quarts of tobacco water. Or friction, made with spirits of turpentine, will answer every purpose to kill lice in horses, and other animals.

MALLENDERS

Is a name given to a cutaneous inflammation which takes place just below the hock of horses: draught horses, in particular, being more subject to this inflammation and cracks than any others. It generally proceeds from want of cleanliness, or other causes that produce the grease, and may be, with propriety, styled the same disease.

The cure must be attempted by clipping off the hair close to the skin, and then wash the part first with soap and water, then with a weak solution of alum; and as the cracks are always transversal, they frequently heal with difficulty. On this account, therefore, it will be necessary to keep the animal at rest as much as possible, in order to promote the union of the sores; and at the same time keeping the skin soft with an emollient ointment, such as the common marshmallows, or mercurial ointment, mixed with a little camphor. Should the case appear to be obstinate, and resist this treatment, the reader will find that recommended in

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the article grease will soon put an end to the disease, if properly and judiciously managed.

I must here remark, that when these cracks happen to be in the fore legs, just below the knees, the ancient writers have given it the name of Sallenders, but as both are one and the same complaint, and cured by the same treatment, I do not see any necessity for different names.

THE MANGE

Is a cutaneous and contagious chronic disorder, incident to many domestic animals; it is a discharge of thick yellowish matter, forming a kind of scurf on the skin, which peels off, and is succeeded by fresh eruptions; these being scratched, a fluid oozes out, of a hot and corroding quality, that excoriates the sound skin wherever it runs, in a little time forming a dry, scaly, crusty eruption, which, in its progress, spreads over the whole surface of the body, and the skin becomes unequally thick, hard, and soft. If the disorder has been neglected, or ill-treated, the animal falls off from his food, grows lean, and the legs swell; in this state he has frequent fits of shivering and trembling, and a slight fever arises, often terminating in farcy, or the glanders, by which he is easily destroyed.
MANGE.

Whatever diminishes the vital heat, and reduces the general strength of the body, may cause this distemper. Animals that are kept upon musty hay and straw, or in barren pasture, &c. from which nature does not receive the support necessary to keep the frame in a constant state of health, are subject to this disease. From this state of starvation, indeed, many severe and dangerous disorders originate. Sudden changes of temperature, hot stable, bad diet, joined to want of cleanliness, are also among the causes of this disorder; the perspirable matter being never properly removed, the external vessels become obstructed, and a diseased action takes place; it may also be caused by infectious matter coming in contact with a sound horse.

The treatment of this disease ought to commence with taking away five or six pints of blood, and giving afterwards six drachms of aloes, and a drachm of calomel; this purging physic must be repeated two or three times, once a week; the animal must then be kept constantly supplied with warm water gruel, and mash of bran, and ground or scalding oats; this makes an excellent nutritious diet, capable of invigorating the system, and restoring the blood by its balsamic quality.

In the interval, and after the course of physic recommended above, the animal must take the
following alternating balls, viz. flour of sulphur, crude antimony in powder, eight ounces of each; muriate of quicksilver (sublimate) corrosive, six drachms; Venice turpentine, sufficient to form the mass of a proper consistence, and divide it into sixteen balls, giving one of them every day.

A diuretic ball, composed of nitre, rosin, and Castile soap, equal quantity of each, given at a dose of ten drachms, once or twice a week, will be found extremely beneficial.

The local treatment of this disorder consists in a judicious application of blisters applied on the itchy parts of the body, taking care, when they begin to operate, to foment the skin with warm water three times a day, in order to wash out the yellow matter discharged by the action of the blister, and to prevent the cantharides from operating too violently upon the kidneys and bladder; but if this should happen, let the animal be bled, and clysters of warm water frequently injected; and at the same time leave off all kinds of medicines until the strangury disappears.

The application of blisters in the mange, if properly modified, and judiciously applied, will be found a real specific in this distemper, but their application must sometimes be repeated more than once.
MANGE.

To those that have an aversion to blisters, they may use the following, viz. a strong infusion of tobacco in vinegar (water may do, if the case be recent), muriated quicksilver half an ounce, crude sal ammoniac two ounces, boiled in two quarts of the above infusion, and wash the mangy parts twice a day, taking care to use the physic and alterative balls above-mentioned, until the horse gets perfectly sound. Clean warm clothing is particularly requisite, until the distemper is totally eradicated.

It should be always held in remembrance, that in every disease of the skin, exercise must be, in the first instance, not only very gentle, but of long duration, using no violence, any further than to keep up a gentle perspiration; this is evidently necessary, as exercise increases the natural secretions, and promotes regular evacuations. The animal will receive a considerable advantage also from good grooming and cleanliness, and above all he must be kept constantly supplied with warm mashes of bran, scalding or ground oats or oatmeal, and water gruel for his drink. This makes an excellent nutritious diet, capable of invigorating the system, and which, with due attention to the above treatment, will soon remove this troublesome and often dangerous disease.
MOLTEN GREASE.

