Veterinary Medicine, 

AND 

Therapeutics; 

CONTAINING 

The Effects of Medicines on various Animals; 

THE SYMPTOMS, CAUSES, AND TREATMENT OF 

DISEASES; 

WITH 

A SELECT COLLECTION OF FORMULES. 

CONTENTS: 

PART I.—Materia Medica, Pharmaceutical Preparations, and Compositions. 

PART II.—The Disorders incident to Neat Cattle, arranged according to the Nosology of Cullen. 

BY W. PECK, 

London: 

SOLD BY NEWMAN AND CO. MINERVA OFFICE, LEADEN-HALL-STREET; THOMAS AND HUNSLEY, DONCASTER; AND EVERY OTHER BOOKSELLER IN TOWN AND COUNTRY. 

1814.
TO

THE RIGHT HONOURABLE

SIR JOSEPH BANKS, K.B. L.L.D.

PRESIDENT OF THE ROYAL SOCIETY, AND ONE OF HIS MAJESTY'S PRIVY COUNCIL,

SIR,

THE ATTENTION YOU PAY TO THE SCIENCES,

INDUCES ME TO PRESENT THIS VOLUME ON

VETERINARY MEDICINE,

AND

THERAPEUTICS,

TO

YOUR PROTECTION.

I AM, SIR,

YOUR MOST OBEIDENT

AND HUMBLE SERVANT,

THE AUTHOR.
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My intention, in this work, is to present to the student a treatise on Veterinary Medicines and Therapeutics; I intend it as an useful guide to him, and, to the experienced, I hope it will not prove wholly unacceptable.

The plan I have adopted is, First, To give the names of articles contained in the Materia Medica in the language of the London Pharmacopoeia with the names given by the Edinburgh college that correspond with them. The effects of medicines on various animals, with the doses, are ascertained as far as the present state of the science will admit.

Secondly, The disorders of neat cattle, classed according to the arrangement given by Dr. Cullen in his Nosology. The discordant names of diseases given by authors are under a generic head, with their corresponding provincial ones. The symptoms and causes given according to the best authorities, and a collection of formulae of established efficacy for the disorders, selected with assiduity, aided by many years experience.
In the execution of this work I have endeavoured to omit nothing that will be of utility to the practitioner. A copious English index to the Latin names of drugs, is added for the use of the student; it is so composed that they, who have been little accustomed to the language, may soon obtain a knowledge of the formulæ.

I have to make many apologies for the unconnected stile, and the many unavoidable inaccuracies that will be found in this volume, which has been composed amidst attention to business and other avocations unfriendly to elegance of composition; my chief object has been to compose a work long wanted, a vade-mecum, for the young practitioner.

W. P.

N. B. As this volume only comprehends part of my plan, it is my intention (if the public should approve of this performance and health permit,) to write a second volume on the disorders of horses, sheep, dogs, &c.

Bawtry, Dec. 29, 1813.
PART I.

The Veterinary Pharmacopoeia.

The materials from which I have compiled this Veterinary Pharmacopoeia, are, The Pharmacopoeia Collegii Regalis Medicorum Londinensis, 1809, et Edinburgensis, 1805; Duncan’s New Edinburgh Dispensatory, 1806; Healde’s Translation of the London Pharmacopoeia, 1788; Powell’s Translation of the New London Pharmacopoeia, 1809; White’s Veterinary Art, Vol. II., containing The Materia Medica and Pharmacopoeia, 1804; A Collection of Original Prescriptions of established Efficacy, with occasional reference to the older pharmacopoeias, and various recent chemical works.—On veterinary medicine, White’s, before mentioned, is the most valuable, he being the first who distinctly noticed the effects of medicines on the horse. From his labours the most valuable materials have been selected; and in addition I have noticed the effects the same medicines have on other animals; by which I hope I have produced a pharmacopoeia containing all the modern discoveries correctly stated, and worthy the attention of the veterinarian.
In the Prescriptions contained in this Treatise, the following Weights and Measures are used with their proper Signs.

**WEIGHTS.**

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<th>Fluid ounce</th>
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**MINIM.**

In Prescriptions the following Abbreviations are generally used.

- ââ ana = of each.
- C. capiat = let him take.
- F. formula = the prescription.
- D. dosis = the dose.
- h. s. horâ somni = bed time.
- m. massa mistura = mass and mixture.
- ma. mane = in the morning.
- o. h. omni hora = every hour.
- o. 2. h. omni secunda hora = every two hours.
- 6. q. h. sextâ quáque hora = every six hours.
- p. r. n. pro re nata = as occasion may require.
- q. s. quantum sufficit = as much as is sufficient.
- R. recipe = take of.
- S. sumendus = to be taken.
- V. vespere = in the evening.

L. The New London Pharmacopoeia, 1809.
Li. The Linnaean name.
CHAPTER I.

Materia Medica, and Pharmaceutical Preparations, arranged in Alphabetical Order, with their Virtues and Doses.

Acidum. Acid. The properties of acids, according to Nicholson, are,—"1st. Their taste is sour, and, unless diluted with water, corrosive. 2d. They change blue vegetable colours to red. 3d. Most of them unite with water in all proportions; and many have so strong an attraction to that fluid, as not to be exhibited in the solid state. 4th. At a moderate temperature, or in the humid way, they combine with alkalies so strongly, as to take them from all other substances. 5th. They combine with most bodies, and form combinations attended with many interesting phenomena, upon the due explanation of which great part of the science of chemistry depends.

"There are a considerable number of instances in which combustible substances are converted into acids by being burned. Thus, sulphur, by combustion, affords sulphuric acid; azotic air, repeatedly ignited by electricity, affords nitrous acid; and phosphorus, by burning, is converted into phosphoric acid. The analogy of other facts appears to justify the general position, that acids consists each of a peculiar basis, altered by combustion; and, as it is now generally admitted, that the vital or truly respirable part of the atmosphere, that is oxygen, is absorbed during combustion, it
will follow that an acid consists of a combustible substance united with oxygen.” However it is known that the combination of oxygen with another substance, is not invariably an acid product; and that acids may be formed without the presence of oxygen.

Most of the acids will dissolve various metallic substances, and also combine with alkalies, and form a class of bodies called salts.

Acids are divided into three classes: These from the mineral kingdom, are—1. Sulphuric acid. 2. The sulphurous. 3. The nitric. 4. The muriatic. 5. The oxygenized muriatic. 6. The hyperoxigenized muriatic. 7. The carbonic. 8. The phosphoric. 9. The boracic. 10. The fluoric. 11. The arsenic. 12. The arsenious. 13. The molybdic. 14. The molbdenous. 15. The chromic.


From the animal kingdom: 1. The prussic. 2. The lithic. 3. The sebacic. Besides the following are doubtful, 1. The militic, from the mineral kingdom. 2. The moroxylic, from the vegetable. 3. The amniotic. 4. The bombic. 5. The laccic. 6. The rosacic, all from the animal kingdom.

In this work I shall only notice those that are used by the veterinarian.

_Acidum Acetosum_, E. Acetum, L. Vinegar.
This well-known acid enters into several preparations, such as _Liquor ammoniac acetatis_; _Liquor Plumbi acetatis_; _Plumbi superacetatas_. It may also be used with advantage, combined with _Spiritus rectificatus_, and _Liquor ammoniac_, as an embrocation, for sprains and bruises.
Acidum Sulphuricum, L. E. Sulphuric, or oil of vitriol. On mixing with other liquids, the temperature becomes suddenly increased, and a considerable expansion takes place, hence much care is required in compounding medicines into which this enters as an ingredient. It is a powerful caustic, consequently very useful to destroy excrescences, particularly those which arise in canker of the foot. Diluted with eight parts of water, it forms a good lotion for the Grease, and cleansing of foul ulcers. Sulphuric acid, mixed with lard into an ointment, is very useful for ulcerated heels, &c.

Sulphuric acid forms a component part of many articles in the Materia Medica, as Sulphas Soda; Sulphas Ferri; Sulphas Cupri; Sulphas Zinci, &c. Acidum Nitricum, L. Nitric acid. It is of a very pale colour, and very caustic. An acid resembling this, so far as regards the compounds it forms with metallic and alcaline bodies, but differing from this in possessing an orange colour and emitting red fumes, is often substituted for it. The acid to which I allude, is the nitrous acid of the French chemists, the Spiritus Nitri Glauber! of the older chemical and pharmaceutical writers. Almost all metals may be dissolved in this acid, and form different compounds, as Argenti Nitratis; Hydragyri Nitrico-oxydatum; Unguentum Hydragyi Nitratis.

The metallic combinations of Nitric acid may be employed with advantage, diluted and mixed with fatty substances, to any degree of strength required.

The Aqua Fortis of commerce may be made by uniting the same quantity of water with a given quantity of the strong acid.

Acidum Muriaticum, L. Muriatic acid, or spirit of salt. It is of a light yellow colour, and
emits white pungent fumes. It may be used as a caustic in its strongest state without inconvenience. It enters into many useful preparations, as Hydrargyri oxy-murias, Hydrargyri Submuriæ, Murias Ammonioæ, Murias Soda, &c. This acid, when distilled with manganese, forms a new compound that effaces all vegetable colours, and has the power of destroying contagion, consequently is of the greatest use in fumigations. It is termed by chemists Oxigenized Muriatic Acid. See Fumigation, Part I. Chap. II.

Acidum Tartarosum. Tartarous acid. The acid of tartar is found combined with potash, and is known by the name of chrystals of tartar; red (Super-Tartris Potassæ impurus, E.); and white (Super-Tartris Potassæ, E.). This compound was formerly given to horses, combined with aloes in purgative medicines, but at present it is seldom used by experienced veterinarians, having no perceptible effects on the horse.

Acetum Scilleæ, L. Vinegar of squills.

Acidum-benzoicum, L. Flowers of benzoin, or benjamin.

Abitis Resina, L. Pinus Abies, Resina, E. The resin of the spruce fir; burgundy pitch. Very stimulent, frequently used for charges, strengthening plasters, and in some ointments.

Absinthium, L. Artemisia Absinthium, Folium, E. Common wormwood. There is an essential oil kept in the shops which is sometimes used as a vermi-fuge, but generally found to have very little effect.

Abrotonum, see Artemisia Santonica, E.

Acacia Gummi, L. Mimosa Nilotica, Gummi, E. Gum arabie.

Acetosæ Folia, L. Rumex Acetosa, Folium, E. Common sorrel leaves.

Aconiti Folia, L. Aconitum Napellus, Folium, E. Monks hood, or large blue wolf's bane. The
effects of this medicine has been ascertained upon glandered horses, and found to be dangerous, consequently not proper to be employed.

Acipenser Itthyocolla. Isinglass. When isinglass is dissolved in water, it forms a strong mucilage, being an useful emollient, and serves to sheath the bowels, bladder, &c. when inflamed or irritated.

Alkalina. The alkalies in general use are, Ammonia, Potash, and Soda. Their general characters are: 1. A particular taste, which is disagreeably caustic, even when diluted with water; 2. The changing blue vegetable colour to green; 3. A very strong attraction for water, with which they unite in all proportions, and even attract it in sufficient quantities from the atmosphere to become fluid; 4. Combining with acids in the humid way, by a stronger affinity than is possessed in general by any other substance; 5. Melting in a moderate heat, and in a stronger volatalizing; 6. In the dry way, dissolving all earths and metallic oxides.

Alkalies enter into many pharmaceutical preparations, as Boras Sode, Murias Sode, &c. The late discoveries of Professor Davy, of the Royal Institution, have proved the base of all alkalies to be metals; and that when in their alkaline state, they are in a high state of oxidizement. He decomposed potash by the galvanic pile, and found that when moistened potash was placed in a platina spoon, and in the galvanic circuit, potash fused and effervesced, and small globules of high metallic lustre like mercury appeared, some of which burnt with explosion and bright flame as soon as formed, whilst others became, tarnished as it were with a white crust, which was found to be potash, and formed by attracting oxigen from the atmosphere. This metal was found to possess the following properties: 1. When the globules were strongly heated in oxigen, a rapid combustion with a bril-
lignant white flame was produced, and the oxygen was absorbed, and the metal reassembled the appearance of potash; 2. This inflammable base acted on almost every body to which it was exposed; 3. It is a perfect conductor of electricity, and of heat; 4. It is the lightest body known, even in its solid state, as it swims in double distilled Naphtha; 5. Introduced into oxy-muriatic gas it burns with a bright red light and forms muriate of potash; 6. Brought into contact with water, it decomposes it with great violence, instantaneous explosion and brilliant flame; 7. Placed upon ice it instantly burns with a bright flame; 8. It inflames and burns when thrown on the surface of the mineral acids; 9. It combines with simple inflammable solids and with metals; 10. It amalgamates with mercury, and unites with gold, silver, copper, &c. when heated with them in close vessels; 11. It reduces metallic oxides, and decomposes glass, &c.

The other alkalies submitted to the action of the galvanic circuit produced metals of a similar nature, from which it appears that alkalies derive their caustic power, from their inflammable base.

These brilliant discoveries have made a complete revolution in chemistry, and will immortalize the discoverer. For a particular account of them see Nicholson’s Journal, and Tilloch’s Philosophical Magazine, where they are recorded as discovered.

**Acorus Calamus, Radix, E. Calami Radix, L.** Sweet flag root. A stimulant and aromatic not at present used by the veterinarians.

**Æsculus Hippocastannum, Semen, Cortex, E.** Horse chestnut, the bark and seed of.

**Adeps, L. Sus Scrofa, Adeps, E. Arxungia procina; Adeps Suillus. Hogs’ lard. An article much used for ointments.**

**Æruugo, L. Sub Acetis Cupri, E. Æruugo.** Æris. Verdigris. It is made in wine countries
by burying thin copperplates in the refuse part of
the grape. It is employed by the veterinarian
surgeon as a mild caustic, combined with some
stimulant ointment, acting as a detergent. When
verdigris is dissolved in vinegar and crystalized,
it is a remedy for the quittors. Verdigris has been
recommended for the farcy, but it is seldom of use.
It has been tried for the glanders to the extent of
an ounce a day, without success. Though verdi-
gris had no unpleasant effect on a horse, to the ex-
tent of an ounce, yet, in the human subject, one-
eighth of a grain is considered a sufficient dose.

Alcohol, E. Spiritus Rectificatus, L. Recti-
fi ed spirit of wine.

Alcohol Dilutum, E. Spiritus Tenuior, L. 
Proof spirit of wine. Alcohol is obtained from
fermented liquors by distillation, and is used as a
solvent in making tinctures and various other
preparations. Alcohol alone is a strong stimulant,
consequently an useful mixture in embrocations,
combined with camphor, &c.

Allii Radix, L. Allium Sativum, Radix, E.
Garlic. It is sometimes employed by farmers as
a remedy for coughs, and thickening of the wind;
it has been found of service in those of the chronic
kind. The dose is from one to two ounces, made
into balls with liquorice powder.

Æther Sulphuricus, L. Sulphuric æther.

Æther Rectificatus, L. Rectified æther. Æther
is a powerful antispasmodic, and may be given
with advantage in obstinate cases of flatulent colic,
and other spasmodic complaints; sometimes it is
joined with opium or camphor, as occasion re-
quires. The dose is one ounce, mixed with water
and expeditiously given.

Allium Cepa; Cepa, Dub. Onion.

Aloes Vulgaris Extractum, L. Aloe Perfo-
lutae, Hepatica, Gummi-Resina, E. Barbadoes
aloes. This is a very safe and useful purgative for a horse when given in a proper dose; but if too large, or improperly treated during the operation, fatal consequences frequently ensue; as it causes inflammation in the bowels. Purgative medicines should always be prepared with great care, with reference to the strength of the animal. The dose is from three to seven drachms, combined with a little ginger, &c. The external characters of barbadoes aloes are, a very dark colour, a brittle-ness exceeding that of the sootrine, a strong and unpleasant smell, and very bitter to the taste.

