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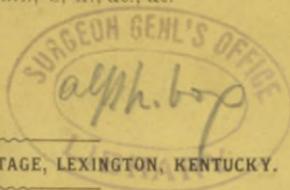
Purgative Agents to the Horse,

PRESENTED AND DEFENDED.



By T. K. QUICKFALL,

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1868.



THE MODUS OPERANDI

AND THE

COMPARATIVE AND THERAPEUTIC VALUE

OF

PURGATIVE AGENTS TO THE HORSE,

AND THE

*Presented by*  
*J. B. Hunter*

DISEASES IN WHICH THEIR USES ARE CONTRA INDICATED.

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BY T. K. QUICKFALL, M. R. C. V. S.  
LEXINGTON, KENTUCKY.  
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DEDICATION.

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THE AUTHOR

HUMBLY AND RESPECTFULLY DEDICATES THESE FEW PAGES

TO THE

RURAL GENTLEMAN,

AS THE

MOST HONORABLE AND ACTIVE OF ALL AMERICAN JOURNALS,

AND TO

J. BUSTEED, M. D., V. S.,

PRESIDENT N. Y. COLLEGE VETERINARY SURGEONS,

AS THE

MOST PROFICIENT, SUCCESSFUL AND ABLE PROMOTER IN AMERICA,

TOWARDS THE

ADVANCEMENT AND STANDING

OF THE

VETERINARY PROFESSION.

THOS. KIRBY QUICKFALL, M. R. C. V. S.

TURF COTTAGE, LEXINGTON, }  
July 15, 1868. }

## Value of Purgative Agents to the Horse.

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In offering this Essay for approval, it is my pleasing duty firstly to state to you that, from a view of obtaining encouragement towards advancing the art and science of Veterinary medicine, and from a sincere desire to render assistance, if but little, in unfolding the mysteries and uncertainties connected with those agents termed cathartics, or purgatives, to the horse, I undertake the critical task of presenting some particulars in reference to this all important subject, and it is a well understood fact that it is a subject required not only to be known by every veterinary surgeon, but by all who have the care of valuable stock. Being thoroughly convinced, from what I have seen, both in public and private practice, that the administration of any purgative to the horse, either in health or disease, demands no little judgement, and we ought to be upon our guard more particularly in those cases, wherein we presume the administration of a purgative of great value, or in cases attended with danger, it should be remembered, that whatever we give to our patient, it should produce a speedy and due effect, and it is our duty to procure, by a proper dose, kind, and form of purgative, immediate response without running the risk of creating a necessity for a second or third dose, considering, at the moment, how long a period is required for such dose to pass through the alimentary canal.

Purgatives, from the Latin word, *purgo*, to cleanse, are those medicines which procure an increase of the alvine evacuations in a semi-fluid state or condition, and being taken into the system, or administered per rectum, increase the peristaltic movement of the intestines, which, prior to operating, often a rumbling sound in the abdomen may be heard, and griping pains are not unfrequently shown. The pulse also becomes perceptibly weak, and is, on

some occasions, increased in number. The animal is, to a certain degree, nauseated and dull, and either objects to food altogether or partakes of it in very small quantities.

Purgatives are also supposed to exercise an important influence on the liver, and to irritate the mucus or internal surface of the intestines, causing them to exude or secrete more fluid than usual, which accounts for the fluid condition of the feces; in fact, it is an internal blood-letting, and it must also be remembered that purgatives act as a stimulant to the kidneys—sometimes too much so, though not in every case, as for instance, you may give to a horse a full dose of physic and it shall produce no greater change in the system than nauseating him, to all appearance, and passes off through the kidneys, which action may be observed in the altered color of the urine. This, I believe from past experience in noticing animals under the effects of a purgative, happens more frequently, and is more plainly seen in the mare than the horse. Also, I can conceive that the stomach having been rather overloaded, or over-tasked with coarse food, such as straw, corn cobs, leaves, or any other in nutritious matter, becomes similar to any other—fatigued and exhausted; and after a purgative is given, it dissolves therein, leaving nothing but a sense of bitterness, probably, with some amount of stringency behind it, that then the stomach gets many hours' rest, and the two principles left behind, act on the stomach to restore its partially lost tone and sensibility.