To a rational man nothing can be more truly ridiculous, than to hear an inflammation of the lungs called molten grease, because there is a yellow gelatinous substance voided with the feces. A little reflection upon the subject will soon point out the mistake, and show to those writers, who adopt this idea, that the yellow fat substance so discharged is not the animal's grease, but a coagulated lymph, thrown out of the intestines by the rupture of the extremity of some of the blood vessels, during the inflammatory state of the disease, and thus voided with lumps of hard excrement. The symptoms of this imaginary disorder are invariably the same as those observed in an inflammation of the lungs, and other internal viscera, and are justly described by some ancient writers in the following manner:—"This disorder proceeds," say they, "from great, sudden, or powerful exertions, when a horse is not in a proper condition, as in strong and severe hunting, long and speedy journeys, or hard driving in carriages, when the animal has just been taken from grass, and is loaded with impurities; or when naturally too full of flesh for violent exercise; from internal heat, increased circulation, and tempo-
MOLTEN GREASE.

rary inflammation, the fat, seated upon the membranes in various parts of the body, undergoes rarefaction, and rapid solution*, making distinct efforts for discharge by the different emunctories. The proportions nearest the vessels become absorbed, and there is produced some degree of fever; another part makes its appearance in the excrements; a third portion fixes upon the lungs, and obstructs respiration; to these a laxation of the intestinal contents succeed; and lastly, a looseness, or scouring; so that in this we plainly perceive the possibility of a complication of disorders, originating in a single cause, and the foundation of that cause is indiscretion."

This is certainly a very plausible description of the symptoms and causes of a disease, yet observation, supported by theory, has taught us, that the disorder under consideration is nothing more than a violent fever, often accompanied with an inflammation of the lungs, and

* This is exactly the mistake, for instead of a dissolution of fat, as supposed to be, a separation of the red and white particles of the blood takes place, and this frequently happens where the action of the heart and arteries are increased to a considerable degree, so as to form a general inflammatory diathesis; and, indeed, this yellow buffy coat is evidently seen on the surface of coagulated blood, after bleeding for fever and inflammation of the lungs; and when this separation takes place in the intestines, and other abdominal viscera, it must of course be voided, along with the feces: and this symptom has induced the ancient veterinary writers to think it was the horse's fat.
abdominal viscera; not being a disease of a peculiar nature itself, but only the symptoms of another, in which there is no melting of grease, as was supposed by many of the old school. As to the causes, it evidently proceeds from violent work, when the animal is not in a proper condition for it, being too fat also; from exposing the horse to the inclemency of the weather in a profuse state of perspiration, or drinking cold water in the same state; and the symptoms are more or less violent, according to the parts most affected by the original cause. If, for instance, the intestines be inflamed, as well as the lungs, in that complicated state there will be a discharge of coagulable lymph, which is then separated from the blood, and transuded through the coats of the intestines, to be voided with the dung; and when there is a redundancy of the natural mucus of the intestines, as sometimes happens, a violent purging takes place, but not accompanied with melted grease.

For the treatment of this disease, the reader will refer to the article Peripneumony.

MOON BLINDNESS

Is a disorder of the eyes, so called by grooms and farriers, thinking that the periodical return
of the disease was governed by the moon; but it is now time to forget this rustic language, so long made use of by ignorance, and adopt a more rational system in the veterinary art. Let us then recommend, that the case now under consideration is not owing to the influence of the moon, &c. but to an inflammation of the conjunctive membrane of the eyes, called opthalmia in the human subject. In the horse it begins in the most vascular part of the conjunctiva, then extends to that portion covering the sclerotic coat, and thence proceeds to the transparent cornea. In that case the eyelids drop, the tears run over the cheeks, and still more, pass through the natal duct, when drops of fluids might be seen at its extremity, which never make their appearance in the healthy state of the eye; the law* is thrown over the eye, in order to prevent the admission of the rays of light, which, in this state of the eye, would irritate it, and increase the disease. It is not unusual, however, to find the eye, that was to day very much diseased and inflamed, quite clear in the course of the next day. This is owing to the power of restoration in the horse being so great in comparison to what it is in the human subject. This disease is never, or

* Membrane Nictitans.
very seldom found, in young or in old horses, but takes place generally at the ages of five, six, and seven years, at which time the animal has ceased to grow, and may be said to have arrived at maturity; he is much more subject to plethora and inflammatory diseases than than at any other period; for before that time the blood was required for two purposes, viz. for nourishment and the growth of parts, but it is now wanted only for one purpose—that of nourishment; the superfluous blood, therefore, keeps the animal in a state of plethora.