*Aloes Spicata Extractum, L.* Aloe Perfoliata, Socotorina, Gummi-Resina, E. Sootrine aloes. Have a dark reddish brown colour, not so unpleasant a smell as the other, nor so certain in its operation; The dose is from five to nine drachms, combined with aromatics. There is an aloe in commerce distinguished by the name of cape aloes; it is rather transparent, very brittle, and, when powdered, of a bright yellow colour; it is not certain in its operation. The dose is from six to ten drachms, combined with aromatics.

*Alumen, L.* Sulphas Aluminae, E. The common alum of commerce, is a salt formed by the union of sulphuric acid and pure clay. It is used in the veterinary practice as an astringent in diarrhea, diabetes, &c. The dose is from half an ounce to an ounce, joined with bitters or aromatics, as gentian, aniseeds, &c. There is an alum kept in the shops known by the name of roch alum, of a red colour, in its virtues it is not superior to the common.

*Alumen exsiccatum, L.* Burnt alum. It is a useful remedy for cleansing foul ulcers, and is effectual in obstinate cases of grease.

*Althaeæ Folia et Radix, L.* Althæa officinalis, Radix, Folium, E. Marshmallow root and leaves.
The root is very mucilaginous, consequently fit for elysters, fomentations, and for drinks in inflamed or irritated bowels or bladder, caused by physic or obstruction in the urinary passages. They should be frequently given, and may be made the vehicle of active medicines.

*Ammoniac Murias, L.* Murias Ammoniac, E. Muriat of ammonia, or crude salammoniac. A neutral salt, which, when dissolved in vinegar and water, forms a good embrocation for strains and bruises.

*Ammoniac Carbonas, L.* Carbonate of ammonia. This is made by subliming the above with lime; it is very pungent. A water and compound spirit is kept in the shops, and are very useful in embrocations for sprains, &c.

*Ammoniacum, Gummi-resina, L. & E.* Gnm ammoniac. It is an useful expectorant in doses of from three to five drachms. It may be joined with squills, camphor, opium, &c.—Horses that are of a full habit of body should have an alterative first, as it renders their medicines more efficacious. It must be observed, that ammoniac should not be given in recent coughs arising from a catarrh; but in those only of the chronic kind, that are not dependant on inflammation.

*Amomum Repens, Semen, E.* Cardamomi Semina, L. Cardamom seeds. There are two sorts in commerce, the great and the lesser; the college directs the latter; the former is called grains of paradise, and is much more stimulant and cheaper than the other, consequently more proper for veterinary purposes; they are much used for neat cattle in doses of from three to six drachms. Before this powerful stimulant is given, the practitioner should be careful to observe that the complaint be not of an inflammatory nature, otherwise it would do much mischief.
Amomum Zingiber, Radix, E. Zingiberis Radix, L. Ginger root. There are three sorts of ginger kept in the shops. The black, barba
does, and jamaica; the latter is by far the best when it can be got genuine; the two first are fre-
quently bleached, and sold rather cheaper, as a substitute for jamaica.—Ginger is, perhaps, one
of the most useful stimulants in the Materia Medica; when joined with caraway or anise seeds,
&c. it forms an excellent cordial; with tartarized antimony and opium, an excellent diaphoretic for
giving gloss to the coat, and relaxing the skin; united with bitters, it makes a good stomachic;
with squills an expectorant, frequently relieving obstinate coughs. In flatulent colic, and weak-
ness of the stomach, ginger, combined with cam-
phor, is an excellent remedy, and seldom fails of
giving relief; the dose is from one to three or four
drachms. Ginger, like all other drugs, should be
recently powdered and kept in close bottles or jars.

Amygdale Dulces, L. Amygdalus communis,
Nucleus. Sweet almonds.

Amygdale Amare, L. Bitter almonds.

Amylum, L. Triticum Hybernum, Amylum,
Starch of wheat. It is sometimes used, as in
clysters, with opium, in obstinate cases of diarrhoea
or irritation of the rectum. When marshmallow
roots or leaves, or linseed, cannot be procured, it is
a good substitute for making mucilaginous drinks.

Amyris Gileadensis Resina liquida, E. Balm
of gilead. Its medical effects are nearly the same
as copaiba. See Copaiba.

Amomum Zedoaria Radix, Dub. Long zedoary.
A pleasant aromatic stimulant, and similar in its
effects to turmeric, except being rather stronger.
It has been much used for jaundice, &c. but can
only be of service by counteracting the debilitating
effects of that disorder.
Amyris Zeylanica. The elemi which comes from the East Indies.


Anethi Semina, L. Anethum Graveolens, Semen, Lin. Dill seed.

Anethum Foenicululum Semen, E. Foeniculi Semina, L. Sweet fennel seeds. Are stomachic and carminative, in doses from one to two ounces. The essential oil possesses all its virtues, and may be given in doses of from half a drachm to a drachm.

Anchusa tinctoria, Radix, E. Alkanet root. It is used to give an elegant red colour to oils and ointments.

Angelica Archangelica, Radix, E. Angelica. An aromatic plant, not used in veterinary medicine.

Angustura, Cortex, E. Angustura bark. It is sometimes employed as a tonic and stomachic, but rarely used in veterinary practice. The dose is from half an ounce to an ounce, or more.


Anthemis Pyrethrum, Radix, E. Pyrethri Radix, L. Pillitory of Spain. It is a stimulant, not used in veterinary practice.

Anisi Semina, L. Aniseeds. There are two sorts in commerce, the german and the alicant, the latter is to be preferred; these seeds are much used as a stimulant cordial. They are thought, by some writers, to possess expectorant qualities; consequently good in coughs and other complaints of the lungs, united with other expectorants; they are also a useful medicine in flatulencies. The dose is from one to two drachms.

Antimonii Sulphuretum, L. Sulphuretum An
Umonii, E. Sulphuret of antimony; or, common black antimony of the shops. It is a heavy shining metal, having almost the appearance of black lead when powdered; it is given as an alternative, in doses of an once or more, to improve the coat and condition of the horse. It is considered by some to have little or no effect in its crude state. A variety of useful preparations are made from antimony, such as Antimonii Oxydum, L. Antimonii Sulphuretum Præcipitatum, L. Pulvis Antimonia•alis, L. Antimonum Tartarizatum, L. Liquor Antimonii Tartarizatum, L. Murias Antimonii, E. Oxidum Antimonii cum Sulphure Vitri•catum, E.

Antimonii Oxydum, L. The oxide of antimony. This preparation of antimony the London college intends as a substitute for three of their former ones, viz. Antimonium Calcinatum, Antimonium Vitri•factum, and Crocus Antimonii; they possess little difference in their effects to common antimony, only that smaller doses are necessary. They are given from one drachm to two. It is always best to begin with small doses, and increase if necessary.

Antimonii Sulphuretum Præcipitatum, L. Precipitated sulphur of antimony, formerly called golden sulphur of antimony. It is seldom used in veterinary practice; it may, however, be found useful in obstinate diseases of the skin, either alone or joined with mercurials, such as Hydrargyi Submurias, Hydrargyi Oxy•muri•as. The doses vary according to circumstances. Those of the precipitated sulphur of antimony are from one drachm to two, and if found necessary may be increased.

Antimonium Tartarizatum, L. Tartarized antimony, emetic tartar. In diseases of the horse this is a very safe medicine. In fevers, &c. the dose is two drachms, which may be repeated daily.
should the bowels be affected by its exhibition, a little opium may be advantageously joined with it. Some practitioners add camphor and opium, or camphor and nitre, both of which are found highly useful.—Upon experience it may safely be asserted, that tartarized antimony is the most useful of the antimonial preparations.

*Pulv. Cinchomæ lancifolii* taken along with tartarized antimony, considerably weakens the emetic power of the latter.

Whenever antimonials are given, great attention is necessary in the groom. In fevers the horse should be well littered, and clothed with a rug of sufficient width to cover the belly as well as the back; the neck, head, and chest should likewise be clothed; the clothing should always be regulated by the season of the year, &c.; the legs should be well hand-rubbed several times a day, and warm water given to drink. When antimony is given to remove disorders of the skin, as in surfeits, &c. exercise and moderate clothing are necessary.

*Pulvis Antimonialis, L.* Antimonial powder. This preparation of the college is similar to the celebrated Dr. James's fever powders. It is found to be an excellent medicine for the horse as well as the human subject, in doses from a scruple to half a drachm, which may be increased, if found necessary, to three drachms. It is frequently joined with camphor, opium, nitrate of potash, &c. according to the nature of the disease. Its effects are similar to the *Antimonium Tartalizatum*.

*Liquor Antimonii Tartarizati, L.* Solution of tartarized antimony, wine of antimony. Too weak for veterinary purposes.

*Murias Antimonii, E.* Muriate of antimony, butter of antimony. It is a dark coloured fluid, possessing strong caustic powers; it has been highly spoken of as a remedy for quitters, and
other ulcers of a similar nature. It may be used in all cases where caustics are necessary. When this preparation comes in contact with any moisture, it is decomposed, consequently its action is of short duration when applied to ulcers, &c.

Oxidum Antimonii cum Sulphure Vitrificatum, E. Vitrum Antimonii. Glass of antimony. Many farriers prefer this preparation, but the Antimonii Oxydum of the London college is equally as useful, and may be given in the same cases and doses.

Apium Petroselinum Radix, E. Parsley. The root is diuretic.

Arbutus Uva Ursi, Folium, E. Uva Urti Folium, L. Red berried trailing arbutus leaves. The leaves of this plant are much used in obstructions of the urinary passages in the human subject; but whether it has any such effect on the horse, does not seem to be known.

Arabicum Gummi, see Acacia Gummi.

Argentum, L. & E. Silver.

Argenti Nitra, L. Nitrate of silver, or which is commonly called lunar caustic. It is an useful preparation for destroying fungous flesh in wounds, &c.

Aqua. Water.

Aqua Menthae Piperitae, L. Peppermint water.

Aqua Rosae. Rose water. There are a variety of other distilled waters of the college, but none are of particular use in veterinary practice, except as vehicles for more active medicines.

Arctium Lappa, Radix, E. Burdock. A common plant, the leaves of which are said to be diuretic.

Aristolochia Serpentina, Radix, E. Virginia snake root. It may be given, with advantage, in cases of weakness, ill-conditioned wounds, which have a tendency to mortification, in doses of from half an ounce to an ounce, and generally combined
with Carbonate of Ammonia, Camphor, Curt. Cinchona Lancifolia, and in some cases Opium. Arnica Montana, Flos, E. Leopard’s bane. This plant has been recommended as a febrifuge, but it is not at present used in veterinary medicine. Artemisia Santonica, Cacumen, E. Southern-wood. It is used in fomentations. Artemesia Absinthium, Folium, &c. E. Wormwood. See Absinthium. Arsenici Oxydum, L. Oxide of arsenic. There are three kinds of arsenic in commerce, the white, the yellow, and the red. The white oxide of the shops is chiefly separated from the cobalt ores of Saxony, and is in white powder, or in shining semi-vitreous lumps; it is to be preferred in the last state, as the powder is frequently adulterated. The yellow is a combination of white arsenic and sulphur, it is both natural and artificial, and varies in colour according to the quantity of sulphur it contains. The red oxide of arsenic contains considerably more sulphur than the former, and is principally used as a pigment.

The white oxide of arsenic is the best tonic for horses we are acquainted with, though a violent poison in the human subject, yet it may be given to this animal in doses of one drachm with safety; it has been given for glanders, and suspended the disorder for a time, but was not found a permanent remedy. It is prudent to begin with small doses, but not less than eight grains, combined with aromatics, and may be increased to twenty or thirty, and continued as long as necessary. White says, “he has seen two drachms given twice a day, and continued for a week, at which period it produced inflammation of the bowels.” Mr. Stevenson also says, “that a quantity of Fowler’s solution, containing two drachms of arsenic, has been given at one dose, and produced no visible effects.”
When arsenic is given, great attention should be paid to the horse’s diet, and also some mucilaginous liquor, as infusion of linseed, &c. should be given before the arsenic is exhibited, that it may not act too violently on the stomach. The cases where arsenic is most beneficial are, when horses are weak and emaciated without any apparent cause; sweating with the most moderate exercise. The best method to give arsenic is, in solution; made into balls with some aromatic. See Tonic alternatives.

*Asari Folia, L.*  *Asarum Europæum, Folium,* E. Asarabacca, the leaf.
*Arum Maculatum Radix, L.* & *Dub.* Wake robin.
*Armoracia Radix, L.*  *Cochlearia Armoracia,* Radix, E. *Rhaphanus Rusticanus.* Horse radish. The root is a powerful stimulant. A spirituous water is kept in the shops which contains all its virtues, and is a good medicine in cases of flatulence and indigestion.
*Astragalus Tragacantha Gummi, E.*  *Traga- cantha, L.* Gum dragon.
*Atropa Belladonna, Folium, E.*  *Belladonna Folia, L.* Deadly night shade. A powerful narcotic poison, but when cautiously employed it is a safe and useful sedative in the human subject. In the horse it has scarcely been tried. The first dose of the powdered leaves should be two drachms, or one of the extract. A decoction of the leaves might, perhaps, be found serviceable in painful tumours or ulcers.
*Avena Sativa, Semen, E.*  *Avenæ Semina, L.* The oat.
*Assafoetidae Gummi-Resina, L.*  *Ferula Assa- foetida, Gummi-Resina, E.* Assafoetidae. It is a useful medicine in spasmatic complaints, combined with ammoniac carbonas, in doses of two
drachms or more. It is said, also, to be serviceable in obstinate coughs or thickness of the wind, and in flatulent colic, combined with Radix Scilleæ, &c.

Aurantii Baccae, L. Citrus Aurantium, Fructus, &c. E. Seville oranges.

Aurantii Cortex, L. The rind or peel of Seville oranges.

Balsamum Peruvianum, L. Myroxylon Peruiferum, Balsamum, E. Peruvian balsam. It is of a dark reddish colour, of the consistence of treacle; it is a good stimulant and well calculated for obstinate coughs, when assisted with other expectorants, as squill, &c. The dose is from one to two drachms.

Balsamum Tolutanum, L. Toluifera, Balsamum, E. Tolu balsam. It is solid, of a light yellowish colour, and fragrant smell. Similar in its effects to Peruvian Balsam. The dose is from two to four drachms.

Balsamum Copaiba. Copaifera officinalis, Resina liquida, E. Copaiba, L. Balsam copaiba. It is of a pale yellow colour, of the consistence of treacle, it is a strong diuretic, in doses of an ounce or more; it is sometimes given in flatulent colic, and chronic coughs, combined with other medicines.

Balsamum Canadense, Pinus balsamea, Resina liquida, E. Canada balsam. It is of a pale colour, and of the consistence of the preceding; it is a pure kind of turpentine, and possesses its effects, and is given in the same cases as Copaiba balsam.

Balsamum Sulphuris Simplex, Oleum Sulphuratum, L. Balsam sulphur. This is made by boiling oil until it singes a feather, in a vessel that will contain four times the quantity, then take it from
the fire, and add as much sulphur as it will dissolve; if the mixture should rise by the heat being too great it should then be poured out into another vessel. When made it is of a dark colour, and in every respect the appearance of treacle, and of a very disagreeable smell. It is an article much used in coughs, but only those of the chronic kind that it can be advantageously employed in. The dose is from half an ounce to an ounce.

Belladonna Folia, L. Sec Atropa Belladonna. Benzoinam, L. Styrex Bonzoin, Balsamum, E. Benzoin, the resin. In veterinary medicine neither the resin or flowers are employed to much advantage. An useful tincture is prepared from the resin for cuts, &c. commonly known by the name of Fryar’s balsam.

Bistortæ Radix, L. Polygonum Bistorta, Radix, E. Bistorta, the root. It is, perhaps, the most powerful of the vegetable astringents; it has been recommended as a styptic. In diarrhoea of neat cattle, it is very useful in doses of half an ounce to an ounce.

