; but should it be necessary to prevent an excess of bleeding, it should be pressed upon until it ceases. Should the belly be so badly gored that the bowels are visible or come out, they must (if any dirt adhere to them,) be gently bathed with warm water, and then cautiously replaced within. In some cases, the beast must be tied down and secured before this can be done; and if the gore through which the bowels have come out be too narrow, a further slight incision should be carefully made, and the bowel, as already directed, replaced. Then let the wound be stitched up in such a manner that the needle shall pass *only* through the skin, and immediately after swathe a bandage over it. Wounds do not generally require stitching, except in such cases as the last alluded to. A simple application of Goulard water, after bathing and cleansing the parts from dirt, will be sufficient for superficial scratches, &c. (For stopping blood and further treatment, see Section 1. *Wounds*.)

BRUISES AND STRAINS.

When beasts are seriously hurt, in these cases it will be necessary to bleed freely in the first place, and the parts affected should be bathed in warm water, and gently rubbed with some mild ointment. As the inflammation is reduced, mix up the following liniment, and anoint the parts once or twice every day:—

Oil of Turpentine, one ounce and a half;
Liquid Ammonia, one ounce and a half;
Olive or Sweet Oil, three ounces.

The occasional use of a mild aperient drench will be useful, should the abatement of the inflammation proceed slowly. (See bruises in horses, for further treatment.)

CHAPTER IX.

LOCKED-JAW, OR TETANUS.

THIS disease is not very frequent among cattle ; it generally arises from some violent blow or cut. Copious early bleeding should be first tried ; and if the jaws are only partially closed, a cordial drench, consisting of about one ounce and a half of laudanum, in a pint of good old ale, should be given, and a clyster, composed of about five drachms of opium, dissolved in two pints of warm water, should also be served. The jaws should be hard rubbed with a strong liniment or ointment, and the fleshy part or inside of a sheep-skin, just stripped off, applied to the jaws and neck. In some cases, shower baths have proved efficacious ; but the above treatment will be found generally most successful in desperate attacks of locked jaw. The opium must be repeated every two hours, and if not successful very soon, the animal ought to be killed.

HYDROPHOBIA AND THE BITES OF VENEMOUS REPTILES,
POISONS, &c.

(See those affections in Section 1.)

CHAPTER X.

AFFECTIONS OF THE SKIN.

MANGE.

CATTLE are not unfrequently exposed to this cutaneous affection, which is produced by improper feeding in the winter season. The uneasiness it occasions, makes the animal rub itself so violently against walls,

gates, trees, &c. that the hair is completely taken off by constant friction, and the skin becomes rough and wrinkled. Opening drenches, and a field with bare pasture, should be the first things, and a liniment, composed of—

Train Oil, ten ounces ;
Spirits of Turpentine, three ounces and a half ;
Sulphur, four ounces ;

should be mixed up, and the mangy parts should be anointed with it once a day. In very bad cases of mange, the parts should be first well washed with soap and warm water, and afterwards hard scrubbed with a brush ; then touch them over slightly with a wash composed of—

Spirits of Salts, half an ounce ;
Corrosive Sublimate, two drachms.
Dissolved in fifteen ounces of Water.

This last lotion should *only* be used in desperate cases of mange, where the former liniment has been ineffectual in removing it.

PUCKERIDGE, PROOF WORMS, WARBLER.

Warbles are created by the bite of a stinging fly, which lodges one of its eggs in the part bitten ; a worm is created from this egg, and by its irritation produces a tumour, which at last bursts, and discharges the foul matter and the worm. This worm is converted into a fly of the same description, and pursues the same course by biting and laying eggs in the skin of some other beast. In spring and summer they are most troublesome, but they seldom attack cattle whose blood is in a pure state. If a beast be much annoyed by them, it should be removed into a very bare pasture or common, and the warbles and their parents will soon remove from him. The introduction of a hot wire is used to remove them. Strong sulphur ointment may also be tried.

LICE.

Beasts poorly and improperly fed, and exposed to cold and wet weather, are sometimes swarming with lice. The *mange* liniment, as already directed, or strong tobacco water, will destroy them. Cattle so affected should be turned into a wholesome but short pasture, where exercise would be promoted as they consumed their food. When they have recovered sufficiently, they may be removed into closer pasture.

WARTS IN CATTLE.

The process for the removal of warts is short and simple. Cut them off as close as possible to the root with a sharp knife, let the part bleed freely, and then bathe it with tincture of myrrh, solution of blue vitriol, or Friar's balsam. This will be quite sufficient. Warts may also be removed by tying a tight ligature round the base.

 CHAPTER XI.

AFFECTIONS OF THE UDDER AND WOMB.

LOSS OF MILK, OR BAD MILK.

THE milk of the cow is chyle, and forms in the fourth stomach. When the digestion is irregular, from a diseased state of the stomach, the chyle is at times so unwholesome, and full of humour, that the quarter of the udder into which it passes becomes inflamed. The chyle is sometimes so impure, that it is, through excitation, thrown from the stomach into the bowels, or the food passes off without digestion, and, consequently, no milk is produced. The milk, in

some cases, is lost by degrees, from a slow progressive impurity of the chyle. The impure chyle sometimes passes into the blood, as well as the milk vessels, and infects the entire circulation, by which means, various diseases and inflammation of the udder are generated. However, the blood-vessels are so disposed, that the humourous or impure portions of the blood are passed off with the urine by the kidneys. The best treatment for those diseases is the *opening* drench or draught, as in diarrhœa, and then remove the animal into sweet, short pasture, where she must exercise as she crops her grass. The quarter of the udder that is inflamed or swollen should be milked four or five times every day, until the cow recovers, as the impure milk will increase the inflammation, if allowed to remain any time in the quarter affected. Occasional bathing of the udder in warm water, and rubbing it with a little olive oil well, with the other cooling regimen, will restore the quarter to its pristine health.

ABSCESS OF THE UDDER.

This disease is produced from want of timely attention to the *udder-ill*, bad treatment of the complaint, and allowing the foul milk to remain in the quarter until the inflammation becomes so violent in that part that the bad humour collects there, and finally, the quarter breaks out. Should the foul humour pass off altogether, the sore heals, and sometimes a fungous substance of a large size grows from the ruptured part, and after sometime decays off, and the wound heals. At other times, this humour slowly oozes out, or forms in the teat, which must be lanced, to give vent to the corrupt matter. In other cases the quarter becomes indurated, withers, and becomes totally useless. If the stomachs are diseased during this complaint, the opening drench, as in *diarrhœa*, should be given, the beast kept at grass,

the udder fomented with warm water; and, if the quarter should burst, or be lanced (in the latter case, the incision or puncture should be made at the extremity of the teat, as the foul matter will run off more quickly) the udder and sore should be anointed with olive oil.

SLIPPING THE CALF OR MISCARRIAGE.

Abortion in cows, is chiefly attributable to close confinement and bad food, such as parched fibrous hay, inferior straw, &c. Indigestion and distention of the intestines, from confined air, are the results; which, during pregnancy, disturb the calf in the calf-bed, and produce either miscarriage or a dangerous delivery. The disgusting and unnatural practice of permitting cows *to eat the after-birth*, is still prevalent in some parts of England, from the ridiculous supposition that it aids in the recovery of the animal, after delivery; but, when it is considered, that the cow feeds on farinaceous and vegetable matter, and is not, nor even has been known to be of a *carniverous* habit, it would appear evident that, the consumption of her after-birth must be very injurious to her health, and it is loathsome to any reflecting person to allow it. In corroboration of this position, if a cow slips calf in a field or pasture, where there are other cows in a state of pregnancy, should they even smell to the refuse of the birth left there, it will frequently cause miscarriage in those cows. The smell of decayed carrion, or of any other foul flesh, may produce similar effects, and, therefore, should not be allowed to putrefy in any field or place, where breeding cows are kept.

CHAPTER XII.

AFFECTIONS OF THE FEET.

LOO, OR FOUL IN THE FOOT IN COWS AND OXEN.

STALL-FED cattle and cows, when in a course of fattening are very much exposed to this disorder, which proceeds from impurity of the blood. It first appears, or shews itself by inflammation of the hoof, and subsequent running of foetid humour from the part. The best remedy in this case, is to cleanse the sores well, and to bathe them twice or three times every day, with a solution of blue vitriol; but if this application be not efficient in healing the sores, dissolve four drachms of corrosive sublimate in about a pint of water and wash the parts with it as already directed. In cases of violent inflammation, copious bleeding and purgative drenches are necessary. Oxen and cows, if in a state of stall-feeding should be sent to grass, as the change will materially contribute to regenerate the system, and check the disorder. This disease not unfrequently assumes a more serious character; the inflammation is sometimes so desperate, that the whole of the leg becomes swollen to an immense size, and the beast is attacked by violent fever. Copious bleeding, until the animal is exhausted from faintness, should be instantly performed, as much blood as possible should first be taken from the *toe* of the inflamed foot and leg, and if there be not a sufficient quantity drawn from that part, then the neck vein should be opened. The following purgative drench should also be given.

Epsom Salts, eight ounces,
Castor Oil, six ounces,
Water, two pints.

The animal should as soon as possible after the inflammation has subsided be turned into a bare pasture. The inflamed foot should be well poulticed, as soon as a sufficiency of blood has been drawn from the *toe*, and the poultice should be renewed twice every day, until the inflammation has completely abated. In case the swelling bursts and an ulcer forms, the parts must be washed with a solution of blue vitriol, or tincture of myrrh; or the following:

Turpentine, five ounces,
Hog's Lard, five ounces,

melted together over the fire, and when in a fluid state, put in gradually *one ounce of finely pulverized blue vitriol*; then remove it from the fire, and keep stirring the ointment round constantly, until it cools; anoint the sore or sores with a small portion of this unction once every day, and it will be found the most effectual healing application for those wounds. When inflammation in the feet of cattle arises from severe driving, the same remedies, as already directed, must be used. Although this disorder originates in internal inflammation of the hoof, accompanied by violent fever, if allowed to advance without the application of any remedy, the complaint becomes chronic, and the bones of the feet begin to decay. In such case, they should be exposed, and scraped with a sharp edged instrument; but if the gristle only is affected by a carious attack, it should be well washed first, in a solution of corrosive sublimate, and then once or twice a day with tincture of myrrh or friar's balsam, until the rotten parts are radically removed. As this, like other diseases in cattle, arises from confinement and improper provender, such alteration in food and exercise should be adopted, so as to purify the system generally. Cattle are too frequently fed principally on sour grains, which they devour voraciously, and contaminate the whole circulation. In such cases, they should be driven into a bare pasture, and occasional opening doses should be given; a few

doses of nitre and resin mixed, will also tend to promote a quick diuretic action, by which means the fæces of the blood will be carried off by the kidneys. When the feet are pricked by nails, thorns, &c. they are to be treated as for inflammation.

CHAPTER XIII.

DISEASES OF SHEEP.

SHEEP, in most instances of disease, are to be treated in the same manner as cattle, giving *one-third* of the medicine, as a fair proportion to their strength. With the exception of *the rot, blown, or hove,* and *higham or fever.* Cattle are more subject to disease than sheep.

INFLAMMATION.

In all inflammatory affections, which attack the sheep, let them be treated precisely the same as cattle. They are not, however, very subject to inflammation, unless from blows, bruises, or wounds, owing, I believe, to their being less susceptible to cold, and being better taken care of in general. *Inflammation of the lungs,* has not been described by any writer upon sheep, except Mr. Blane, who says, he saw it well marked, and arising from exposure to inclement weather. The case which he mentions, I think, admirably proves the fact. "I was sent for," says that gentleman, "by Mr. Adams, of Mount Nod, near Streatham, to see the affected ewe in his flock. From the shepherd's account, I gained that all the sheep were attacked, nearly together, immediately succeeding a very stormy cold night; five of whom

were dead when I arrived, and five others remained very ill with it; and it may be noticed that the whole of them were ewes with young, and within a month of yeaning. The first symptom observed was the refusal of food, after which, one and all had a peculiar, steadfast, fixed look; from this, they would reel about, elevate their head in the air, become convulsed, and fall backwards in a strong fit; and when the fit ceased, the teeth would grind so as to be heard to a great distance; the flanks heave violently, the nostrils and eyelids were red, and from the nostrils distilled a watery moisture in some, and a purulent one in others.

“I opened the five dead ones, and in all, the parenchymatous substance of the lungs was highly inflamed; in some the whole of the lobes, in others only one side was affected. In two the liver was also slightly inflamed, but which was not a primary, but a secondary effect brought on by participation of neighbourhood. It is somewhat remarkable that each of them contained two fœtuses. The five that were living I immediately bled and blistered; and as soon as it could be procured, a drink was given to each, compound of nitre and tartar emetic, which appeared to arrest the disease, as the whole of them recovered; and all, except one, went their full time. This one, which though prematurely delivered, yet must have had less time to go than the rest, yeaned while I was standing by; and in despite of her illness, which was excessive, she made feeble efforts to nourish and cherish her young one, and appeared rather amended by the event; both mother and young lived.”

Inflammations are to be attended to by bleeding, opening medicine, housing the sheep comfortably, administering gruel, with cream of tartar, and blistering over the part if the inflammation be internal.

RED WATER OR INFLAMMATION OF THE KIDNEYS

Sometimes attacks sheep. They should be housed

and bled, after which the following drench should be given :—

Take of Barley Water, a pint ;
Castor Oil, two ounces.

Mix,

If castor oil cannot be got, give two ounces of salt instead. Gruel may be also given, and the sheep fed on turnips and carrots.

HIGHAM STRIKING, BLOOD STRIKING, OR FEVER,

Is mostly attended with some inflammatory affection of the lungs or viscera. The sheep must be treated in the same way precisely as cattle, under all feverish diseases.

THE ROT, OR FLUKE WORM,

Arises from moisture in pasturage ; moist low grounds, or exposure to much rain, will almost certainly produce this destructive complaint. It begins with costiveness, which soon degenerates to a violent purging, then the sheep fall away and become dropsical. The worm is said to be also found in horses. The principal preventive against it is salt, and those sheep who feed in salt marshes, even though very wet, are not affected with it. To cure the disease, remove the sheep to a high dry ground, give them a drench of salt and water, after which, gruel, with half a drachm of laudanum once a day, until improved, will be advisable.

BRAXY, OR DYSENTERY.

This is a purging of soft dung with blood, and afterwards slimy films, occasioned by cold and bad feeding. The sheep must be housed and kept warm ; if the inside of their eyelids are red, take blood. The following medicine must then be given, and repeated for two days :—

Take Castor Oil, two ounces;
 Salts, one ounce;
 Gruel, half a pint.
 Mix.

When the stools become healthy, or merely a free watery discharge, give the following to bind the bowels:—

Take Prepared Chalk, one drachm;
 Tincture of Opium, half a drachm;
 Starch, half a pint
 Mix.

This will in general suffice.

STAGGERS, OR HYDATIDS, GID, GOGGLES, STURDY,
 TURNSICK, PENDRO, &c.

This disease is very common amongst sheep; it is the presence of a worm, from the size of a pea to a pigeon's egg inside the brain, either the substance or the ventricle: how they become generated there is not known.

The symptoms are, first a giddiness and wandering from the flock, then the sheep holds down its head, and becomes heavy, frequently lying down; one eye becomes paralytic, and sometimes one side; the part of the head immediately over the hydatid becomes swelled, and the bone ultimately soft; staggering and convulsions then destroy the animal. There is no remedy but to pierce the bone of the head, to discharge the water of the tumour, by a gimblet or trephine; but this I think, is in reality *no remedy*, or at least a very doubtful one, and considering the pain and uncertainty of the operation, it ought never to be tried. Sheep are destined to the knife by one of *our* natural laws—*force*, and for our better support; therefore, as they *are* to be thus sacrificed, let there be no *unnecessary punishment* inflicted to prolong their lives a few months, for the sake of *science* (which here

means *cant*) but, in the usual way, when the first symptoms appear, kill the sheep, and eat the mutton.

FRONTED WORMS OR *ÆSHUS OVIS*.

The insect which generates these worms persecute sheep in the summer, and often get into the nose when they lay their eggs, which produce larvæ; these creep into the frontal and maxillary sinuses, and torment the animal much. The trepan here might be used over these sinuses by an expert practitioner without much danger or pain, and the worms dislodged. There is another description of worm called the *pallisade*, which lodges in the *trachia*, or windpipe, and even down in the lungs. The cure must be left to the great nurse, nature.

CHAPTER XIV.

THE AGES OF CATTLE AND SHEEP.

CATTLE cannot, by their teeth, afford sufficient evidence of their age. We, therefore, judge by the horns, when the animal has got them; but in those who have no such test, we must judge by the freshness and whiteness of the teeth, as in old cattle they become ragged, yellow, and black. Cattle have incisive teeth only in the lower jaw, as they do not want them, from the way in which they use their tongue in wrapping it round the grass, and breaking it off: they begin to renew their teeth at two years old, and get a pair every year till five. When they have eight, they are called *full mouthed*. As the horns are the best things to judge by, we count three

years for the horns themselves, and one year for every circle or ring round the end of the horn, which will give the exact age. This is explained by the fact that cattle cast their temporary horns at three years old, and then every succeeding year pushes the horn out, leaving a mark.

Sheep are judged of in their age by the same means ; only, instead of three years being allowed for the growth of the horn, before its rings appear, only *one* year should be counted, because sheep do not cast their horns, but are provided with one permanent pair. When no horns appear, the teeth must be the guide. At a year old the lamb shews his two front nippers, and gets two more every following year till four year old, making *eight*. There are no nippers in the upper jaw.

END OF THE SECOND SECTION.

SECTION III.

DOGS.

SECTION III

DOCS.

SECTION III.

DOGS.

CHAPTER I.

CONDITION.

FEEDING.