The regularity of the evacuation of the feces is united in a singular form with the well-being and healthfulness both of the stomach and intestines. The urine and perspiration pass off immediately after becoming secreted, and do not load the organs that divide them, and the unnatural

restraint of these excretions has, indeed, a more or less remote, and not unfrequently a fatal influence on the general system, but the skin, and also the kidneys themselves remain probably unmolested. But it is not so with the intestines, for they being separated from that communication with the atmosphere by which the perspirable matter is conveyed away and unfurnished with an appendage like the bladder is to the kidneys, they are conservatories of the fecal matter as it is formed, and which they retain always until the usual time of evacuation arrives. The process of absorption has been described by some to be carried on by the small intestines only; others are of opinion that it is performed by the whole of them from the reality that the aliment passes so quickly into the colon, particularly when many fluids are taken. And of this I doubt not there can be but little question as to the true decision of the latter opinion.

However, it must be admitted that the most nutritious portion of the food is received by the small intestines, and that which is of a more diluent nature is absorbed by the large. It is also well understood that in certain affections life may be prolonged by administering gruel or linseed tea to your patient, in the form of enemas or clysters, a fact which tends to prove more forcibly the correctness of this opinion.

If you examine the intestines of an animal recently killed, a peculiar movement of them may be observed,—it is a shortening of one portion with an inflation and elongation of the other; this is termed the vermicalar motion. There is also another movement which is called the peristaltic movement, or motion, and consists of the contraction of the circular fibres, by which the diameter of the intestines is lessened. These movements cause the food to be carried backwards and forwards, and thus the absorbents are better fitted to take up the nutritious part of the ingesta.

It is by the natural contents of the canal that these motions are aroused, and accord-

ing to the amount of stimulus communicated, the food passes, in a greater or less period of time, through the canal. Anything, therefore, which tends to produce an unnatural action in these parts, so as to cause alvine evacuations, is termed a purgative. The feces first passed after a purgative has been given are generally of the same consistence and appearance as those caused usually by the natural movements of the alimentary canal, but those following are of a more fluid state, and if a strong purgative has been administered, their consistence will be about the same as yeast, or thick gruel, especially if water and exercise have been freely given to the animal by way of quickening the operation of the purgative agent.

The stomach, also, is induced to pass its contents into the duodenum, and an increased secretion of bile, and of the pancreatic juice, is produced by the stimulating effects formed by these medicines upon the excreting ducts of the liver, and increase this by extending to the organs themselves, cause an increase in the flow of blood to these parts, and an increased pominy out of their secretions is the result.

Having thus endeavored to describe some of the important functions of the stomach and intestines, by means of which the food is digested, and being assimilated, or converted into the form of a nutritious fluid, is conveyed to all parts of the system, and also having adverted to the connection by sympathy which exists between the stomach and bowels and other parts of the wonderful and complicated animal machine, and to the influence which these agents exert over the health—nay, the very life—of our truthful patient, I hope to be better enabled to illustrate how much any disorder or irregularity of the stomach and intestines affects the system generally, and how, by marked attention to them, and preserving them in their natural and healthy condition, diseases may not only be at once overcome in the first stages, but even after they have gained a footing, as it were, in

the system, be at once removed from their stronghold.

Purgatives, therefore, act as heretofore described, viz., either locally, upon the intestines, or sympathetically, on the other viscera, or even, at times, on the whole system of the animal. When the functions of the intestines are suspended, and the fœces become indurated, working a derangement of the stomach, &c., they are serviceable by their local action.