The great cause of this disease is change of temperature, vitiated by the dung and urine, fermenting in the stable, and forming perhaps a poison capable of producing the glanders; unequal exercise contributes likewise to produce all the inflammatory diseases already described in this work, yet we very frequently see horses exercised and ridden very violently one day, and for a whole week after remain at comparative rest.

We are not to consider this complaint as local (for were it so, it would be much easier of cure), but constitutional, and requiring constitutional remedies and treatment. But unfortunately we have not yet discovered a specific of this nature. The animal seldom perspires in this disease, and if he does it is in excess,
which shows that the constitution is affected. The degree of inflammation is very various: sometimes it is so great, that the iris becomes affected, and a small deposit of lymph may be observed at the edge of the little glandular bodies. This never takes place in the human subject; for though the iris is contracted, it is in consequence of sympathising with the retina to prevent admission of the rays of light. This deposit is most commonly at the inner angle of the iris, and at the edge of the superior glandular bodies; it is a sure indication of a succeeding cataract and blindness; and, as it is a deposition on the iris, is very difficult to get rid of. The cornea is sometimes as red as if it had been washed with venous blood, and neither the iris nor pupil can at all be seen, which is a sure sign of the cornea being inflamed. It frequently happens that the iris appears of a yellow colour; this, however, does not indicate any disease in it, but shows an incipient disease in the cornea, which now receives more serum into its vessels than they can make transparent, because they are too much distended and enlarged to produce that effect; as any coloured fluid would not appear transparent, if contained in a glass tube of an increased diameter. These circumstances will also apply to the disease when going off, as well as in its incipient state.
Man, the ox, the sheep, and even the ass, which so much resembles the horse in other things, are not subject to this disorder. In a number of cases the inflammation is periodical, and blindness is sure to ensue, though not always in both eyes; for when one eye becomes blind, the other frequently remains well; and therefore the farriers employ the cruel mode of taking out one eye to save the other, which is sometimes attended with success, by the inflammation that is produced acting in the same way that a rowel or seton would do. The most common and general termination of ophthalmia (improperly called moon-blindness) is in a cataract.

Treatment.—The various methods employed to obviate the effects of inflammation of the eyes in horses, are briefly these: first, bleeding from the jugular or engular veins; at the same time employing purgatives, frequently repeated; and diuretics, administered alternately with the former. After these, have been tried all the medicines employed in ophthalmia of the human subject, by Messrs. Wathen and Phipps, but without any degree of permanent success. The local and surgical treatment has been as follows:

First—we have made scarifications, and passed a seton, through the membrana con-
junctiva. Secondly—We have removed and divided, with the actual cautery, some of the larger vessels communicating with the cornea. Thirdly—Leeches have been applied to the conjunctiva. Fourthly—Both the carotid arteries have been taken up: but even this was of no avail, since the anastomosis, with the vertebral arteries found with the carotids, prevented the effect. It results, therefore, that the treatment of ophthalmia in horses is confined entirely to bleeding, purging, and diuretics. A blister on the cheek and temple, frequently repeated; and blowing common salt in the eye two or three times a-day, is sometimes serviceable; and when the eyelids appear very much inflamed, they must be scarified with a lancet. But during this treatment the eye must be fomented with warm water, in order to diminish the irritation from the tears that runs over the cheeks; wholesome diet, and moderate, but continual, exercise to increase perspiration, will greatly contribute to the preservation of the eyes. As to that disease of the eye called watery eyes, it proceeds from an increased secretion of tears which flow down the cheeks, and not from an inflammation of the conjunctiva, as in ophthalmia. The increased secretion of tears rendering the lachrymal ducts incapable of carrying all the superfluous quantity away; watery eyes
may also proceed from an obstruction of the nasal duct. When they are found to proceed from this cause, the ductus ad nasum must be opened, by injecting a decoction of linseeds, or any other glutinous injection. If this fail, it must be opened with an instrument, introduced with great dexterity, from the eye down to the nose.

If the disease proceeds from heat and volatile fumes, so hurtful to horses that are kept in close stables, or from the inordinate secretions of the lachrymal glands, either from this cause, or from mere debility, which may render them too obedient to common stimuli; bracing and sedative collyria, may be used, such as those prepared with saturnine, or other metallic salts, as the preparation of lead, white or blue vitriol; by dissolving one drachm of either of these in eight ounces of water, and two drachms of tincture of opium. The eyes, frequently fomented with this mixture, will receive relief; and, in a case of this kind, will soon perform a permanent cure, provided the case is not of a periodical nature, improperly called Moon Blindness.
MORTIFICATION.