A DOG is, from natural habits, more addicted to the consumption of animal food than to any other, although by custom he may be used to a proportioned vegetable diet; therefore, a mixture of both is the most wholesome to preserve his health pure, and his blood untainted. Those proportions must be regulated according to the exercise of the dog. For *sporting* dogs, animal food should be given more liberally, as their active exertions require a greater quantity of nutriment; but for dogs confined, and therefore more liable to fatness, the principal part of their meals should consist of vegetable and other light substances. In London, and other large cities, and manufacturing towns, it is very difficult to decide what is the most wholesome food for large dogs, as watch dogs, cart dogs, &c. If those persons will attend to the following directions, they can always, at a cheap rate, supply their dogs with wholesome and nourishing food. Purchase a few sheeps' paunches, let them be well washed, then boil them for about three-quarters of an hour, in a

large pot, with a sufficiency of water. Then take them out, drain them well, and cut them up in very small bits. Pour the water in which they have been boiled into a large tub, and mix up a quantity of wheat, or oatmeal, (the former is better, and less heating to the blood,) or, if you can buy them cheap, of bread raspings, until the whole is thickened to the consistency of batter. When cold, mix up the tripe and posset well together, and it will be found the best and cheapest meal that can possibly be procured for those animals. The offals of all kinds of fowls boiled up in the same manner, are also very nutritive diet. Horse flesh, commonly called "*dog's meat*," is the most general food, but instead of boiling it, dogs should be always accustomed to eat it in a *raw* state, as it is more natural to them, and by far more wholesome; it also keeps them in wind, and increases their strength considerably. Sheeps' heads' cuttings can be had cheap, and are very good food. During the intervals between the *sporting* seasons, the dogs are sometimes fed with wheat, barley, and oatmeal, occasionally mixed with butter-milk, or water in which meat has been boiled, which is a very nourishing diet; sometimes potatoes are very properly mixed up with this mess, particularly if it be meat-water; but, during the sporting season, their food must be chiefly animal. Gentlemen, and *especially* ladies who have favourite *pets*, can very easily alter a dog's diet, from one altogether animal, (which is most pernicious in such cases,) to meals, three parts vegetable, by cutting the meat into very small bits, and mixing it up with mashed potatoes; if, from previous bad habits of rich feeding, the dog refuses this food, let it remain until hunger obliges him to eat it; continue this practice, by diminishing the animal, and increasing the vegetable diet, and the dog will at last become so used to this mixture, that he will not be satisfied with animal food alone. This method has been frequently adopted, and was in most cases

successful. Besides, the benefits arising from a vegetable diet are obviously of the first importance, as it acts medically against all scorbutic and internal diseases. It is not unfrequently the custom in the country to mix up meal, &c. in liquor wherein *salt meat* has been boiled, which is most injurious to dogs, and if continued, is sure to bring on a confirmed mange. *Greaves*, even in the smallest quantities, are unwholesome, and should never be given to dogs, when any of the foregoing foods can be procured. It should otherwise be very partially blended with a large proportion of vegetables. In the sporting season, *raw* horse-flesh is the best food for game and hunting dogs. *One* good meal a day is quite sufficient. Domestic dogs should have their allowance divided into *two* meals a day, to facilitate digestion. But dogs much exercised and worked, should be confined after eating; when they dispose to sleep, which causes the food to nourish and digest better than by exercise.

The best method of getting dogs into good condition, consists either in reducing their bloated over-fatness to a firm and solid substance of body, or in restoring a dog in a *low* condition to a state of strength and activity. If, therefore, a dog be unwieldy from fat, constant, but not inordinate exercise, and frequent doses of gentle purgatives, should be used; but his regimen of food should not be materially altered or diminished in quantity. His exercise should be increased by degrees, until he be at last used to the same proportion of speed, &c. as is usual in field sports. If he be foul in his skin, *alterative* doses should also be given. (*See Alteratives.*) The practice of rubbing hunting dogs (before the season begins) with sulphur, is an excellent precaution, even where no disease of the skin is apparent, and the frequent application of the curry-comb and brush is also a healthful custom, as it preserves the skin, and promotes a wholesome circulation of the blood. Dogs

in *low* condition should be well fed, and regularly exercised; but, (except an occasional alterative or mild opening dose,) much medicine will retard his advancement to a vigorous condition.

EXERCISE.

Proper attention to this subject, is the most important in its beneficial consequences to the health of *all* dogs; as, from their very nature, it is indispensable for the preservation of their existence. It is not, therefore, to be wondered at, that dogs, confined, perhaps, in a close room, days and days together, or fastened the whole year round, by a chain to a dog-kennel, should contract various diseases; besides they are frequently, in this imprisoned state, over-fed with gross luxurious meals, whereby their blood becomes tainted, and inordinate fatness succeeds: diseases arise from those causes, and valuable dogs are ultimately carried off, at three or five years old; whereas, if a proper treatment in exercise and diet were observed, they would live to *fifteen* or *seventeen* years. The necessity of exercise for dogs, is evident from their natural addiction to play. In large towns and cities, it is a good method to teach puppies to *fetch* and *carry*, and being early used to this exercise, they will ever after practise it. Some persons weakly imagine, that if a dog be loosened from his chain, or place of confinement, for an hour in the day, and be turned into a yard, it will be sufficient; but are much mistaken, for the poor animal will stand at the door, and watch every opportunity for re-admission into the house. This proceeds altogether from habit, for had he been, from a pup, used to play with a ball, or with another dog, he would immediately, on being let loose, jump about, and enjoy his temporary freedom in active exercise. Dogs are more disposed to exercise in company with each other, than when alone; it

would be well, therefore, to allow them the indulgence of a companion. Regular, but *constant*, exercise is absolutely necessary for all *sporting* dogs; for, when the hunting or shooting seasons are over, if the dogs be kept confined to their kennels during the interval, they grow fat, their wind is affected, and their muscular powers are diminished from such unusual inertness. Therefore, when the sporting season comes on, they are for sometime unable to *take the field* in that condition, which they ought, if constantly exercised, during the sporting vacation; but, in cases where dogs (such as watch dogs, &c.) are from necessity closely confined, their regimen of diet should be particularly attended to; a moderate proportion of vegetables should always be mixed up with their animal food. Sporting dogs, after long confinement, upon resuming their former exercise, are very liable to fits. This is another important reason for habituating them to continued exercise. Generally speaking all other dogs require from two to three hours exercise every day.

EXCESSIVE FATNESS.

A wholesome proportion of fat is necessary for most dogs; but excessive grossness of body is the invariable forerunner of numerous diseases. As most dogs incline to fatness, little exercise, and over-feeding, are sure to expedite it. If the dog suddenly increases in grossness of habit, constant exercise, and moderate diet, and occasional alterative doses will soon reduce him to his former bulk; whereas, if the fatness has progressively increased, from inert habits, close confinement, and heating food, such grossness turns to a disease, which cannot, even by the most strict regimen of diet and medicine, be completely removed. Want of exercise alone, even where the appetite of the dog is moderate, will cause grossness; in other cases too much food will produce the same

effects. If a dog be accustomed to constant and active exercise, he will require a greater proportion of nutritive food than others; but, if the dog have a natural tendency to fatness, notwithstanding his exercise, his meals should be lessened, and the greater part of his food should be mixed up with vegetables. The operation of castrating dogs, and spaying bitches, mostly causes them to grow to an enormous size on the most frugal diet; in this case, even that quantity should be gradually lessened, or principally composed of cooling and vegetable food. As the fat of young dogs is generally on the outside, and of more aged dogs on the inside, the latter are more liable to diseases, as asthma, canker, &c. than young dogs. In old dogs, it also produces mange, and other scorbutic complaints, also fits arise from this grossness of habit. In another part of this work, further directions are given for proper treatment in those cases.

COSTIVENESS.

Dogs are generally liable to a costive habit of body, as they live for the most part on animal food. Favourite house dogs and ladies' *pets*, are, therefore, from high living and indolent habits, more exposed to costiveness than other dogs. This complaint generates various diseases, as mange, worms, indigestion, foul breath, &c., and if no timely preventive be used, it will create inflammation of the bowels. If the disease be so far advanced that moderate purgatives have no effect, clysters should be given, and mild opening doses also continued. When the dog is restored to a healthy habit, vegetable diet and regular exercise, with an occasional meal of boiled liver, are the best preventives against its recurrence.

CHAPTER II.

BREEDING.

HEAT AND LINING OF BITCHES.

THE *heat* of bitches first appears by a swelling of the external parts, accompanied by a discharge from the *vulva*; there are also strong marks of general excitement all over the frame, the irritable state of which is so great, that bitches formerly subject to fits, or convulsions, are *then* particularly exposed to them; nay, in many cases, where they were not previously attacked by either. Cooling food, moderate exercise, and gentle purgatives must therefore be attended to at this time; but more so, if the intention be, to keep her from the dog, as she will in that case, remain a long time in *heat*. Breeding, however, is a healthy process, and those bitches which are prevented from it are most diseased, especially those that are pampered and much confined. This system of *forced* barrenness brings on, sooner or later, an unwholesome increase of fat, either general or partial; the latter in a swelling on each side of the loins. In other cases, the milk glands are affected by some hard lumps, which at last change into open ulcers and hard tumours. Another evil attends the prevention of breeding, (especially in bitches that have already had puppies,) which is, the painful accumulation of milk in the teats after the usual period of going with young has passed. In this case, the milk should be gently pressed out every day, and the teats frequently bathed with brandy and vinegar, mixed with a little water. The food should be cooling, and a gentle purgative now and then given. Bitches in *heat* must be closely

watched, (as they are at this time very cunning,) to debar them from the dogs; for, should they escape, they will unite with the first dog they chance to meet; and if he be of much larger size than the bitch, she is very likely to die in pupping, from the increased size of her young. It will be necessary to follow her, either to prevent connection, or at least to protect her from the brutal conduct of boys, and (to the disgrace of humanity be it said,) many of them unfeeling *old* boys, who, when it has taken place, often throw cold water or missiles at them, or tear them savagely from each other. The private parts of the poor bitch are often turned inside out by such barbarous revolting ferocity, whereby most dangerous effects ensue. It is also destructive to the dog, by rupturing the vessels of the penis, or by some other injury. Sometimes impregnation follows the first copulation; at other times, on the second, third, or fourth; and in others, it has not been effected until the *seventh*. Dogs, should, therefore, be left together some days, to secure impregnation. On the fourth or fifth week after warding, signs of impregnation appear, the flanks fill, the teats enlarge, and the belly shews an unusal roundness. After the seventh week, the belly hangs heavy, and the increase after this time is not so observable as before it. In the last week of pregnancy the contents of the belly incline backwards, the *vulva* extends, and a slimy substance frequently lubricates the parts. Pupping generally commences on the sixty-second, sixty-third, or sixty-fourth day. About half an hour intervenes between the birth of each puppy. Rare instances have occurred of a puppy's appearance on the seventieth day after the last warding.

BREEDING AND REARING OF PUPPIES.

The great care used, in perfecting some breeds of dogs, and in continuing them perfect in each breed,

is in general well known; to sportsmen, and breeders of domestic animals, this subject is both interesting and important. It is here necessary to observe, the dissimilitude of resemblance, which so often occurs between the male and female parents, and their young, which we must suppose proceeds from some antecedent impression, made upon the mother *previous* to impregnation; which impression being always before her imagination, stamps itself on some part, and not unfrequently on the whole of her offspring. This strange inconsistency in the breeding system is confirmed by indisputable facts of frequent occurrence. The practical inferences, which may be drawn from this anomaly in canine breeding, are;—that the greatest care should be taken, in select breeds, to render the choice of the male dog congenial to the female; and, further, that if a bitch of superior breed should be a long time accustomed to a favourite dog of an inferior breed, he should be removed from her, some time *before* the period of *heat* in the bitch comes on; when a proper dog may be left with her, and no disappointment will ensue; whereas, if this caution be not carefully observed, the progeny might consist of *mongrels*, although the real parents be both of the best breed, for the reason already given. If the parents be of the same or of different breeds, the puppies will resemble them in nearly equal proportions. This, however, is not always the case; as it sometimes turns out, that, in size, form, colour, and quality, the progeny resemble the dog *only*, in other cases the bitch *only*; and it not unfrequently happens, that one half of the same litter follows the male, and the other half the female parent. This may be clearly seen, when a breed is formed between a *setter* and a *pointer*; it often occurs, that one part of the litter will produce thorough-bred pointers, and the remainder well bred setters. The permanency of a breed depends altogether upon a proper selection of the parents, who conjointly possessing all those properties

necessary for perpetuating a *pure* breed, will beget a progeny equal to themselves. When this rule is carefully observed, and the species long continued, it constitutes what sportsmen term—*purity of blood*. Experienced breeders, and scientific sportsmen, attach great importance to the pure continuance of this *lineal descent*; and long practice teaches them, that a certain degree of perfection once obtained, can *alone* be continued by *successive* propagation of the blood or breed. In the choice of *breeders*, you should consider, whether you are about to continue a breed already established, to improve one that is defective, or to form a new variety altogether. In any of those cases, especially the last two, a second litter will not be sufficient to enable you to judge of the good or bad qualities of a breed; irregularities may occur, the dogs may breed *back*. It must be acknowledged, that, notwithstanding the greatest care in the selection of good dogs, yet *perfect* specimens for breeding cannot be obtained; which fact is well known to our ablest experimentalists in rural economy. During the gestation of bitches, in kennels, where many dogs are kept, great caution should be observed in removing any appearance of mange, or other cutaneous affection; for if it be neglected, the litter will be infected by an hereditary itch, that no remedy can ever after wholly eradicate. The general average of puppies at each litter, is, from one to fifteen. Instances have been known of *sixteen* being whelped at once. Five, six and seven, are the usual numbers. A strong healthy bitch may rear five, with plentiful feeding; but, if the breed be valuable, and great size and strength are expected, three or four at the utmost should only be left with her. If it be wished that another suckling bitch be procured for the extra puppies, she should be of the *same* breed as the mother, or themselves; for, otherwise, they may imbibe with her milk many of her bad qualities, and inherit diseases in her blood. It is sometimes a difficult task to attach

the foster bitch to the puppies; in this case, the best plan is, to milk the bitch, and sprinkle it over the puppies, which always has the desired effect. When the greatest part of a litter is preserved, they should be early used to lap; boiled milk, when cool, with a little sugar, is a good beverage; if given unboiled, it purges, and by sweetening, it tastes like the mother's milk. Meat, cut fine, will be also proper, as it will strengthen the whelps and ease the mother. Young dogs should be early used to be tied up by a chain and collars, otherwise, when grown up, their noise will be incessant if so confined, and not unfrequently excite fits. Confinement, however, should be of very short duration, as thousands become weak and ricketty from close confinement when young; their feet also grow out into slender narrow *phalanges*. Young dogs are liable to various diseases at this period of life. One seems peculiar to some breeds, as terriers, pugs, the small growth of spaniels, and all small breeds, particularly *pets*, that are confined and over-fed. This disease partly proceeds from the mother before birth, and from poor milk, caused by bad living. The symptoms are—the belly much swoln, the hair staring and ragged, and the face sharp and sagacious. It generally proves fatal, unless remedies are very early applied;—the best are good feeding and air, with mild purgatives and alteratives. Sometimes this disease originates in *worms*; then the dog rubs his hinder parts along the ground, his stools are bad, and his hair stares more than ever. (For treatment, see *Worms*.) All young dogs, with few exceptions, are liable to worms; the sure signs are;—fits, irregular bowels, craving appetite, and a heavy unhealthy appearance. *Rickets* destroy many puppies, especially those closely confined in cities and large trading towns. This disease is discovered by an enormous large head and melancholy aspect, the joints are distorted, and their elbows turn out. This deformity is now converted into a breed called the *wry-legged terrier*,

famous for rat-killing. Young dogs are also liable to *spasms* in the bowels, which often prove fatal: the best remedy is calomel, with an active purgative.

CHAPTER III.

OPERATIONS.

BLEEDING.

BLEEDING will be found very useful in cases of *inflammation of the lungs, stomach and bowels*; also, in some cases of *mange, violent dry coughs, fits, &c.* The *jugular* or *neck* vein is the most convenient; and a *common lancet* is *much better* for this purpose, than a *fleam*, which is *too generally* used. Put a string of riband round the lower part of the neck, hold up the head, and the vein will swell out on *both* sides of the *windpipe*, about *an inch* from *each* side of it. If the hair about that part be *very* thick, it must be cut off, to get at the vein more easily. It is not necessary to apply a bandage to stop the bleeding, nor to stick a plaster or pin to the place opened by the lancet; the removal *alone* of the riband from the neck is sufficient. If it be difficult to get at the neck vein, the *ear* may be lanced, or an incision made *inside* the flap, but *not* through the *substance* of the ear. In dangerous cases, the *tail* might be cut; it is better to take off a small bit, at the *tip* of the tail, than to cut it *underneath*; for if the incision be *clumsily* made, the *whole* tail will surely mortify and drop off. *Two ounces* of blood will be enough to take from a very little dog; from a middle sized dog, about *four ounces*; and from a large dog about *seven or eight ounces*. These are general proportions, which may

be varied, more or less, according to the strength, size, and complaint of the dog.

CROPPING.

Puppies should not undergo this operation, (which is in many cases as useless as it is savage,) until they are five or six weeks old; otherwise the ears will grow again. The inhuman practice of *twisting* off the ears should *ever* be avoided. The best method of cropping is with a pair of very sharp shears or scissors, as the future shape of the ear can be regulated to a nicety, and the poor animal will suffer less agony from the operation. In cropping a *terrier*, you should commence the amputation at the hind-root of the ear, as close as possible to the head; then another cross cut from the root in front of the head, will make a handsome crop; and, as the operation will be only momentary, the poor dog will suffer less pain. A *round* crop can be made by one cut. It is a frequent, but absurd, practice to crop a *pug-dog*; absurd, for the ears of that animal are very handsome in general, and by being left on, remove the unseemly disproportion of his huge head; whereas, the intents of nature are daily defeated by this cruel, as well as ridiculous, operation. *Rounding* is, in many cases, absolutely necessary to prevent or remove the disease called *canker* on the *outside* of the ear, which will be found treated on under that head. *Tail-cutting* is generally performed at the same time that the dog is cropped; the amputation can be effected in a second, by a pair of very sharp shears or large scissors, instead of that horrid disgusting practice of *biting off the tail*. If the tail *only* be cut, it is not necessary to stop the bleeding, but if the ears and tail are cut at the same time, it would be as well to bind the extremity with a bandage, to prevent the loss of too much blood, which might weaken the animal; the bandage should be taken off in a few hours afterwards.

Puppies should be kept from the bitch, until the sores are in a healthy state, as the mother will *lick* the wounds, which is sure to inflame them.