A marked sedative effect follows the operation of purgatives, when, besides the local action first alluded to, a copious discharge of the fluids is produced, the suddenness of which creates a powerful sedative influence on the whole system; the force and quickness of the pulse are thus diminished, and an inflammatory and febrile action is set up. When we wish to have purgatives give their due effect, it is required in *all cases* to prepare the animal for them by giving bran mash frequently, and an abundance of water, discontinuing the allowance of any kind of forage some hours previous to the purgative being administered. This treatment ought always to be pursued when giving a purgative to the horse in a state of health, and also in all cases that will admit of these cautionary measures being taken, thereby ensuring a free respondents of the bowels in due season.

We derive much value from the use of purgatives, or cathartics, to the horse, in health as well as when sickness attends him, for, at certain periods of the year, viz., Spring and Fall, but more especially when a horse is taken up from grass, it is usual to give him, as is termed in common parlance, a dose of physic, which should be, by all means, given early of a morning and on an empty stomach; and our motive in giving it thus is to allow the dissolution of the dry food to take place and pass on into the bowels, relieving them of their contents, and preparing them for food of another description, &c. Under these circumstances, therefore, they are truly most

valuable agents when skillfully administered, for they not only counteract a liability of disease attacking the animal, but also tend to promote a healthy condition of the entire system, or what is commonly termed bringing a horse into condition.

THE PURGATIVES used in veterinary practice are not quite so numerous or delicate as those employed in human practice of medicine; but, to use a friend's remark, I should decide that it is quality we look for, and not to variety. We have no need of a thousand and one formulas in veterinary pharmacy.

Professor Morton, who occupied the Chair of Chemistry and Veterinary Materia Medica in the Royal Veterinary College, London, for upwards of a quarter of a century, gives, in his valuable work on Pharmacy and Materia Medica, the following list of purgatives, cathartics, &c., viz., "Aloes," "Croton," "Chloride of Mercury," "Linseed Oil," "Castor Oil," &c., &c.

ALOES. The first and foremost of all purgatives for the horse is the inspissated juice of the leaves of the aloe plant, and is termed the Extract of Aloes; and of these extracts we use three different kinds, viz., the Barbadoes, the Cape, and the Mocha or Bombay extract, which latter is generally sold by druggists, under the grand name of Socratic Aloes. The Barbadoes Extract of Aloes appears to have been used by the Ancients, as the main species or class of aloes of any good, and it was highly prized by them in using medicine. It is of a brown, or liver color, dull and granular, of a stronger and more pungent smell than the Cape or Socratic Extract; it also powders darker, and is of a greenish hue. The presence of vegetable albumen, as well as the more active principle in it, will also distinguish it from other kinds, but I believe it is generally understood by pharmaceutical chemists and judges of drugs that there is not much difference between the Barbadoes Extract and the pure Cape Extract. The late Mr. Percival, how

ever, states in one of his world renowned works on Veterinary Medicine and Surgery that the Barbadoes Extract is, in his opinion, one drachm to the ounce stronger than the Cape or the Bombay Extracts.

The Barbadoes Aloes are well known to retain their action on the system for a longer period than other kinds. The dose of this purgative differs considerably, according to the age, size, condition, and temperament of the animal—also climate, I believe from experience, produces quite different effects in the action of some medicines, both to horses and cattle. To a horse of the age of one year I should give, say one-third or fourth of the quantity, and to a two-year-old about half the quantity, and to a three or four-year-old two-thirds the quantity that I would give to a full sized, medium aged horse. To the aged, full grown horse, the Barbadoes Extract of Aloes ranges, in Europe, from five to eight drachms, and in America I find we can increase the dose a good deal without any bad results, although it is to be borne in mind that the constitution of all horses is not alike, and that *caution is the parent of safety*, as an Indian truly remarked to me when once accompanying him on a tour of adventure, a few years ago.

I have always preferred using the Barbadoes Extract as a purgative to the horse sooner than any other class of aloes in the market. In the extensive practice that I was connected with in England, during my apprenticeship, we never used any but the pure Barbadoes; and as to their action, there can be no question, when properly and simply compounded. They never failed to answer our purposes and have due effect when administered *secundem artem*.

