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# GLANDERS:

BY

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# GLANDERS.

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FELLOW-CITIZENS :—

The sales of condemned Government horses in New Jersey and adjacent States having introduced into our county and immediate vicinity, the terrible scourge known as "Glanders," I conceive it my imperative duty to warn you in time of the danger which is threatening our community.

If the experience of a Veterinary Surgeon, who has devoted eighteen years of his life to the relief of the noblest animal in the gift of Providence, is not sufficient to excite your sympathy and even your fears, I am convinced that the following reports based upon evidential facts and undoubted authority, will attain that object.

You will see the proofs that "Glanders" is a disease without remedy, positively incurable, *extremely contagious*, easily communicated to man, and that every day human life is sacrificed to incredulity and ignorance!

Through the liberality of gentlemen of this county, who deserve our thanks, I am enabled to offer you this small pamphlet, the fruit of my researches and observations. Circulate it among your friends, and by your personal exertions avert the calamity which is menacing our welfare.

## GLANDERS.

DEFINITION.—Glanders consists in a discharge, from one or both nostrils, of matter which by transfer or inoculation will produce the disease in another animal (of the equine or human species,) and which discharge is sooner or later, accompanied by vascular injection and chancreous ulceration of the schniderian membrane, by tumefaction of the submaxillary lymphatic glands, and by farcy.—*Percival*.

SYMPTOMS.—A discharge of matter from one or both nostrils, enlargement of one or both submaxillary glands. When one nostril only is affected the corresponding gland is almost invariably found enlarged. The schniderian membrane (lining of the nose) is generally of a pale or leaden hue, and sometimes ulcerations are visible on its surface. The discharge usually sticks to the nostrils, and is sometimes white and thick, but oftener of a greyish aspect. A discharge from the nostrils, and the appearance of ulceration, is not alone sufficient to establish the presence

E. Woodward (Golden City, Missouri)  
27 AUG '64

of the disease; for these ulcerations are sometimes produced by the acrid nature of the discharge from catarrh. In the first stage of the disease there is a discharge from one nostril only of a whitish humor, which is inconsiderable, except when the horse has been exercised for some time. There is an increased redness of the membrane within the nostrils. The swelling of the glands under the jaw is on the same side as the affected nostril. The horse's coat appears healthy and the animal in good condition.

The symptoms of glanders arising from communication with a glandered horse are different from those of glanders produced by bad provender, excessive exertion, &c. In the former the discharge is from one nostril only, or much more from one than from the other; and there is no cough or other symptom of catarrh or cold, or any other disorder. In the latter, on the contrary, there is cough, either dry or moist; and it is preceded by loss of appetite, or falling off in appetite and depression of spirits.

The symptoms of the second stage are the altered appearance of the nasal discharge, which has become more glutinous, and adheres to the edges of the nostril, with a contraction and partial closing of the nostril, with increased tenderness of the swelling under the jaw, which adheres more closely to the jaw-bone; the discharge is somewhat streaked with blood and of an offensive smell. The discharge is now from both nostrils. There is a slight tumefaction of the under eye-lid, a swelling or elevation of the bones of the nose or forehead. Loss of appetite, debility, cough, and swelling of the legs and sheath, and sometimes lameness without any apparent cause, chancers or ulcerations within the nostrils, great tenderness of the glands under the jaw, which now adhere close to the jaw-bone, a small discharge of matter from the inner corner of the eye. When these symptoms appear the disease soon proceeds to a fatal termination. The above symptoms are not all peculiar to glanders, but may occur in strangles, peripneumony and pleurisy. The glutinous discharge, the swelling of the glands under the jaw and the ulceration within the nostrils are symptoms which occur in the above diseases, as well as in glanders.

Although the disease is here divided into the first and second stages, it is not essential that in each case the former should precede the latter, for sometimes the acute only is present, and the horse speedily dies if not destroyed. In other instances the acute stage may be succeeded by the sub-acute. It may, however, be observed, that the first stage never ends in death, but it is always in the second stage that the disease proves fatal. Besides these stages, glanders sometimes assumes a still more insidious appearance, in which the discharge is so slight, and the enlarged gland so trivial, as not only to deceive the ignorant, but often to mislead the well-instructed practitioner. The discharge is thin, and appears no more than a slight increase of the natural discharge, and the sub-maxillary swelling is no larger than a bean, though hard and indurated. Such cases as these have proved

of irreparable injury to many horse proprietors, from the symptoms not being sufficiently urgent as to excite alarm; and when a veterinary surgeon has given his opinion that such case was one of glanders, there have not been wanting plenty of farriers and others who have altogether contemned such an opinion, and for a time, at least, have exulted over their own superior sagacity. Mr. James Turner relates a striking instance of this, in which his advice was disregarded, and a horse, with these insidious appearances, was allowed to mix with other horses, to several of which he communicated the disease, in the course of a few months.

—*White's Veterinary Art.*

The most common cause of this disease is the impure air of close, ill-ventilated, damp, and filthy stables, acting injuriously upon the organs of respiration, destroying the constitution, debilitating the system, rendering it susceptible to the attack of disease. Neglected catarrh, strangles, &c., sometimes terminate in glanders; hard work and bad provender, together with sudden changes from exposure to cold and wet weather, to hot stables, &c., are likewise regarded as among the causes; contagion is the most common of all causes, the disease being readily communicated from one animal to another by it.

“The city of Lyons, France, must always contain a great number of glandered horses, on account of the dampness of the situation and climate, and it being a public market for horses. The garrison at Lyons generally has its share of this disease. During this year the mildness of the winter, and the heat of the spring and summer, have prevented circumstances less favorable than usual, to the development of this malady; therefore with the exception of horses from the garrison, and which had been long kept in the infirmary at the barracks before they were sent to us, we have had very few cases of glanders, compared with several preceding years; yet not withstanding these favorable circumstances we are compelled to acknowledge that it has been as rebellious to treatment as ever. Our means of cure have always possessed too little power, seeing that when ulceration of the pituitary (of the nose) membrane begins to appear, the lungs and constitution of the animal have undergone a modification which it is difficult to remove.