CASTRATION.

This operation should always be performed by a professional man; for, although it may be safely and easily effected by a skilful person, yet, under the operation of a *dog-quack*, it is sure to be attended with dangerous, and not unfrequently, fatal consequences to the canine patient. This process is sometimes necessary, either from affecting the testicular string, or from hard swellings in the testicles; an incision should be made in the bag, (or scrotum,) large enough to extract each testicle separately; a ligature should be fastened, (not too tight,) around the testicular string or cord, about two inches beyond its insertion into the testicle, and then it should be cut out with a very sharp knife between the ligature and the testicle.

CUTTING OFF THE DEW CLAWS.

Dew claws are often to be found in puppies. They are additional to the regular proportion, by one to each foot, on the inside, separate from the other claws of the toes, and as they are very troublesome to the animal, when he grows up, it will be best to cut them off very soon after birth. As hooked claws are very apt, by their great length and form, to inflame the foot, and lame the dog, the best method will be to *saw* them off, (but *not* to cut them with a knife, or scissors,) with a sharp fine hand-saw, and afterwards to file them off as close as possible. The toes are not unfrequently liable to ulceration, which is solely derivative from *mange* in the blood. The following oint-

ment, applied once or twice a day, as the case may require it, will be a certain cure : —

Mild Mercurial Ointment, one ounce ;
Venice Turpentine, quarter of an ounce ;
Lard, three ounces ;
Potash, one drachm ;
Sulphur, powdered, two ounces ;
Charcoal, powdered, one ounce.

When this ointment is applied, a leather covering should be fastened round the foot, to prevent the dog from licking the sore, which is sure to *increase* the inflammation, and not, as some persons absurdly imagine, to reduce it.

PASSING THE CATHETER.

If total suppression of urine take place, and the bladder becomes distended, it will be necessary to pass the catheter. As the urethra of a dog takes a turn at right angles, we must employ two instruments, one to pass to the extremity as far as it will go, and having cut down upon it, another may be pushed into the bladder through the wound, having withdrawn the first a little.

CHAPTER IV.

INTERNAL INFLAMMATIONS.

INFLAMMATION OF THE BRAIN.

As the symptoms of this affection in dogs are in a great measure like *rabies* or madness, I will not attempt to point out any particular plan of cure, as

the dog, to (prevent the danger of his bite) had better be destroyed; unless he can be ingeniously confined and secured, when a full bleeding, a strong purgative, and a blister on the head or neck may be tried. If these remedies be not successful, no others will.

INFLAMMATION OF THE LUNGS.

PERIPNEUMONIA, or inflammation of the lungs, is a common disease amongst dogs, and is occasioned by cold and wet. Shearing a dog in bad weather, &c. is a very frequent cause. If immediate remedies be not applied, it becomes fatal. Every thing is to be done quickly, or else the disease becomes hopeless, by effusion taking place in the lungs.

The symptoms are very marked; the animal breathes in a quick and laborious manner, the heart beats rapid and oppressed, the dog holds up his head, trying to catch the air as it were; the nose, ears, and paws are extremely cold, and a moisture distils from the nostrils. The dog sometimes has a convulsive short cough.

To remove or check inflammation of the lungs, the first thing to be done is to bleed to the extent of eight ounces; but this must be only in the *first* stage of the disease; then give a purge of salts, or castor oil, and a clyster; then, as soon as the bowels are free, blister the chest strongly, or the sides close to the fore paws, first having shaved off the hair. The dog must be kept in a temperate place, neither hot nor cold, and the following administered throughout the complaint:—

Take of Mindererus Spirit, two ounces;
 Antimonial Wine, one drachm;
 Tincture of Digitalis, one drachm;
 Barley Water, or common water, six ounces.
 A table spoonful to be given every two hours or so.

The fatal symptoms are, an increase of the diffi-

culty of breathing, which is manifested by the dog holding his nose still higher. Death very soon follows the non-relaxations of the bad symptoms.

INFLAMMATION OF THE STOMACH

Is seldom found acting as a first affection ; it is generally the result of inflamed bowels, and, in addition to the symptoms of that disease, as already described, the dog is constantly retching, and vomits every thing he swallows, even simple water, yet there is an intense thirst.

To cure, the first step is bleeding him to the extent of from six to ten ounces, according to size and strength ; and if the symptoms are not lessened, the bleeding may be repeated in six or eight hours. When he is bled, blister his belly with the following oil :—

Take Spanish Flies, in fine powder, half an ounce ;
Olive Oil, two ounces ;
Turpentine, one ounce.

Mix, and rub it on the belly for ten minutes three or four times a day, until the dog is better.

Also, give the following clyster, having previously removed any hard excrement that closes the fundament.

Take Broth, or Warm Water, one pint :
Epsom Salts, two ounces ;
Linseed Oil, one ounce.

Dissolve the Salts in the Broth, and add the Oil.

Throw up this clyster with a common pipe and bladder. When the dog has received it, keep it in by holding down his tail for four or five minutes.

INFLAMMATION OF THE BOWELS.

In this dangerous disease the dog is restless, evidently in great pain, and flinches the instant the belly

is pressed; he is generally sick, and vomits; fever is present, with thirst, loss of appetite, hot and dry mouth, and staggering when an attempt is made to walk. The bowels are generally costive, sometimes the reverse.

The disease is generally occasioned by too much exposure to cold and damp, when the dog is fatigued or ill. It sometimes proceeds from costiveness, and sometimes it appears to arise spontaneously.

The first step is to bleed the dog to the quantity and extent I have directed for inflammation of the stomach. Employ the same blistering oils, and administer the same clyster I have there recommended. If there be much disposition to vomiting, give the following ball, and repeat it every six hours until the body is well purged:—

Take Calomel, four or six grains;
Barbados Aloes, one drachm;
Syrup enough to form a ball.

All nauseous balls must be wrapped in thin paper before administering them. The following purging drink may be given six hours after the ball, unless the ball has operated before:—

Take Castor Oil, one ounce and a half;
Infusion of Coffee or Gruel, one wine glass full.
Pour the Oil on the Coffee, and give it.

There is a good practice in this and other inflammatory disorders; it is, to place the dog up to the neck in a tub filled with warm water, for fifteen or twenty minutes. This is well, provided the dog be wiped thoroughly dry after it, and kept moderately warm; but if this latter part be neglected, more harm than good will be the result. The immersion may be repeated two or three times a day for two days after the first symptoms of the disease.

CHRONIC INFLAMMATION OF THE LIVER.

Unfortunately, we can with difficulty ascertain the existence of diseased liver until it has made much progress.

The appetite is weak, and the thirst intense; he has a dull, heavy look, and, as in jaundice, he is tinged with a yellow hue, more or less deep. The animal pants, and is fatigued with trivial exercise; his bowels are very much confined, but sometimes there is great looseness, attended with severe and painful straining. When the disease is of long standing, the dog becomes very lean, and the liver swells; this can easily be felt on the right side of the belly; there is, in fact, much resemblance between the symptoms of diseased liver and those of jaundice, only the latter disease attacks suddenly, and no preceding disorder is apparent. It is also known by the suddenness with which the yellow hue comes on; whereas, on the contrary, when the liver is diseased, the symptoms I have described above advance gradually, the inactivity and dullness are more apparent; the dog has a staring coat, and the yellowness is less bright than it is in jaundice.

When we discover the existence of a diseased liver, we must adopt treatment similar to that recommended in jaundice; when the recovery has commenced, we must discontinue the purgative ball, and supply its place with the following restorative:—

Take Powdered Yellow Bark, one scruple;
Aromatic Powder, two scruples;
Powdered Ginger, ten grains;
Oil of Aniseed, five drops.
Syrup enough to form a ball.

One of these Balls must be given every day for a week.

INFLAMMATION OF THE KIDNEYS AND BLADDER.

These attacks, although not very frequent, still

are to be met with, and sometimes they are epidemic. The symptoms which mark the complaint as different from other inflammations of the abdominal viscera, are great soreness and tension between the hind legs, on the belly, and also on the loins; the urine is either mixed with blood, or is wholly suppressed, and, in some instances, comes by drops.

Clysters of oil and water, with laxative medicines, are the first step; then foment the loins, or put the animal into a warm bath, drying him well after it; then put a blister over his loins, not of Spanish flies, but by rubbing of turpentine, because the absorption of the flies may immediately affect the kidneys in the worst possible way.

The following mixture should be administered frequently during the disease:—

Take of Antimonial Wine, twenty drops;
Minderus Spirit, two ounces;
Common water, eight ounces.

Mix.—Give a table spoonful every hour for four hours together.

Bleeding in the first instance will be proper, and it is to be regulated by the strength of the animal. If total suppression of urine takes place, and the bladder becomes distended, it will be necessary to pass the catheter. As the urethra of a dog takes a turn at right angles, the operation must be performed by a skilful practitioner. (*See Operations.*)

CHAPTER V.

FEVERS.

Dogs are not subject to the simple fever which affects horses or cattle. There is a considerable degree of *symptomatic* fever attending every inflammatory disorder in dogs, but no specific fever exists except what I think to be a *bilious and putrid fever*; and that is the *Distemper*. Doctor Armstrong, in his theory of human fevers, shews that some internal part of the viscera, either of the thorax or abdomen, is inflamed. I am thoroughly of opinion that this is the case in distemper; and although dysenteric symptoms shew themselves, it alters not the position I have taken, namely, that it is a bilious and putrid fever.

THE DISTEMPER.

This frightful contagion or canine plague, as it may be called, has become so universal amongst our dogs, that one in a hundred does not escape its noxious attacks. *Inoculation* has been frequently tried, but that has no good *effect*; as it is well known, that dogs have been affected with the distemper at *three different periods*, within the space of six years; therefore, it is ridiculous to imagine, that either simple vaccination or any other inoculation, can prevent the recurrence of a disease so mysterious in its origin, and so infinite in its variety of symptoms and operation. The usual time of its *first* attack, is when the dog arrives at his full age, or growth; in other cases it may not occur until he has completed his sixth, seventh, or eighth year. In all small breeds, particularly ladies' pets, it frequently commences its attack with great violence amongst them when puppies, and at that early period they seldom escape its fatality. From the

numerous varieties in the symptoms, progress, and termination of this complaint, the treatment must be particularly modified according to each peculiar case of distemper. In seven cases out of ten, distemper first appears by stupor, drowsiness, reduction of body, a dry, harsh cough, frequent shivering, a moist running from the nose and eyes. The first and best remedy in this stage of this disease is *an emetic*. (*See Emetics.*) If the dog be disposed to a costive habit, and very strong and fat, give him also a gentle purgative; if he be in a low condition, or his bowels loose, it is unnecessary. In some hours after the emetic or purge has ceased to operate give the patient about three grains of Dr. James's powder, both at morning and night, according to the symptoms. Should the cough be severe and frequent, instead of the last powder, mix up the following and divide into five, seven, or ten powders, (according to the size and case of the patient,) one of each to be taken every morning and night:—

Powdered Nitre, half a drachm;
 Powdered Fox-glove, eight grains;
 Antimonial Powder, twelve grains.

These powders should be continued three or four days, and then another *emetic* would be well, if the dog be able to bear it; and after that has operated, Dr. James's powder may be resumed as before. Should severe *simple* purging appear, these powders, &c. should be substituted for *medicines* recommended in cases of *looseness of the bowels*. If the relaxation of the bowels be not produced at the same time that the inflammation abates, and that foul matter, instead of water, runs from the nose and eyes, then the *fever* remedies should be substituted by the *following* stomachic medicine, mixed up with a small portion of honey, and divided into six, nine, or twelve balls,

(according to the size, &c. of the animal); *one* to be given every morning and night:—

Gum Myrrh, seven drachms;
Gum Benzoin, two scruples;
Balsam of Peru, one drachm;
Powdered Chamomile Flowers, two drachms;
Camphor, one scruple.

Should the matter from the eyes and nose increase, and become more foul in smell, mix up with the above stomachic medicine, *one grain of opium*, and *two drachms of cascarilla bark*. Strong gravy or gruel broths should be made thick, and also small meat balls passed down the throat twice or three times a day if the dog refuses food; except during inflammation, in *every* degree or progress of the distemper, the animal should be well fed and nourished, and in case of his refusing food, he must be forced to swallow it. In other cases, the first symptoms of the distemper are, *looseness* of the bowels, and persons, from a foolish opinion that it should not be checked, allow the animal to be reduced so low, that its recovery is *impossible*. In all such cases, this laxative state of the bowels is of a morbid nature, and must, to preserve the patient, be soon checked by proper treatment, as already described. In every other stage of the disease it must be altogether stopped, and instead of other remedies, astringent ones *alone* should be resorted to, until the looseness is completely removed, (*see Looseness*); then the other medicines may resume their operation. If the symptoms of this disease are an inflammation of the chest or lungs, blood-letting from the neck, blistering the chest, and the remedies for inflamed lungs, should be continued until the inflammation has been completely got under. In some *few* cases, when the distemper first appears by a convulsion or fit, an emetic should be given, followed by a purging dose. To prevent a recurrence of this attack, give the dog *another*

strong emetic, *directly* after his recovery from the first fit. Should this preventive not succeed, and other convulsive attacks appear, the following remedy must be constantly used :—Mix together

Laudanum, half a drachm ;
 Camphor, ten grains ;
 Spirits of Hartshorn, one drachm ;
 Æther, one drachm.

Give the dog, every alternate hour, from forty to eighty drops of this medicine, (according to size, &c.) and after each succeeding fit, add a few more drops to it. It may be given infused in a table spoonful of ale or porter. Bathing in warm water is also necessary, and when taken out, the dog should be wrapped up in a piece of flannel cloth, and placed near the fire until dry ; nutritious food should be passed down the throat, if the patient refuse to receive it voluntarily ; ease and rest are necessary, and exercise should be avoided, lest it might bring on repetitions of the fits. Although convulsive symptoms in the distemper are not frequent ; yet, they are in most cases more fatal than any other, and therefore require the greatest care and attention in the proper treatment of them. Finally, the best preventive means against fits are, to guard against any treatment that may occasion weakness, as exposure to cold, excessive exercise, bad food, looseness of the bowels, severe running from the nose and eyes, tampering with the dog's temper, &c. &c. The symptoms of that variety in the disease of the distemper, called the *putrid distemper*, appear by excessive weakness, and quick reduction of body, total loss of appetite, and a constant foul discharge from the ears, eyes and nose, especially from the last organ. The *putrid distemper* is very prevalent in hot summers, and acts as a plague or influenza amongst almost all breeds of dogs with the greatest malignity at those periods of excessive hot weather. When the disease advances, the

discharge increases; is of a most foul smell, and frequently bloody; blood particularly flows most copiously from the *nose*. The eyes and ears, also pour forth, without intermission, stinking matter, the gums bleed, the tongue becomes ulcerated. Deep ulcers also appear inside the nose, the oozing from which is so virulent, that it excoriates every part it drops on. The stench comes not alone from the parts described, but issues from *every* part of the body. Blood-flux (dysentery) often accompanies this stage of the distemper, and aggravates the disease to a speedy fatality. In those desperate cases, the dog may be carried off in *three or four days*; sometimes, according to his strength, &c., he may last a fortnight, and when opened, presents one general mass of putridity in *every* part of the system.

Having now described the general symptoms of the most fatal stage of this disease—the *Putrid Distemper*, it must be obvious, that the grand object is, in those cases, to propose remedial antidotes against the *tendency* to putrid action in the canine system. The following *three* medicines may be given *internally*. Should the *first* cause looseness, or in any other way derange the stomach, substitute for it the *second*; and should that produce similar effects to the first, use the *third*. Let each dose consist of from two to four table-spoonfuls, (according to the size, &c. of the dog,) and be given every three or four hours. Should the looseness of the bowels continue, add to each dose about twenty drops of laudanum.

First Mixture.

Tincture of Opium, forty drops;
Menderus's Spirit, four ounces;
Powdered Peruvian Bark, two drachms;

Second Mixture.

Decoction of Bark, two ounces
Yeast, two ounces.

Third Mixture.

Camphor, half a drachm;
 Spirit of Nitrous Æther, half an ounce;
 Aromatic Confection, two drachms;
 Chamomile Infusion, four ounces.

In those cases, should looseness of the bowels be very violent, the danger arising from its continuance is so great, that the use of every other medicine must be altogether suspended, and internal *astringents only* be given, until the flux is completely stopped. The most nourishing food should also be plentifully supplied and forced down, if not willingly received by the patient. Contrary to the treatment in other stages of the distemper, the *putrid* requires *free access of air*; the dog's bed must be frequently changed, and every means adopted to remove the infectious smell; vinegar should be sprinkled about the litter and place where he lies, and occasionally washing the body with vinegar and warm water, will afford the poor animal much relief. Should the running from the nose be excessive, very foul and bloody, or should the nose and mouth appear ulcerated, apply the following *wash* with a sponge to those parts:—

Vinegar, two ounces;
 Decoction of Oak, or Peruvian Bark, four ounces;
 Mix.

In some desperate cases of the putrid distemper, an abscess of foul matter collects in the sides of the jaws, and after bursting, a frightful ulcer succeeds, which *no* remedy, however powerful, can check in its fatal career. In the early stages of the *putrid disease*, when a watery substance runs from the eyes and nose, a *seton* inserted in the neck, and repeated fomentations of warm water and vinegar applied to the head, will considerably reduce the inflammation; and, should the dog be in strong condition, blood-

letting and purgatives will also be necessary. If the eyes exhibit signs of ulceration, in an advanced stage of the putrid disease, the treatment directed already for diseases of the eyes should be particularly observed.

CHAPTER VI.

AFFECTIONS OF THE LUNGS.

ASTHMA.