Bitumen Petroloæum, E. Petroleum, L. Petroleum Barbadense. Rock oil, or barbadoes tar. It is a bitumenous substance, nearly of the colour and consistence of common tar, but smells differently, and is rather darker in its appearance. It possesses considerable diuretic powers, and is also useful for chronic coughs; it is also externally applied, dissolved in spirits of turpentine and sweet oil, which forms the oil of spike (Oleum Spicæ,) used by farriers for sprains, bruises, &c.

Boras Sodæ, E. Borax. It is used, when dissolved in water, to wash the mouths of young horses. Perhaps the Sulphas Aluminæ would answer equally as well.

Bubon Galbanum, Gummi-resina, E. It has
the same effects as ammoniacum, given in doses of six drachms.


*Becabunga.* Brook lime.

*Bardana, Radix,* see *Arctium Lappa,* E.

*Barilla.* From which soda is obtained.

*Calx,* E. *Calx Viva,* Lapis Calcareous purus recens ust, Lin. Quicklime. Fresh burnt lime is sometimes used as a caustic in the disease of the horse's foot termed canker; it is preferred for this purpose on account of its absorbing the moister which forms upon the diseased part, and which is thought to be inimical to the cure. Lime water is sometimes used for diabetes, but with little, if any, effect.

*Cancer Pagurus et Astaclus,* Chelae, &c. E. Crab claws. There were formerly a great variety of these articles, but the Edinburgh college has confined its attention to one. The shell and claws are calcined to whiteness and then levigated; it is an useful article as an absorbent.

*Calamus Aromaticus,* see *Acorus Calamus.*

*Calami Radix,* L. See as above *Acorus Calamus.*

*Calamina,* L. Carbonas Zinci impuris, E. *Lapis Calaminrus.* Calamine stone. It is employed, after previous levigation, for the purpose of drying or healing ulcers, which discharge a thin acrimonious matter. An useful ointment is also made from it called Turner's cerate, (*Ceratum Calaminae,* L.)

*Cajuputi Oleum,* L. Melaleuca Lencadendron, Oleum volatatile, E. Cajeputa oil.

*Calumbæ Radix,* L. *Colomba, Radix,* E. *Colomba* root. A good stomachic bitter, it seems to be worth a trial in cases of indigestion and flatulence. The dose is about an ounce, joined with aromatics.

*Cambogia,* L. *Gambogia,* Gummi-resina, E.
Gambogc. It is a yellow resinous substance. White says, "that he has found it a useful medicine in worm cases; facilitating the operation of aloes and considerably increasing their purgative qualities. The dose, when not mixed with other purgatives, is from two to three drachms, combined with three drachms of soap.

Camphora, L. *Laurus Camphora*, E. Camphor. It is a medicine of considerable efficacy, perhaps one of the best in the Materia Medica. It is powerful as a sedative, and antispasmodic, and one of the best in fevers, united with carbonate of soda, &c. It gives speedy relief in suppression of urine, united with nitrate of potash, excepting when it arises from inflammation in the kidneys. In flatulent colic or gripes, combined with carminatives, it is an excellent remedy. It is also recommended for the locked-jaw, mixed with opium. The dose generally given, is from a drachm and a half to two drachms. Externally it is much applied dissolved in oil of turpentine, common oil, or spirits of wine, for embrocations in strains, bruises, hard swellings, &c.

Canella Cortex, L. *Canella alba*, Cortex, E. Cortex *Winteranus*. Winters bark. An useful article in cases of indigestion and weakness of the stomach. Dose, an ounce every morning.

Capsici Bacca, L. *Capsicum annuum*, Fructus, E. Capsicum berries, from which is prepared cayenne pepper. They are a most powerful stimulant; and in cases of flatulency, weakness of the stomach, and indigestion, are very useful, in doses of a drachm, joined with a little aniseed, liquorice, and sirup, so as to form a ball.

Carbo Ligni, L. & E. Charcoal. It is a very useful antiseptic. Cataplasms made of it are used for wounds, &c. that have a tendency to mortify;
sometimes it is used for the grease in horses' heels, with a view to destroy the offensive smell.

*Cardamines Flores*, L. *Cardamine pratensis*, *Petalum, Folium*, E. Cuckow flower.

*Cardamomi Semina*, L. See *Amomum repens*.

*Caricae Fructus*, L. *Ficus Carica, Fructus*, E. Figs. Not useful in veterinary medicine, though some writers recommend it as a pectoral.

*Carbonus Baryte*, E. *Terra Ponderosa, Bar-rytes*.

*Carbonas Potassae impurus*, E. *Alkali fixum Vegetabile Lixiva*, *Cineres Clavillati*. Pot or pearl ashes, the common vegetable kali. When in its more pure state (the salts of tartar and kali of the shops,) it is very efficacious, when joined with purgatives or tonics, in correcting the acidity which generally prevails in the stomach, and it also renders purgative medicines more easy of solution. When given alone, it is a good diuretic; and when deprived of the carbonic acid with which it is combined, it becomes strongly caustic; united with various acids it becomes a neutral salt, as *Potassae Sulphas, Potassae Tartras, Potassae Acetas*, &c.

*Carbonas Calcis*, E. *Creta alba*. White chalk. The prepared chalk of the shops is a good remedy in diarrhoea, both for horses and neat cattle; and when joined with opium, ginger, or any other cordial, it is useful for neutralizing acids in the stomach.

*Carbonas Soda impurus*, E. *Barilla*. Common soda. Its medical effects are similar to *Potassae*. The dose is from two to four drachms.

*Carbonas Zinci impurus*, E. See *Calamina, L.*

*Carui Semina*, L. Caraway seeds. These seeds are much used as a cordial and carminative. The essential oil contains all its virtues in a concen-
trated state, and therefore very proper for veterinary purposes. The dose of the seeds are from one ounce to two, and that of the oil from forty to sixty minims.

*Caryophyllus aromaticus,* E. Cloves. A powerful stimulant; but, on account of its high price, seldom used in veterinary medicine. An essential oil is sometimes used in purgative, and cordial balls, from thirty to forty minims.

*Cascarilla Cortex,* L. *Croton Eleutheria,* Cortex, E. Cascarilla bark. A good carminative and aromatic. It has been used in cases of flatulence, joined with other medicines.

*Cassia Cortex.* Cassia bark. It has the appearance of cinnamon, only rather thicker quills; good cassia is equally as useful as cinnamon for veterinary purposes; it is a strong aromatic stimulant, the dose from two to three drachms. The essential oil is very powerful, the dose from five to ten minims.

*Cassia Baccia.* Cassia buds. Are useful for the same purposes as the bark.

*Castoreum,* L. *Castor Fiber,* E. *Materia in foliiculis prope anum collecta.* Caster, from Russia. It is obtained from the beaver; it has been used by some as an antispasmodic and sedative; but, in consequence of the high price it bears, it is not likely to be of much use, while we have so many powerful ones of that class much cheaper.

*Catechu Extractum,* L. Japan earth. It possesses considerable astringent powers; in diarrhoea caused by weakness and relaxation of the intestines, it has a good effect. It is also employed in diabetes combined with alum, opium, ginger, &c. suited to the circumstances of the case.

*Cera alba,* L. and E. White wax.

*Cera flava,* L. and E. Yellow wax,
Ceratum. Cerates. So called from wax (cera) entering the composition; there are a variety of useful ones, the following are selected:

*Ceratum Calamine, L. Calamine, or Turner's cerate.*

- R Calamine preparata, Cerae flavae ææ bjs.
- Olivæ olei Oj. m.

*Ceratum Lyttæ, L. Blistering cerate.*

- R Cetacci bjs.
- Cerae albae 3ij.
- Olivæ olei f.ijv.
- Pulv. Lyttæ, sjij ijs, m.

This is a very good blistering cerate.

*Ceratum Plumbi, Superacetatis, L. Cerate of sugar lead.*

- R Plumbi Superacetatis contritæ 3ij.
- Cerae albae 3ij.
- Olivæ olei sjiv. m.

*Ceratum Resineæ, L. Resin cerate.*

- R Resinae flavæ.
- Cerae flavae ææ bjs.
- Olivæ olei Oj. m.

*Cerevisiae Fermentum, L. Yeast.* This article is the basis of the following:

*Cataplasma Fermenti, L. Much used as an antiseptic.*

- R Amyli ëbj.
- Cerevisiae fermenti Ojs.

Expose the mixture to a gentle heat, until it begins to rise.

*Cetaceum, L. Physeter macrocephalus, E. Spermaceti.* It is procured from a certain species of whale, and is seldom employed in veterinary medicine.

*Cervus Elaphus, Cornu, E. Cornua, L. Stagshorns.* Stagshorns, when distilled, produce a pungent water, known by the name of Spirits of harts-horns, employed for embrocations, &c.

*Cephalis Ipecacuanhæ Radix. Psycothria emeticæ Radix. Ipecacuanhæ Radix, L. Ipecacuanha,
the root. It is of little or no use in veterinary medicine, excepting that it may promote perspiration.

Cinchona Cordifolii Cortex, L. Cortex Cinchonae flava. Yellow bark.

Cinchona Lancifolii Cortex, L. Cortex Cinchonae. Quilled, or peruvian bark.

Cinchona oblongifolii Cortex, L. Cortex Cinchonae Rubiae. Red bark. These three barks are very useful medicines as tonics, febrifuges, and antiseptics. They may be given in all cases of fevers with advantage; in debility, caused by large suppurations or discharges, as diabetes, &c. and in all cases of gangrene or mortification of external parts, combined with Opium, Carbonate of Ammonia, &c. in the form of cataplasms applied to the diseased parts. The dose is from one to two ounces. The quilled bark is in general considered the best, but the others do not materially differ. Oak bark is a useful substitute, see Quercus Cortex.

Cinnamomi Cortex, L. Cinnamon bark. A powerful stimulant; but, on account of its high price, Cassiae Cortex is in general substituted for it. See Cassie Cortex.

Citrus Aurantium Cortex, E. Orange peel.

Citrus Medica Cortex, E. Lemon peel.

Coccus Cacti, E. Coccus, L. Cochineal. It is used for colouring various medicines.

Cochlearia officinalis, E. Scurvy grass.

Cochlearia armoracia, E. Raphanus rusticanus. Horse radish. See Armoracia Radix.

Cocos butyracea, Nucis oleum fixum, E. Oleum Palme. Palm oil. This is an useful article in ointments to dress old wounds with. Combined with Glauber's salts, half a pound to a pound of the oil, for a dose, forms a safe and effectual purge for neat cattle.
Colchicum Autumnale, Radix, E. Colchici Radix, L. Meadow saffron.

Colomba, Radix, see Calombe.

Colocyntidis Pulpa, L. Cucumis Colocynthis, E. Bitter cucumber pulp, or bitter apple. It has no perceptible effect on the horse, in the enormous dose of four ounces.

Conii Folia, L. Conium maculatum, E. Cicuta. Common hemlock leaves. They are a strong narcotic and anodyne, and have the advantage of opium in not producing costiveness; are also useful in obstinate coughs, depending on irritability. The dose of the powdered leaves and extract is, at first, one drachm, increased if necessary. A decoction of the hemlock is a useful fomentation in painful wounds and tumors.

Convolvulus Scammonia, Gummi-resina, E. Scammony, a gum resin. It is a strong purgative, but when aloes can be procured it is unnecessary, being too expensive.

Convolvulus Jalapa, Radix, E. Jalape Radix, L. Jalap root. When jalap is given in very large doses it occasions sickness and some degree of purging, but its effects as a purgative will not warrant any person to give it for that purpose.

Contrajervæ Radix, L. Dorstenia Contrajerva, Radix, E. Contrajerva root.

Coriandri Semina, L. Coriandrum Sativum, E. Coriander seeds. An aromatic.

Creta, L. Chalk. See Carbonas Calcis.

Copaiba, L. See Balsamum Copaiba.

Cumini Semina, L. Cummin seeds. A mild stimulant; the essential oil possess all its virtues, and is useful as a carminative and aromatic, in doses of from thirty to sixty minims.

Croton Eleutheria, Cortex, see Cascarilla.

Cucumis Colocynthis, E. See Colocyntidis Pulpa.
**Cupri Sulphas, L. Cuprum, E. Blue vitriol.**

It is used externally as a mild caustic and detergent; also very useful in all kinds of ulcers, causing them to heal sooner, when applied in solution to the wound. In broken knees, when the wounds heals with difficulty, it is a good application, if applied hot. It is used internally as a tonic, beginning with very small doses, from a scruple to half a drachm, made into a ball, giving the animal plenty of drink soon after. White saw “six ounces given to a glandered horse, which soon destroyed him by causing an inflammation in his stomach and bowels.”

**Cuspariae Cortex, L. See Angustura, Cortex.**

**Cydoniae Semina, L. Quince seed.**

**Dauci Radix, L. Daucus Carota, Radix, E. Carrot, the root.** They are sometimes used, as an article of diet, in moderate quantity, with advantage to horses that are thick-winded, cough, or are disposed to inflammatory complaints. They are easy of digestion, and very nutritious. Carrot poultice is an excellent application to sweeten and cause old ulcers to heal—they must be boiled, pounded in a mortar, and applied warm.

**Daphne Mezereum, Radicis Cortex, E. Mezeret Cortex, L. Mezerion, the root and bark.** Not used in veterinary medicine.

**Datura Stramonium, Herba, E. Thorn-apple, the plant.** The thorn-apple is an annual plant, a native of America, but now growing wild on dry hills and uncultivated places in England. It is a strong narcotic poison, producing vertigo, torpor, death; the best antidote is said to be vinegar. Dr. Stork tried it in mania, &c. with success. According to Plenk, it softens hard and inflamed tumors; it, perhaps, would be found useful in a disorder that cows are subject to called downfall. It has lately been used in asmatic complaints, &c.
Delphinium Staphisagria, Semen, E. Staphisagriae Semina, L. Stavesacre seed. The seed is very efficacious in destroying animalculae that generate on the skin of cattle. They are used either in powder or decoction.

Digitalis Folia, L. Digitalis purpurea, Folium, E. Foxglove. It is a poisonous plant that grows plentifully on sandy soils, and has a purple flower. Foxglove diminishes the frequency of the pulse, and would, therefore, probably be an useful medicine in inflammation of particular parts. It would be worth while trying its effects in all internal inflammations, as catarrh, inflammation of the lungs, bowels, &c.; it has been tried in several cases, and found to be an active medicine. The dose recommended is half a drachm, gradually increased until some effect is observed. It will be necessary to observe carefully its effects on the animal, that too much may not be given, as it may materially injure the stomach. White says, "I believe no one will dispute, that if we can find a method of diminishing inflammatory action in the internal organs, without depriving the system of so great a quantity of the vital fluid as is found absolutely necessary on such occasions, it will be an invaluable discovery. No medicine appears better adapted to this purpose than foxglove; and it is to be hoped that its virtues will soon be thoroughly investigated."


Dorstenia Contrajerva, Radix, E. See Contrajervæ Radix.

Dulcamaræ Caulis, L. Solanum Dulcamara, Lin. Woody night shade, bitter sweet.

Decoctum. Decoction. The various decoctions
of the London college it is needless to name, as they are of little use in veterinary medicine.

*Elaterii Poma, L.* Elaterium, wild cucumber. It is a violent purge in the human subject, but has not been tried on the horse.

*Elemi, L.* See *Amyris Elemifera.*

*Euphorbiae Gummi-resina, L.* Euphorbium. It is very useful as an external application, either in tincture or ointment; the ointment is prepared by uniting the powder with lard, mild mercurial ointment, oil of bays, &c. It is sometimes united to blistering salve, and proves an useful addition. The tincture is prepared in the following manner:

\[
\begin{align*}
\text{R Pulveris euphorbiae &iv.} \\
\text{Alcoholis f.} &xij. \text{vel.} \\
\text{Liquoris potassae subcarbonatis f.} &xij. \text{m.}
\end{align*}
\]

These preparations are externally acrimonious and stimulating, consequently well calculated to reduce callous swellings of the back sinews or other parts, curbs, windgalls, &c.