“The greater part of the animals that have gone from us, apparently cured of glanders, have speedily relapsed when they have been subjected to hard work, or have been exposed to neglect or privation.”—*Extract from the report of the Veterinary College of Lyons, 1834 and 1835.*

Mr. W. Percival, in his “*Hippopathology*,” gives us the following facts as the result of his own experience:

1. “That farcy and glanders, which constitute the same disease, are propagated through the medium of stabling, and this we believe to be the more usual way in which diseases are communicated from horse to horse.

2. That infected stabling may harbor and retain the infection for months, or even years; and although by thoroughly cleansing and making use of disinfecting means, the contagion may be destroyed, yet it would not be wise to occupy such stables *immediately* after such supposed or alleged disinfection.

3. That the virus, or poison of glanders, may lie for months in a state of incubation in the horse's constitution before the disease breaks out. Of this we have had most positive evidence.

4. That when a stable of horses becomes contaminated, the disease often makes fearful ravages among them before it quits; and it is only after a period of several months exemption from all disease of the kind, that a clean bill of health can be rendered."

#### FARCY.

This I regard as an incipient stage of glanders, or as a type of the same fatal malady, and is to a certain extent curable. Experiments prove that the virus from a farcied horse will produce glanders by inoculation in a sound one, and that the glandered matter will in like manner produce farcy. There are two distinct varieties or stages of farcy; one, which is called button farcy, is altogether superficial, being confined to the lymphatic vessels of the skin, and readily yields to medical treatment; the other variety makes its appearance in the extremities, generally upon the inside of the hind legs, which become completely engorged; but the swelling is very different from the ligamentary thickening, or from œdema, being very uneven or lumpy, excessively tender, and painful to the touch. Small abscesses are formed, which at first discharge a healthy pus, but soon ulcerate and discharge a thin sanious matter, these abscesses first make their appearance on the inside of the hind legs, and then on the fore ones in like manner; the neck and lips come next in turn, and they may appear in all parts of the body, when glanders will begin to manifest itself.

Stonehenge says, "Farcy appears to depend upon the development of the same poison as in glanders; but the attempt at elimination is made in the skin, instead of the mucous membrane lining the nose. A horse inoculated with glanders may exhibit Farcy, and *vice versa*."

"Farcy usually shows itself, first by one or two small hard knots in the skin called "farcy buds," these soon soften and contain a small quantity of pus; but as this is rapidly absorbed, the lymphatics which convey it into the circulation inflame; and at a short distance another bud is formed, &c. In process of time the general system suffers, as in glanders, and the horse dies, a miserable, worn-out object. No treatment can be relied on to cure the disease; and as it is equally contagious with glanders, every farcied horse ought at once to be destroyed. The hard nature of the buds, and the thickened lymphatics extending like cords between, clearly make known the nature of the disease."

*Glanders Contagious.*—This brings us to the more important part of our subject, and places us upon our guard, so as to prevent us as far as possible exposing ourselves to such a calamity. The time which glanders appears after inoculation is very uncertain; it may be a few days, or it may be several months, varying according to circumstances and the condition of the animal. Glanders has been known to remain dormant in the system for a period of two or three years previous to its being developed.

*"The main cause is contagion.*—I now approach, gentlemen, not without hesitation, but without fear, the grand cause of Glanders—Contagion. I advisedly call it "the grand cause," for I believe that I shall be able to render it probable that glanders arises oftener from contagion than from any other source. I know that our continental neighbors deny the contagiousness of Glanders altogether; but they do not, and cannot deny that the disease does follow contact, and often mere proximity of situation. When they tell me that it is not the disease that is communicated, but a mere predisposition, a greater aptitude in the frame generally, or some part of it, to be affected by the usual causes of glanders, I cannot but regard this as the merest quibbling. I take the broad fact, that a glandered horse being inadvertently admitted into a stable, some of his companions, after awhile, become glandered too. The stable had previously, and for many years—nay, from the very time of its erection, been free from the disease, and no alteration, whatever, has taken place in the system of management: a glandered horse finds his way thither, in a few months the whole team is glandered. When in the face of this, a person tells me that it was not the disease which was communicated, but a facility of being acted upon by certain agents, I regard it as a species of quibbling, unworthy of a scientific pathologist; and I deprecate the injury which may be done to the agricultural community by the broad assertion, thus ridiculously and falsely explained, that glanders is not contagious. One point, however, is established, I think,—that glanders is far more contagious than many have supposed; Mr Turner's mare destroyed four of her companions. The poor Widow at Paddington had her stable perfectly emptied by the disease; and I will venture to say, that there is not a district throughout the kingdom, in which some farmer, by the loss of a considerable proportion, or the greater part of his team, has not had sufficient proof of the contagiousness of glanders. The cause of this doubt with regard to the frequent communication of the disease by inoculation, seems to have arisen from ignorance of its insidious nature. When glanders appears, and the horse has, for several weeks or months scarcely been exposed to the possibility of contagion, it has at once been concluded that the disease was generated in him by some assigned or unknown recent cause. It has now, however, been proved to us that the disease may exist and may be communicated to others, when, for many months, there has been