Dogs are not *naturally* subject to this disease; but it is brought on by want of exercise, too much food, and, consequently, an enormous increase of fat. In some cases, dogs may, from the above causes, be affected with this complaint so early as *four* years old; others, less confined and less crammed, may not shew any symptoms of it for *eight* or *nine* years. But, if the above abusive system of treatment be adopted, the dogs are *sure* to be attacked by asthma, which mostly proves fatal, in spite of *all* medicine used to remove it. The first symptoms of this disease are:—an occasional cough and wheezing, which at last is converted into an almost unceasing violent cough, as if the animal were struggling to disgorge something sticking in its throat. The respiration is then painfully interrupted, and the dog throws up small portions of a *frothy* nature, which constitute, in the *chest*, the cause of irritation. The degrees, by which this disease at last destroys its victim, may be exemplified by the following cases. Sometimes the constant violence of the cough reduces the dog to a mere skeleton. In other cases, the frothy matter *within*

the chest impedes the breathing, and suffocation ensues. In others, the blood is stopped in its return to the heart—collects in the head, and the dog dies in convulsions. On some occasions, the sudden bursting of a blood-vessel produces death; but the most general precursors to the fatal termination of this disease are;—*Dropsy*, or fluid collected in the chest or belly. On those occasions, the limbs wear away, the body becomes emaciated, and the *belly* is much swoln; the *hair* stands on end, the *breathing* is impeded, which ends in suffocation.

Unless this disease is taken under cure at an *early* period, the life of the dog is *very* doubtful; but, if the cough be allowed to continue for any length of time *after* the first symptoms appear, *no* remedy, however powerful, can save it from destruction. It has been already observed, that confinement and cramming dogs with food, are generally the *first* causes of ASTHMA; therefore, the greatest attention should be paid to the prevention of them. Some dogs will increase in fatness on a *small* quantity of food; this quantity must be *proportionably* reduced, or it may prove *equally* fatal, as in cases of excessive feeding. (*See Feeding*). Moderate, but *constant* exercise, and the kennel being placed in an *airy* situation; together with one or two purgatives *in the week*, will tend to reduce the *excess of fat* considerably. In the *first* symptoms of the disease, *bleeding* is very necessary, as it reduces inflammation; but, in an *advanced* state, it is generally *useless*. The following will be found the most safe mode of cure in this disease.—*Twice* a week let an *emetic* be given, and an *alterative* medicine on the intervening days, together with a *purgative* now and then, if the strength or fatness of the dog require it; if not the purgative may be avoided. The emetics (*see Emetics*) and alteratives should be *constantly* used, until the recovery of the dog is complete.

The following *prescription* has been found most successful as an *alterative* medicine :

Calomel, half a grain ;
Nitre, five grains ;
Cream of Tartar, ten grains ;
Antimonial Powder, two grains.

The above may be used, as a powder, or worked into a large pill, by a small quantity of honey. This medicine should be given to the dog *every* morning, and also *every* evening, if the case be *desperate*. The quantity of the articles which compose this dose are intended for a dog of the *middle* size ; but that quantity may be diminished or increased, according to the lesser or greater bulk and strength of the animal. On the day the *emetic* is used, the *alterative* should *not* be given ; and where the alterative is used *every* night and morning, the *mouth* should be frequently examined, lest *salivation* should suddenly ensue. If such be the case, the medicine should be discontinued for a few days. If the *calomel* be found disagreeable, the *following* alterative may be used instead of the former, and the *emetic* be continued a before directed :—

Nitre, three grains ;
Tartar Emetic, quarter of a grain ;
Powdered Foxglove, half a grain.
Make into a pill with bread.

If the cough has continued *long* and *very* severe, from ten to thirty drops of *laudanum*, or the *fourth* part of a *grain* of *opium*, may be successfully added to each alterative dose. In some cases, the cough may be more effectually checked by substituting an *opiate at night*, of from *twenty* to *sixty* drops of *laudanum*, or the *quarter* of a *grain* of *opium*. If

the following dose be given every morning, it will afford much relief:—

Powdered Squill, half a grain;
Gum Ammoniac, powdered, five grains;
Balsam Peru, three grains;
Benzoic Acid, one grain.

Mix these articles into a ball, with treacle.

Or the subsequent medicine may be formed into balls—*one* to be taken *every* morning and night:—

Inspissated white juice of the garden lettuce, half a drachm;
Tincture of Balsam of Tolu, one drachm;
Powdered Gum Arabic, one ounce;
Extract of Liquorice, one ounce.

COUGH.

The most general cough among dogs, is the distemper cough, which is of a dry, wheezing character, accompanied by forced evomitions of a frothy consistence. As dogs approach to maturity it mostly attacks them; in some cases, it appears from six months to a year old; the proper treatment for it, is described in the article of distemper. The symptoms are, frequent coughing and shaking, stupor, and reduction of body; and although he may eat heartily, his food will not impede his decay. In the disease of worms, dogs are liable to a troublesome cough; the best treatment given for this is in the article on *Worms*. In this case, the dog vomits a frothy matter, his hair stares, and his breath is foul. The *asthmatic* cough is also very common to dogs; the best remedies are proposed in the article on *Asthma*. This last disease is very dangerous, unless timely checked.

CHAPTER VII.

AFFECTIONS OF THE INTERNAL CANAL.

COLIC.

THIS disease, in dogs, is attended with severe spasms; the appetite fails; the animal is affected by stupor; the head and nose are much inflamed; and sometimes the pain and irksomeness of the dog are evident from his panting; he will also run round about until he becomes quite dizzy, and almost purblind. The animal is sometimes destroyed by it in a week, in other cases he dwindles on for three weeks, but, in nine out of ten cases, the dog dies. The best remedies for this complaint are, active purgatives, and frequent warm bathing. Strong opening clysters, often repeated, are also in desperate cases necessary; and occasional doses of æther or laudanum, as in spasms, should be given. In some instances repeated electrical shocks will expedite the cure of this disease, which originates from a foul costive habit of body; it then removes to the head, and deranges the whole animal system.

THE WINDY OR SPASMODIC COLIC.

The causes are, spasms of one or other part of the gut, producing contraction, and arising from some cause of irritation; for instance, costiveness, worms, exposure to cold and wet, indigestible food, or trash taken into the stomach, or licking paint containing lead.

The symptoms of this disease are violent pain in the bowels, causing the dog to roll and tumble about; the animal occasionally turns round and round, keeping his eyes fixed on the place the seat of pain; dull,

heavy, and glazed eyes, bowels very costive, the rectum loaded with hard excrement, and bearing down upon the fundament; there is a constant but unsuccessful straining to expel the fæces; the dog is sick, and frequently vomits. If worms be the cause of this disease, they will easily be ascertained. (*See Worms.*) If the complaint be suffered to run its course unchecked, the inflammatory symptoms are much increased,—the dog becomes more restless, is sick at the stomach, breathes much quicker, and the belly becomes remarkably sensitive to pain.

Whatever cause may occasion the spasms, it is our duty to get rid of that effect as soon as possible; this can be effected by the following ball, which causes the bowels to be well purged, relieves the spasms, and reduces tendency to inflammatory action:—

Take Opium, two grains;
 Calomel, (according to size and strength,) four to eight grains;
 Aloes, one drachm;
 Oil of Carraway, six drops;
 Syrup enough to make a ball.

Until the bowels are purged, this ball must be given every four or six hours; the clysters recommended for inflammation of the stomach should also be given; but particular care should be taken to remove the excrement from the lower gut; but if the ball do not operate within six or eight hours, and the animal be still in pain, you may remove, from a middling sized dog, six or eight ounces of blood, and here you may use the warm bath as mentioned with great advantage.

BILIOUS COLIC.

This disease sometimes attacks the dog, and is always accompanied with vomiting and purging of

bile—there is also acute pain in the bowels, and excessive thirst.

The causes are the same as give rise to flatulent colic; a too great quantity of gross indigestible food, is, however, the most general cause. As soon as the dog is attacked, give him the following ball:

Take Aloes, one drachm;
Oil of Peppermint, four drops;
Divide into two balls, one every two hours.

Or—

Take Opium powder, three grains;
Aromatic powder and
Colombo powder, of each half a drachm;
Oil of Peppermint, three drops;
Conserve enough for a ball.

Let this be repeated every three or four hours, until the symptoms are abated; but if the ball should be rejected by vomiting, then it will be necessary to give the following clyster:—

Take Thin Gruel, warmed, eight ounces;
Laudanum, two drachms;
Mix and repeat when necessary.

When the disease and bilious purging has stopped, give the following purging ball, and repeat it in two or three days:—

Take Opium, two grains;
Calomel, six grains;
Aloes, one drachm;
Oil of Peppermint, six drops
Conserve enough to make a ball.

Fomentations, or a warm bath, as previously recommended, will be found valuable in obstinate and severe attacks.

WORMS.

Dogs are very liable to be attacked with worms,

and frequently experience great injury from them. The symptoms which point out the existence of worms in the dog, are general indisposition and gradual loss of flesh, a nasty hacking cough, a ravenous and depraved appetite, a staring coat, frequent convulsive twitchings of the belly, great irregularity of the bowels, sometimes exceedingly costive, and sometimes as much the reverse; the excrement of a slimy appearance. The belly of the dog is swelled, and hard, and he frequently has fits, occasioned by these animals. Many people are unacquainted with the symptoms of worms, and are astonished to see a dog void the worms from mouth or fundament, without having had any suspicion of their existence. In puppies there certainly is some difficulty in detecting the existence of worms; there is, however, some general symptoms by which we can most frequently arrive at correct results. In young dogs and puppies, worms produce very prejudicial effects—they stop the growth of the dog, and diminish his present bulk; his bowels are relaxed, and his excrement has a glareous consistence; he looks starved, and suffers from pain in the belly. Sporting dogs are frequently ruined by worms; their “*condition*” is prevented, and they are destitute of that strength of body and of wind, which is absolutely essential.

Varieties of Worms.

Dogs are subject to five different kinds of worms. The most frequent, and at the same time the most dangerous, is the “*round thin worm*,” it is about two or three inches long, and of a light yellow colour; these frequently infest the stomach, and are voided from the mouth in considerable quantities.

Another species is the thick round worm; it is about an inch in length, has a reddish colour and a small

head. The exhibition of the following balls will cause multitudes of these to be expelled :—

Take Turbith Mineral, four to six grains ;
Worm Seed, powdered, two scruples.
Form a ball with Conserve.

Dogs are subject to the attacks of a small white worm ; the effects it produces are not very pernicious ; they chiefly infest the gut near the fundament, and are sometimes expelled in great numbers. For the cure of these worms an injection, composed of one pint of decoction of wormwood, with one drachm of aloes, dissolved in it, is used with great effect. The following ball is also advantageous :—

Calomel, five to eight grains ;
Barbados Aloes, half a drachm ;
Powdered Ginger, ten grains ;
Oil of Wormwood, four drops ;
Make a ball with Conserves, and give one every fourth day, three or four times.

There is also the small white flat worm ; these sometimes abound in great numbers, and are expelled by worm medicines.

The last species is the tape worm, a long, flat, pointed worm, of a dirty white colour, and sometimes three feet long.

It is generally understood, that the immediate cause of worms is a foul and slimy state of the bowels—resulting from long continued chronic disease of the mucous membrane ; and it is further understood, that vitiated mucous secretion is possessed of the power of generating worms.

If the animal be a whelp, you need only put two grains of the mineral into a ball, and diminish the quantity of aloes in the following purging worm ball, to half a drachm :—

Take Barbados Aloes, one drachm ;
 Worm Seed in powder, two scruples ;
 Oil of Savin, four drops ;
 Conserve sufficient.

We must not frequently repeat the mercurial worm ball, but the aloetic purge may be administered once or twice a week for a fortnight, or, if necessary, and the dog can bear it, longer. In delicate dogs, after giving the mercurial and aloetic balls, we generally give the following:—

Take Powder of Tin, one scruple ;
 Æthop's Mineral, one scruple ;
 Conserve sufficient for a ball.

DIARRHŒA, LOOSENESS, OR PURGING.

In treating of this complaint, I only speak of that description of looseness which is connected with other diseases—a mere simple purging. Cold very often produces it, but more frequently it is occasioned by improper food.

The first thing to be done is to give the following mild powders, so as to correct the vitiated state of the bile, mostly attendant upon bowel complaints.

Take of Calomel, three grains ;
 Rhubarb, ten grains.
 Mix.

In twelve hours after this, commence with one of the following absorbent powders given in boiled milk:—

Take of Prepared Chalk, three drachms ;
 Powdered Opium, three grains.
 Mix, and divide into six parts.

One of the powders every three or four hours will check the discharge very soon. If there should ap-

pear obstinacy in the symptoms, starch clysters, with a little tincture of opium, should be thrown up twice a day, and the following astringent given.

Take of Powdered Catechu, one drachm ;
Prepared Chalk, two drachms ;
Opium, six grains.

Mix, and divide into twelve powders, one to be given every three hours in boiled flour and milk, commonly called *thick milk*.

The dog must be kept warm and bedded dryly during the treatment, as it is a disease which, if suffered to continue, will kill the animal. The purging attendant on Distemper, I have considered under the proper head.

DYSENTERY.

This disorder is very seldom, if ever, discoverable in dogs, except in desperate stages of looseness in the *distempe* ; when the evacuations of blood flux are very frequent. The proper treatment has been already directed, in the article on distemper.

CHAPTER VIII.

DROPSY.

THIS disease, particularly dropsy in the belly, is very common to dogs; and, not unfrequently, they are liable to dropsy in the chest. Dropsy in the belly generally originates from asthmatic affection, diseased liver, or mange that may have been long neglected. The symptoms of this complaint vary, according to the causes which generate it. In some instances, the water increases slowly, in others, rapidly. Sometimes a sharp cough, at other times an unnatural voracity

of appetite is the precursor of it: in the latter case, notwithstanding the quantity of food which the dog consumes, his body gradually becomes emaciated, his belly swells by degrees, and assumes a glossy, hard, rotund appearance; his thirst, panting, and restlessness increase, and his appetite then falls off. At last, suffocation ensues from obstruction to the free action of the lungs. The swelling of the belly from dropsy and fat, is easily distinguishable; as, in the former case, the belly hangs bloated, the back bone and hip joints stick out, as if they would pierce the skin, and the hair frightfully stands on end. It does not resemble bitches in pup, as their teats increase in size as their pregnancy advances; besides, the belly, in breeding, has not that braced, glossy surface as in dropsical cases, and the pups can be perceived to move as the pregnancy proceeds. Cures are seldom performed in effectually removing this complaint, as the disease is mostly derivative from some other dangerous affection *previously* rooted in the system. Therefore, generally speaking, it may be considered in most cases fatal to the patient. *Tapping* has, on various occasions, been tried, but this operation only proved of short temporary relief; the animal lingered some time, and at last perished. In some cases, however, the use of *diuretics* have proved efficacious. The following *three* prescriptions will be found best for this purpose. A table spoonful of the *third* prescription to be given every night and morning; and it would be well, if (in order to increase its power) about *two ounces of infusion of tobacco* were added, which is made by pouring over a *drachm* of tobacco, *two ounces* of scalding hot water, and then strain it off from the herb.

No. 1.

Powdered Foxglove, twelve grains;

Nitre, one drachm;

Antimonial Powder, fifteen grains.

Divided into twelve or fifteen papers, one of each to be taken every morning and night.

No. 2.

Cream of Tartar, two drachms ;
Powdered Foxglove, nine grains ;
Powdered Squills, twelve grains.

To be divided, and taken as directed in the *first* prescription.

No. 3.

Tincture of Opium, half a drachm ;
Oxymel of Squills, one ounce ;
Spirits of Nitre, half an ounce ;
Infusion of Chamomile, two ounces ;

Mix.

Should not either of the prescriptions, Nos. 1 or 2, be effectual, they must be substituted by the mixture No. 3, and given constantly as directed until the cure be effectual. About *one grain of calomel* may be usefully added in some cases, to the above doses, every morning and night ; and should diuretic medicines not afford relief, *two* strong mercurial purgatives taken in the course of the week, will prove beneficial. The symptoms of *dropsy of the chest*, are, unusual uneasiness, and difficulty in raising the head, when the dog lies down. The chest also appears much swollen, and the heart beats with great rapidity, which may be discovered by the application of the hand to that part. The remedies necessary for this disease, (which originates from nearly similar causes, as those of *Dropsy in the Belly*) are exactly the same, as in the former case directed ; and it is to be regretted, that, for the same reasons, already given on dropsy on the belly, this complaint, in most cases terminates fatally.

CHAPTER IX.

THE YELLOWS, OR JAUNDICE.

THIS is a disease frequently met with in dogs. We first discover its presence by the alteration in the habits of the animal; he is dull and incapable of exertion; his eyes and ears assume a yellow hue, which tinges the whole of his body; this is more conspicuous when the hair is of a light colour. The appetite fails, there is repeated sickness, and he is costive. Some of the chase dogs will lie down in the field when thus attacked, and are incapable of going further.

Stones frequently form in the passages leading from the liver, and in the gall bladder; these prevent the bile from passing into the gut, and thus it is carried throughout the whole system, producing the tinge I have mentioned, from which the disease takes its name.

Other affections of the liver will also occasion this disease.

The first thing to be done in the treatment is to administer an emetic, and the following is as good as any.

Take Tartar Emetic, two grains;
Ipecacuanha, one scruple.

Form a ball with Conserve, and mix it in thin gruel.
Give this every other day for three or four times.

The day after the operation of this emetic give him a ball, composed as follows; and repeat this ball every third or fourth day until the disease be cured.

Take Calomel, four grains;
Powdered Rhubarb, two scruples;
Castile Soap, half a drachm;
Form a ball, and give it.

Sometimes the dog pants, and labours under much pain at the beginning of the disease; when this is the case, remove from five to eight ounces of blood a few hours previous to giving the emetic. Bleeding, in fact, may be advantageously employed whenever these symptoms appear.

CHAPTER X.

RHEUMATISM.

THIS is a very common and dangerous disease amongst the canine species; and those dogs whose habits render their constitutions enervated, such as ladies' lap-dogs, are peculiarly liable to its baneful effects, whenever they are exposed to sharp winds, or get wet. Rheumatism does not affect dogs in precisely the same way as it does the human species; the pains attending it are not so apt to change from one joint to another, nor to attack the smaller ones, but seem to be confined to the loins and thigh joints, and sometimes to the neck and shoulders. In the canine rheumatism, there is also a strong participation of the bowels with the disease; they will become extremely costive and torpid, and sometimes inflamed.

The symptoms shew themselves in the dog by a loss of motion in the hind legs and the loins; his nose becomes hot; his mouth dry; he screams with pain, particularly on being moved, and often on being merely touched over the affected parts. The disease sometimes suddenly goes away on the animal being kept warm, and his bowels opened; but very frequently a paralysis of the limbs remains for life, and

the dog drags his legs, without having any power in them.