*Emplastrum.* Plaister. There are a variety of plaisters directed by the London college, but none are particularly useful in veterinary medicine.

*Extractum.* Extract. The extracts of various vegetables are very convenient, for the virtues of a plant are reduced into a small compass. The following, perhaps, may be found the most useful in this class:

\[
\begin{align*}
\text{Extractum Belladonnae,} \\
\text{Coniti.} \\
\text{Hæmatoxyli.} \\
\text{Gentiæ.}
\end{align*}
\]

*Farina, L.* Triticum Hybernum, Farena, E. See *Amylum.*

*Ferrum, L.* and E. Iron. This is the base of various preparations, as

- *Ferrum ammoniatum, L.* Ammoniated iron,
- *Ferrum tartarizatum, L.* Tartarized iron.
Ferri Carbonas, L. Rust of iron.
Ferri Sulphas, L. Sulphate of iron, or green copperas. These preparations are used as a tonic in the human subject, but in the horse their effects are scarcely perceptible.
Ferula Assafætida, Gummi-resina, E. See Assafætidae Gummi-resina, L. Assafætida.
Filicis Radix, L. Male fern. This root was formerly considered useful for the tape-worm, but now disregarded. Never used in veterinary medicine.
Feniculi Semina, L. See Anethum Fæniculum.
Fucus, L. Bladder fucus, or sea wrack.
Ficus Carica, Fructus, E. Caricæ, Fructus, L. Figs. See Caricæ.
Faniculi Semina, L. See Anethium Fæniculum.
Gambogia, E. See Cambogia.
Galla, L. Quercus Cerris, E. Galls. They are powerfully astringent, and useful as a tonic. They suppress obstinate diarrhoea, combined with other remedies. The dose is from two to four drachms.
Gentianæ Radix, L. Gentiana lutea, Radix, E. Gentian root. A strong and useful bitter, calculated to remove weakness of the stomach and promote digestion; it is usually joined to some stimulant, and should any acid exist in the stomach, a little alkali may be added. Gentian is the basis of the once famous powder called Diopente; so much used by the old farriers. The dose of the true powder is from half an ounce to an ounce.
Geoffræa inermis, Cortex, E. Bark of the cabbage tree of Jamaica. A powerful anthelmintic in the human subject, but has not, to my knowledge, been tried on animals.
Glycyrrhiza Radix, L. Glycyrrhiza glabra,
Radix, Extractum, E. Root and extract of liquorice. Sometimes used as a pectoral, but now considered to have no such effect on the horse.

Granati Cortex, L. Punica Granatum, Fructus Cortex, E. Pomegranate bark. An astringent, it may be employed with advantage in the diarrhoea of horned cattle, combined with other remedies, in doses of from half an ounce to an ounce.

Guaiaci Resina, et Lignum, L. Guaiacum officinale, Lignum, Resina, E. Guaiacum, resin and wood. The wood was formerly called Lignum Vitæ, not used in veterinary medicine. The resin is sometimes used in alternatives, in doses of from half an ounce to six drachms. There is a tincture prepared by dissolving the resin in the liquor of ammoniæ and alcohol, which is useful for rheumatic complaints.

Hæmatoxyli Lignum, L. Hæmatoxylum Cam- pechianum, Lignum, E. Logwood. The extract of logwood is a powerful astringent; it might, perhaps, be an useful article in diarrhoea, dependant on relaxation of the bowels, combined with ætum, opium, or aromatics, in doses from one to three drachms.

Helleborus Albus Radix. Veratri Radix, L. White hellebore root. The powder is sometimes used in blistering ointments for the mange and other cutaneous diseases. A decoction is also used for the same purposes. As an internal medicine it has been tried on horses, in doses of half a drachm, and its effects were so violent that it is now considered not safe to be administered.

Hellebori nigri Radix, L. Black hellebore. Not used in veterinary medicine.

Hordæi Semina, L. Hordeum Distichon, E. Pearl barley.

Hydrargyrus, L. and E. Argentum Vivum. Quicksilver. It is the most useful of all the metals:
given in its metallic state it has no active effect whatever; but, when combined with certain articles, it becomes very much so. The various preparations are,

*Hydrargyri Nitrico-oxydum, L.* Red oxide of quicksilver, red precipitate. This preparation is useful as a mild caustic and detergent, used either in powder or ointment for foul ulcers, &c. The powder dissolved in nitrous acid, made into an ointment with lard, is employed for fistula, poplevil, and canker.

*Hydrargyri Oxydum cinereum, L.* Grey oxide of mercury.

*Hydrargyri Sulphuretum rubrum, L.* Red sulphuret of mercury, factitious cinnabar, red vermilion. Both the native and factitious cinnabar have been used as an alternative in obstinate coughs, in doses of half an ounce daily, but with little effect.

*Hydrargyri Oxydum rubrum, L.* Red oxide of mercury, or calcined mercury. This preparation is a very active mercurial, but very expensive, and seldom employed in veterinary medicine. The dose is from half a drachm to a drachm.

*Hydrargyri Oxymurias, L. Murias Hydrargyri, E.* A muriate of mercury, commonly called sublimate. It is the most useful of the mercurials; and, though a violent poison in the human subject, it may be given in large doses to the horse with safety. The general dose to begin with, should be fifteen grains, combined with opium and aromatics, repeated every day; it is then the best remedy known for the farcy. It, perhaps, might also be useful for the glanders. In obstinate cutaneous disorders, combined with tartarized antimony, it is an excellent remedy; it acts as a diuretic and seldom salivates; externally it is applied, dissolved in alcohol and water, to foul ulcers.
particularly those of the knees when the ligaments are wounded; it destroys the animalculæ that infects the skin of horses, and will cure the mange. When sublimate, as well as all other powerful medicines are used, it is necessary to observe its effects carefully, for if given in too large doses it will cause considerable debility, and sometimes irritate the bowels: when this is the case give opium, combined with aromatics, nutritious diet, moderate clothing, and the stable properly ventilated, is necessary. Great pains should be taken by the groom frequently to rub the legs, give gentle exercise, and warm water.

Mr. Stevenson, veterinary surgeon, Norwich, made several experiments with muriate of mercury: He first gave two drachms, mixed with linseed powder, every morning and evening for three days without any visible effect, the animal eat and drank as before; he then gave half an ounce for three nights, which increased the pulse from fifty to seventy, and diminished the appetite for food; in three days the horse recovered. He then gave an ounce, which raised the pulse to one hundred, and occasioned pain for several hours, as the animal frequently lay down as in colic; in the evening he appeared easier, and would, probably, have recovered, but two ounces more being given, he died in eight hours. Before death his pulse was raised to one hundred and twenty, very irregular, and scarcely to be counted; the medicines seemed chiefly to operate on the kidneys, as he staled very copiously, and had a large discharge of faeces before he died. The appearance on dissection was—no inflammation in the coats of the stomach;—the intestines were flabby and tender, and putridity had far advanced in them;—the liver and kidneys were also in a putrid state;—nothing was observed in the thoracic viscera.
Hydrargyri Submurias, L. Submurias Hydrargyri, E. Commonly called calomel. This is the most efficacious anthelmintic we are acquainted with, and an excellent alternative. It has been used with advantage in the farcy, and in glanders, though no effectual cure has yet been discovered for the latter. When a brisk purge is wanted, it is generally united with other physic. It is also beneficial in liver complaints, grease, chronic inflammation of the eyes, and diffuse swellings of the hind legs. It is necessary to give it with caution, as it causes salivation; when this happens, give mucilaginous drinks, warm water, and opium in balls and clysters, if necessary, and observe, during its operation, at all times to keep the horse warm, give warm water and gentle exercise. The dose, as an anthelmintic, is from one to two drachms; as an alternative, from fifteen to thirty grains. Calomel acts on the kidneys and increases a discharge of urine.

Hydrargyrum cum Creta, L. Quicksilver combined with chalk.

Hydrargyrus praecipitatus albus, L. White precipitate.

Hydrargyrus Vitriolatus, Old L. P. Sub-Sulphas Hydrargyri Flavus, E. Turpethum Minerale. Vitriolated quicksilver, commonly calle turpeth mineral. It is seldom employed in veterinary medicine, as it irritates the stomach and bowels, and brings on violent purging. Some recommend it for the farcy, in doses of from half a drachm to a drachm. It acts on dogs as an emetic, consequently is useful when they have swallowed poison; it is also given at the commencement of the distemper, in doses of from five to six grains.

Unguentum Hydrargyri fortius, L. Strong mercurial ointment. This preparation is employed for callous swellings and enlarged joints, some-
times mixed with camphor. United with the blistering fly it makes a good blistering ointment, and is then an useful remedy for the bog-spavin, or other swellings of the hock joint.

_Unguentum Hydrargyri mitius, L._ Mild ointment of quicksilver. A certain remedy for the scab in sheep. See _Unguentum Hydrargyri Mitius._

_Unguentum Hydrargri Nitratis, L._ Ointment of nitrated quicksilver.

_Unguentum Hydrargyri Nitrico Oxydum, L._ Ointment of red precipitate. These two last articles are excellent applications, as mild caustics and detergents, for old ulcers, &c. The above preparations of quicksilver are the most valuable in veterinary practice, but there are such a multiplicity of others that even Dr. Schwediauer's list of their names would extend to many pages.

_Hyoscyami Folia, et Semina, L._ Hyoscyamus Niger, Herba, E. Common henbane leaves and seed. This is a powerful narcotic, and, in almost every effect, similar to _Conium_, which see.

_Hyssopus officinalis, Herba, E._ Hyssop, the heads.

_Ipecacuanha, E._ Ipecacuanhæ Radix, L. See _Cephalis Ipecacuanhæ._

_Jalapaæ Radix, L._ See Convovulus Jalapa.

_Juniperi Baccae, L._ Juniperus communis, Bacca, E. Juniper berries. They are diuretic and carminative, and are used as an ingredient in diuretic balls; they are beneficial in flatulency of the stomach and bowels, in doses of from one to two ounces. The essential oil possesses all their virtues, and may be employed for the same purposes, in doses of from one to two drachms.

_Juniperus Lycaia, Gummi-resina, E._ Olibanum, L. Olibanum, a gum resin. A stimulating expectorant, very little used in veterinary medicine.
Juniperus Sabina, Folium, E. Sabinae Folia, L. Savin leaves. By some considered an anthelminthic, but, I believe, it has no such effect.

Infusum. Infusion. There are a variety of infusions directed by the London college, but the following are the most useful in veterinary medicine:

Infusum Lini, L. Linseed infusion.
Infusum Tubaci, L. Tobacco infusion. This preparation is used to destroy filth on various animals.

Kino, L. Kino. Obtained from a tree unknown. It has strong astringent qualities, and useful in diarrhoea, dependant on relaxation of the intestines, in doses of from two to four drachms.

Lauri Baccae, et Folia, L. Laurus nobilis, Folium, &c. E. The bay tree leaves and berries. The leaves are used in fomentations; and the berries were much used by the old farriers, and enters the composition of diapente. The expressed oil (Oleum Laurinum) is used in blistering salve.

Lauro-cerasus, Folia. The leaf of the laurel tree. A strong decoction of which has been given to horses, in the quantity of from a pint to a pailful, without exciting any considerable operation. Some interesting experiments made on glandered horses, with a decoction of the leaves, are related in Dr. Thornton’s “Medical Extracts.”

Laurus Camphora, E. See Camphora.
Laurus Cassia, E. See Cassie Cortex.
Laurus Cinnamomum, E. See Cinnamomi Cortex, L.
Laurus Sassafras, Lignum, E. Sassafras Lignum, et Radix, L. Sassafras wood and root. The essential oil, which contains all its virtues, is an aromatic stimulant, in doses of from twenty to sixty minims.

Leontodon Taraxacum, Herba, E. Taraxaci
Radix, L. Common dandeline, the herb and root
Not used in veterinary medicine.

Linum Cartharticum, L. Purging flax.

Linum usitatissimi Semina, L. Linseed. These
seeds contain a strong mucilage and oil, and are
well adapted for mucilaginous drinks; either in
decoctions or infusions.

Lytta, L. Meloe Viscatorius, E. Cantharides, French, or blistering fly. They are so very
acrimonious that they inflame and excoriate the
skin, and hence they cause a more perfect blister
than any substance we are acquainted with, con-
sequently of singular use as an external application,
for which purpose they are applied in tinctures,
ointments, and liniments; but the ointment is
always preferable.

Linimentum. Liniment. Is a term given to
external applications. The London college directs
many, but the following are of most use in veteri-
nary medicine:

Linimentum Ammoniae fortius, L. Strong
liniment of ammonia.

R Liquoris ammoniae f.3ij.
Olive olei f.5ij. m.

A stimulant for strains, &c.

Linimentum Aethrigines, L. Liniment of verde-
grease. Formerly called Mel Egyptiacum,
Egyptian honey.

R Aethrigines contrite 3j.
Aeerti f.5vij.
Meliss 8xiv. m.

Very useful for cleansing old wounds, &c.

Linimentum Camphorae compositum, L. Com-
ound camphor liniment.

R Camphorae 3ij.
Liquoris ammoniae f.5vij.
Spiritus Lavendulae 0ij. m.

A good mixture for sprains, bruises, &c,
Linimentum Saponis Compositum, L. Soap liniment, or opodeldoc.
R Saponis duri ſiij.
Camphoræ ſiij.
Olei rosmarini ſiij.
Spiritūs rectificati Oj. m.

Linimentum Album. White liniment.
R Linimenti saponis comp.
Liquoris ammoniæ.
Olei terebinthinae ſiij Oj. m.

Liquor. The following are the most useful:
Liquor Ammoniæ Carbonatis, L. Water of carbonate ammonia.
R Ammoniæ carbonatis ſiij.
Aqua distillatae Oj. m.

Liquor Arsinicalis, L. Arsenical solution, see Alterative tonics.

Liquor Plumbi Acetatis, L. Liquor of acetate of lead, formerly called Goulard's extract.
R Plumbi oxydi semivitrei ſiij. ſiv.
Acidi aceticī congium.

Boil the litharge in the acids till half is reduced.
This is an excellent application for all inflammations, made into a lotion with water, and it is very useful for the grease when mixed with linseed poultice.

Liquor Potassæ Subcarbonatis, L. Water of kali.
R Potassæ subcarbonatis ſiij.
Aqua distillatae ſiij. m.

Magnesia Sulphas, L. Sulphas Magnesia, E. Sulphas of magnesia, or Epsom salts. The virtues are the same as Sodæ Sulphas, which see.

Manganesium. Black oxide of manganes. A semimetal of a dull whitish colour when broken, but which soon grows dark by oxidation from the action of the air. This metal is principally used to obtain oxygen, and in making oxygenated muriatic acid gas.

Malva, L. Malva Sylvestris, Herba, E.
mon mallow. It is very mucilaginous, and must, therefore, be useful in emollient clysters.

*Marrubium, L. Marrubium vulgar, Herba, E.* The common white horehound. This herb would, perhaps, be of use in chronic coughs, either in powder or in a decoction.

*Melissa officinalis, Foliium, E.* Balm.


*Mel, L.* Honey. When given alone it is a pectoral; it enters into many compositions.


*Mentha veridis, L.* Spearmint. The mints are powerful carminatives, and seldom fail of giving relief in disorders arising from flatulency, as gripes, colic, &c. care must be taken to observe that the complaint does not arise from inflammation, as it would, in that case, do much mischief. The essential oil contains all the virtues of the mint.—The oil of peppermint may be given in doses of from twenty to forty minims; that of the spearmint, from forty to sixty minims, dissolved in a little alcohol, and afterwards diluted with water, or combined with other medicines.

*Menthae Pulegium, Herba, E.* Pulegium, L. Pennyroyal. The essential oil is a carminative, but inferior to that of peppermint.

*Magnesia Carbonas, L. Magnesia, E.* Carbonate of magnesia, vulgarly magnesia. An absorbent chalk will answer equally as well.