nothing to excite suspicion in the mind of the groom or the owner; and when the candid veterinary surgeon acknowledges, that, had not the circumstances been pointed out to him, it would probably have escaped his observation. The truth of the matter is then, that every horse that passes through a fair, or is baited at an inn, or even travels the common public road, may be infected without the rider's or owner's knowledge or slightest suspicion. A glandered stallion neighed at a mare that was separated from him by a double hedge and a deep lane; the virus was wafted across by the wind, and she became diseased, and died. It is impossible for any one to say, except there be some plain and manifest cause for the generation of the disease, that any horse did not receive it by infection. There would be a degree of presumption in the assertion which the calm inquirer after truth should not display. The opinion of our ancestors, from time out of date, had taught us to beware of glanders as a contagious as well as a fatal disease. Let us not, without incontestable proof, abandon that which for ages was never doubted. There is not a circumstance that has been productive of half so much loss to the agriculturist, and the proprietor of horses, as this too frequently and too positively repeated assertion of the non-contagiousness of glanders. Many thousands of pounds would not cover the *annual* loss. A case occurred about two years ago, and not a very great way from this metropolis. A gentleman had a team of farm-horses, almost unrivalled for activity and strength. One of them exhibited symptoms of incipient glanders. A newly arrived young veterinarian was consulted as to the propriety of preventing all further mischief, and cutting short the affair, by destroying the diseased animal. "Oh! by no means," said he; "there is not the danger about glanders which some foolish people imagine; you well ventilate your stables, and let there be no animal poison lurking there from air that has been breathed over and over again, and I will answer for it, your other horses are safe enough; there is not one horse in a thousand that *catches* glanders." The gentleman was somewhat surprised, and expressed a little doubt about the matter; but, the young theorist producing chapter and verse in elucidation of his point, he suffered himself to be over-persuaded; and in less than a twelvemonth he had not a sound horse upon his farm.—*Youatt's Lectures at the University of London, 1832.*

The glanders is a disease of the horse tribe, communicable to man and other animals. It is chiefly manifested by unhealthy suppuration of the mucous membrane of the nasal cavities, and pustular eruptions on the skin, and unhealthy abscesses in the lymphatic system.—*Druitt's Surgery.*

The instant that there is any appearance of it, the horse should be immediately removed to a place by itself, as this malady is exceedingly infectious; and from want of due caution, when even a suspicion is entertained, the most disastrous consequences have been the result.—*Brown's Farriery.*

**GLANDERS.**—A disease in horses, attended with a copious discharge of mucus from the nose. It is needless to endeavor to describe the various attempts which have been made to cure this almost invariably fatal disorder. But the farmer must avoid a common error of confounding ulceration of the membrane of the nose with glanders, for the symptoms are very similar. The farmer will do well, as soon as he finds a horse attacked with this disease, to place him by himself, give him green food, and thoroughly whitewash the stable from which he is taken, for it is a most contagious disease.—*American Farmer's Encyclopedia.*

Two thorough-bred colts, yearlings, that had never been broke or put into a stable, were affected with the glanders to a violent degree. It was considered by the proprietor as a very extraordinary circumstance that having never been kept with any other horse, these colts should have been attacked with the disease. On inquiry, however, the author found that a canal ran on the side of the field in which these colts were kept, and that upon one occasion, some boatmen had been detected in turning their horses to graze in the same field; and hence a very fair presumption arose that the contagion was communicated in that way.—*Lawrence.*

That the glanders is contagious, has been clearly and indisputably proved by numerous experiments, and the manner in which it is propagated has likewise been satisfactorily demonstrated. The great number of horses that have been destroyed by glanders, especially in the army, and in the establishments where great numbers of horses are kept, has excited particular attention to the subject, especially in France and Italy, where many attempts were made in the beginning of the last century to discover a remedy for it.—*Skeavington.*

"It is a remarkable circumstance" says Mr. White, "that glanders cannot be communicated by applying the matter which is discharged from the nose of a glandered horse to the nostrils of a sound one, unless there be an open wound or sore, even though a piece of lint soaked in the matter be put up the nostrils, and kept in contact with the pituitary membrane for a short time; or even if the matter be thrown up the nostrils with a syringe. But, if the smallest quantity of matter be applied in the way of inoculation, either to the membrane of the nostrils, or to any part of the body, a glanderous ulcer will be produced, from which farcy buds and corded lymphatics will proceed. After a few weeks the poison will get into the circulation, and the horse will be completely glandered. The circumstance of glanders not being communicated by applying matter to the nostril, enables us to account for a horse escaping the disorder, as he sometimes does, after being put into a glandered stable, or standing by the side of a glandered horse. I am inclined to believe that the disorder is more readily caught by eating the glanderous matter mixed with oats or hay, than by drinking it with water, as in the former case it is so intimately mixed with the food in mastication.

M. St. Bell placed two sound horses by a glandered horse, drinking out of the same pail, and eating out of the same manger. One of the sound horses was six years old, and just taken from grass; the other nine years old, and taken from regular work. The first showed evident signs of glanders at the expiration of thirty-four days; it fully declared itself in the second at the end of six weeks."

John Gamgee, Professor in the Edinburgh Veterinary College, says: "Horses undoubtedly affected with this dreadful malady should be destroyed as soon as the disease is satisfactorily diagnosed. Various mineral tonics, have been vaunted as specifics, but we cannot conceive on what principle animals should be allowed to live, endangering the life of those around them with no benefit to themselves.

"A glandered horse may contaminate the air of a stable to such a degree, that horses breathing the same air may become infected with the disease, although the infected may never come in contact with the infecting horse. Fortunately glanders is not so infectious as some other diseases to which horses are liable, otherwise the breed would soon become extinct."—*Veterinarian*, 1833.