The first step in the cure of rheumatism is to purge the dog by castor oil, or a purging ball of calomel and aloes, assisting the operation by clysters. He is then to be put into a warm bath, (a tub of warm water,) and his abdomen and the affected parts gently rubbed. Then he is to be well dried by cloths, and put before the fire during the day and night, feeding him with nothing but liquids, and those not in great quantities; a little milk and water warm, will be a good drink. His bowels must be cautiously attended to, and kept open during the cure by mild cathartics, which, if the animal be kept warm, constitutes the means of cure. An embrocation may be used on the affected parts daily, after the first day or two. This may be composed of equal parts of olive oil and oil of turpentine, with a little hartshorn. If the dog lose the use of his limbs, electricity may be tried, with an occasional use of a strong drastic purge.

CHAPTER XI.

SCHIRRUS AND GLANDULAR SWELLINGS.

BRONCHOCELE.

THE disease so called, is a swelling of the glands of the throat, and is very general among pugs, poodles, and French pointers. Terriers and spaniels sometimes have it. Large dogs seldom or ever are attacked by it. The swelling appears when the dog is very young, and continues to increase in size to a certain

extent; it then remains stationary, and seldom proves fatal; but it is very irksome and painful. The following is the best remedy for it:—

Burnt Sponge, one drachm;
Nitre, half a drachm;

make this into six, nine, or twelve pills, according to the dog's size, and let *one* be given every day, or *two* each day, if necessary. Rub the swellings once every day, with a portion of the following ointment mixed:—

Mild Mercurial Ointment, half an ounce;
Blistering Ointment, half an ounce.

A bit about the size of an hazel nut will be sufficient. The hair must be cut off from the part, and when the ointment is well rubbed in, cover the neck with a bandage. The mouth must be examined, lest sudden salivation should ensue. The new medicine, *Iodine*, has proved an effectual remedy; but the application of it requires the most correct medical judgment.

SWELLED TESTICLES.

An enlargement of the testicle, which arises spontaneously, is seldom cured without castration. Sal ammoniac and vinegar may be used as described in *swelled teats*, and a course of medicine for a month may be tried. Suspending the testicle by a well made truss or bag, will tend much to expedite the cure. Calomel purgatives occasionally should be given during the disease.

Swelled scrotum, or bag of the testicles, occurs in mange, when that disease is suffered a long time; its treatment is like that of mange; the parts may also be bathed with warm water.

SWELLED TEATS.

Those bitches whose teats are full, and when the animals are of a strong and fat habit of body, are liable to this disease, particularly if they are not suffered to breed, or to suckle a sufficient time when they do breed.

It appears by a small kernel, which by degrees enlarges, and if not cured, breaks into an ill-conditioned sore, and resists almost every plan of treatment. We must, therefore, first attempt the cure by bathing the swelling with sal ammoniac and vinegar three times a day; but if this be not attended with apparent diminution in the tumour after a fortnight's trial, I recommend the complete excision. To do this, the skin must be divided through the full length of the tumour, and the tumour itself dissected cautiously out; then the skin is to be united by a stitch or two, and some adhesive plaster, and the animal kept in for a week. If any arteries be opened during the operation, let them be tied by a ligature immediately on their being opened.

Confinement is a great cause of this disease in fat bitches.

 CHAPTER XII.

ULCEROUS AFFECTIONS.

CANCER.

Dogs are liable to glandular swellings, which first appear in hard, small lumps; as they increase in size, the skin is shining, stretched and discoloured;

soon after the parts ulcerate. This disease, (which may be termed *canine cancer*,) is seldom so violent as the human cancer: its progress is more slow, and the health of the dog is scarcely ever effected by it; besides, there are very few instances where it attacks the lungs, or creates that agony so generally felt in human cancer. Solitary exceptions have, however occurred, where *canker in the ear*, after long duration, has extended over the muscles of the face, destroyed the eyes, attached to the throat and the tongue, until at last the poor animal perished. Any part may become the seat of cancer. The testicles of dogs are sometimes affected by *scirrhus*, (hard lumps,) but very rarely by cancer. The teats, belly, and private parts of bitches, are frequently attacked by cancer. This disease is often brought on in the private parts, either by the *absurd* custom of applying violent injections, to create premature *heat* in bitches, or, by the savage practice (which has already been so justly reprobated) of tearing dogs asunder while copulating. When cancer appears in those parts, it resembles a fungous lump of red livid colour, the edges ulcerated and jagged, from which bloody matter oozes out. In these cases it is impossible to restore the animal to health, unless by *cutting the cancer thoroughly out*. Sometimes, however, the use of a *poultice* of bruised leaves of *hemlock*, applied every day, and balls of *two* or *three* grains of *extract of hemlock*, with *fifteen* or *twenty* grains of *burnt sponge*, in each pill, *one* or *two* to be given each day, as the case may require it, has proved an efficacious remedy. *Cutting out*, however, is the most safe method, if performed by a *skilful* operator. This is the more important, as a bungling *dog-quack* may not thoroughly eradicate the cancer, and should the smallest portion of it be left, it will re-appear in some time after, with renewed violence, in another part, and prove fatal to the poor sufferer.

CANKER IN THE EAR.

This disease derives its principal origin from high-feeding and confinement. The first symptoms may be seen, by the dog rubbing his ear frequently; a red, scabby substance collects within it; if not then attended to, it ulcerates, and is constantly full of moist humour. The dog shakes his head frequently, from excessive itching; the ear at last is closed, the hearing lost, and, in some cases, the ulceration proceeds inwardly, and the dog almost instantly dies. This disease also may be contracted by dogs constantly used to the water, as the water remains some time in their ears after they have been out of it. The disease of *canker in the ear*, is therefore more prevalent among water dogs than any other portion of the species. Abstinence, good air and exercise, and occasional purgative and alterative medicines are the best general remedies. In desperate cases, a *seton* should be introduced in the neck of the dog, and continued until it produces the desired effect; if the dog be very gross, it will be proper to bleed him occasionally. In cases where constant swimming causes this complaint, external remedies are sufficient, as they are not generally of that violent nature, as in other cases alluded to. When the first symptoms appear, a lotion, composed of *half a drachm of sugar of lead*, dissolved in *four ounces of rain water*; one tea-spoonful of it (blood-warm) to be poured into the ear every morning and night will be sufficient; in more severe cases, add *fifteen or twenty grains of white vitriol* to the lotion, and, instead of rain water, substitute a *decoction of oak bark*. In other cases, *verdigris, mixed with oil*, and applied in the same manner, is a good remedy; also, *calomel and oil*, in a similar manner. A *very weak injection of corrosive sublimate*, will effect a cure in some cases, where no other application would succeed.

CANKER ON THE OUTSIDE OF THE EAR.

This disease is very different from *internal* canker of the ear. It is a virulent ulcer, generally lodged on the lower part of the flap of the ear, which is divided by a slit. The dog is very irksome from excessive itching. Smooth haired dogs only are liable to *outer* canker. Their ears are generally *rounded* when it appears; but, unless the excision be made considerably beyond the ulcerated part, it will be of no avail. Burning out with caustic is by no means a safe remedy. In cases where over-feeding and confinement causes this disease, the *same* treatment should be adopted as that laid down for the cure of *internal* canker. In other cases an external application will answer. The following ointment, used once a day, on the ulcerated part, will be an effectual cure:—

Corrosive Sublimate, three grains;
Turner's Cerate, one drachm;
Milk of Sulphur, one scruple.
Mix together.

Six grains of Corrosive Sublimate, in four ounces of water, or Alum, dissolved in a decoction of Oak Bark, are good washes.

TUMEFIED FLAP OF THE EAR.

This complaint first appears in a swollen form, inside the flap of the ear; in some cases it increases to the size of a sheep's bladder inflated, and from its weight and soreness causes excessive pain to the animal. *Long-eared* dogs are more liable to it than others. The best remedy will be to make an incision, and introduce a *seton* the full length of the swelling, and it should remain for a fortnight unremoved; by this method, the bad humour will discharge itself, and the parts unite again in a sound healthy state. Great

care, however, should be taken, not to cut the swelling, until it shows an appearance of *ripeness*, and the skin be of a glossy surface. The best preventive against its recurrence, is a proper treatment in regimen of diet, &c. as already described for the constitution.

ORDINARY ULCERS.

For casual ulcers, nothing more will be necessary than washing them once a day with a solution of blue stone and water, dressing them with lint and simple lard, and occasionally with precipitate ointment.

FEET SORE.

The best cure for dogs, the feet of which have become sore from a long journey, is, to wash the feet and steep them well, either in thick milk or cream, or in water, wherein a quantity of fresh fat meat has been boiled; and then to cover the feet with a bandage, to prevent any dirt from reaching the parts so affected.

HÆMORRHOIDES, OR PILES.

Piles with dogs, is a disease of a very troublesome and dangerous nature: it is brought on by bad food and confinement. The first appearance of the disease, is a protrusion of the *anus*, which is sore and red; the dog frequently rubs it along the ground, and consequently aggravates the symptoms. Purgatives must be avoided, except one dose of castor oil, in case the dog be costive. The following ointment is to be applied to the anus, twice a day.

Take of Elder Ointment, one ounce;
Sugar of Lead, ten grains.

Mix

The dog may be put into warm water as far as his loins, and bathed once a day, which will greatly relieve the irritation. A decoction of oak bark, by way of fomentation, will be found beneficial.

When the animal recovers, great attention must be paid to his diet, to prevent a recurrence of the disease.

When a confirmed case of *prolapsus ani* occurs, the dog would be better out of his misery altogether. I have never seen an instance of cure. The poor animal suffers the most deplorable state of torture.

POLYPUS.

Polypi occurs in the nose sometimes, and in the sheath of the penis; but most frequently from the *vagina* of the bitch. The only treatment is to remove the excrescence by the knife, if it can be got at; or by a ligature tied tightly at its origin.

CHAPTER XIII.

EXTERNAL INJURIES.

WOUNDS.

Dogs are more liable to wounds from bites, than from any other causes; but such injuries do not require any medical treatment, as they generally heal of their own accord; it is only necessary to keep the dog from licking the parts, as the popular belief in the efficacy of a dog's tongue in curing all kinds of wounds and ulcers is founded in error: nothing can be more injurious.

When a dog receives a severe wound, the part should be washed clean, and united by sticking plaster, or by ligatures, or both, as the extent of the injury may require; after this, wet it with Friar's balsam, and keep the animal quiet. Should violent inflammation and a bad ulcer follow, the parts must be treated with poultices in the first instance, and when the inflammation has abated, with a solution of blue vitriol and water, and a simple dressing of elder ointment.

BRUISES.

Nothing more will be necessary in cases of bruises, than quiet and application of vinegar, to which is added a little sal ammoniac, this to be applied with clothes. The dog must be physicked. If the bruise go on to suppuration, and form an ulcer, then treat it with poultices and dressings of simple ointment, and lotions of blue vitriol and water.

FRACTURES.

Fractures are very common with dogs, and not of a very serious nature in general, for the inflammation is mostly inconsiderable. In all cases, the bones must be placed as nearly as possible in apposition, and retained so by the assistance of sticking plaster rolled round the limb, and splints, properly made for the part, applied, taking care to fill up the irregularities in the limb by tow, and then bandaging all moderately tight, and allowing the limb to remain so until well; attending to the dog's bowels and giving him rest. The parts may be, in the first instance, (in case of inflammation,) bathed with hot vinegar and water, and not bandaged until the inflammation subsides. In cases of compound fracture; that is, when the bone protrudes from the flesh, we must draw the limb so as to return the protruding part to its proper place;

if that cannot be accomplished, the ends of the bones must be sawed off, so as to permit their return to their proper place. The part is then to be bound up and splinted; but it will require to be opened and dressed every second or third day, if the discharge become considerable. In dressing it, a solution of blue-stone and water will be proper to use.

DISLOCATIONS.

Dislocations in the dog may be very readily reduced by a skilful person, on account of the power which can be exercised over the animal; but mere force will never accomplish it, unless there is also a degree of judgment exercised in extending the limb. A dislocation is nothing more than a slipping out of the bone from its socket; and it is obvious, that if we can feel the head of the bone as well as the socket, we cannot find much difficulty in extending the limb in such a manner as to make the bone slip back into its original position. The hip joint is more frequently dislocated than either the elbow, or stifle joints. The elbow joint, when dislocated, is generally accompanied by a fracture; in this case the best plan will be to treat the fracture first, and when that is united, to reduce the dislocation. In all cases of dislocation, the parts should be bandaged, after being reduced, or a strong pitch-plaster applied over them, and the animal kept quiet for a few days.

HÆMORRHAGE, OR BLEEDING FROM WOUNDS.

In cases of obstinate bleeding, the best application is strong spirits of wine, and binding up the part firmly, first laying over the wound a compress of lint or tow. This will in general be sufficient; but when an artery is opened, the difficulty will be greater if situated where a compress cannot be well applied. In this case, the artery must be carefully tied with a

ligature, by passing a curved needle under it, armed with a strong thread, waxed. (For other means, see "*Astringents*, pp. 309.")

CHAPTER XIV.

POISONOUS BITES.

MADNESS, RABIES, OR HYDROPHOBIA.

THIS scourge of the human, as well as canine race, although existing in the oldest times, remains still as formidable and unconquerable as ever, notwithstanding the hosts of talent which, age after age, has been exerted against it. Every day teems with assertions of the success of some specific; but, unhappily, those hitherto brought forward, have proved not only inert, but, by inducing a blind confidence, have been the negative cause of the most fatal consequences. It would be useless to mention any of those remedies, as it is well known, by the best informed upon the subject, that no internal treatment of the animal whatever will succeed in averting death, after the symptoms of rabies have once manifested themselves; nor is there more chance of preventing the disease by such means. There is, however, a certain remedy, or rather preventive of rabies; and upon Mr. Blane's most valuable opinion, as well as my own attentive observance of the fact in many cases, I assert that this preventive, when judiciously applied, *is certain in its success.*

There are too species of the disease—the one distinguished by the term *raging madness*, the other called *dumb madness*. The former is the most com-

mon among field and watch dogs, the latter is more to be met with amongst lap dogs, and those of very domesticated and delicate habits.

The *symptoms of raging madness* are as follows:—The dog becomes restless, his eyes assume a peculiar sharpness of expression, his temper becomes irritable, he starts and stares at sudden sounds, or at any sudden appearance of either a man or other animal, he moves from place to place, in a quick and hurried manner; then, perhaps, becomes for a little time stupid and heavy, from which state he again changes to a restless and irritated one. He will not attack his master nor others, unless irritated by them. If any substance be held out to him, or thrown at him, he bites at it in anger, and as the disease advances he becomes treacherous, and will bite, even though submitting to be caressed. These symptoms become more marked as the disease advances, and the dog will attack any thing that comes before him. If the animal be not now attended to, and tied up, he will rove about to great distances, and return to his home when tired, if not beset by the people through whom he passes. In this rambling he will carefully look out for every dog in the way, go over to him, smell him, and suddenly fall upon him; then, after having inflicted the poisonous wound, proceed upon his route in search of others. He is not much disposed to bite men or cattle, but if they come in his way he will attack them.

One of the best marks of a rabid dog, is his bark: his natural voice is changed to a sort of short howl, which it is impossible to describe, but which, when once heard, may be known easily afterwards. In this dangerous state he continues for two, three, four or five days, if not killed, and at last sinks exhausted from internal inflammation—his tongue swelled and dry, his eyes running an acrid matter, his breath short, and his general aspect that of one sinking from the most violent and fatal fever.

The *dumb madness* shews itself in a very different manner: the dog shews a great degree of heaviness and stupor, his mouth and head becomes swelled, and his throat inflamed, the tongue gradually protrudes, and, from enlargement and thirst, he cannot close his jaws: the tongue then becomes black and very dry; his countenance betrays the most intense suffering: he makes a croaking sort of noise; his back and hind legs often become contracted and spasmodic, and the poor creature sinks in the most deplorable state of misery. He is not fierce, nor very often mischievous, but restless, and sometimes treacherous; and from the pain attendant upon the internal inflammation, (always present,) he tries to relieve himself by pressing his bed to his belly—scraping it with his fore paws. He is constantly picking up straw, paper, sticks, chips, &c. and swallowing them while yet the state of his throat will permit him to swallow.

In both those forms of rabies, the most early symptom is a constant licking of some part of the body, perhaps that part where the animal received the fatal bite, or lapping his own urine, or licking the anus of any other animal near him; or, perhaps, cold stones, wood, &c.; these symptoms mostly precede the more formidable, in both classes of the disease.

In rabies, the dog can swallow water or food, whenever he wishes, except the throat becomes too much inflamed to allow deglutition; nor has he the least dread of water, as men have under the disease. He is also perfectly sane; but from his sufferings becomes ill-tempered and vicious. Most people suppose a rabid dog to be mad, hence the disease has been named madness; they also suppose he cannot touch or look at water; but these are popular errors wholly.

To *cure* this dreadful malady, as I said before, is impossible, therefore I will not attempt to mention the remedies laid down for this object. The dog

should be, on the first appearance of the symptoms, tied up, and if the disease assume an unequivocal character, he should be immediately destroyed.

To *prevent* the disease is, in most cases, within our power, and this consists in cutting out the bitten parts, or applying escharotics in such a way as to destroy the surface of the wound, and thus prevent the absorption of the poison. The best escharotics are, *lapis infernalis*, lunar caustic (which Mr. Blane thinks the best,) and butter of antimony, (*muriate of antimony*).

In cases where the knife can be safely and effectually used, from the situation of the bite, I would certainly prefer that mode, to the exclusive use of escharotics; but I would apply lunar caustic after excision.

Mr. Blane, who treated the subject in a most masterly manner, is of opinion, that the virus is first absorbed from the wound into the system; that the wound then heals, and that in a certain time it returns to the wound, and generates a poison which produces immediate effects: after these effects manifest themselves, the disease cannot be cured; but he thinks, nay, he took considerable pains to impress upon the reader, that the removal of the wounded parts, either by incision or caustic, will be found successful *at any time after the bite*, previous to the inflammatory reaction in the parts. Whether this theory be true or not, it is of no consequence in the prevention of the disease, provided this be done, namely, that the wounded parts be removed or cauterized *as soon as possible after the bite*, even should it be months neglected.