The Cape Extract is of a darker color, and is said to be more resinous in its nature than the Barbadoes Extract; it certainly powders more light in color, but as to the taste, I should say there is no difference, both being very bitter and nauseating. It is a cheaper article, and probably as safe to use, and many authorities say

it is equal in strength to the Barbadoes. The late distinguished veterinarian, Prof. Coleman, of London, used to own a full grown horse that required only two or three drachms of this extract to purge him freely. As to the dose of Cape Aloes, I will mention that it should be given about the same as the Barbadoes, and, if anything, in a somewhat increased dose.

Respecting the Mocha, or Bombay Extract, I have not much to speak, for it is but little employed in Europe, to my knowledge, but I understand that in India and the tropics it has been extensively used in veterinary practice by the army veterinary surgeons on duty there, and by residents of the country dealing in horses, &c. It is similar in color to the other species of aloe, and tastes similar. It fractures opaque and smooth. It is generally adulterated, and in an impure state. It is, in some obstinate cases, worth a trial, as its action is usually quick and strong, but at the same time is unreliable, as a rule, for reasons given above.

Prof. Morton, in his valuable manual, gives a correct analysis and trial of this purgative in conjunction with the Cape Extract of Aloes. He there illustrates clearly the action of each, and the time required during their operation separately. He says: "Having given six drachms of the Cape Extract to each of six horses, and six drachms of the Bombay to each of six other horses, at the same time and place, I found, from the action brought about by each dose, that the Bombay was more to be depended upon than the Cape. The feces were more fluid, and the action sustained longer, by the use of the Bombay." And these are not the only cases in which he tested the merits of this purgative; having given it frequently, both before and after the aforesaid experiment, with almost uniform success; and its employment as a purgative to the horse should not be forgotten, but only recognized by all veterinarians. Now, as regards the mode of giving aloes to the horse, I say that I

they would undoubtedly, in most cases, give them in the form of a ball. Perhaps they are a little tardier in their action in this form, but we should remember, on the other hand, the necessity of ensuring a good and lasting effect on our patient, which is highly important in obstinate cases of obstruction in the bowels, &c., &c.

The usual time that elapses between giving a full dose of aloes and its response is from twelve to twenty hours, and it is on these grounds, more especially, that we should refrain from the use of aloes in diseases requiring a very speedy action of the bowels, as in acute attacks of enteritis founder, &c.

Lastly, concerning this purgative, I would make some remarks on the combining aloes with Gentian, which is, I believe, a good preparation, and highly to be recommended for young horses, when out at grass, affected with any sickness or humors of the skin. It is the extract of Gentian, in about three parts to one of aloes, and is called, by old sports in England, "Grass Physic," killing two birds with one stone, by acting as a gentle purge and tonic, and allowing the animal to remain in the pasture as usual.

The next on the list of purgatives is Croton Oil, Croton Seed, or Purging Croton. It is a native of the Island of Ceylon, and can also be found in Malabar, China, and the Mollucca Islands. The seeds are concave on one side and convex on the other, to some degree. Their color varies from a light yellow to brown. The seeds yield by expressing a fixed oil, called Croton Tiglium, which is soluble in alcohol or ether, of a bright straw color, faint smell, and hot, burning taste. It is, without doubt, the most powerful purgative and cathartic known in medicine, always producing speedy evacuations, unless there should exist some severe mechanical obstruction. It has often, and latterly, too, been of great service in some obstinate diseases of cattle, as well as horses, under my charge, and I have no hesitation in

giving it great praise, although it is, at the same time, anything but harmless, and requires care and judgement when giving it. It acts very powerfully on the intestines of the liver, and mucus membranes of the intestines, &c. The violent action which the oil alone may produce can be palliated by conjoining with it some aromatic; particularly the volatile oils, such as the oleine cinnamic of menth pip, or oil pimento. The vegetable acids, viz., Acetic, Tartaric and Citric, have also been recommended as moderating its action. Croton is said to produce less nausea than aloes in the horse, but I can't exactly see it. It is valuable as an addition to aloes, if you wish to increase the action of the latter. From twenty to forty drops are enough to cause purgation, and if the Croton Cake, or Ferina Crotonis, is used, the dose is from a scruple and a half to a drachm. The cake is more uncertain in its action, and therefore is not to be employed in preference to the oil of croton, which is a sure medicine, when skillfully administered. Proto. chloride of mercury, or calomel, when given by itself, does not always answer as a purgative, and is rather unsafe, causing watery evacuations, which can only be stopped by most energetic measures; it is, though, of great service in many instances, combined with aloes or other cathartics, its action being on the glandular structures, chiefly. I have also given it with opium many a time, with marked success, in latter stages of inflammation and obstruction of the bowels, acute founder, &c., &c. It is also good in inflammation of the kidneys, &c.; the dose is from half a drachm to three drachms, according to circumstances.