"GLANDERS.—We have had about the same number of glandered horses as in the last year; and we must repeat, that in spite of all the care that has been bestowed upon them, and the strict attention which has been paid to the administration of medicines the most likely to have a good effect, and the power of which has been vaunted by others, we are not able to relate a single case of the complete cure of glanders. Seven horses were returned to their owners apparently cured—all the recognizable symptoms of the disease had disappeared; six of them were, after some months, returned to us more decidedly glandered than they were before; they were destroyed. The seventh has now been away three months; but we reckon upon seeing him again about the same time as the others, and in the same state as that in which they returned."—*From the proceedings of the Veterinary College, Alfort, France, 1833-4.*

"ACUTE GLANDERS.—MM. Renault and Bowley have continued their researches on this disease. An inquiry into the nature of this malady, its symptoms, and, more especially, its contagious property, has acquired increasing interest since its transmissibility from the horse to the human being has been lately proved in so many instances. MM. Renault and Bowley have arrived at the following results: Acute glanders is contagious by inoculation from horse to horse. Every experiment of the last and the present year has given this positive constant result. Without a single exception, the symptoms of the infection of glanders have appeared in the inoculated animals from the third to the fifth day, and death has ensued between the tenth and fifteenth days."—*Veterinarian.*

In the year 1861, my attention was called to seventeen horses the property of Mr. E. K. B., of Felton, Delaware, who, some six months previous, had purchased a horse at the horse auction in Philadelphia. This animal was supposed to have a slight attack of what is commonly called "distemper." In a short time some of Mr. B's other horses showed symptoms of the same disease, several of which died. Mr. B. becoming alarmed at his repeated losses, called in my assistance. I found (if my memory serves me right) five of the seventeen horses glandered, three of which I ordered killed. The others which had not shown symptoms of disease I ordered to be at once removed from the stable, so as to prevent all possible communication between them and those in which the disease was not fully developed. Mr. B. loaned Mr. H., a neighbor, one of his horses to work in a lumber team; soon after which the disease made its appearance in Mr. H's stock of ten horses. My attention was called to these animals, also, several of which I found laboring from the same fatal malady. Two of these animals in which the disease was fully developed I ordered killed. Removing my residence from Philadelphia to Bordentown, N. J., about this time, I lost sight of these cases, and have not since heard from them.

Soon after the present rebellion broke out, one of my old customers, Mr. H., who kept a livery stable in Cherry st., Phila., doing a thriving business; and having a number of the finest horses in the city kept there. Two army horses were put up for the night at that stable. No appearance of disease was observed about them. One of these horses occupied a stall near to that occupied by Dr. L's horse, which was valued at \$300. Soon after this visit, Dr. L's horse showed evidence of ozena, which rapidly degenerated into glanders; the animal was killed. Case No. 2, valued at \$500, the property of Mr. D, fell a victim to this fatal disease, and was also killed. Case 3, valued at \$300, belonging to Mr. B., also became glandered and was destroyed; together with six other animals all valuable and highly prized by their owners. This calamity fell heavily on Mr. H., who in consequence was compelled to relinquish the business for some other occupation. This stable has since been torn out, the walls picked, remodeled, and is once more in successful operation, with new stock and a new proprietor, who it is to be hoped will meet with better fortune.

In 1854, when inspector of the Philadelphia Mutual Livestock Insurance Co., I was called to examine a fine grey horse belonging to Mr. W. of the Western Exchange Hotel, recently insured for \$300, which policy had just expired. Mr. W. asserted that the animal had only a slight cold, but was getting better: on examining the animal, however, I pronounced him glandered, which the owner was loth to believe: in order to satisfy him of the correctness of my diagnosis I called in T. J. Corbyn and the late W. W. Fraley, veterinary surgeons, both of whom confirmed my opinion. Mr. W. not wishing to destroy the horse, desired me to experiment with him, in order if possible to save his life.

Some two weeks subsequently, a farmer stopping at the hotel supposing himself well acquainted with such diseases, offered Mr. W. \$75 for the horse, asserting at the same time that it was only the distemper that ailed him, and he could cure any horse of that disease. Mr. W. immediately consulted me in regard to the propriety of selling the horse: my advice was, under the circumstances, to clear himself of all responsibility. The result was the horse was sold. Some six months later I learned that the horse was dead, together with two other animals belonging to the same unfortunate purchaser.

Sometime last spring, Mr. P., residing near Pemberton, New Jersey, purchased a horse which showed, as he thought, symptoms of "distemper;" for some reason or other, Mr. P. did not keep this animal long, but sold him to a Mr. J., residing some two miles distant. Soon after Mr. P. parted with this animal, he sent another horse belonging to him to me for examination which had been previously treated for nasal gleet. This animal I unhesitatingly pronounced glandered, and recommended his destruction; the animal however died in a few days, since which time another of Mr. P.'s horses has shown symptoms of the same disease. Subsequently I was called to see the horses belonging to Mr. J., who had lost three animals since the purchase of Mr. P.'s horse, and had two more sick with the same fatal disease, all of which had been treated in the same manner as were those of Mr. P. I found these animals also glandered, and ordered one of them to be killed; the other died, making seven animals thus far inoculated by one glandered horse. These cases show the necessity existing for competent veterinary surgeons who have been regularly educated in the same manner as are human medical practitioners.

In my private correspondence with veterinary surgeons, I learn that glanders is rapidly spreading all over the country. Dr. Isaiah Michener, of Bucks County, Pa., writes to me as follows: "I have just returned from a trip to see two cases of laryngitis, accompanied with enlargement of the sub-maxillary gland, and adhesiveness of the matter discharged from the nose, that led me to suspect that glanders might have been lying dormant in the system, until provoked to a development by the above disease; but more anon. One other case seen to day was bought at a sale of condemned government horses; he is discharging freely from both nostrils; no enlargement of the glands or evidence of the schniderian membrane being affected; still I consider that glanders is lurking in his system, in the form of tubercles in the lungs. I was called last spring to see a case of glanders that a Mr. — had been treating for several weeks, telling the owner at every visit that there was no glanders about the horse, and he would cure him. The case was well defined, and no man who knows anything about the symptoms of glanders could for a moment be in doubt. This week I was called to see another case, also an army horse, treated by the same

party for three months, assuring the owner that there was no danger, as he did not have the glanders, because the discharge was from the right nostril, together with other *say saes* equally absurd. The owner, strangely impressed with the idea of glanders, removed the animal from his other stock, notwithstanding his professional adviser assured him there was no danger, and that he was unnecessarily cautious.