Whenever a dog is supposed to have been bitten, he should be washed well *all over* with hot water and soft soap, so as to clear away the virus which may be lurking in the hair, &c. then a wash should be applied to the whole surface of the skin, composed of arsenic and water, (half an ounce to a gallon,) or potash and

water. It will be proper also, when a rabid bite is suspected, to minutely examine the skin, to detect scratches, and thereby apply a preventive. In using the above washes, the dog's eyes must be well guarded from their irritating qualities.

On *dissection*, in cases of *raging madness*, the intestinal canal and stomach are always found greatly inflamed, and often the liver and spleen; whereas, in the *dumb madness*, the inflammation is always in the thorax, viscera, and throat. In the stomach will be mostly found bits of straw, chips, stones, and a black fluid like coffee grounds.

BITES OF VIPERS.

Dogs frequently fall victims to such bites received in hunting. The part injured swells very much, and suddenly the animal feels great pain, and soon dies. Remedies, applied in time, will however prevent these consequences: these consist in rubbing the parts with hartshorn and sweet oil, or hartshorn by itself, and administering internally five or six drops of the latter in a tea-spoonful of sweet oil every hour. The parts may be fomented with a decoction of poppy heads, once or twice.

CHAPTER XV.

POISONS.

AS INFLAMMATION of the stomach results from mineral poison when taken into that organ, the symptoms are very similar to those described in *Inflammation of the Stomach*, though generally they are

more severe. The moment we suspect the presence of mineral poisons, we must give the following emetic :

Take White Vitriol, half a drachm ;
 Ipecacuanha powder, one scruple ;
 Water, one ounce and a half.
 Mix and give.

After this, give the dog as much milk or linseed tea as he will drink.

Dogs not unfrequently lick off fresh paint, this occasions severe colic ; and as soon as it makes its appearance give this ball :

Take Jalap, in powder, two scruples ;
 Calomel, six grains ;
 Conserves, enough to form a ball.

repeat this dose every day when necessary, for three or four days.

Some vegetable poisons occasion death in a few minutes ; the rapidity of their execution, the violent convulsions of the animal, and the very small quantity of the poison requisite, place these cases beyond the effectual aid of art. When, however, the poisoning has been timely discovered, the emetic last quoted must be employed. The stomach pump will be found of great use in some cases.

The principal poisons, used to destroy dogs, are corrosive sublimate, arsenic, nux vomica or vomic nut, and pounded glass. It would be of no importance to enter into a detail of the peculiarities of each poison in its effects, sufficient is it to state generally, that in all cases of suspected poison an emetic should be given ; and if that be needless, from vomiting having taken place, then if we suspect the poison to be mineral, let the animal have broths, sweet oil, or soap suds, or perhaps all those, beginning with the last-mentioned, and also administering clysters. However, when violent vomiting follows the administration of such poisons, there is very little chance of cure, as that symptom shews the internal surface of the stomach to be in-

flamed by the corroding effects of the mineral: *ground glass* will produce similar effects, by mechanically injuring the internal surface of the stomach, and should be treated with diluents, castor oil, and clysters.

Nux Vomica, although like opium, by no means certain in its destructive qualities, is, nevertheless, an active poison when it takes effect; nothing, therefore, can be done, except giving an emetic, if it be suspected that the drug has been administered.

In all cases of mineral poisons, where they have taken effect, the most striking symptoms are a peculiar foetid smell from the dog's breath, and a discharge of blood from the anus.

As it may be necessary in many cases to discover whether poison has been wilfully administered, a just test will be of great use. If the poison be corrosive sublimate, take a little of the contents of the stomach, if it be fluid, and add a little potash; this will produce a yellow precipitate. If it be arsenic that has been administered, placing a little of the contents of the stomach upon a red-hot shovel, a strong garlic smell will be emitted. A simpler but cruel mode is, to give part of the contents to some smaller animal, and infer from its effects.

If it becomes necessary to poison a dog, in order to end his sufferings, the most immediate and humane mode is to give a few drops of the essential oil of cherry laurel, or of bitter almonds; this destroys instantly, and without pain. The oil may be mixed up into a ball, with dough.

CHAPTER XVI.

SPASMODIC AFFECTIONS.

EPILEPSY, OR FITS.

Most dogs are liable to fits, or convulsive attacks, at one time or other. They proceed from various causes; and although they wear the appearance of convulsive action, yet they widely differ in their origin, and therefore require a distinct treatment. Some fits arise from worms, a costive habit, the distemper, &c., and others proceed from fright, anxiety, over-exercise, &c. If a dog, otherwise in good health, be attacked by fits, a strong purgative dose should be instantly given, as it may be caused by a common case, an unusual confinement of the bowels. Should the convulsion proceed from worms, proper directions are given for the case in that part of the work. Many sporting dogs, from over-eagerness in their pursuit of game, after a long confinement, are very liable to fits. Other dogs, gross in habit, and going through much exertion, frequently are convulsed from a determination of blood to the head. When a fit proceeds from this cause, bleeding, and purging doses are the best remedies; and, in case of repeated convulsive attacks, a seton should be inserted in the back of the neck, and not removed until all probability of the total removal of the fits be ascertained. Bitches, when overpowered by a greater number of pups than they are capable of suckling, from excessive exhaustion, fall into fits; and as in those cases fits are mostly fatal, persons should be very cautious in avoiding the *cause* of them. Puppies are sometimes convulsed while cutting their teeth; but most frequently those fits

are signs of worms, or the distemper. Convulsions that accompany the distemper, are known by the other symptoms already noticed in their place. When a fit is the *first* symptom of the distemper, it is favourable; on the contrary, if convulsion appears not until some time after this disease has appeared, the dog in very few instances recovers. Distemper-fits occur oftener in winter than in summer; therefore, dogs in all stages of the distemper, (the *putrid* alone excepted) should be kept warm. The symptoms of these fits are two-fold; in some cases, the whole face is disturbed, the dog foams at the mouth, and each succeeding attack becomes more violent. In the other cases, the dog runs round repeatedly, and his whole frame seems quivering. Casual fits, not caused by any specific disease, are generally fatal, if there are many repetitions of convulsion. In those cases, the best primary remedies are strong emetics, blood-letting, and brisk purgatives: provided the dog be gross in flesh, and of a strong habit of body. For dogs that are not so fat, &c. mix the following powders, to be divided into ten or fifteen papers, *one* to be given every day; and should not the fits cease, or diminish in violence, then substitute the next medicine, mixed up and divided into ten or fifteen pills, *one* to be given every day.

The Powders.

Take Foxglove, powdered, twelve grains;
Mistletoe, powdered, three drachms;
Calomel, fifteen grains.

The Pills.

Take Camphor, eight grains;
Lunar Caustic, powdered, two grains.
Mix up in a little Honey.

PALSY, OR PARALYSIS.

Paralytic affections are not uncommon with dogs. They arise from either blows or crushes, or from

rheumatism ; there also is an affection of this kind attendant upon Distemper. The best general mode of treatment is frictions, with strong liniments, rest, and sometimes the cold bath, taking care to dry the animal well after it. A strong pitch plaster, made with leather, may be found useful over the loins in cases of palsy of the hind legs. In all cases, a sharp drastic purge occasionally will be of great service.

SPASMS, OR CRAMP.

Cramp very frequently seizes the limbs of dogs, and very often the bowels. (*See Colic.*) In spasms of the limbs, a moderate friction, with spirits and water, is a good application. Keep the animal warm, and give a clyster of a little warm water and a drachm of laudanum, as well as the following draught by the mouth :—

Take of Laudanum, one drachm ;
Ether, a scruple ;
Gin and Water, about half a wine-glassful.
Mix.

A warm bath will be found useful, but the dog must be well dried after it, and kept warm. A gentle dose of physic should be given next day.

TETANUS, OR LOCKED JAW.

When this horrible convulsion attacks dogs, it generally is a consequence of wounds. Nothing can be done but giving opium largely and repeatedly, in the form of clysters, as that medicine has no effect, or a very slight one, on dogs, when given by the mouth, but is efficacious when given by the anus. If a speedy relief be not obtained, it would be merciful to destroy the dog by a few drops of the essential oil of cherry laurel.

CHAPTER XVII.

AFFECTIONS OF THE EYES.

DISEASES OF THE EYES.

It has been already observed that dogs, in the distemper, suffer much from ulceration of the eyes; the first symptoms are a kind of blueish shade across the eyes, afterwards a white speck appears, which gradually enlarges, and at last ulcerates. Although the appearance of this disease is more violent and inflamed than any other ocular affection, yet it is less dangerous than any other, and frequently, as the distemper which caused it decreases, the eye is restored to its former strength and clearness. As a remedy, strong fomentations of *poppies*, and the insertion of a seton in the neck, will retard the inflammation; or a lotion, consisting of five or six ounces of rose water and half a drachm of sugar of lead, will keep the eyes cool and clean. The most dangerous disease of the eyes, where blindness frequently ensues, is to be seen by the dog shunning all light, the eyes and eyelids violently inflamed, and constantly running water. In those cases, the dog should be bled, a seton inserted in the neck, and a purging dose should be given twice or three times a week, as the case may require. A fomentation of poppies, and the above *lotion* should also be often applied. As the inflammation abates, use either of the following lotions:

Infusion of best Green Tea, three ounces;
Tincture of Opium, half a drachm.

or,

Mild Infusion of Elm Bark, five ounces;
Sulphate of Zinc, one scruple,
Tincture of Opium, two drachms.

The patient should be confined in a *dark* place, and exercise avoided. If a skilful person were to *score* the inside of the eyelids with a sharp pointed knife or lancet, it would tend considerably to draw off the bad humour, and reduce the inflammation. In cases of accidents, from blows, scratches, &c. about the eye, the same remedies should be applied; and should a blue, muddy shade cloud the globe of the eye, a powder, consisting of *one drachm of calomel* and *a scruple of sugar of lead* should be mixed, and the eyelids being lifted up, a few grains of this powder should be thrown into the eye. Once will be enough to try this.

ULCERATED EYELIDS.

Mange will sometimes affect the eyelids only, and produce ulcers on them. Make up the following ointment, and twice a day touch over the parts affected with it; at the same time cooling opening doses should now and then be given:—

Sugar of Lead, eighteen grains;
Spermaceti Ointment, four drachms;
Nitrated Quicksilver, one drachm.

CHAPTER XVIII.

AFFECTIONS OF THE SKIN.

MANGE.

THERE are two kinds of mange, chiefly affecting dogs. There is that which is commonly called the *mange*, and that which is known as the *red mange*, so called from the red colour of the skin. The “*sur-*

feit" also is a cutaneous disease, and bears much resemblance to the mange; its treatment also is similar.

The symptoms are first distinguished by the animal frequently rubbing himself; and, upon examining the parts that are affected, cracks or pimples on the skin are perceived, which are ruptured by the animal's rubbing against some hard or sharp substance. From these pimples or fissures a watery humour flows; this dries, and scabs are formed by it. In a short time, we find this over the greater part of the affected places, chiefly the shoulders, back, and quarters, and sometimes the legs.

Occasionally, indeed, and especially in sporting dogs, that are fed upon good and plentiful diet, the mange puts on an appearance varying from the general one; its extent is not so great; the surface affected is more confined; it does not extend farther than part of the face and neck; and on inspecting these parts, we find the disease is more ulcerative than in common mange. The parts are swollen, and small sores appear from which a fluid runs, which gives the skin a bright shining appearance. In these cases, the following liniment may be used with good effect three or four times, an interval of three days between each application.

Take Flour of Sulphur,

Sulphur Vivum, of each, four ounces;

White Precipitate, one ounce;

Strong Mercurial Ointment, one ounce;

Cape Aloes Powder, half an ounce;

Neatsfoot Oil, one pint and a half.

Put the Powders together in a mortar, then add the Ointment, and, gradually, the Oil; when used, it must be stirred. Also, give the dog an alterative ball every evening for a week or so.

The colour of the skin during the progress of red mange is sufficient to indicate the disease. The belly, thighs, and legs, are the parts most affected; some-

times the whole body partakes of the disease. The skin is excessively red, as if replete with blood : there is much itching, and a falling off of the hair. This form of the disease usually attacks wiry-haired dogs.

As mange generally arises from derangement of the constitution, either by bad living and cold, or high feeding and close confined places, it is obvious that we must treat the dog by internal medicines, as well as external. These should be chiefly moderately regulated doses of calomel and antimony, and sometimes tonic bitters, such as gentian and diluted sulphuric acid ; in short, we should aim at bringing his stomach into the best health, and, by so doing, the external applications will have the best chance of success. In desperate cases, corrosive sublimate is given internally ; but, I must confess, I do not approve of it as a remedy in mange.

The following are formulæ of external applications, increasing progressively in strength as numbered :—

Mange Ointment, No. 1.

Take of Common Sulphur Ointment.
Add a little Powdered Aloes, and mix.

Mange Ointment, No. 2.

Take of Sulphur Ointment, four ounces ;
Powdered Sal Ammoniac, half an ounce ;
Venice Turpentine, half an ounce.
Mix.

Mange Ointment, No. 3.

Take of Powdered White Hellebore, half an ounce ;
Sulphuric Acid, one drachm ;
Tobacco, in powder, half an ounce ;
Sulphur Ointment, four ounces ;
Tar enough to make it of a proper consistence.

Lotion for Mange, No. 1.

Take Tobacco Water, a pint ;
Decoction of White Hellebore, four ounces.
Mix.

Lotion, No. 2.

Take of Corrosive Sublimate, ten grains ;
 Decoction of White Hellebore, a pint ;
 Flour of Sulphur, half an ounce.
 Mix.

Mercurial ointment is also used, but there is danger of salivation.

In applying any external remedy for mange, care must be taken to rub it well in, and not merely upon the hair ; a caution, which, if not attended to, will render the application almost useless. Care must also be taken to keep the dog from licking himself, as the external remedies in general are of a poisonous nature, when taken internally. There are many instances of obstinate mange, but if a careful attention be paid to the internal, as well as external treatment, few cases will resist. Wholesome provision is necessary during the cure, particularly milk, gruel, and fresh meat.

FLEAS IN DOGS.

The difficulty of destroying fleas in dogs is very great ; so much so, that Mr. Blane thinks there is no great chance of success in all the ordinary modes of washing, &c., and recommends as the best mode, to make the dog sleep upon fresh yellow deal shavings. However, with small dogs, washing them clean and combing them well is the best mode in my opinion. All the powerful medicines recommended to destroy fleas in dogs are liable to injure the dog himself ; such are mercurial ointment, tobacco-water, precipitate powder, &c. &c. ; therefore, cleanliness by washing and combing must be preferred to medicaments.

CHAPTER XIX.

MEDICAMENTS AS APPLIED TO DOGS.

PURGATIVES.

THE best purgative for dogs is, decidedly, *aloes*; the dose is from half a drachm to a drachm; its action is strengthened by the addition of two grains of calomel, and, in most diseases requiring purgatives, it ought to be combined with it. *Castor oil* is a very good purgative in many complaints of the bowels and others; but it sometimes is rejected by the stomach. *Jalap*, *senna*, and *buckthorn* are also occasionally useful; and, in obstinate costiveness, the oil of croton might be tried in the dose of half a drop.

Balls are the best forms for purgatives, and a little bread moistened will be found a good material to make them up with. Gruel is a good fluid for administering mixtures.

EMETICS.

Dogs, from the very nature of their food, will, of themselves, instinctively seek for emetics, to relieve their stomachs, if foul or overladen; such as wild grass, &c.; but dogs in large towns and cities have not those advantages, and, therefore, cannot, like those in the country, become their own physicians. It would be very easy to remedy this defect by purchasing, at a low rate, a quantity of this wild (or dog) grass, at any of the large root markets in London; and to leave a small quantity of it at a time, for their use, when they appear sick in the stomach; or if that cannot always be had, tartar-emetic, tartarized antimony, or common salt, will answer as a very good substitute to

relieve the poor animal, and in many cases, prevent the introduction of dangerous diseases. It has already been noticed, in various parts of this work, that emetics are of the greatest benefit in many canine diseases. Common salt, from one to two tea-spoonfuls, is a good emetic dose for a strong dog; but small delicate dogs should be served with an alterative emetic of calomel, &c. as directed in "*Alteratives.*" Three or four grains of tartar-emetic, mixed up in a small meat ball, is an excellent and safe dose in these cases.

ALTERATIVES.

Antimonials, various preparations of mercury, iron, and tin; also, nitre, cream of tartar, aloes, &c. are used efficaciously as alterative medicines. *Emetic tartar* is frequently used, for the removal of an asthmatic cough, (to which dogs are liable;) two doses (from *one* to *three* grains each,) during the week will be sufficient; *James's powder* is also a good remedy in like cases. *Nitre*, given in doses, from *four* to *ten* grains each, and *cream of tartar*, in greater proportions, are excellent remedies in cases where the skin is affected by redness or itching. As dogs are very soon salivated, whereby dangerous effects may arise, great care should be taken in the use of *mercurial* preparations, as alteratives. If the salivation be excessive, the dogs rapidly lose their teeth, and the scent from their breath is ever after most disgusting. *Calomel* has, in many cases, been injudiciously used as a remedy, where the poor animals were poisoned by it; however, when given with a purgative dose in small quantities, from *two* to *six* grains, the effects are salutary. *Tartar emetic* and *calomel* are an excellent *emetic*; and, should it be necessary afterwards, *another* purgative dose, *without* calomel, may be given. Different preparations of *iron* are beneficially used for weakness of the bowels or stomach. *Sulphur*

is most commonly used, but in some cases *very* injudiciously. People generally throw a roll or stick of brimstone into the vessel out of which their dogs drink, and, therefore, imagine that their *health* will be secured by the *mineral* properties of the sulphur, impregnated by the water; whereas, it is an indisputable fact, that the brimstone, in that solid state, would *not*, in a *dozen years*, lose a *dozen grains* of its weight, or impart its quality! *Flour* of brimstone is much better, although it acts even then but as a slight purgative in one case out of twenty. However, it is a most excellent remedy for *Piles*, *Mange*, *Canker*, &c. when *two* parts of sulphur, and *one* part of cream of tartar, are mixed up together. Sulphur, when used *externally*, is well known as to its salutary results in those cases. Generally speaking, *alterative* medicines are, (when judiciously prepared,) the most effectual antidotes against diseases created by constant confinement, and irregular diet. They also deprive *SPORTING* dogs of their burthensome fatness, and improve their wind. They tend, besides, to purify and prevent the unnecessary increase of milk, or festering in the dugs and teats of bitches. Finally, all diseases, whether of old growth, or produced by confinement, improper diet, &c. are best remedied by the proper application of alterative medicines.