A mortification is not to be considered as a genus of disease, but as a mode of the termination of inflammation, which may be divided into gangrene and sphacelus. In the first, the part becomes livid, soft, has little sensibility, and is often attended with ichorous vesicles; and a thorough mortification is known by the diseased parts becoming totally black, by its losing all pain and sensation; at the same time it emits a considerable fetor: and finally, a softness or flaccidity in general takes place, together with an entire dissolution of the different parts of which the organ is composed. When the parts continue mortified for some time, without either turning flaccid, or running into dissolution, it is called a dry gangrene. But these cases never occur from inflammation; they commonly happen from the flow of blood to such parts being prevented, by compression, tumours, too tight ligatures, or other similar causes, by which the principal arteries that used to supply them are obstructed. I shall not say any thing of gangrene or mortification arising from erysipelas, as I never saw an instance of this kind in the brute, owing probably to the power of restoration, which is infinitely
greater in the horse, than in the human subject.

To prevent mortification in every case of inflammation, endeavour to obtain its resolution or suppuration.

The immediate cause of mortification is, the reduction of the vital heat in the part to a certain degree below that which health requires. The immediate causes are, violent inflammation, which, by the heat attending, so distends the cellular membrane as to compress the vessels, stop the circulation in the adjacent parts, and destroy the vital action there. The acrimony of the juices, by rupturing the vessels in an inflamed part, occasions an extravasation of blood, which putrifying, produces a mortification. A contusion or wound, intense cold, compression from tumours internally, and poisons in particular, will have the same effect.

The prognostics are to be taken from the age, the strength of the animal, a knowledge of the cause, and the season of the year, &c.

Treatment—It is necessary to observe that, if a mortification proceeds from a circulation that is too rapid, bleeding will be found indispensable, and also diluters so often recommended in every inflammatory case. If on the contrary, the circulation is too languid, cor-
dials and invigorating medicines must be prescribed. When a mortification arises from an internal cause, there is usually great pain; in this case opium is the most salutary cordial known.

How far these medicines may be expected to succeed in the horse and other animals, is yet to be ascertained.

It is to be observed, indeed, that though mortification commonly terminates the diseases and lives of brutes, it is seldom that any proper means are employed to stop its progress. Perhaps this is owing to its usually being so very rapid, that it leaves little or no time to try the effects of antiseptic remedies; such as the following, which I can recommend on the best authority, having found them attended with success in numerous instances.

It may be necessary, however, to observe, before we proceed to exhibit those remedies, if the animal be much reduced, either by evacuations, or by the effects of the complaint, his pulse low, and no considerable symptoms of fever, the following balls must be directed, viz.: Peruvian bark, twelve ounces; ginger, in powder, three ounces; opium, two ounces; camphor, four ounces; oil of anniseed, or caraway seeds, an ounce; Venice turpentine, sufficient quantity to form twenty-four balls, one
of which must be given in the morning, and the other in the evening, to be washed down with half a pint of port wine, and half an ounce of cinnamon, boiled in half a pint of water; the whole to be mixed together, and given pretty warm with the horn.

As topical remedies, in cases of external mortification, blisters are the most proper application; and they should be renewed as often as possible, particularly while the disorder is in its progress. But twelve hours after their application, they must be properly and well fomented with warm water, and immediately after with a proper antiseptic fomentation, viz.: Take sage, thyme, rosemary, wormwood, or camomile flowers, &c. two handfuls of each; boil these in four quarts of water for about ten minutes; then add to the strained liquor, spirit of wine, or vinegar, six ounces; sal ammoniac, two ounces. This decoction will make an admirable antiseptic fomentation; and, if applied as warm as possible, and properly intermixed with the fomentation of warm water, will assist in separating the putrid parts, and stopping the further progress of the mortification. When the mortified parts run deep, it is sometimes of service to make scarifications in the diseased parts, so as to remove a portion of them. This is particularly necessary when
mortification proceeds from nicking or docking; but, in any other case, we must be extremely careful not to carry the incisions the length of the sound parts. When a separation is completely effected, treat it as a simple ulcer, with suppurative and digestive dressings, and support the strength of the system as above prescribed.

OVER-REACHING.

Over-reaching is produced by the hind feet striking the fore. Horses most subject to it, are those which are too low before, or too high behind, or have too large a shoulder, with a heavy head, and too long and thick a neck; in all which cases, the fore legs being overloaded, rise with such difficulty that they are unable to cover much ground at each step, and so produce over-reaching.

Over-reaching may also be caused by a horse’s fore legs standing too much under his belly, or his hinder extremities approaching too near his fore ones; or rather from too great a bend in the hocks. A horse being too short in the body, or his back bent outwards, likewise produces over-reaching, as this conformation brings the extremities too near each other. A horse too is frequently