"I was called last week to see a horse which the owner said had the distemper, but on examination I found it was glanders, which the owner was very unwilling to believe, and insisted that I should give him medicine. This horse was also from the army."

G. W. Bowler, veterinary surgeon, Cincinnati, informs me that glanders is spreading at a fearful rate since the sale of government horses in that vicinity. T. B. Rayner, veterinary surgeon, of Chestnut Hill, Philadelphia, informs me that many cases have recently come under his notice.

On passing up Filbert street, Philadelphia, the other day, in company with R. McClure, V. S., and several of the students of the Veterinary College, my attention was attracted to an army horse belonging to the 20th cavalry regiment: this animal had tetanus (locked jaw) in its worst form; tied to the same post was another animal badly affected with farcy glanders, that is, the two stages of glanders combined. These horses were waiting their turn to be shod at a shoeing shop in the neighborhood. In close proximity to these animals were some ten or a dozen other horses, the owners of which were perfectly innocent of the danger in which their animals were placed. Qualified veterinary surgeons in the army would prevent all such occurrences. The horse with locked jaw cannot be used for any purpose, and it would not be a matter of surprise if he did not reach his camp.

I have condemned several horses as glandered during the last few months, some of which were afterwards sold, with of course a guilty knowledge, to other parties innocent of the nature of the disease. Such men should be held responsible by law for all damage resulting from such a sale. Did these parties know the weight of the responsibility which rests upon them, they would not for a few paltry dollars sacrifice the property and often the lives of their fellow-men.

My colleague, R. McClure, V. S., says "The symptoms of glanders are to be studied, not with a view to its cure, which is at all times dangerous to attempt, as there is the risk of contagion to him who attempts it; but with a view of ascertaining and diagnosing truly that it is glanders, that being all that can repay for the trouble, in order that the animal be destroyed at once, as it is not fit to live upon the face of the earth, with contamination following in its wake.

"The necessity of better acquaintance with this noisome pest, is daily increasing around us, so much so that in six years' practice of considerable extent in Philadelphia, as a Veterinary Sur-

geon, I do not recollect a single case of glanders. But within the last four months, no less than ten cases of it, and in different parts of the city, have been presented to me, and instead of it being got rid of, it is steadily on the increase."

### BEWARE OF GLANDERED HORSES.

There is one point upon which we desire to caution our readers, a point which we deem all-important, and which, we trust, will challenge their earnest and prompt consideration. As rapidly as army horses, whether from disease or accident, become unfit for service, they are put up at auction and sold to the highest bidder. As the prices obtained for them are not large, many farmers are induced to make purchases. It is now a well established fact, that that most loathsome, contagious and fatal disease, the glanders, prevails to a large extent among the army horses, and that, of those already sold, a great many have been afflicted with it. These glandered animals have been distributed through every section of the country, and it is a notorious fact, that there is now ten cases of this dangerous disease among our farm horses, where there was a single one two years since. What is to be done in such a case? Shall this introduction of a most pestilent disease be permitted to go on? If it be, we may confidently look forward to the almost complete extermination of our horses; for the facility with which the disease communicates itself from one animal to another, and the speedy and fatal termination of the disease, where it is the result of contagion, point to no other result. The government should at once take this matter in hand, and remedy the crying evil, by ordering the immediate killing of every glandered horse in the army.—*Culturist.*

### GLANDERED HORSES.

Written for the "NATIONAL UNION," by G. W. Bowler, Veterinary Surgeon, Cincinnati.

In consequence of the many reports received, of the increased number of glandered horses in various parts of the United States, it becomes our duty to make some inquiries as to the cause of such a malignant and fatal disease, as well as to use such measures as will mitigate it. I have no doubt but that it can be accounted for in the following manner. We are well aware of the bad treatment which the horses belonging to the army receive, not only in the manner in which they are stabled, but in the feeding of the animal; and where a large number of horses are crowded together, without any regard to cleanliness or protection from the cold and wet, disease in some form must necessarily ensue. Thousands of valuable animals are annually being sacrificed in the U. S. army, through ignorance, which might otherwise have been saved, was there but some little system adopted to prevent it; but, where hundreds of animals are crowded together, regard-

less of proper shelter from the weather, and under the control of persons who know little, if anything, about the proper care of horses, why, nothing short of disease of a malignant character can be expected. The very plan to propagate such diseases as glanders and farcy, is daily practiced among horses of the U. S. Army; for it is well known by all medical men, that undue exposure to the weather, transition from heat to cold, improper feeding, uncleanness and bad ventilation, are the very means to bring about such diseases as glanders, farcy and other diseases of a debilitating character.

One day the animals, as I have been informed by persons in the Government service, will have more food placed before them than they can possibly consume, and, probably for several days previous they have been on the verge of starvation, eager to devour almost anything within their reach, not excepting the fences they were tied to. How then can anything else be expected, but a great many of them will die from disease of the bowels or stomach.

Catarrhal affections are very naturally to be expected amongst a large number of horses exposed to the various changes of the weather; but do not a great many of these affections, for want of proper treatment, run into glanders? That they do, I have not the shadow of a doubt; but as the government does not employ competent persons to examine the horses regularly, why the disease runs on; the glandered horse coming in contact with his associates transfers it to them, and thus the disease is spread throughout the camp. Furthermore than this, not only are the horses in danger of communicating the disease to their own species, but are in danger of transferring the disease to the persons who have charge of them, and who little know the fearful risk they are incurring, of becoming inoculated by the poisonous matter. A simple scratch on the hand, should a portion of the glanded matter come in contact with it, would be sufficient to inoculate a person, the result of which would be, a most terrible death.