ASTRINGENTS.

Those substances are so called, from their great efficacy in preventing excessive secretions or fluxes. They are of two kinds, *external* and *internal*. When used in stopping a flow of blood, they are termed *external* astringents, such as, *alum*, *dragon's blood*, a *puff ball*, *mole's fur*, *cobweb*, &c. The *internal* astringents are applied to different cases; for example, a flow of blood frequently appears from a dog's *penis*; sometimes, from the *kidneys* or *bladder*; a similar flux also *not* unfrequently appears from the *womb*, or

vaginal sheath of bitches. In such cases an *internal* astringent may be given with success, consisting of:—

Alum, two grains;
Catechu, twenty grains.

formed into a ball; and should not the flux be sufficiently retarded, another may be given the *same* day. Violent colic often succeeds the use of it as an *injection*; but for *such* purpose, an *infusion* of *oak or elm bark*, will be found the *best* injection. *Internal* astringents, to prevent blood-fluxes or looseness, are of different kinds; the best, decidedly, is: *Prepared chalk, gum arabic, and ipecacuanha*, in just proportions, mixed together. During the operation of this medicine, *rice-milk, suet and milk, or boiled starch*, is the *best diet*.

CLYSTERS.

In cases where purgatives fail in affording immediate relief, clysters are the best remedies. In all desperate inflammations of the intestines, &c. their fomenting action produces the best effects. Also in cases of locked-jaw, and in others where the dog cannot swallow food, clysters of broth, gravy or gruel may be given; and it would be well to infuse about twenty drops of laudanum into it, to make it remain on the stomach. If a dog be attacked by severe looseness, an astringent clyster of alum-whey, starch, or of oak bark, will remove it. Purging clysters of veal or mutton broth, with a small quantity of Epsom salts, will be found efficacious in cases of severe costiveness. The contents of the clyster must be a little more than blood-warm, and the quantity proportioned to the size of the dog, from four to eight or ten ounces.

BLEEDING.

Bleeding will be found very useful in cases of inflammation of the lungs, stomach, and bowels; also, in some cases of mange, violent dry coughs, fits, &c. The jugular, or neck-vein, is the most convenient; and a common lancet is much better for this purpose than a fleam, which is too generally used. Put a string of ribband round the lower part of the neck, hold up the head, and the vein will swell out on both sides of the windpipe, about an inch from each side of it. If the hair about that part be very thick, it must be cut off, to get at the vein more easily. It is not necessary to apply a bandage to stop the bleeding, nor to stitch a plaster or pin to the place opened by the lancet, the removal alone of the ribband from the neck is sufficient. If it be difficult to get at the neck-vein, the ear may be lanced, or an incision made inside the flap, but not through the substance of the ear. In dangerous cases, the tail might be cut; it is better to take off a small bit at the tip of the tail, than to cut it underneath; for if the incision be clumsily made, the whole tail will surely mortify and drop off. Two ounces of blood will be enough to take from a very little dog; from a middle sized dog, about four ounces; and from a large dog, about seven or eight ounces. These are general proportions, which may be varied more or less, according to the strength, size, and complaint of the dog.

BLISTERS.

Blisters for dogs, are composed of different materials. The best is that made of *Spanish flies*, as a plaster, and well secured by a bandage; but in desperate cases, where it is necessary that the blister should *draw* immediately, blistering *ointment*, mixed with a small proportion of *oil of turpentine*, must be applied. This mixture should be rubbed well into

the skin, and afterwards the part must be securely covered. It may, in extreme cases, be repeated every *four* hours. *Common table mustard* spread over any part of the body, will also excite quick irritation. A *sheep's ear*, or any other part of a *hide fresh stripped off*, and applied to the part, (which must be previously rubbed with *hartshorn* or *turpentine*,) is a *never-failing* method of producing a rapid irritation, in cases of violent inflammation of the stomach or bowels. As dogs, in general, are very outrageous, when suffering this ordeal of pain, great caution should be observed in preventing them from *biting*.

BATHING.

Cold bathing is very salutary in removing spasmodic attacks, which succeed the distemper; also for rickets, &c.; but *frequent* bathing, in *cold* water, is not by any means necessary for dogs in a *healthy* state. *Warm bathing*, in many cases, is an effectual cure, where every other remedy would be unavailing. In inflammation of the bowels, in lumbago, and other rheumatic complaints, it is an excellent cure. In severe costiveness, it is a *certain* remedy; and equally powerful in preventing inflammation, where internal bruises may have been produced from accidents. Where difficulty and pain arise in *pupping*; also, in cases of *convulsions*, *spasms*, *obstruction of urine*, from the neck of the bladder being inflamed, it is also a *certain* remedy. The *heat* of the warm bath should be proportioned to the *strength* and *stage* of the disease of the dog. From 100° to 102° Fahrenheit's thermometer, should *only* be used in *desperate* cases of inflammation or rheumatism. From 96° to 98° is a sufficient heat, for *internal* bruises or *spasms*. The time for remaining in the water should also be minutely attended to. To prevent pain, and ease the animal *in pupping*, or in slight spasms, where the bath is used daily, *ten minutes* will be sufficient.

In *obstruction of urine, violent spasms, inflammation, or costiveness*, twenty minutes may be allowed with safety. The *faintness* of the dog will be apparent by its *panting* and uneasiness, when it must be removed from the water, especially if it be a case of *pupping*, as excessive weakness might be injurious, perhaps *fatal*, to the bitch in that state. The *head* of the dog, *only*, should be uncovered in the bath; and the part of the body particularly affected, should be rubbed constantly, while in the water, with the hand.

On the removal of the dog from the bath, he should be rubbed well (until nearly dry) with cloths, and then placed in a large basket or hamper, covered up in a blanket, where he should be kept, until *completely* dry.

WORMING DOGS.

This is a most nonsensical practice, and is now deservedly abandoned by every practitioner of the modern school. There is no such thing as a worm beneath the tongue; it is a little portion of the skin or ligament under the tongue, which is divided and cut out. The practice originated in the grossest ignorance.

AGE OF DOGS.

The following appearances will enable any person to ascertain the age of a dog, by *proper* attention. From three to four years old, the front teeth become blunt at the points, and the flatness of the teeth is rendered more apparent, as the dog grows older; the white surface also becomes discoloured. Dogs that feed on bones, or those that *fetch and carry*, frequently at a young age lose their teeth, or break them; the tusks also lose their edges, from the same causes. From seven to eight years old, the hair

around the eyes and face, assumes a grey colour; and from ten to twelve years, the eyes lose their brightness. After this period, (with very few exceptions,) the dog quickly declines. Spaniels, sometimes are long-lived, but terriers very seldom. With tolerable certainty, we may calculate, that the period of a dog's life is from fourteen to fifteen years.

END OF THIRD SECTION,

SECTION IV.

VETERINARY MEDICINES.

SECTION IV.

VETERINARY MEDICINES

SECTION IV.

VETERINARY MEDICINES, &c.

LIQUID MEASURE.

60 Drops, or Minims	-	-	-	make 1 Drachm.
8 Drachms	-	-	-	1 Ounce.
12 Ounces	-	-	-	1 Pound, or Pint.
2 Pints, or Pounds	-	-	-	1 Quart.
4 Quarts	-	-	-	1 Gallon.

DRY MEASURE.

20 Grains	-	-	-	make 1 Scruple.
3 Scruples	-	-	-	1 Drachm.
8 Drachms	-	-	-	1 Ounce.
12 Ounces	-	-	-	1 Pound.

MEDICAL MARKS.

Gut. or M	-	-	-	for Drops.
ʒ	-	-	-	Drachms.
℥	-	-	-	Ounces.
℔	-	-	-	Pound.
Gr.	-	-	-	Grains.
ʒ	-	-	-	Scruples.

Acetated Liquor of Ammonia.—Known by the name of Mindererus's spirit. A quart of vinegar to an ounce of volatile salt of ammonia, or any quantity of spirit

of hartshorn, to which add vinegar till it tastes neither sweet nor sour. It gently invigorates, is diaphoretic, and mildly diuretic; principally efficient at the beginning of the weak stage, or at the close of lingering fevers, and, particularly, of the epidemic catarrh. Here it may be combined with camphor, or powdered camomile, or in the early stages with nitre and oxymel. Dose, from four to six ounces. A useful external application in strains, &c.

Acetate of Copper.—Sometimes administered internally with success as a tonic, but more beneficially externally, being one of the best detergents and mildest escharotics. Mixed with tar, an excellent application for thrushes, grease, and cracks.

Ægyptiacums.—Mixtures of the acetate of copper in honey, sometimes adding vinegar, borax, alum, &c. Used for ulcers in the mouth, cracks, grease, &c.

Æther.—The more diluted preparation, (*spirit of sulphuric æther*,) of great use in spasmodic colic. *Nitrous æther*, good as a febrifuge. A drachm of sulphuric æther to eight ounces of rose water, an excellent collyrium in the latter stages of ophthalmia.

Aloes.—Every practitioner should purchase them in the *gross*, to prevent adulteration. The Barbadoes aloes are most in request. As an alterative, stomachic, or vermifuge, aloes may be given in daily doses of one or two drachms. The same in inflammation, as a nauseant. As detergent and stimulant externally, they are used in friar's balsam. Aloes do not pulverise readily, except in frosty weather, at which time enough should be done to last the year through, and then mixed with half the weight of lard or palm oil to prevent their uniting into a solid mass. Thus they make the best balls.

Aloetic balls are apt to become too hard or soft; to prevent this, place one vessel within another, as carpenters melt glue, water in the outer vessel, and aloes, with one-fifth of their weight of treacle in the

inner, covered with a lid. This is suffered to remain on the fire, the aloes and the treacle being stirred *now* and *then* for an hour or more, or until perfectly melted. The contents of the inner vessel are expeditiously cast in paper moulds, or tubes, of the usual diameter of a horse-ball. Dose, one ounce to a saddle or coach-horse, ten drachms to a cart-horse.

A watery solution of aloes is convenient, on account of its quicker action. It may be made by powdering a pound of the mass, and infusing it in a warm place in a pint and a half of proof spirits for three or four days; then add soft water two quarts, and bottle for use. Before taken to be shaken, and sediment and all given in doses of two, three, or four ounces, as the case may require.

Alum.—In doses of one or two drachms, a useful astringent in diarrhœa, diabetes, &c. Externally it will stop hæmorrhage, being sprinkled on the bleeding orifice. A useful escharotic to destroy a fungus, and a valuable detergent; good in inflammations of the eye, and whey made of it is a good astringent clyster.

Anodynes.—Act but slightly on the horse. In all painful affections, opium, in doses of one, two, or three drachms, is chiefly to be relied on. Camphor and æther will mitigate spasms.

Anthelmintics for Worms.—Tin, or pewter, or iron, filed fine, but not levigated, two or three ounces; common salt, six or eight ounces; oil of turpentine, two to three ounces; savin, one to two ounces; cowhage, half a drachm; calomel, a scruple; arsenic, ten grains; aloes, till they purge. Worm medicines should be given fasting every day for a fortnight.

Antimony.—Antimonial powder is an excellent febrifuge; tartarized antimony in inflammations, but, particularly in catarrhal and pneumonic ones; dose, one drachm to two or three.

Antispasmodics.—Opium, camphor, æther, oil of turpentine, and assafœtida. Cold, also, in an intense degree.

Arsenic Oxyde.—An excellent tonic, in doses of from ten to thirty grains, daily, no more ; never to be given on an empty stomach. Stops glanders and will cure farcy ; a good assisting ingredient for the mange.

Astringents.—Opium, chalk, alum, starch, and catechu, restrain intestinal fluxes. Catechu, alum, and acetate of lead, astringe the urinary passages.

Balls.—Volatile substances do not keep well in balls, nor those which liquify by the absorption of air ; all hard substances should be finely powdered, and the moist matter to form them should neither ferment, nor become mouldy. Dry and bulky powders are best formed, and keep best with lard or palm oil. Less bulky powders may be mixed with honey, syrup, or treacle, if for immediate use ; if not, conserve of roses is the next best medicine to lard or palm oil. A mass of balls not intended for immediate use, should be pressed down and kept in a jar, tied over with a bladder.

A horse-ball should not be as large as a pullet's egg, but rather longer, and not too hard. The common balling-iron should be guarded with cloth, to prevent the bars of the mouth from being wounded. The most convenient mode of *delivering a ball*, is to back the horse in his stall. Let the operator raise himself on a stool, gently draw the tongue a little out of the mouth, which should be held firmly by the fingers of the left hand against the jaw. The ball, previously oiled, must be taken in the fingers of the right hand lengthwise, which hand, squeezed as close as possible, should be passed up the mouth close to the roof, and the ball placed on the root of the tongue ; and the hand being withdrawn, the ball will pass down. The head should be but moderately elevated in this operation.

Balsams—Appear to have been overrated, but in some instances their effect is good as a warm terebinthinated stimulant. There are balsams of Canada, Co-

paiva, Gilead, Peru, and Tolu. Balsam of sulphur is merely a compounded preparation of sulphur in oil.

Bark.—Willow, elm, and oak barks may be used with advantage in debility after fever, combined with camomile. Cascarilla and angustura are valuable stomachic tonics. Elm and oak barks, in decoction, form excellent astringent washes for herpetic complaints, chapped heels, &c.

Beans.—Sometimes a tonic, and the flour a restringent.

Blisters.—The substances used for this purpose are various. The most useful is cantharides, or Spanish-fly. Euphorbium is sufficiently active, but irritating, and should not be used in internal inflammations.

Venice Turpentine,
Resin, each a pound ;
Lard, two pounds.
Melt together, and then slowly add a pound of Cantharides powdered.

Mr. Blane's strong and cheap Blister, not proper in fevers.

Powdered Euphorbium, three ounces ;
Oil of Vitriol, two drachms ;
Spanish Flies, one pound ;
Palm Oil, or Lard, three pounds ;
Resin, three pounds ;
Oil of Turpentine, eight ounces.
Melt the Resin with the Lard, or Palm Oil, then add the Turpentine. Having previously mixed the Oil of Vitriol very gradually with an ounce of Water, as gradually add them to the melted mass, which again set on a very slow fire for ten minutes more. Afterwards, remove the whole ; and when beginning to cool, add the Powders, previously mixed together.

Mr. Blane's Mercurial Blisters for Callosities on the Bone of long standing.

Of the last mentioned, three ounces ;
Corrosive Sublimate, two scruples.

A Mild Mercurial Liquid Blister.

Take of the Mercurial Blister half a pint;
Add half a pint of Olive Oil.—Mix.

In case blistering ointment is not at hand, mix half a pound of the flour of mustard into a paste, and apply hot. It may be strengthened, if necessary, by adding two ounces of oil of turpentine.

Bole Armenian.—Seldom used, except in charges.

Calamine Prepared.—Reduced to a fine powder, may be useful for excoriations and cracks of the heels, &c. Most commonly used in the unguental form of Turner's cerate.

Calomel.—In cases of continued use, dose fifteen to twenty grains daily. To be discontinued the moment the gums look red, and the mouth is hot, and there is tenderness in chewing. An excellent alterative in skin affections; useful in farcy, grease, and œdema; useful in constitutional ophthalmia, both internally and externally; not to be depended on alone as a purgative; therefore, when this is the object, give it in a mash the preceding evening, (two drachms) and something must be subtracted from the morning purge. Wet and cold must be avoided, when calomel is used as an alterative. *Purchase always from a druggist of reputation.*

Camomile.—Fine stomachic and febrifuge. Excellent tonic in debility of stomach or bowels, combined with carbonate of iron. Dose, an ounce and a half, once or twice a day. In fevers, the debile stage of catarrh, succeeding the first inflammatory attack; and when the purulent discharge appears, it is a valuable auxiliary to other medicines. Excellent febrifuge in secondary stages, combined with Minde-
rerus's spirit.

Camphor.—A narcotic, but only in large doses. In moderate ones, antispasmodic. Mixed with opium, beneficial in spasmodic constrictions in the neck of the bladder which are not inflammatory. Externally, a mild discutient, and a good ingredient in collyriums.

Cantharides.—Ought to be the principal stimulant in blisters; should be purchased whole, and then powdered, to prevent adulteration. First, moderately to be dried, then leisurely ground into a powder, the face being guarded with a fine muslin handkerchief. If very dry, and the powder flies, add a few drops of sweet oil.

Caraways.—Seeds and essential oil, warm stomachic cordials.

Carrots.—Good as a medicine, as well as in diet. In the latter they fatten without heating, and promote a healthy coat. As a medicine, they remove cough, cure incipient grease; are good in farcy, surfeits, and mange; but they must be wholly substituted for corn. A poultice of the scraped root excellent for discharge from the heels.

Catechu, or Japan Earth.—Mild, but certain, astringent in relaxations of the urinary passages, alvine fluxes, or diarrhœa. In the latter cases, to be united with chalk, in doses of an ounce.

Caustics.—*The mineral acids* are active caustics. Sulphuric acid is sometimes mixed with blistering ointment, and to hasten the stimulus. Nitrous acid (aqua-fortis,) also butter of antimony, very convenient in cankered feet, spread with a camel's hair-brush. Also, in sand crack, when the sensible substance protrudes. Also in the case of corns. Sometimes it is beneficial in grease, to touch the limbs with it. Not so proper as some other caustics, in quittor, pole-evil, &c. Nitrated silver, though expensive, is indispensable. Best caustic for destroying the edges of a contaminated wound. Dissolved in five, six, or eight times its weight of water, an excellent liquid caustic; useful for the foot rot in sheep, and the treaded portions in sand-crack. In twenty times its weight of water, a useful detergent. Caustic potash, or *lapis infernalis*, is quicker and better for extensive action, but not for tedious operations, or deep seated parts. Made into a paste with soap, useful to insert into the pipes of a quittor. Corrosive sublimate best for the "*coring out*" of quit-

fors. In strong solution, an excellent application for grease. Red precipitate sprinkled over foul surfaces, is very good; equally so, for luxuriant sores. Sulphate of copper, or blue vitriol, a milder escharotic, is much used. In very mild solution, a good detergent wash. Quick lime is also a convenient escharotic substance.