As to the oils used in veterinary practice, I cannot say whether there is much difference between the Castor and Oleum Lini, or Flax seed oil. My word is that the latter is the best, is easier given, and is cheaper to obtain. Oils are very safe and proper agents in several diseases, and the only drawback in using them is that

they often nauseate the animal and cause him to refuse water, which is objectionable in strong livers, &c., when you need their taking plenty of fluids, such as in influenza, wounds, diphtheria, etc. These agents are to be given in doses of a pint to even three pints, and in cases of obstinate stoppage in the bowels, when you want to hurry up the action of your aloes, I have seen and tried oil with perfect success.

I will now say a word about clysters to the horse, which should not be lost sight of, operating as they do, in a two fold manner, by preparing the forces for expulsion, and assisting the action of your purgative. They are of great service, in my opinion, in all obstinate cases of disease of the bowels or local affections, such as melanosis, &c., &c. They cannot do harm any way if carefully employed. The usual form of clyster is simply warm or tepid water, about a gallon or less, with a little plain soap dissolved in it, or a handful of table salt. Medicated clysters I have not much faith in, and they are much too exciting to the system. Bran mashes are good—very good—in preparing horses for, and during the action of, physic. They act as a laxative, and act mechanically on the mucus surface of the bowels, and are the first remedy to be thought of as soon as you have a sick animal, or one likely to become sick, with change of food, water, or work.