*Meyyanthes, L. Meyyanthes trifoliata, Foliuim, E.* Buckbean.

*Mazerei Cortex, L.* See *Daphne mezereum.*

*Mori Bacce, L.* Mulberries.

*Meloe Viscatorius, E.* See *Lyttta.*

*Mimoso Catechu, E.* See *Catechu extractum.*
**Mimosa Nilotica, Gummi, E.** See *Acacia Gummi.*

**Memordica Elaterium, E.** See *Elaterii Poma.*

**Moschus Moschiferus, E. Moschus, L. Musk.** An antispasmodic, but too expensive for practise.

**Muries Ammonice, E.** See *Ammonice Murias.*

**Muries Sode, E. Sode Murias, L. Common salt.** Given in doses of from four to six ounces. It operates as an easy laxative; and, when joined with small doses of aloes, it is an useful anthelmintic. It is also used in clysters, and it promotes the operation of the eyes it is of service, applied in powder.

**Myristicae Nuclei, L. Myristica Moschata, Fructus nucleus, E. Nutmeg.** The essential oil contains all its virtues, and is a good stimulant and aromatic, in doses of from forty to eighty minims.

**Myrrha, L. and E. Myrrh.** A gum resin; it is a stimulant and tonic. It is useful for horses in weakness of stomach, diminished appetite, and imperfect digestion, combined with other remedies. The dose is from two to four drachms.

**Myrtus Pimenta, E. Pimentae Baccae, L. Jamaica pepper, or allspice.** The essential oil is a stimulant, and may be given in doses of from thirty to sixty minims.

**Nicotiana Tacaecum, Folium, E. Tobaci Folia, L. Tobacco.** A decoction of which is used to destroy filth in cattle, &c. It is also given by some grooms for the purpose of keeping their legs fine; it seems to be an innocent medicine, and generally acts as a diuretic.

**Nitrae Potassae, E. Nitre, salt petre.** This is both a febrifuge and diuretic, joined with *tartarized antimony,* or the *antimonial powder.* It is an excellent mixture for fevers, catarrh, or cold; and in troublesome coughs, added to an emollient mixture, it may be employed with advantage.
United to camphor it is useful for suppression of urine, or strangury; and it may be proper to observe, that camphor promotes the diuretic effects of *Nitrate of Potash*. The dose is from an ounce to an ounce and a half, either in drinks or balls, as may best suit the convenience of the prescriber.

*Olibanum*, L. See *Juniperus-Lycia*.


*Origanum Majorana*, E. *Origanum*, L. The essential oil of which is a powerful stimulant, and capable of doing much good in cases of sprains, bruises, &c. It also enters the composition of blistering salve.

*Opium*, L. *Papaver somniferum*, *Succus, spissatus*, E. Opium. It is one of the most useful of the narcotic sedatives. It is an excellent remedy in spasmodic complaints of the bowels, particularly if joined with ginger and other stimulants. In diabetes it has been found useful if joined with the same and *Pulv. Cinchonae Lancifoliae*. In diarrhoea it is an effectual remedy, united with *tartarized antimony* and some aromatic. It is an useful diaphoretic. It is sometimes used in obstinate coughs, joined with squills. Opium sometimes produces costiveness, which may be removed by clysters, exercise, bran mashes, and laxative balls; the medium dose is one drachm, but when given in clysters two.

*Oleum*. Oil. The different oils are numerous, and are divided into two classes, essential and fixed oil.

*Oleum Amygdalæ*, L. Oil of almonds.

--- *Anise*, L. Oil of aniseed.

--- *Carvi*, L. Oil of caraway seeds.

--- *Juniperi*, L. Oil of juniper berries.

--- *Lini*, L. Oil of linseed.

--- *Laurini*, Oil of the baytree berries.
Oleum Menthae piperitae, L. Oil of peppermint.

— Mentha viridis, L. Oil of spearmint.

— Origani, L. Oil of origanum, or marjoram.

— Ricini, L. Castor oil, see Ricini Oleum.

— Succini, L. Oil amber.

— Sulphuratun, L. Oil of sulphur, formerly balsam of sulphur, which see.

— Terbinthinae rectificatum, L. Rectified oil of turpentine. For the virtues and doses of the various oils, see the respective articles.

Oxigen. The vital principal of the atmosphere. See Air, Chap. II. Its properties are, 1. It is not absorbed by water. 2. It is rather heavier than common air. 3. All combustible bodies burn in oxigen gas with greatly increased splendour. 4. During every combustion in oxigen gas, the gas suffers a material diminution. 5. All bodies, by combustion in oxigen gas, acquire an addition to their weight, and the increase is in proportion to the quantity of gas absorbed. 6. Every substance capable of union with oxigen, affords, by combustion, either an oxide or an acid. 7. Oxigen gas, in an eminent degree, supports animal life.—

The oxides of metals are so called from their containing a portion of oxigen. For a particular account of oxigen and its combinations, see Henry's Epitome of Chemistry. Thompson's Chemistry, &c.

Oxidum Arsenici, E. See Arsenici Oxydum, L.

Oxidum Plumbi album, E. Plumbi Carbonis, L. White lead. This is sometimes used in ulcerations of the heels, when the discharge is thin and acrimonious, made into an ointment.

Oxidum Plumbi rubrum, E. Red lead. Is used in the composition of plaisters.

Oxidum Plumbi semi-vitreum, E. Lytharge. This is used in making Liquor Plumbi Acetatis, Emplastrum Plumbi, &c.
Oxidum Zincii impurum, E. Tuttia. Not used in veterinary surgery.

Ovum, L. Egg. The yolk of which is used to make oily and watery medicines unite.

Papaver somniferum, E. See Opium.

Papaveris Capsulae, L. White poppy heads. Useful in fomentations.

Petroleum, L. Barbadoes tar. See Bitumen Petroleum.

Physeter macrocephalus, E. See Cetacea.

Pimpinella Anisum, E. See Anisi Semina, L.

Pimentae Baccæ, L. See Myrtus Pimenta, E.

Pinus Abies, E. See Abietis Resina.

Pinus balsamea, E. See Balsamum Canadense.

Pinus Larix, Resina liquida, E. Common turpentine, from which an oil is drawn, Oleum Teribinthinae, commonly called spirit of turpentine. This liquid resin is an efficient diuretic, and possesses considerable carminative powers; it is a common ingredient in digestive and detergent ointments. The distilled oil is given in doses of from one to two ounces; it will frequently cure the colic, &c. When added to stimulants, as camphor, ammonia, &c. it makes a good embrocation for swellings, sprains, and bruises; when united to mustard, so as to form a cataplasm, it has been found serviceable to prevent internal inflammation; it is also used in obstinate ulcers with good effect; and is an useful ingredient in blistering ointments, liniments, &e.

Pinus sylvestris, Resina empyreumatica, E. Pix Liquida, L. Liquid pitch, or common tar. It is an useful remedy for thrushes and other diseases of the frog; as it cleanses the offensive matter, which constitutes the disorder and promotes the growth of the horn; the offensive matter should be removed with a knife, after which melt the tar and pour it into the wound, then dip some
pledgets of tow in the tar, so as to fill the cavity, and confine the part with bandages, &c.; when the disorder is very bad a little sulphuric acid should be added. It is sometime used for coughs, but seldom with the desired effect.

*Pis arida*, L. Black pitch. Sometimes used for charges.

*Piperis longi Fructus*, L. *Piper longum*, E. Long pepper. Useful in flatulent complaints, but care is necessary to distinguish that the complaint is not inflammatory. The dose is from half an ounce to an ounce.

*Piperis nigri Baccae*, L. *Piper nigrum*, E. Black pepper. Its medical virtues are the same as the last, only not quite so powerful.

*Pistacia Lentiscus, Resina*, E. *Mastiche*, L. Mastic.

*Plumbum*,L and E. Lead. There are various preparations made from it.

*Plumbi Oxidum semi-vetreum*, L. See *Oxidum Plumbi semi-vetreum*.

*Plumbi Carbonas*, L. See *Oxidum Plumbie Album*.

*Plumbi Superacetatas*, L. Superacetate of lead, sugar of lead. A solution of which, in the proportion of one to eight of water, has the same effect as the diluted *Liquor Plumbi Acetatis*, both of which are very useful for external inflammations, either in the form of poultice or lotion. It is, probably, the most useful application for the grease in horses heels, applied every day in linseed poultices.

*Porri Radix*, L. Leek root.

*Potassae impura*, L. See *Carbonas Potassae impurus*.

*Potassae Acetas*, L. Acetate of potash, formerly called *Sal Diureticus*, from its diuretic properties. It is seldom employed in veterinary medicine.
Potassæ Sulphas, L. Sulphate of potash.
Potassæ Supersulphas, L. Supersulphate of potash. This was formerly known by the name of Sal Enixum, and kept in the shop for the use of silversmiths.
Potassæ Tartras, L. Tartrate of potash, formerly called soluble tartar.
Potassæ Subcarbonas, L. Subcarbonate of potash. This was formerly known by the name of Sal tartari, Sal. absinthii, for its medical virtues see Carbonas Potassæ impurus.
Pruna, L. Prunes.
Polygonum Bistorta, Radix, E. See Bistorta Radix.
Pulegium, L. See Menthae Pulegium.
Pyrethri Radix, L. See Anthemis Pyrethrum, Radix.
Polypodium Filix mas, Radix, E. See Filicis Radix.
Pycnothria emeticae, Radix, see Cephæis Ípeca-cuanœ.
Pterocarpus Draco, Resina, E. Dragon’s blood. It was formerly employed by farriers as an astringent and styptic in fluxes and internal bleedings, but now seldom used, nor is there any disease of the horse in which it is likely to be useful.
Punica Granatum, Cortex, E. See Granati Cortex.
Quassiae Lignum, L. Quassia excelsa, Lignum, E. Quassia. It is a powerful bitter, and a good medicine in cases of weakness of the stomach; the dose of the powder is from two to three drachms.
joined with ginger and some other stimulant, and a small portion of soda.

Quercus CerriS, Cyniphs nidus, E. See Galle, L. Quercus Robur, Cortex, E. Quercus Cortex, L. Oak bark. A decoction of this bark is a good vehicle for tonic and astringent medicines; the powder of which, made into a ball with some aromatic, is good in those complaints where their continuance depend upon debility. It is thought, by some, that it is not equal to the Cinchone Lancifoliae Cortex; yet where that expensive article cannot be readily procured, it is an useful substitute. It may be given in doses of from one to two ounces or more.

Resina flav, L. Resina pin, Resina, E. Yellow rosin. Is used as a diuretic, in doses of one ounce, united to some carminative, and given to horses that are subject to swelling of the legs.

Rhamni Baccce, L. Rhamnus catharticus, E. Buckthorn berries. The juice of which is usually made into a sirup, and was supposed to possess purgative properties, but it certainly has no active effect.


Rhus Toxicodendron, Folium, E. Poison oak. I have never heard of the leaves of this shrub being used in veterinary medicine; it was first employed in medical practice by Dr. Alderson, of Hull, in cases of paralysis with success, acting on the bowels as a gentle laxative.

Rheados Petala, L. Red poppy petals.

Ricini Oleum, L. Ricinus communis, Oleum fixum, E. Castor oil. It is the most useful laxative we are acquainted with, as it gently opens the bowels without causing irritation, consequently proper in fevers accompanied with costiveness, par-
particularly when there appears great pain in the bowels. The dose is from a pint to a pint and a half.

*Rose caninae pulpa,* L. *Rosa canina, Fructus recens,* E. The fruit called the hip.

*Rose centifoliæ Petala,* L. *Rosa centifolia, Petalum,* E. Damask rose.

*Rose Gallicæ petalum,* L. Red rose leaves.

*Rosmarini Cacumina,* L. *Rosmarinus officinalis,* E. Rosemary tops. The oil of rosemary, mixed with soap and spirits of wine, is an excellent application for sprains, &c. It has likewise been given for the colic, gripes, &c. with good effect in doses of from half a drachm to a drachm.

*Rubiae Radix,* L. *Rubia Tinctorum, Radix,* E. Madder root. The powder of this root was formerly much employed by farriers for the jaundice, which they termed the yellows, both in horses and neat cattle; it has likewise been given indiscriminately to swine, let their complaint be what it might; little reliance, however, can be placed on it. The usual dose is an ounce.

*Rutæ Folia,* L. *Ruta graveolens, Herba,* E. Rue leaves. Has no anthelmintic properties on the horse.

*Sabinæ Folia,* L. See *Juniperus Sabina.*

*Saccharum.* Sugar.

*Sagapenum,* L. and E. *Sagapenum.* Similar though weaker in its medical effects to *Assafoetidae.*

*Salicis Cortex,* L. Great round leaved willow bark.

*Salvia officinalis, Folium,* E. Sage.

*Sambuci Flores,* L. Elder flowers.

*Sapo durus,* L. *Sapo Hispanus.* Spanish hard soap. It is diuretic, and is an useful ingredient in purgative and diuretic balls. The dose is from two to four drachms, and is sometimes given in larger doses.

*Sapo mollis,* L. Soft soap. It is very useful
for cleaning foul heels, when mixed with rectified oil of turpentine, &c. It forms a good embrocation for sprains, &c.

Scilla maritima, Radix, E. Scillaæ Radix, L. Squill root, sea onions. The powder of the dried roots is usually given in doses of a drachm or more; it is an expectorant and extremely serviceable in chronic coughs. In larger doses it acts as a diuretic; Ammoniacum, Camphore, and Opium are useful additions, but particularly the first.

Senega Radix, L. See Polygala Senega.

Sinapis Semina, L. Mustard seed. The flour of mustard is a powerful stimulant, and cataplasms made of it with water and a little oil of turpentine, carefully rubbed on the skin for some time, produces considerable inflammation and swelling; consequently very useful in cases of internal inflammation, particularly when the bowels or lungs are affected. Mustard may be given internally when a powerful stimulant is required.

Sisymbrium Nasturtium, Herba, E. Common water cresses.

Simalax Sarsaparilla, Radix, E. Sarsaparille Radix, L. Sarsaparilla root.


Scammonia Gummi-resina, L. See Convolvolus Scammonia.

Sennaæ Folia, L. Cassia Senna, Folium, E. A purgative, but so weak that it requires a large quantity to give the desired effect, consequently an inconvenient and expensive medicine.

Serpentaria Radix, L. See Aristolochia Serpentaria, Radix.

Sevum, L. Ovis Aries, adeps, E. Mutton suet.

Sodæ Murias, L. See Murias Sodæ, Sodæ Boras, L. See Boras Sodæ.
Sodæ Sulphas, L. Glauber salts. A very useful purgative for neat cattle in the quantity of a pound; and as an alterative in doses of from six to eight ounces. But, in horses, I have known instances where it has produced very unpleasant effects, and I think them not proper to be given to that animal.

Soda impura, L. See Carbonas Sodæ impurus, E.

Spigelæ Radix, L. Spigelæ Marilandica, Radix, E. Indian pink root. It has no anthelmintic effect on the horse.

Spiritus rectificatus, L. See Alcohol.

—— tenitor, L. See Alcohol dilutum.

—— Ammoniac aromaticus, L. Aromatic spirits of ammonia.

—— Camphora, L. Camphorated spirits.

—— Juniperi compositus, L. Compound spirits of juniper.

—— Lavandulae compositus, L. Compound spirits of lavender.

—— Menthae piperitæ, L. Spirits of peppermint.

—— Aetheris nitrici, L. Sweet spirits of nitre.

—— Aetheris sulphurici, L. Sulphuric æther.

Spongia, L. Spongia officinalis, E. Sponge.

—— Usta, L. Burnt sponge.

Stannum, L. and E. Tin. It is a good anthelmintic in dogs and the human subject, and perhaps deserves a trial on the horse.

Staphisagriae Semina, L. See Delphinium Staphisagria.

Styracis Balsamum, L. Styrax officinalis, E. Storax Balsam. It medical virtues are similar to Balsamum Tolutanum, and may be given in ob-
stimulate coughs with squills, opium, &c. The dose is two drachms.