Chalk.—When prepared, an excellent sweet acid, and astringent in diarrhoea, &c. Dose, from half an ounce to two ounces.

Charcoal.—Good, either sprinkled or in poultice, for ichorous discharge.

Charges.—Not much used in modern practice. May be useful in rheumatism, applied to the loins. Windgalls, old concealments, &c. may be relieved by them. Any strong adhesive, as resin, pitch melted with wax, or oil, to prevent brittleness, will form a *charge*, applied warm to the part. As it cools, should be covered with flocks or tow.

Clysters.—Should be given in a large hog's or ox's bladder, holding five or six quarts, with a smooth wooden pipe, an inch in diameter, and fourteen or sixteen inches long. The liquor should not be too warm, and the pipe being oiled, all must be conducted gently. This is a better instrument than the pewter syringe. The following are the formulæ recommended by Mr. Blane.

A Laxative Clyster.

Thin Gruel, or Broth, five quarts;
Epsom, or Common Salts, six ounces.

A Clyster for Gripes.

Mash two moderate sized Onions, over which pour Oil of Turpentine, two ounces; thin Gruel, four quarts.

A Nourishing Clyster.

Thick Gruel, three quarts;
Strong Ale, one quart.

Mix.

Or—

Strong Broth, two quarts;
Thickened Milk, two quarts.
Mix.

Astringent Clysters.

Tripe Liquor, or Suet, boiled in Milk, three pints ;
Thin Starch, two pints ;
Laudanum, half an ounce.

Or—

Alum Whey, one quart of boiled Starch.

Cordials—Are of little use, but we give the following:—

No. 1.

Gentian, powdered, eight ounces ;
Ginger, powdered, four ounces ;
Coriander Seeds, in powder, eight ounces ;
Carraway Seeds, in powder, eight ounces ;
Oil of Aniseed, half an ounce.

Make into a mass with Lard, Honey, Treacle, or Conserve of
Roses, and give one ounce and a half for a dose.

No. 2.

Of the above mass, one ounce ;
Gum Myrrh, one drachm ;
Balsam of Tolu, twenty grains.

No. 3.

Of the first mass, one ounce ;
Camphor, one drachm ;
Opium, twenty grains.
Either of these may be given as a drink, by infusing the powders in a pint of Ale.

Diapente.—Made of gentian, ivory shavings, bay berries, and myrrh. When genuine, no better cordial.

Digitalis, (Foxglove.)—It lessens arterial action in moderate and continued doses, and produces gentle perspiration. A drachm or drachm and a half every four hours materially diminishes the pulse, and is useful in affections of the lungs.

Diuretics.—Those chiefly in use are potash, resin, nitre, and turpentine ; also, corrosive sublimate. Digitalis, tobacco, cream of tartar, juniper, &c. act more mildly. Resin is very active and certain. Dose from three to six or eight drachms. Nitre not so active,

but certain; better in inflammatory diseases, and cases of gravel. Turpentine is pretty certain; dose, one ounce to three. One or two ounces of potash, in two or three quarts of water, is tolerably certain, given fasting. Corrosive sublimate is a powerful, but dangerous diuretic. Foxglove should be constantly repeated in doses of a drachm or two, to produce any certain effect. The other diuretics above-mentioned, have a similar character with this last. Diuretics should be used with caution, and not too frequently repeated.

Diuretic Powders.

Powdered yellow Resin, one pound;
Nitre, powdered, two pounds;
Cream of Tartar, powdered, one pound;
Six drachms to ten or twelve twice a week.

Diuretic Balls.

Horse Turpentine, one pound;
Nitre, powdered, one pound;
Yellow Resin, two pounds;
Yellow Soap, half a pound.
Melt the Resin, Soap, and Turpentine gradually, and add the Nitre while cooling. Dose, an ounce and a half to two ounces; or, milder, mix to eight drachms. The first, once a week; the second, every third or fourth day.

Drenches—Should be given with a horn, the head a little elevated, and the tongue held as in giving a ball; the horn brought to the hinder part of the mouth, and the drench poured over the root of the tongue.

Embrocations—Are numerous. The following is Mr. Blane's saline embrocation:—

Bay Salt, bruised, half a pound;
Crude Sal Ammoniac, two ounces;
Sugar of Lead, half an ounce;
Vinegar, one pint and a half;
Water, half a pint.
Mix.

It will be sufficient to wet the parts, and not rub them with this.

Euphorbium.—To be avoided as much as possible.

Expectorants.—Tartar emetic, foxglove, Mindererus, squills, and oxymel.

Fomentations.—Warm water is quite sufficient. When removed, wipe the place quite dry, and cover it from the air. A poultice applied immediately after is often of great use.

Ginger—is the best spice, but should be sparingly used.

Goose-grass.—Said to be a good remedy in grease. A pint of the juice twice a day, and a poultice of the herb to the heels every night.

Grains of Paradise—Promote a fine coat, but do mischief.

Gruel.—As a nutriment, thick; as a diluent, very thin. Should be made clear, and free from smoke.

Hartshorn.—The spirit of hartshorn, as an antispasmodic, may be given in doses of eight or ten drachms. With vinegar or acetous acid, a very fine diaphoretic. With equal parts of oil, it forms the *volatile liniment*. An excellent warm discutient.

Honey.—A general medium for balls and ægyptiacums. Also, with vinegar for oxymel, which should never be made with sugar. The foreign honey may be had at certain times very cheap. As for thin balls, they should never be made with honey, except for immediate use.

Ipecacuanha.—Inert with the horse.

Iron.—Fine tonic. Iron filings, dose, two or three ounces once or twice a day, in corn or mash. The carbonate, very useful in the same proportion. Copperas, four to six drachms daily. All these act better in union with aromatic bitters.

Jalap.—Totally inactive.

Lard.—When not procurable, palm-oil an excellent and cheap substitute.

Laxatives.—In chronic cases, calomel, with small doses of aloes. In febrile cases, Epsom, Glauber's

or common salt. Eight to twelve ounces in thin gruel, to be repeated every six or eight hours till operation. In bowel affections, six, eight, or ten ounces of castor or linseed oil, with a few ounces of watery tincture of aloes. Their action must be assisted by diluting drinks, &c. Grass of the salt marshes a good laxative.

Lead.—To make *Goulard* water: sugar of lead, one drachm, to two ounces of proof spirit, and a pint of soft water. Or, liquid acetate of lead, proof spirit, and soft water, in the same proportions. Excellent in superficial inflammations, the part being kept always wet. White lead is sometimes used as detergent, sprinkled over a sore.

Lime Water.—Six pounds of lime in two gallons of water for four hours, then strained off, and closely corked up for use. Good for mange, and internally for coughs and gravel.

Linseed.—The tea from the boiled seeds good in catarrh, sore throat, &c. Linseed powder makes a good poultice.

Malt.—An excellent cordial, and when continued, a fine tonic; too stimulant in active inflammations of the chest. A good alterative. Very efficient in farcy, grease, and mange. In such cases, it should form the principal, if not sole article of food. Mashies are its best form.

Mashes.—Are given cold or hot, but should always be made hot. Smoke must be avoided, and cleanliness is indispensable in making them. The mash should not be given too hot, unless the intention be to steam the head, and then it should not be hung round the neck immediately. When horses are emaciated, it is a good plan to mash all their corn. A handful of corn in a bran-mash is sometimes necessary.

Speared Corn—Is sometimes recommended. It is made by steeping corn in cold water for four and twenty hours; and then spreading it on a floor two inches thick. It must be made from day to day.

Mercurial Ointment.—Prudent for the practi-

tioner to make this himself, unless he can depend on the druggist. Useful in mange ointments. Rubbed with advantage for a week before firing a splent. Its effects should be watched, to prevent salivation.

Myrrh.—In doses of an ounce, united with salt of steel and a warm bitter, a valuable tonic. The simple and compound tincture may both be used externally, with good effect.

Nitrate of Potash.—Strong refrigerant. Good in fevers, and causes a most certain determination to the kidneys. Is also antiseptic and diaphoretic; given in doses of three or four drachms daily, useful in active fevers.

Nitre.—Sweet spirit of nitre is at once a refrigerant and cordial. Good in the advanced stages of fever. Dose, one ounce two or three times a day. In the first cold fits, beneficial in a dose of two ounces.

Olive Oil.—The best may be substituted for castor. It is the chief ingredient in liniments, and many ointments.

Oil of Linseed.—Is considered a good pectoral, and is a pretty certain laxative.

Oil of Palm.—Excellent substitute for lard, and not liable to turn rancid.

Oil of Aniseed.—Fine aromatic, and may be added to cordial balls in twenty or thirty drops. Oil of carraways, is also good for similar purposes. *Oil of Juniper*, a good addition to diuretic balls. *Oil of Lemon* is sometimes beneficial in colic. *Oil of Tar* may be substituted for turpentine, and is cheaper.

Ointments.—Sometimes salutary, but their principal merit is in covering an excoriated surface.

Onions.—The juice of three or four onions in half a pint of ale or gin, will relieve flatulent colic.

Opium.—In spasmodic colic, very efficacious in doses of two to three drachms. It may also be administered in clysters. In profuse staling, with alum and catechu, most excellent; and in difficult staling, without inflammation. In farcy, &c. it counteracts

the ill effects of minerals. It increases the pulse in repeated doses of one or two drachms every six hours. Good, therefore, in the weak stages of fever.

Oxymel.—Is best made by simmering a pint of vinegar with two pounds of honey. Thus made, it is excellent in affections of the lungs and catarrhs, combined with nitre, tartar emetic, or digitalis. Dose, from four to six ounces. Oxymel of squills may be sometimes used instead, in chronic coughs, and where there is little fever.

Oxymuriate of Quicksilver.—Commonly called corrosive sublimate. As an alterative, may be given in doses from ten to twelve grains daily. In glanders and farcy, this may be increased to as much as the horse can well bear; but its effects must be particularly watched. A good wash for mange, and a fine auxiliary in blisters.

Peppers.—The different peppers are sometimes used, especially in colic. Any of them may be taken in doses of three drachms to six. Of cayenne, however, but one drachm.

Poultices.—A poultice should be made sufficiently thick, but not so thick as to dry too quickly. Should be frequently wetted with the fluid with which it is made. Poultices to the legs should not be tied too tight; they should never be too hot when applied. An old worsted stocking brought over the hoof, and secured below with a bit of broad list, is a convenient way of applying one.

A Common Emollient Poultice.

Bran and Boiling Water, to form a thin paste; Linseed Meal, sufficient to make it adhesive. Stir in one or two ounces of Sweet Oil.

Cleansing Poultice for Grease and Irritable Ulcers.

Oatmeal, half a pint;
Linseed Meal, half a pint.

Powdered Charcoal; four ounces of stale beer grounds, *quant. suff.* Scraped carrots or mashed

turnips in sufficient quantity, with about four ounces of powdered charcoal, will do as well. Or, linseed meal and oatmeal flour fermented, with a table spoonful of yeast. A good cooling poultice is bran with cold goulard water, to be wetted occasionally with the same.

Raking.—Clearing the bowels with the hand. Draw aside the tail with the left hand, the right being oiled and stripped, and made as small as possible; and in the form of a cone, should be gently passed into the anus, and any small quantity of hardened excrement removed in small pieces. This should be done before administering a clyster in colic, and in all cases of costiveness.

Resin.—The yellow alone is used.

Rowels.—The common mode of making a rowel is this:—cut a slit in the skin about an inch long, with the finger or a blunt horn, separate it from the surrounding flesh, in a circle of two inches width. Something must be introduced to prevent the skin reuniting, such as a piece of round leather, with a hole in it. This may be smeared with blistering ointment, or basilicon, to raise a quick inflammation. A bistory is now used instead of the finger.

Rue—With box, is an antidote to the bite of a mad dog.

Salts.—Common salt is a very good substitute for Epsom or Glauber. Dose, from six to eight ounces. It is a good vermifuge, and assists clysters. A drachm to six ounces of water is good in ophthalmia, when the first inflammation has subsided.

Sal Ammoniac.—Crude sal ammoniac dissolved in vinegar, is excellent for strains, bruises, &c.

Sea Water.—In doses of two or three pints, will answer the same purpose as common salt. N.B. All salines are more or less vermifuges.

Starch.—In diarrhœa, starch clysters are good. Also, starch internally, with chalk and opium.

Stomachics.—The following are Mr. Blane's formulæ.

Oak Bark, six drachms ;
 Ginger, one drachm ;
 Aloes, one drachm ;
 Sulphate of Zinc, one drachm.
 Ball with Lard, Honey, or Conserve of Roses.

Oak Bark, four ounces ;
 Watery Tincture of Aloes, four ounces ;
 Ginger, in powder, half an ounce ;
 Forge Water, three pints.
 Boil the bruised Oak Bark in the Forge Water : when cold, add the infusion of Aloes, or Ginger, four drinks.

Gum Myrrh, two drachms ;
 Mustard Flour, one drachm ;
 Camomile Powder, half an ounce ;
 Camphor, half a drachm.
 Ball, with thin Venice Turpentine.

Powdered Gentian, four drachms ;
 Powdered Quassia, four drachms ;
 Oil of Juniper, twenty drops,
 Ball, Venice Turpentine.

Stoppings.—A good stopping for the hoof is cow dung and horse dung mixed, six parts, and tar one part. Clay is bad. Hot tar, in case of pricks, good. Tow should be dipped into it, and kept on by tough strips of wood. Oil of turpentine, horse turpentine, and grease, equal parts, very good, warm drawing stopping.

Styptics.—Internally, vitriol, alum, and catechu : externally, vitriol and alum, and any other article that will coagulate the blood.

Sudorifics.—Uncertain in effect. Vinegar in repeated doses of six ounces will produce sweat, but excites too much ; in short, in common cases, we must be content with diaphoretics, &c. In urgent cases, nauseants must be used.

Sulphur.—Internally, an alterative; externally, for cutaneous cases. In the last, the black sulphur is as good as any.

Sulphuric Acid.—Seldom used but as an escharotic, or in addition to blisters.

Sulphuret of Quicksilver.—Æthiop's mineral in surfeits, &c. Six drachms, with twelve of cream of tartar, an excellent alterative.

Sulphate of Magnesia—Epsom salts is a capital medicine where aloes are inadmissible, in consequence of inflammation. It is both a febrifuge and aperient. Six or eight ounces, or even twelve, are necessary to open the bowels; and sometimes the dose must be repeated. It is not, therefore, quite certain, but is so combined with linseed or castor oil.

Supertartrate of Potass.—Cream of tartar:—a good alterative in doses of one or two ounces; especially with Æthiop's mineral. It is also a mild diuretic, and a good refrigerant.

Sweating Blister.—See *Liquid Blister*, under *Blister*.

Tar—And fish-oil, equal parts, are excellent for horses' hoofs, applied daily, the hoofs first wetted. See *Stoppings*. Tar inwardly in balls, and tar water, are good for chronic coughs.

Tartarised Antimony.—Emetic tartar is a febrifuge and expectorant. In active complaints of the lungs, it should be combined with nitre, foxglove, and oxymel; one to two drachms twice or thrice a day, with nitre and cream of tartar in similar doses, once a day for milder cases. It must be used with caution.

Tents—May be good in deep wounds with a small opening, but their constant use is absurd and mischievous.

Tin—Is given as a vermifuge. Its effect seems only mechanical. It should be given in fine filings, and is preferable to pewter. Three ounces daily.

Tinctures.—Not to be recommended generally. In dissolving the resinous gums, spirit of wine must be used. Diluted spirit will answer for roots, bark, &c. If aloes or opium are to be diluted, equal weights of either, and of proof spirit, must be digested in a warm place for two days, and then add double the weight of water. Sediment and all must be used. Foxglove, a powerful medicine, may be given in tincture, and should be of double the strength as prescribed in the Pharmacopœia.

Tobacco.—A very powerful and dangerous narcotic, which, when given internally, has been known to produce instant death. Its infusion used externally, is good for the mange.

Tonics.

Green Vitriol, two drachms;
Oak Bark, powdered, one drachm.
Ball with Conserve of Roses, or in a pint of Camomile Tea.

Arsenic, ten grains;
Gentian, powdered, three drachms;
Cascarilla, powdered, three drachms;
Myrrh, one drachm.

Ball as above.

Fifteen grains of Lunar Caustic, dissolved in strong Camomile Tea, or decoction of Willow Bark, one pint, is a capital tonic.

All these may be given daily. When sulphate of iron, or copper, is used, they should not be given on an empty stomach.

Turpentine.—Its general use as a medicine and ingredient, has been seen. It is a warm stomachic, a good auxiliary diuretic, and a slight vermifuge. The common is as good as the Venice. The oil of turpentine, in doses of two to four ounces, is an excellent anti-spasmodic; and in daily doses of the same proportion, a fine vermifuge. Externally, it is an excellent stimulant.

Verdegris.—See acetate of copper.

Verjuice.—Apple vinegar, and similar in effect to common vinegar.

Vitriol White, or *Sulphate of Zinc*.—An excellent styptic or astringent. A good tonic in doses of from four to six drachms. A very good wash for the middle and latter stages of ophthalmia. A good detergent.

Vinegar.—Of great importance that it should be pure: too often adulterated with sulphuric acid. Should be given neutralized with salt or sugar. With carbonate of ammonia, a fine febrifuge. (*See Mindererus's Spirit*.) Very useful also in external applications, in combination with acetate of lead or crude sal ammoniac, or bay salt. It is very good in cases of active inflammation, to prevent distention.

Wax, Yellow.—Used to thicken ointments.

Worm-medicines.—See *Anthelmintics*.

Zinc.—See *Vitriol, white*.

THE END.

The first part of the paper is devoted to a description of the
 apparatus used in the experiments. It consists of a glass
 vessel containing a solution of the substance to be examined,
 and a second vessel containing a solution of a known
 substance. The two vessels are connected by a tube, and
 the liquid in the second vessel is allowed to flow into
 the first. The rate of flow is measured by a stop-
 watch. The results of the experiments are given in
 the following table.

THE END