For the special benefit of such persons as may be employed about the Government horses, I will give a brief account of the nature, cause and diagnosis of glanders in order to put the inexperienced on their guard. Glanders is a disease of a most loathsome and malignant character, occurring far more frequently in the horse than any other animal; still I am inclined to believe that it rages with far more violence when communicated to the ass or mule, than it does even in the horse. Another important fact in regard to the loathsome disease, and which ought always to be born in mind by those employed about stables, where the disease is likely to exist, is that it is not confined to the equine species, but is readily communicated to the human being. The only domestic animals which appear to be free from contamination are the ox and the sheep, which do not appear to take the disease even by inoculation.

## GLANDERS IN THE HUMAN BEING.

The path of propriety and of duty evidently is to put the farmer and horse-proprietor on their guard. The experience of every age, and I would say of every man who has seen country practice, teaches him that a glandered horse can rarely remain long among sound ones without serious mischief ensuing. It is affirmed that glanders is communicated to the human being. That a loathsome and fatal disease results from inoculation with the matter of glanders is undoubted: I am aware, indeed, of one case which goes a great way towards establishing the identity of the disease. One of the feeders in the Badsworth hunt cut himself while preparing a farciéd leg for the hounds; he died within a week. A day or two before his death an ass was inoculated with the matter from some of the sores that broke out about him, and died, evidently glandered.—*Youatt's Lectures.*

A man aged twenty-three was admitted into St. Thomas's Hospital; he complained of much pain in the head and became delirious, to mitigate which, leeches were applied to the forehead; he then spoke of wandering and acute pains everywhere, indicating some rheumatic affection; a tumor appeared upon the hand and another on the foot, seemingly of a gangrenous nature; the pain in the head would again return attended by delirium, so that he was compelled to be strapped on his bed; and all the while his flesh was wasting and his strength diminishing. On questioning the poor fellow, it was ascertained that he had had a glandered horse under his care a month before, and that the discharge from the nose had come upon his hands. The case was now sufficiently plain; but the patient was too far gone to admit of the slightest hope. Previous to his death he said, "I am dying, I shall die soon, but I shall die happy;—I know now I am glandered—I shall die as my horses do—I shall die happy."

—*Veterinarian*, 1833.

A case is mentioned in the "*Lancet*" of 1834, of a Mr. Norbrook, who punctured a blister on his knee with a lance with which he had previously been bleeding a horse; some of the blood remained on the blade, from this he was inoculated, and died a horrid death.

"This school has, in the year just expiring, added another mournful case to those previously recorded in the hospitals of the biped, of the communication of glanders to the human being."

—*Alfort College Record*, 1838.

Dr. Barham of Truro, reports a case of glanders in the "*Veterinarian*" of 1840, in the person of Joseph Pascoe, aged 22, resulting in death.

A young man named P. Kelley, aged twenty, was admitted into Richmond hospital on the 26th August 1838. On admission his face presented that peculiar aspect which is so characteristic of glanders; the left half was very much swollen, tense, and shining, the redness fading away gradually and becoming lost

in the surrounding integuments. He stated that he had always been healthy, and when questioned as to the nature of his occupation, said that he had been employed for the last four months in attending horses that were glandered; he did not recollect that he had a wound or sore on either hand; he had not drunk out of any vessel used by the horses, nor had he slept in the stable. He died on the 29th.—*Dublin Journal of Medical Science*, 1841.

Mr. Rocher, medical student at the hospital of Necker, was charged with the dressing of a patient affected, first, with chronic farcy, and subsequently with acute glanders, under which he died. In a few days Mr. Rocher showed evidences of the disease, and died glandered, sixteen days from the commencement of the disease.—*Lancet*, 1841.

In the latter part of May I was requested to see Andrew Foot, aged thirty-six, who presented all the symptoms of glanders. I could not discover any appearances of his having been inoculated, but having seen a glandered horse some time since, and thinking the above unfortunate case so much resembled that of this horse, I was induced to inquire of the owner whether there was anything the matter with either of his horses, when he told me that one of them was laid up with a bad cold. On examining the animal it proved to be a decided case of glanders. The horse died in ten days afterwards; Mr. Foot died also.—*Provincial Medical Journal*.

In the hospitals at Paris, according to the accounts of the medical journals, the cases of glanders among men have been less frequent than in any preceding years. Sidon, a veterinary surgeon, published a paper in France, in which he stated that glanders was transmissible from the horse to man, causing the worst kinds of ulcers. He mentions an instance in which a horse was affected by the disease from a farrier who had a glandered sore on his hand, which came in contact with the animal while he was giving it a ball. The man and the horse both died with the disease.

A groom, named Provost, slept in a stable at Paris, occupied by a glandered horse. Some days after the death of the animal Provost was attacked with the same disease and died.

Mr. Hamerton, surgeon to the Castle-town Dispensary, has placed upon record three cases of acute glanders in the human subject, all running the same course, and terminating fatally, and all traceable to the same cause, *i. e.*, contagion from a diseased horse.—*Veterinarian*, 1843.

A vine-grower, in drenching a glandered horse, was bitten on the cheek; fifteen days after he died glandered.—*Vet.* 1844.