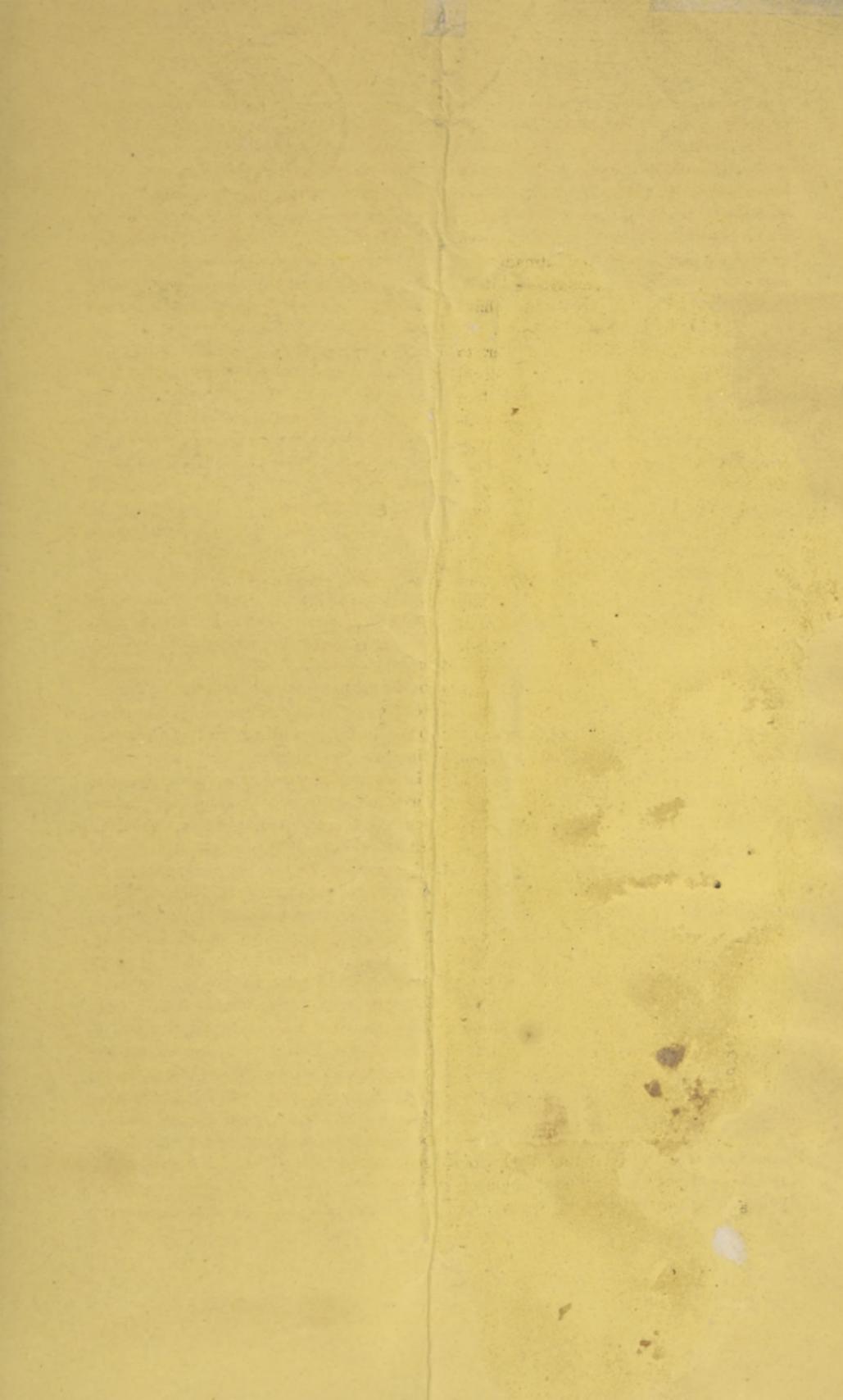
I could mention some particulars respecting the use of epsom salts, jalap, rhubarb, cream of tartar, &c., but it would not, in my humble opinion, tend to make a good wrinkle for any of my readers to follow. Therefore, I pass over these second-rate remedies used in equine disorders, and will endeavor to explain something respecting the objection to purgatives being given to the horse, a subject which is highly important, and should be considered on.

N. B. Purgatives are, or should be, discarded in all cases involving the lungs, with any strong disposition to inflammation of the lungs, or of the throat, wind-pipe, &c. In

cases where the animal cannot lie down—in cases of rupture of the rectum—it would be very ignorant practice, and injurious to administer purgatives or cathartics as tending to irritate the very part we should keep quiet. All due caution is also required in giving physic to horses weak in the loins; and to mares immediately preceding foaling, be careful, and let well enough alone.

In many instances, at the Spring and Fall of the year, much care should be shown in giving purgatives in attacks of coughing, diphtheria, swollen throat, &c., but during slight attacks, a gentle dose is often times given, and has been much recommended. Now, I never yet learned how this treatment could be upheld. I have undeniable proof of the danger of giving aloes during distemper, &c. A veterinary surgeon in England, a clever practitioner, and a qualified man, once showed to me two horses of the same age, size, &c., under the effects of aloes, and not out of health, except a cold hanging on them after hunting. He said, "I gave to this horse two drachms of aloes at eight o'clock in the morning, and at the same time and place I gave to the other horse six drachms of aloes; the one I gave the two drachms to was purging well before four in the afternoon of the same day, whilst the one that had six drachms given him remained three clear days before he commenced to purge at all." Now, if the race like the first mentioned had much influenza about him, what would naturally be the result if he had had two drachms of aloes down his throat? Why, I should suppose, very likely, death. But, I ask, how can you find out the constitution of any animals, strangers to you, until once seen under an attack of lung fever, brain fever, or some other species of disease. And now, reader, may good arise from a perusal of these pages. One word is as good as fifty, that could be further said. Remember:

"Honor and fame from no condition rise;  
Act well your part: there all the honor lies."





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