Styrax Benzoin, E. See Benzoinum.
Sub-Acetis Cupri, E. See Aërugo.
Succinum, L. and E. Amber. The oil of amber is a powerful stimulant.

Sulphur, L. Sulphur.
Sulphur Sublimatum, L. and E. Sublimed or flores of sulphur. It is a laxative, in doses of from four to eight ounces. Sometimes it is given as a diaphoretic, but it certainly possesses little power that way. Its principle use is in external application for the mange in dogs, and other complaints of the skin, made into an ointment, or given internally in milk, to the extent of two or three tea spoonfuls daily.

Sulphas Aluminae, E. See Alumen.
Sulphas Cupri, E. See Cupri Sulphas.
Sulphas Magnesiae, E. See Magnesia Sulphas.
Sulphuretum Hydrargyri rubrum, E. See Hydrargyri Sulphuretum rubrum.
Super Tartris Potassae impurus, E. Red tartar.

See Acidum Tartarum.
Sus Scrofa, Adeps, E. See Adeps.
Tanacetum vulgare, Folium, E. Tansey. A decoction of this herb may be employed as a vehicle for tonic and stomachic medicines. It was formerly supposed to possess anthelmintic powers, but at present it is considered doubtful.

Taraxaci Radix, L. See Leontodon Taraxacum.
Terebinthina Canadensis, L. See Balsamum Canadensis.
Testae, L. Oyster shell. Prepared oyster shells are used as an absorbent, combined with some carminative.

Tabaci Folia, L. See Nicotina Tabacum, Folium, E.
Toluifera Balsamum, E. See Balsamum Toluianum.
Tormentillæ Radix, L. Tormentilla erecta, Radix, E. Tormental root. This root is a powerful astringent, and may be employed in diarrheas of horses and neat cattle, with good effect, in doses of an ounce or more, joined to a little carminative, which may be increased if necessary.
Toxicodendri Folia, L. Rhus Toxicodendron, Folium, E. Sumack leaves.
Tragantha, L. See Astragalus Tragacantha.
Triticum hibernum. E. See Amylum.
Tussilago, L. Tussilago Farfara, Folium, E. Colt's foot.
Tinctura. Tincture. The most useful of which are the following:
Tinctura Benzoini composita, L. Compound tincture of benzoan.
Tinctura Myrrhae composita. Compound tincture of myrrh.
Tinctura Opii, L. Tincture of opium.
Valerianæ Radix, L. Valeriana officinalis, Radix, E. Valerian root. It is much used as an antispasmodic for neat cattle, in doses from one to two ounces.
Veratri Radix, L. Veratrum Album, Radix, E. See Hellebori Albi Radix.
Vinum, L. Vitis vinifera, E. Spanish white wine, or sherry.
Umi Cortex, L. Ulmus campestris, Cortex interior, E.
Uva Passæ, L. Raisins.
Uva Ursi Folia, L. See Arbutus Uva Ursi, Folium.
Unguentum. Ointment. There are a variety of ointments directed by the college, but I shall only notice those that are of use to the veterinarian.
Unguentum Hydrargyri Fortis, L. See Hydrargyrum.

Unguentum Hydrargyri Mitius. Mild ointment of quicksilver, sheep salve. This is a most valuable preparation for the scab in sheep, hence it is called Sheep salve; and as it is a preparation of such extensive utility, I shall particularly notice it.

R Hydrargyri lb.
Res. Pini laricis lvj.
Olie terbinthine q. s.

Rub the mixture in a marble mortar, or in a machine constructed for that purpose, till the quicksilver is perfectly united, which may be known by taking a drop of the mixture on a glass and rubbing it with the finger, if it is perfectly united no globules of silver will appear. Then melt and add by degrees Adips lb. L. or, what I conceive better, Olei Cocos Butyraceae the same quantity; if lard is used it is much better rancid, as will be hereafter explained. Mix the ingredients together till it grows stiff, taking care that it is neither too stiff nor too thin, which must be regulated according to the season of the year. In summer, if too thin, a little rosin or tallow may be added to it; and in winter, if too stiff, a little rancid oil may be added.

The machines used for this purpose are of various constructions, according to the ideas of the inventor; some with the mortar constructed on the principle of figure the 1st, A the mortar; B the pestle, that is fixed to some machinery that turns it round, by which means the two balls C C is pushed round the mortar by the two legs D D.

I have, for my own use, a machine according to the construction of figure 2d in the plate, which answers very well, one person may make eighty pounds per day; and as it is of a simple con-
struction and not expensive, I may venture to recommend it to all those who may want to employ a similar machine. A, the mortar, made of cast iron plates screwed together; B, the pestle that is moved from one end of the mortar to the other by means of the wheel C; cranks D and F; E the beam that steadies the pestle B; G a screw that is fixed to the crank F, that it may be moved up and down the pestle at pleasure; H the pestle that is made to fit the mortar.

My first ideas for using rancid fat were drawn from the following paper, published in the Medical and Physical Journal by Mr. John Proctor, Vol. I. page 357, since, it has been my constant practice to use it in preference to fresh, and I have invariably found that ointment when kept until rancid, or when made with rancid fat, was stronger and more certain in its operation. For the better information of my readers I have transcribed that part containing the experiments:—

"I was led to try a little empyreumatic or rancid fat from the hint given in 'Fourcroy's Chemistry,' Vol. II. page 248, first edition, and found it answered beyond anything I had ever used before for this purpose. It not only combines in a short time with quicksilver, but the colour of the ointment is equal, if not superior, to any that can be made with the purest fat without this addition. In this ointment, the particles of the mercury do not merely seem to be distributed and interspersed among the particles of the fat without this addition; on the contrary, the oily matter of mercurial ointment very quickly becomes rancid; and as we know that rancidity or incipient acidification, is always the consequence of the combination of oil with some other substance, now known to be oxygen, which it seems disposed to absorb more quickly by being united with metallic sub-
stances. When the ointment is old, if we rub a portion of it between two bits of paper, the whole of the oil is absorbed without leaving any globules of mercury visible behind it; but when we treat mercurial ointment recently prepared, in the same manner, we can very readily perceive a great number of metallic particles quite distinct. M. Beaumé took equal quantities of mercurial ointment, one of which was newly made, and the other become slightly rancid by keeping; he kept both of them in a state of liquefaction during eight days, in a degree of heat much below what could possibly decompose the fat; the newly made ointment allowed three drachms of mercury to separate, the other, which was rancid, only one and a half. All those observations do not allow us to doubt of the reality of the combination they pointedly prove, that what we call the extinction of mercury in fat, is not purely the effect of mechanical division, since those two substances exert a slow spontaneous action upon one another, from which a more intimate union at length results. This is much confirmed by observing the difference in colour and consistence between old and new ointment. When mercurial ointment is converted into a saponaceous compound by the addition of caustic alkali, there is always a quantity of fluid mercury separated from the mixture, the fat forsaking the mercury to unite with the alkali. Mercurial ointment is also decomposed by the action of aether upon it. When a small quantity of good mercurial ointment is put into a flask, which is two-thirds full of aether and distilled water, and the mixture frequently shaken, the mercury soon begins to precipitate, carrying a small portion of fat along with it, which gives the mercury the appearance of a calx; but this fat soon disappears, and the mercury soon unites in the form of metallic globules, by
simply drying it on bibulous paper. By this analysis we collect almost the whole of the mercury in a fluid state. In reviewing all those facts carefully, it seems probable that the mode in which mercury combines with fat, more resembles the amalgamation of the metals with mercury, than dissolution in acids, as the mercury is taken up in a metallic state and not calcined (oxydated); the fatty matter serving the purpose of a solvent to the mercury, in the preparation of mercurial ointment; in the same way that mercury itself serves the purpose of a solvent to the other metals, in the combination of the different amalgams.

"I consider mercury to be simply mechanically divided by being triturated (till totally extinguished) in pure sweet fat; for upon the surface of any body which will either absorb the fat or allow it space to be diffused upon, the mercury presently reunites into small globules, as in its original state; and this happens from the connection between it and the dividing matter (fat) being destroyed. But when the ointment has been kept some time no such effect takes place, because the union becomes more intimate in consequence of the fat undergoing a change, by which it really does dissolve part, and in time the whole, of the mercury; and this change is no other than a gradual acidification, which it seems more readily to undergo from its combination with the mercury by the absorption of oxygen from the atmosphere. The smell which would betray its rancidity, or acidification, cannot be perceived till all the mercury is combined with the sebacic acid, when the superabundant quantity of fat, having no metal to neutralize, or rather to saturate its acid, will of course become sensible to the smell; as a proof of this, old mercurial ointment will readily take a considerable addition of fresh mercury, and in
this way I at once prepared the *Ung. Hydrarg. fort.* by adding a proportionable quantity of mercury to a weaker ointment."

Clayter gives the following directions for using the ointment, which may be useful here to insert: "One pound of the ointment is sufficient for seven sheep of a moderate size for the scab," but if bad four to the pound; lambs in proportion. "Many farmers and graziers are in the practice of dressing all their sheep and lambs every year, whether infected with the scab or not, they alledge that it destroys filth, promotes health, and causes them to thrive much faster." When using, "Divide the wool from the head to the tail, so as to expose skin, then take a small quantity of the ointment intended to be rubbed on the sheep, and rub it well in upon the skin from head to tail; next divide the wool on each side, and rub the remaining part of the ointment well in. This is the general method made use of either in dressing of sheep for the scab or filth, but different shepherds adopt various ways: some thinking it necessary to divide or furrow the wool down each shoulder, and likewise on the thigh, or on any part that may be infected with the scab. The most proper time for dressing sheep with ointment is about Michaelmas or any time in October, choosing dry weather for the purpose;" if the sheep get wet it most probably will kill the animal, for the sheep by dressing is in a state of salivation, and consequently cold and wet should be avoided.

*Unguentum Hydrargyri Nitric-oxydum, L.*

See *Hydrargyri Nitric-oxydum.*

*Unguentum Sulphuris, L.* Sulphur ointment. An useful article in cutaneous complaints.

*Unguentum Zinci, L.* See *Zinci Oxydum.*

*Wintera aromatica, Cortex, E.* See *Cannelle Cortex.*
Zincum, L. and E. Zinc. From this metal are prepared two articles, Zinci Sulphas and Zinci Oxydum.

Zinci Sulphas, L. White vitriol. This has been recommended as a tonic, in doses of from four to six drachms. It has been given, by way of experiment, to glandered horses, to the extent of eight ounces, without producing any other inconvenience than causing a little difficulty in staling. It may be employed to advantage in an ointment to dress indolent tumors, in the latter stages of the grease.

Zinci Oxydum, L. Oxyde of zinc. May be employed in an ointment for ulcers, to promote their healing.

Zingiberis Radix, L. See Amomum Zingiber;
The following Catalogue contains the most useful Articles in the Materia Medica; the most common English names preceding that of the Colleges, under which they will be found in the preceding pages.

---

Acid, see Acidum.
Aqua Fortis, see Acidum Nitricum.
Arabic, see Acaciae Gummi.
Alkalies, see Alkalina.
Æther, see Æther Sulphuricus.
Aloes Barbadoes, see Aloes Vulgaris Extractum.
Socotrina, see Aloes Spicæ Extractum.
Alum, see Alumen.
Burnt, see Alumen exsiccatum.
Amber, see Succinum.
Ammoniac, see Ammoniacum.
Almonds, Sweet, see Amygdale Dulces.
Bitter, see Amygdale Amare.
Alkanet Root, see Anchusa tinctoria.
Angelica, see Angelica Archangelica.
Angustura, see Angustura.
Aniseeds, see Anisi Semina.
Antimony of the shops, see Antimoni Sulphuratum.
Oxide of,
Calcined of, see Antimonii Oxydum.
Crocus of,
Golden Sulpher of, see Antimonii Sulphuratum praecipitatum.
Tartarized, see Antimonium Tartarizatum.
Antimony, James’s Powder of, see Pulvis Antimontalis.

———, Butter of, see Murias Antimonii.

———, Glass of, see Oxydum Antimontii cum Sulphure Vitrificatum.

Arbutus Leaves, see Arbutus Uva Ursi.

Arsenic, White, Yellow, and Red, see Arsenici Oxydum.

Asarabacec, see Asari Folia.

Assafetida, see Assafetida.

Burgundy Pitch, see Abietis Resina.

Balm of Gilead, see Amyris Gileadensis.

Burdock, see Arethuri Lappa.

Benzoin, see Benzoinam.

Bistorta, see Bistoriae Radix.

Barbadoes Tar, see Bitumen Petroleum.

Borax, see Boras Sodae.

Brooklime, see Becabunga.

Bole, see Bolus Gallicus.

Barytis, see Carbonas Barytae.

Blistering Cerate, see Ceratum Lyttae.

Bark, Yellow, see Cinchone Cardifolie Cortex.

———, Peruvian, see Cinchone Laucifolie Cortex.

———, Red, see Cinchone oblongifolie Cortex.

Blue Vitriol, see Cupri Sulphas.

Bay Berries, see Lauri Baccae.

Balm, see Melissa officinalis.

Buckthorn Berries, see Rhamni Baccae.

Chalk, see Carbonas Calcis.

Clove, see Caryophyllus aromaticus.

Cassia, see Cassiae Cortex.

Cascarilla Bark, see Cascarillae Cortex.

Castor, see Castorecum.

Cinnamon, see Cinnamoni Cortex.

Chochineal, see Coecus Ceati.

Colocynth, see Colocynthis Pulpa.

Cummin Seeds, see Cuminis Semina.

Carrots, see Dauci Radix.
Cowage, see Dolichi Pubes.
Cabbage Tree Bark, see Geoffræainermis, Cortex.
Calcined Quicksilver, see Hydrargyri oxdum rubrum.

Carraway Seeds, see Carin Semina.
Cantharides, see Lytta.
Castor Oil, Ricini Oleum.
Cardamom Seeds, see Anomum Repens.
Chamomile Flowers, see Anthemis nobilitis.
Caustic Lunar, see Argentri Nitræ.
Copabba, see Bulsamum Copatva.
Canada Balsam, see Balsamum Canadense.
Crabs Claws, see Cancer Pagurus et Astacus.
Calaminaris, see Calaminae.
Cajuputi Oil, see Cajuputi Oleum.
Colomba, see Calumæ Radix.
Camphor, see Camphora.
Capsicum, see Capsici Baccae.
Charcoal, see Carbo Ligni.
Calomel, see Hydrargyri Submurias.
Dill Seed, see Anethi Semina.
Dragon, Gum, see Astragalus Tragancantha.
Deadly Night Shade, see Atropha Belladonna.
Dandelion, see Leontodon Taraxacum.
Dragons Blood, see Pterocarpus Draco.
Elemi, see Amyris Elemifera.
Euphorbium, see Euphorbiæ Gummi-resina.
Egyptian Honey, see Linimentum .Eruginæ.
Epsom Salts, see Magnesia Sulphas.
Egg, see Ovum.
Flowers of Benzoin, see Acidum-benzoïcum.
Flag Root, see Acorus Calamus.
Fennel Seed, see Anethum Fæniculum.
Foxglove, see Digitalis Folia.
Fern, Male, see Filiciæ Radix.
Fig, see Ficus Carica.
Garlic, see Allii Radix.
Ginger, see Amomum Zingiber.
Goose Fat, see Anas Anser Adeps.
Galbanum, see Bubon Galbanum.
Gamboge, see Cambogia.
Galls, see Galla.
Gentian, see Gentianæ Radix.
Guaiacum Wood, and Resin, see Guaiici Resina, et Lignum.
Goulard's Extract of Lead, see Liquor Plumbi Acetatis.
Glauber Salts, see Sodæ Sulphas.
Horse Chestnut, see Aæsculus Hippocastanum.
Hog's Lard, see Adeps.
Horse Radish, see Armoraciacæ Radix.
Hemlock Leaves, see Conii Folia.
Hellebore, see Hellebori Alba; Radix.
Hemp, and Seed, see Hyoscyami Folia et Semina.
Hyssop, see Hyssopus officinalis.
Horehound, see Marrubium.
Honey, see Mel.
Isinglass, see Acipenser Ithtyocolla.
Iron, see Ferrum.
—-, Rust of, see Ferri Carbonas.
—-, Sulphate of, see Ferri Sulphas.
India Pink, see Spigeliaæ Radix.
Japan Earth, see Catechu Extractum.
Jalapa, see Convulvulus Jalapa.
Juniper Berries, see Juniperi Baccae.
Jamaica Pepper, see Myrtus Pimenta.
Kino, see Kino.
Leopard's Bane, see Arnica Montana.
Liquorice, see Glycyrrhizæ Radix.
Logwood, see Ḥæmatoxyli Lignum.
Laurel, see Lauro-cerasus.
Linseed, see Lini usitatissimi Semina.
Lead, White, see Oxidum Plumbi album.
—-, Red, see Oxidum Plumbi rubrum.
—-, Lytharge, see Oxidum Plumbi semivitreum.
Marshmallow Leaf and Root, see Althææ Folia et Radix.