The patient, whom I saw several times during the progress of the malady, was Thomas Whittaker, whose case was clearly one of inoculation. The poor fellow was bald-headed, and received a slight scratch on his scalp which cost him his life. He recollected wiping the perspiration off his head with his dirty hands;

and as the scratch in his scalp first showed the true character of a farcy ulcer, there can be little doubt as to the inoculation having taken place at the time of skinning the farcied horse. He survived the inoculation twenty-one days. Robert Pick, an old, faithful, and I believe, valued, servant to the gentleman who owned the farcied pony, was the subject of the second lamentable case, which is considered one of infection; and the infection is supposed to have been conveyed by the fetid breath of the animal, while the poor man was in the act of giving some mucilage of linseed to the pony a few hours before his death. A few hours after the death of the pony, Dick complained of being unwell, and of having pain in his knee. At first the pain was regarded as rheumatism, but ultimately proved to be that of farcy, as that disease showed itself in its true character and virulence, which ended the suffering patient's life on the twenty-second day after he had inhaled the fetid breath of the animal.—*Vet.* 1846.

“Within the last quarter two veterinary surgeons—one residing in Walworth, and the other in Wolverhampton—are reported as having died from inoculation of glanders. This terrible disease is not often seen in Scotland, but very frequently in England, and still more so in Ireland. From the latter circumstance, the malady is often found to be imported about the west coast of Scotland. London has always been renowned for the prevalence of glanders among omnibus, cab, and other horses. A very strict supervision is maintained, and all glandered horses are destroyed when discovered; but nevertheless, we can state on good authority that the omnibus horses of London have suffered very severely from this disease, and do so still. The partial measures adopted by companies are not sufficient to eradicate it, and the “glandered night-team” is not altogether a thing of the past. The danger to human life is so great that we feel happy to seize an opportunity to urge the adoption of the most effectual measures for the suppression of any practice which tends to prolong the life of the glandered horse.”

Another case, as published in the “*Herald of Reform*,” is as follows:—

“Mr. J. Burns, a grocer, in Baltimore, died a horrid death in that city, a few days ago, in consequence of poison communicated to his system from a horse afflicted with glanders. During the administration of medicine Mr. B. thrust into the animal's mouth his hand, a finger of which had been previously cut, and the flesh laid open. Through this wound the virus was absorbed, and mortification supervened. A surgeon was called upon to amputate the diseased member. Perceiving, however, that the poison had penetrated to every portion of the unfortunate man's system he declined performing the operation, and stated that no earthly skill could save his life. After lingering in great agony, death closed the scene.”

STILL ANOTHER—DEATH OF A RUSSIAN LADY FROM GLANDERS.—The awful death of Madame Palesikoff, one of the most charming amongst all that bevy of charming Russian ladies, who sometimes gladden the winters of Paris, has created a terrible shock amongst the circles she so lately embellished by her presence. The unhappy lady left Paris but a short time ago, on a summer tour to Germany. While stepping from the door of the opera house in Berlin, to gain her carriage, she let fall one of her bracelets close to the pavement. Stooping to pick it up, she noticed at the time, laughingly, that "one of the horses belonging to a carriage standing at hand, dropped his head so close to her face, that he had touched her, and left a moist kiss upon her cheek." In a few days the unfortunate lady was taken ill with that most horrible disease, glanders, and in a few days more breathed her last, in spite of the attendance of the first physicians of Berlin, and every resource to be obtained by wealth, or by the ceaseless vigilance of friends.—*Court Journal*.

In March 1853, a messenger named Meignan, of the Commune of Chemilli, consulted a quack by the name of Moyne about a discharge affecting one of his horses. Moyne, who passed in the country as formerly a pupil of the veterinary school at Alfort, and even assumed in his practice the title of veterinary surgeon, declared, after having examined Meignan's horse, that he was affected with "strangles," but that Meignan might use him and treat him without any risk of harm, and that he would answer for his recovery.

Meignan, equally simple and confiding, followed this dangerous advice. He made use of his horse, treated and groomed him according to the instructions given, in fact, was too faithful an executor of the prescriptions of a man in whom he had placed his confidence: he would daily wipe the nostrils of the horse clean with his pocket-handkerchief, lest he might be found fault with by the authorities of the villages he was necessitated to pass through. Such care became to him fatal. On the 7th of April this unfortunate messenger fell a victim to the effects of the farcino-glanderous attack contracted from his horse. Some days after his death, M. Pangoue, veterinary surgeon, called in by the authority, pronounced that the horse of this unfortunate man was affected with acute glanders, and recommended accordingly his immediate destruction. Our brethren, MM. Pangoue and Bresson, communicated to us this fact, as another proof of the danger of empiricism.

I, mentioning a similar case were two horses were glandered, MM. Pangoue says, "For the last fortnight these horses had been treated by the proprietor himself, who, in the course of that time contracted the glanders in spite of all the precautions I had strongly urged him to take, not doubting but that he exposed himself to great risks. Notwithstanding, one could not positively assert the channel through which contagion had taken place, it was very easy to suppose what the contagious agent was, and how

the glandered virus had operated. However incomplete this case may be deemed, especially as far as concerns the unfortunate subject of contagion, do not similar details to those I have just related, exist in abundance, and prove in a most undeniable manner that human nature enjoys the sad prerogative of contracting, through inoculation, a disease so terrible among our domestic animals, and one which veterinary science has designated under the name of glanders.—*Rec. de Med. Vet. de Sep.*, 1854.

In man it is generally produced through inoculation of the matter into a wound. Whether it can be contracted by infection, through the miasmata arising from it, without actual contact of the matter, is not yet quite decided. There are, however, some grounds for believing that this disease is occasionally propagated by infection in the horse; and that the effluvia are capable of communicating some form of malignant fever, although not true glanders, to the human subject. But the matter from the abscesses or nasal cavities of human beings is capable of communicating the disease both to men and animals. A man died of glanders in St. Bartholomew's Hospital, in 1840, and the nurse who attended him inoculated her hand, and died of it also in a few days; and two kittens which were inoculated from the nurse, became affected likewise. Moreover, the blood of a glandered horse injected into the veins of a healthy one, communicated the disease, although no abnormal appearance could be detected in it by the microscope.—*Druitt's Surgery*.