Mezereon, see Daphne Mezereum.
Manna, see Fraxinæus Ornus.
Mallow, see Malvæ Sylvestris.
Mastic, see Masticæ.
Mint, Pepper, see Mentha piperita.
— Spear, see Mentha veridis.
Mulberries, see Morie Baccæ.
Musk, see Moschus Moschiferus.
Myrrh, see Myrrhæ.
Madder, see Rubie Radix.
Mustard, see Sinapis Semina.
Nutmegs, see Myristicæ Nuclei.
Onion, see Allium Cepæ.
Oats, see Avenæ Sativa.
Olibanum, see Juniperus Lyciæ.
Olive Oil, see Oleæe Oleum.
Opium, see Opium.
Oak Bark, see Quercæ Rober.
Pillitory of Spain, see Anthemis Pyrethrum.
Parsley, see Apium Petroselinum.
Peruvian Balsam, see Balsamum Peruvianum.
Pearl Ashes, see Carbonæ Potassæ impurus.
Palm Oil, see Cocos butyracea.
Pomegranate, see Granatie Cortex.
Pennyroyal, see Mentha Pulegium.
Pitch, Black, see Pix arida.
Pepper, Long, see Piperis longi Fructus.
— Black, see Piperis nigri Bacca.
Quicklime, see Calx.
Quince Seed, see Cydonæ Semina.
Quicksilver, see Hydrargyrum.
Quassæ, see Quassie Lignum.
Resin Cerate, see Ceratum Resinæ.
Red Precipitate, see Hydrargyri Nitrico-oxydum.
Rosin, see Resina Flava.
Rhubarb, see Rhei Radix.
Rosemary, see Rosemarini Cacumina.
Rue, see Ruta Folia.
Spirits of Salts, see Acidum Muriaticum.
Spirits of Wine, see Alcohol.
Southernwood, see Abrotonum.
Sorrel Leaves, see Acetose Folia.
Salammoniac, see Ammoniae Muriae.

Volatiles, see Ammoniae Carbonas.

Starch, see Amylum.
Silver, see Argentum.
Snake Root, see Aristolochia Serpentina.
Seville Oranges, see Aurantii Baccæ.
Sulphur, Balsam of, see Balsamum Sulphuris Simplex.

Spermaceut, see Cetaceum.
Stagshorns, see Ceras Elaphus.
Scurvy Grass, see Cochlearia officinalis.
Scammony, see Convolvulus Scammonia.
Stavesacre, see Delphinium Staphisagria.
Sublimate, see Hydrargyri Oxyurias.
Savin, see Juniperus Sabina.
Sassafras, see Laurus Sassafras.
Salt, Common, see Marias Sodæ.
Salt Petre, see Nitrae Potassa.
Sugar of Lead, see Plumbi Superacetas.
Sanders, see Pterocarpi Lignum.
Sage, see Salvia officinalis.
Soap, Soft, see Sapo mollis.
Soap, Hard, see Sapo durus.
Squill, see Scilla maritima.
Sarsaparilla, see Similiax Sarsaparilla.
Sheep Salve, see Unguentum Hydrargyri mitius.
Tartarous Acid, see Acidum Tartarosum.
Tolu Balsam, see Balsamum Tolutanum.
Turner's Cerate, see Ceratum Calamina.
Tarpeth Mineral, see Hydrargyris Vitriolatus.
Tobacco, see Nicotiana Tobacum.
Thorn Apple, the Plant, see Datura Stamonium.
Turpentine, see Pinus Larix.
Tar, see Pinus sylvestris.
Tin, see Stannum.
Vinegar, see Acidum Acetosum.
Vinegar of Squills, see Acetum Scillae.
Vitriol, Oli of, see Acidum Sulphuricum.
Verdigris, see Aërugo.
Vermillion, see Hydrargyri Sulphuretum rubrum.
Valerian, see Valerianae Radix.
Wormwood, see Absinthum.
Wolf's Bane, see Aconiti Folia.
Winter's Bark, see Canellæ Cortex.
Wax, Yellow, see Cera Flava.
White, see Cera Alba.
Woody Night Shade, the Stalk of, Dulcamarae Caulis.
White Precipitate, see Hydrargyrum praecipitatus albus.
Willow Bark, see Salicis Cortex.
Yeast, see Cerevisiae Fermentum.
Zedoary, see Anomum Zedoaria.
Zinc, see Zincum.
Sulphate of, see Zinci Sulphas.
Oxide of, see Zinci Oxydum.
CHAPTER II.

Compound Veterinary Medicines;
WITH DIRECTIONS
For Bleeding, Purgings, Fumigation, &c.

Absorbents are medicines that combine with acids and form neutrals; with this view they are frequently given in various cases. Those commonly in use are, Crete p. p., Magnesia Carbonas, Carbonas Soda, et Potassæ, &c. Absorbents are seldom of use unless preceded by a purge, see Cathartics. Then administer the absorbents joined with tonics or aromatics, such as the Gentiane Radix, Quassia Lignum, Anthemides Flores, Absinthium, Columbae Radix, Cinnamomi Cortex, Cascarillæ Cortex, &c. The following formulas are very efficacious if preceded by a purge:

R Carbonas calcis 3vj.
Pul. gentiane 3ij.
Pul. cascarillæ 5ij, m.
R Carbonatis potassæ 5ij.
Pulv. quassiae 5ij.
Pulv. Zingiberis 3ij.
Oleum Carui mx.
R Carbonatis sodæ 3ij.
Pulv. columba
Pulv. coct. cinnamomi 3ij.

These medicines may be either made into balls or powders, as may suit the convenience of the prescriber, and one of them given every morning.
Air, common atmospheric air is that elastic vapour that surrounds our globe; on the salubrity of which the health of man and animals depend; the lower atmosphere chiefly consists of oxygen or vital air, and nitrogen or azote. Dalton, of Manchester, gives the proportions of each in 100 parts of air, according to the following table:

<table>
<thead>
<tr>
<th></th>
<th>Per</th>
<th>Cent.</th>
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<tr>
<td>Azotic gas.</td>
<td>75</td>
<td>55</td>
</tr>
<tr>
<td>Oxigenous gas.</td>
<td>23</td>
<td>32</td>
</tr>
<tr>
<td>Aqueous vapour.</td>
<td>1</td>
<td>3 variable</td>
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<tr>
<td>Carbonic acid gas</td>
<td>0</td>
<td>10</td>
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<tr>
<td><strong>Total</strong></td>
<td>100</td>
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Respiration and combustion depends on the presence of oxygen, and as a portion of oxygen is destroyed by every inspiration, azote is expelled at every expiration, consequently unless the stables have a free access of air, to support the proper volume of oxygen, respiration becomes very difficult, and if no access of oxygen could be introduced, death would ensue. This is sufficient to prove that all stables should be well ventilated, and if the seeds of disease should have been introduced into any stable, it is necessary to have recourse to fumigation. See Fumigation. The litter should be removed from the stable every day and fresh straw given; this attention, joined with ventilation, would prevent many disorders that frequently attend them, such as inflamed eyes, obstinate coughs, &c. besides rendering a horse very susceptible of cold.

**Aleratives** are medicines that act gradually upon the constitution, consequently their use must be continued for some time. Those most commonly used in veterinary medicines are *Potassae*
Nitræ, Sulphur Sublimatum, Resina Flava.—
Alteratives are beneficial by producing an alteration on some part of the bowels, kidneys, or skin; and also augment the vigour or tone of the system. From this view it is necessary to divide them into four classes, namely, laxatives, diuretics, diaphoritics, and tonics.

Laxatives are frequently used for the same purpose as purgatives, and in many cases of superior efficacy, as in worms, grease, chronic inflammation of the eyes, coughs of long standing, &c. The following formulæ will be found very useful:

R. Aloes vulgaris extracti 3x.
Saponis duri 5j.
Seminum anisi 3j.
Oleum ess. caryophylli mxx.
Sy. simplicis, q. s. m.
Divide into four balls and give one every morning.

R. Sulphuris sublimati 3vj.
Antimonii tartarizati 3ii. m.
Divide into six papers and give one every morning.

R. Aloes vulgaris extracti 3j.
Hydrargyri submuriatis 3j.
Pulv. sem. carui 3j.
Sy. simplicis q. s.
Beat into a mass, divide into four balls, and give one every morning.

These are the formulæ that are generally given to a horse, the following for neat cattle:

R. Cocos butyracæ 3vj.
Soda sulphatis 3vj. m.
Dissolved in hot water and then set to cool, give it every morning new milk warm, until it gently opens the body.

R. Soda sulphatis 3xii.
Olei. olivæ 3xx.
Dissolved in hot water, and give it to the beast every morning until it gently opens the body.

When alteratives are given to destroy worms, Hydrargyris Submuriæ is given in from ten to
twenty grains, joined to the common aloes or salt, in doses of three or four ounces. Common salt is sometimes employed as an alterative, and generally opens the bowels in three or four days.

*Diuretic alteratives* are employed in swelling of the legs, and as a preventative in horses that are subject to that complaint; also to improve the coat and general condition of the animal. They may be given to a horse without inconvenience, or any danger, even in the winter season.

R. Resin flava 3vj.
Potassae nitritatis 3½S. m.
And give it in the morning.

R. Sulphuris sublimati 3j.
Antimonii tartarizati 3j.
Potassae nitritatis 3½S. m.
And give it in the morning.

R. Carbonatis sodae 3j.
Saponis duri 3vj.
Resinae flavae 3j.
Pulv. rad. glycrrh. 3½S.
Petrolei q. s.

To make into a mass and divide it into six balls, and give one in the morning.

*Diaphoretic alteratives* are composed of medicines that act on the skin, gradually increasing the insensible perspiration and giving a smoothness and gloss to the coat. The most effectual of this class are the various preparations of antimony, these alternatives are more used for what is termed surfeit or hidebound; they are also employed to remove an undue determination of blood to any internal organ, or diminish general plethora. To make alternatives prove more effectual, exercise and good grooming is necessary.

R. Antimonii tartarizati 3ij.
Opii 3ij.
Pulv. anisi 3iv.
Syr. simplicis q. s. m.
Divide into eight balls.
R. Antimonii tartarizati 3 f.
Hydrargyi oxymuriatis gr. xiv.
Amyli 3 f.
Pulv. Zingiberis 3 f.
Ol. Carri mix.
Syr. Simplicis q. s.

Make into a ball for one dose.

This last is an excellent remedy for all cutaneous eruptions. The Hydrargyi Oxymuriatis may be gradually increased, but should it occasion sickness, griping, or purging, or affect the mouth, it may be discontinued for a short time, and begun with again in small doses.

**Tonic alteratives** are composed of the preparations of Ferrum, Cuprum, Zinceum, and Arsenicum. They are also vegetable bitters that are tonics, such as Cinchonae Cordifolii Cortex, Quassiae Lignum, &c. It is remarkable that Arsenici Oxydum, though so poisonous to the human subject, is the best tonic for a horse we are acquainted with, and may be given in considerable doses with perfect safety; the best method of administering arsenic is in solution, and that which has been long known by the name of Fowler's Solution (Liquor Arsenicalis, of P. L.) combined with a cordial ball.

R. Arsenici oxydi
Potassae subcarbonatis ää gr. lxiv.
Aque distillate Gij.

Simmer the above in a glass bottle, than add
Spiritus lavendulæ compositi f. 3 iv.

Of this mixture one ounce contains four grains, two ounces will be a proper dose to begin with, unless the horse be very weak. The dose may be gradually increased till twenty or thirty grains is given in a dose.

For a more particular account of arsenic, see the article in the Materia Medica.

**Anodynes** are medicines that relieve pain, of which opium is the most powerful. When pain is occasioned by inflammation, it is seldom proper to employ opium or any narcotic, an attempt must first be made to remove the cause; but when it
depends upon spasm or irritation, no medicine are so proper, as in flatulent or spasmodic colic it seldom fails of giving relief.

*R* Opii 5j.
Saponis 5ij.
Pulv. sem. anisi 3j.
Syr. simplicis q. s.

Make into a ball.

*R* Camphorae 3j. 5s.
Sp. vini. rect. q. s. to powder the camphor, then add Opii 3j.
Pul. glycyrhr 5j. 5s.
Syr. simplicis q. s.

To make into a ball.

*R* Opii 3j.
Pulv. castorei 3ij. rubbed down with
Aquæ menthae pip 5vj.
Ætheris sulphurici 5vj.
M. haustus.

*Belladonae* Folia, *Hyoscyami* Folia, and other narcotics, are not always to be depended upon, as they are uncertain in their operation.

*Anthelmintics* are medicines that destroy or expel worms from the intestines. A variety of articles in the Materia Medica have been thought to possess this power; many of them, however, are found to be inert, the most powerful are *Stannum*, *Hydargyri Submurias*, and *Aloes vulgaris extractum*, which may be administered as alterative medicines, combined with some aromatic, according to the following formulæ:

*R* Stanni p. p. 3vj.
Aloes vulgaris extracti 3ij.
Pulv. zingiberis 3ij.
Syr. simplicis q. s.

To make into a ball and repeated every two or three days.

*R* Hydargyri submurias 5j.
Aloes vulgaris extracti 3ij.
Pulv. zingiberis 3ij.
Syr. simplicis q. s.

To make into a ball and repeated every two or three days.

little, if any, anthelmintic power. It has been supposed that worms are frequently generated in consequence of debility in the digestive organs, in which case tonics are recommended.

The *Dolichí Pubes* have been of service for worms in the human subject, it acts on the intestines mechanically, and occasions no uneasiness after its exhibition; the worms generally appear after the second or third dose, its effects are accelerated by a gentle purge. This medicine might perhaps also have a good effect on the horse; however it would be worth the trial. For a more particular account of worms see the third part of this work, containing the disorders incident to horses.

*Antiseptics* are medicines which prevent putridity, or remove it if taken place. The most useful are *Cinchona lancifoliae Cortex*, *Carbo Ligni*, *Opium*, *Æther Sulphuricus*, *Camphora*, *Amononía Murius*, *Acetum Aromaticum*, *Vinum*, *Gas acidum Carbonicum*, *Cerevisie Fermentum*, &c. Horses are not subject to those putrid fevers that attend the human species, consequently antiseptics are only of use in mortifications of the external parts; the following formulæ will be found efficacious, given either in balls or drinks, the latter is perhaps preferable, and the best vehicle for those are port wine, porter, or strong ale.

**R Cinchona lancifoliae corticis 3ij.**

-Zingiberis radicis 3 f5.

-Opii 5ij. m.

Divide into two doses, and give one every six hours.

**R Pulv. rad. serpentariae 5ij.**

-Ammonia carbonatis 3ij.

-Cort. cinnamomi 5 f5. m.

Divide into two doses and give one every six or eight hours.

**R Opii**

-Ammonia carbonatis 5ij.

-Camphora 5 ij. f5.

Pulv. rad. zingiberis 3 f5. m.