"An inquest was opened at the Guildhall, Bath, on Friday evening, September 26th, by A. H. English, Esq., the city Coroner, on the body of a boy who died from glanders."—*Veterinarian*, 1862.

*Death from Glanders*.—A blacksmith, named George Spence, residing at Aunadarragh, and aged about forty years, was admitted into the County Infirmary on the 27th May last, suffering from glanders. Notwithstanding all the efforts of medical skill, the unfortunate man expired on the 7th ult. This loathsome disease must have been communicated to the deceased by some horse which he was shoeing. As it is now well known that glanders is incurable, animals infected with the disease should be destroyed as soon as the first symptoms are manifested.—*Veterinary Review*, 1862.

From time to time, cases of glanders or farcy are reported as occurring in the human subject, but the frequency with which such reports meet the public eye bear no relation to the actual number of cases which are observed. As with several other forms of disease due to animal poisons, there are many cases overlooked, and never diagnosed. We have a law referring to glandered horses, to their use and sale, but we can state from experience that the law is evaded. Veterinary surgeons are not disposed to insist on the immediate slaughter of any glandered horse they meet with in practice. Cases of farcy are often much neglected, and the result is the spread of disease. Information has reached us of

glandered horses sold by public auction, of animals similarly affected, being worked in London omnibusses, and it is well known that glanders has proven unusually destructive within the last two or three years amongst the horses of our cavalry regiments.

Ireland is no doubt the division of the United Kingdom, in which there are most cases of glanders in man and horses. In the Report of the Census Commissioners for 1851, we find the following remarks: "The number of deaths from this cause afforded by the returns of 1841 was but 11; on the present occasion they amount to 196—viz., 168 males and 28 females. We think the magnitude in the returns for 1851 is owing, not merely to a greater knowledge, both medical and popular, of the symptoms of the disease, but to an increase of these affections, and to a greater negligence on the part of persons engaged in the care of horses. Instances have been recorded of families becoming infected with this frightful malady, from residing in the same apartments with diseased animals. In our Report upon the statistics of disease we have already called attention to the subject of the increase of this affection, and pointed out the necessity which exists for bringing infected animals under the surveillance of the police. The seasons show the following great varieties: In spring there died 71 persons from this cause; in summer, 50; in winter, 48; and in autumn but 29."—*Vet. Review*, 1863.

Law respecting Glandered Horses in England, reads thus:—"Any person who shall sell, expose for sale, or keep in his possession, or keep or suffer to be kept on his premises, or lead, drive, or bring in or into any street, road, or public place, any horse or beast affected with the said disease or any disease of the like nature, knowing such horse or beast to be so affected, shall be liable to a fine not exceeding the sum of *twenty pounds*, (\$100) or in default of payment to be imprisoned for a term not exceeding *one month*."

"Any justice or justices, may order any horse or other beast affected with the said disease, together with any troughs, litter, hay, straw, or other article which he or they shall judge likely to have been infected thereby, to be forthwith destroyed, or otherwise disposed of in such manner as he or they shall deem proper."

"In 1784, a law was enacted by the French Government, to prevent any one from keeping a glandered horse, under a penalty of one hundred dollars. Every animal suspected of glanders had the words 'suspected animal' impressed with green wax on his forehead; and the penalty for selling such an animal, or offering him for sale, was one hundred dollars.

"Persons having suspected animals were to report the same to the mayor, syndics of villages, or other proper authorities, under a penalty of \$100. Such horses were then inspected by experienced veterinary surgeons, appointed by the mayor or other officer, and if found glandered were destroyed. If only suspected, they were marked in the forehead as before described."

The foregoing is but a drop in the bucket, compared with the recorded evidence upon the subject of glanders, time and space however will not permit a further extension of this subject. Our present experience in the United States of America should bring us to the level of Europe in passing laws, ordinances, on the subject of glanders. The losses already sustained, by our farmers and horsemen by the purchase of condemned and diseased Government horses, amount to more than the sum realized by the government, and will go on increasing at a fearful rate.

We are told that the glandered horses of the army have been shot or destroyed and that none are offered which are known as diseased. Half an hour in the sales yards is more than sufficient to convince a competent judge to the contrary. It is evident to the observer that the malady exists to a great extent. Where is the fault? Is it not obvious that the officers having charge of the animals offered for sale are not competent, and do not understand the disease? How many recognized Veterinary Surgeons are there in the employ of the U. S. Government? None to speak of. Before sending a lot of horses to any place for public sale, every animal should be thoroughly inspected by the most competent surgeon, qualified as such, a graduate, a man of long experience and a practitioner, and every animal, *even suspected*, should be at once destroyed.

Very respectfully,

R. JENNINGS, VETERINARY SURGEON.

Bordentown, March 1, 1864.

THE ANNUAL ANNOUNCEMENT  
 OF THE  
 VETERINARY COLLEGE OF PHILADELPHIA,  
 FOR 1864-65.

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INCORPORATED 1852.

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*"Ars Veterinaria post Medicinam secunda est."*

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**VETERINARY COLLEGE OF PHILADELPHIA.**

This Institution, chartered by the Pennsylvania State Legislature, 1852, is permanently located at Philadelphia, where it has been in successful operation for several years past.

Philadelphia, the great emporium of medical science on this continent, has been chosen as the most suitable place in which to rear up an institution for the promulgation of a sister science. The reputation of her Medical schools extends over the whole civilized world. The facilities for Anatomical investigations, Clinical instructions, &c., &c., are at least as great as those of any other city in the Union.

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| Matriculation,                                  | - | - | 5.00     |
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Further information may be obtained on application to R. McClure, Veterinary Surgeon, No. 807 Filbert street, Philadelphia, or to Robert Jennings, Veterinary Surgeon, Bordentown, New Jersey, to whom all communications for the College are to be addressed.



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