Divide into two doses, and give one every eight hours.
The various ingredients are to be regulated according to the violence of the symptoms or the strength of the animal; if costive, a clyster, or a dose of castor oil, is proper. When there is violent inflammation, suppuration should at the same time be forwarded, by dressing the wound with some of the most powerful antiseptics in the form of poultices and fomentations:

R Tritici hiberni ½j.
Carbonis ligni ½iv.
Cerevisia fermenti q.s.

To mix into a paste.

R Cinchonae lancifolii ½iv.
Carbonis ligni ½v.
Tritici hiberni et aquae q.s.

To make into a paste.

The food in these cases should be highly nutritious, as bruised oats, malt, &c. Great attention is also required of the groom, and frequent fomentations are necessary.

Antispasmodics are medicines that allay painful motions of parts, that are at other times subject to the will. There are two kinds of antispasmodics, stimulants and sedatives. When spasms arise from irritation sedatives are proper, but when on debility, tonics are prescribed.

For flatulent colic:

R Oleo terebinthinae rect. ½j.
Aquaq Oj. m.

R Camphoræ ½j. rubbed down with
Ætheris sulphurici ½vij.
Aquaq OFs. m.

R Tinct. opii ½j.
Spiritus ætheris nitrici ½ij.
Aquaq OFs. m.

To be repeated if necessary.

R Opii ½j.
Camphoræ ½ij.
Pulv. zingiberis ½ij.
Saponis duri ½ijj.
Syr. simplicis q. s. for one ball.
Great attention should be paid to the state of the bowels, which should be kept open by cliysters or Oleum Resini, as inflammation is frequently the consequence of costiveness. For the symptoms of each see the third part of this work. The following formulae will be found useful for locked jaw if given at the commencement, gradually increasing the dose. Blisters, fomentations, internal stimulants, and cliysters are also recommended:

\[ R \text{ Opii } \frac{3}{2} j. \]
\[ \text{Camphora } \frac{3}{2} j. \]
\[ \text{Pulv. rad. zingiberis } \frac{3}{4} j. \]
\[ \text{Syr. simplicis q. s.} \]

To make into a ball or draught with peppermint water.

\[ R \text{ Ætheris sulphurici } \frac{5}{4} j. \]
\[ \text{Tinct. opii } \frac{3}{4} j. \]
\[ \text{Aqua menthae piperitis } \frac{0}{2} j. \]

Make into a draught.

The following formulae will be found serviceable in old or chronic coughs, if preceded by a laxative ball, and should be repeated every morning till the desired effect is produced; but if it should cause loss of appetite, profuse staling, or any other derangement of the system, it must be discontinued for a short time. If plethora accompany the cough, bleeding is advisable. The cough is sometimes occasioned by an irritation in the throat, in which case emollient drinks and opium will be most serviceable. Most of the medicines in the following formulae are of a diuretic quality, and it is probable that their good effects depend more upon that than their antispasmodic power.

\[ R \text{ Assafætidae } \frac{5}{4} j. \]
\[ \text{Pulv. scillæ } \frac{3}{4} j. \]
\[ \text{Saponis duri } \frac{3}{4} j. \]
\[ \text{Pini laricis } \frac{5}{4} j. \]
\[ \text{Balsami peruviani q. s.} \]

Make into a ball.

\[ R \text{ Gummi ammoniacci } \frac{3}{4} j. \]
\[ \text{Balsami toluiani } \frac{3}{4} j. \]
\[ \text{Pulv. rad. glycyrrh.} \]
Pulv. rad. scillæ â â 3fCaps.
Olei. anisi mill. xx.
Syr. simplicis q. s.
Make into a ball.

R Pulv. rad. scillæ
Camphoræ â â 3j.
Opii 3ij.
Styracis balsami 3fCaps.
Syr. simplicis q. s. m.
R Digitalis foliæ 3fCaps.
Ext. conii foliæ 3ij.
Make into a ball.

The following formulæ will be found useful in suppression of urine, or pain and difficulty in avoiding it:

R Potassæ nitratis 3fCaps.
Camphoræ 3ij.
Tritici hyberni et syr. simplicis q. s.
To make into a ball.

A decoction of linseed should frequently be given, and clysters are sometimes necessary. If plethoric, bleeding is advisable, and the bowels should be kept open by laxative alternatives. It has been supposed that the staggers is a diseased condition of the stomach, and that antispasmodics are the best remedies. The following formulæ will generally be found of service, if timely and copiously bled:

R Ammoniæ carbonatis 3ij.
Pulv. rad. valerianæ 3iCaps.
Aqua menthae pip. Os.
Make into a drink.

R Assafetida 3ij.
Ammoniæ carbonatis 3j.
Camphoræ 3j.
Ætheris sulphurici 3iCaps.
Aqua menthae pip. Os.
Make into a drink.

A cathartic is also frequently of service.

Astringents are medicines that suppress increased evacuations, such as diarrhœa, diabetes, &c. Those
commonly used are preparations of Furrum, Cuprum, Zincum, Plumbum, Kino, Catechu, Opium, Hæmatoxylī Lignum, Tormentillae Radix, &c. &c.

Astringents for diarrhoea:

R. Opii 3j.
Amomi zingiberis 3ij.
Creta 3j.
Syr. simplicis q. s.

For a ball.

R. Catechu extracti 5iij.
Aluminiis 3fs.
Sem. anisi 3fs.
Syr. simplicis q. s.

For a ball.

R. Pulv. radicis rhei 3j.
Carbonatis sodae impuri 3fs.
Lauri cassiae 3ij.
Ole. menthae pip. m. L.
Syr. simplicis q. s.

For a ball.

In diarrhoea frequent mischief is done by giving astringents too soon; it is advisable first to give a laxative, which, in many cases, remove the complaint, if it should not, then administer astringents with caution.

An Astringent ball for diabetes:

R. Opii 5ij.
Amomi zingiberis 3ij.
Corticis querci vel cinchonae lancifoliae 3j. m.

Give it in a decoction of oak bark.

Astringent Washes:

R. Aluminis 3iv.
Creta 3j.
Aqua q. s. m.

R. Zinci sulphatis 3iv.
Creta 3fs.
Aqua q. s. m.

R. Liquoris plumbi acetae 3ij.
Aqua 3ij. m.

R. Cupri sulphatis 3j.
Aqua 3iv. m.
Astringent ointments:
R. Resinī pīni lāricis ʒiv.
Adēpis ʒv.
Plumbī sulperacētis ʒij. m.
R. Adēpis ʒvj.
Zinci sulphātis ʒij. m.

Astringent ointments are principally used for the grease, after the inflammation has been removed by poultices.

Attenuants are medicines that were supposed to thin the blood, now disregarded.

Balls are the most common and convenient form in which medicines are given to horses. The best method of doing it is in the following manner:— Have an assistant to open the animal's mouth and draw the tongue on the right side, then let the other, with his hand, put the ball as far into his mouth as he can reach, it then falls into the pharynx, or the top of the gullet, and on withdrawing the hand it may be seen to descend down the throat. It is necessary, for vicious horses, to have balling-irons so contrived as to hold the mouth firmly open. The composition of balls are various, according to the ingredients necessary to the complaint: when they are of a glutinous nature, sirups are the most proper to compound them with; when of the opposite, mucilage of gum arabic, or a solution of starch, &c. It is necessary that balls should be made at, the time when they are given, as the most volatile will evaporate, and they also frequently grow hard, and are not easily soluble in the stomach. There have been instances of horses been choked with hard balls. When balls are composed of strong stimulants, it is necessary to give glutinous liquids before and after, to prevent them from injuring the stomach. It is much better that all balls be wrapped up in thin paper before they are administered.
Blisters are applications which inflame the skin and cause watery versicals to appear; they are a very useful class of medicines.

Mild blistering ointment:
R: Ceratum lyttæ.

Stronger blistering ointment:
R: Olei. terebinthinae rect. ʒj.
Acidi sulphurici ʒij.
Adipis ʒiv.
Pulveris lyttæ ʒj. m.
R: Unguenti hydrargyri fort.
Olei. laurini ąą ʒij.
Pulv. lyttæ ʒj.
R: Ung. hydrarg. fort. ʒij.
Olei. originani ʒj. ʒj.
Hydrarg. oxymuriatis ʒij.
Lyttæ ʒj. m.

Liquid blister:
R: Liquoris potassæ subcarbonatis ʒv.
Pulveris euphorbii ʒij.
—— lyttæ ʒj.
Alcoholis Qj.
Hydrargyri oxymuriatis ʒj. m.

Let the ingredients stand a month, shake the bottle every day, after which decant off the liquor.

The two last formulæs are particularly useful for splints and bone spavins, but they must be used cautiously; they are apt to destroy the hair, but it must be submitted to in obstinate cases.

Blisters are the best applications to remove those swellings that are the consequence of strains, bruises, &c. but they ought never to be applied when the inflammation is violent. When blisters are used to remove bog or blood spavins, curbs or wind-galls, they require to be repeated two or three times; they are also employed to remove internal inflammation, particularly when the lungs are attacked, for which mustard blisters are in general considered the best.
R. Pulv. sinapis §vij.
Ole. terebinth. rect. §ij.
Liquoris ammonis §j.
Aqua q. s. m.

"Rub into the sides with the hand; if the bowels are affected, it should be rubbed all over the belly; and if the kidneys, upon the loins. The frictions should be continued for some time, and the parts afterwards covered. After a short time swelling and inflammation will take place, and sometimes in a considerable degree; but it will greatly diminish the internal inflammation, and often preserve the animal's life." White.

Bleeding is an operation that is frequently required; and when seasonably done with judgment, is a most efficacious remedy.

1st. Horses that appear dull and heavy, and indifferent about their food, by bleeding fever is frequently prevented.

2d. When animals, that are in a thriving state, frequently rub themselves so as to fetch off the hair, bleeding will be of service.

3d. If animals are bled at the commencement of colds, the complaint is in general lessened and rendered of short continuance.

4th. In inflammations of all kinds, internally and externally, the animal should be copiously bled at the commencement, which must be regulated according to the violence of the symptoms. It is sometimes necessary to take five quarts, repeating it the following day, by which means the inflammation is stopped at once.

5th. When horses are taken from camp or grass, and put into warm stables, they are subject to inflammatory complaints, under these circumstances moderate bleeding, occasionally, will prevent it. Horses getting into condition should also be occasionally bled.
Bleeding is either general or local; it is general when the whole system is affected, and local when only a particular part. For general bleeding, the jugular or neck vein is the most convenient; for local bleeding, "a vein should be chosen as near as possible to the affected part, or the vessels covering the part are opened: in the inflammation of the eye, for example, relief is often obtained by scarifying the inner surface of the eyelid, or by opening a small vein, which is easily seen, going from the inner corner of the eye towards the nose."

The fleme and lancet are the instruments used; the former by farriers, and is certainly the safest instrument in unskilful hands.

To know the quantity taken, a graduated tin vessel, capable of holding five quarts, should be at hand to receive the blood as it flows; every pint being marked on the inside of the vessel. In order to judge correctly of the state of the animal by the appearance of the blood, it should be taken from a large orifice, the first quart put aside for examination, and not shaken or disturbed until the whole is perfectly coagulated:

"When the blood continues fluid a considerable time, it denotes an inflammatory state of the system; should a whitish or light buff coloured jelly appear on its surface, after it has coagulated or settled, and should this jelly be of considerable thickness, rather firm, not easily penetrated by the finger, we may be satisfied that the animal's complaint is inflammatory; that bleeding was a proper remedy, and that if the symptoms continue the operation may be repeated with advantage.

"If the blood coagulates quickly, is uniformly of a dark liver colour, loose and easily broken, with a considerable quantity of water upon its surface, it denotes and shews that the disease arises
from the weakness of the system," and that medicines for that purpose are more proper than bleeding. In bleeding "the vein must be firmly pressed with the fingers of the left hand, the blood is by that means prevented from descending, and that part of the vein which is above the fingers is considerably distended and becomes very conspicuous, in this state it may be easily opened with a lancet held in the right hand. The vein will continue to bleed so long as the pressure below is continued." When done close the orifice, and put a pin through the lips of the wound, with a little tow twisted round it.

Professor Daubenton read, at the meeting of the Royal Medicine Society, at Paris, a paper of the most prevalent diseases of sheep in France. In that paper he has given the following directions for bleeding them: "To let blood in the cheek, the shepherd begins by placing an open lancet between his teeth; he then puts the sheep between his legs, and squeezes it so as to hold it fast, his left knee is rather more advanced than his right; he places his left hand under the head of the animal, and grasps the under jaw so that his fingers are under the right side of that jaw near its hinder extremity, in order to press the angular vein which passes in that place, and to make it swell; the shepherd then touches, with his other hand, the right cheek of the sheep, at the spot nearly equidistant from the eye and the mouth; he there finds the tubercle which is to guide him; he can only feel the angular vein swelled below this tubercle; he then takes in his right hand the lancet which he holds in his mouth, and makes the incision from below upwards, half an inch in length, below the middle of the projection which serves to guide him."
Animals, as soon as they are bled, should neither be suffered to drink cold water, or graze in the fields, as either may probably do injury.

**Cataplasms** are a kind of poultices, and of their consistence. The following are useful: *Cataplasma Sinapis, L.* Mustard cataplasm.

- Pulv. sinapis 3iv.
- Aquæ q. s.

To form a cataplasm.

*Cataplasma Fermenti, L.* For the composition see the article in the Materia Medica.

**Carminatives** are medicines that are useful for flatulent colic; several formulæ for which are in the class Antispasmodics, which see. The following may be added, which are useful when the other cannot be readily procured. It is, perhaps, necessary to repeat, that in all cases of flatulent colic, it is first necessary to ascertain that the complaint is not inflammatory, as in that case those medicines would do much injury. For the symptoms of each see the third part of this work. 1. A pint of strong peppermint water with a tea cup full of common gin, is useful for the colic. 2. A pint of port wine, with nutmegs or ginger grated into it. 3. Half a pint of common gin with an equal quantity of hot water. 4. A quart of hot ale with a little ginger. 5. A cordial ball dissolved in a quart of hot ale, &c.

**Cathartics** are medicines that excite purging, the preparations for this purpose are commonly termed physic.

**Mild physic for horses.**

- Rx Alœs vulgaris extracti 3S.
- Carbonatis sodæ impuri 5ij.
- Pulv. cassis corticis 3ij.
- Olei. anisii 1xx.
- Syr. q. s.

To form into a ball.
Be Aloes vulgaris extracti 3f.  
IIydrargyri submuriatis 3f.  
Amomi zingiberis 3f.  
Olei anisi mxx.

Strong physic:  
R Aloes vulgaris extracti 3vj.  
Saponis duri 3f.  
Olei. juniperi mxxx.  
Amomi zingiberis 3ij.  
Syr. q. s.

The strength of the above balls may be varied according to circumstances. When a purge is wanted to operate soon, it would be advisable to give it as a drink.

There are a wonderful difference in horses, respecting the quantity of medicines necessary to produce the desired effect. In all cases, never give strong purges, as they frequently bring on inflammation, and death follows. The greatest care is necessary to know the strength of the animal's bowels, before any medicine is given. A gentle purge is of great service in preventing diseases of cattle, when they are highly kept, or suddenly removed from poor to rich feeding, by removing the indigestable matter from the stomach. Some writers recommend all horses to be purged, at least, every six month; and then two or three doses at proper intervals each time. But if alteratives were given, instead of purges, it would probably do more good. Clayter thinks it necessary to prepare a horse for physic by giving him three or four mashes of scalded bran and oats, for three or four days before: "Which," he says, "softens the feces, and promotes the operation of the medicines." Neat cattle requires purging, and if their bowels were kept regularly open, it would prevent many disorders that frequently attend them.
Mild purge for neat cattle:

Rx Olei cocos butyraceæ Eij.
Sodæ sulphatis 5xij.
Aqua bullietis q. s. m.

Cardiaes. See Cordials.

Castration. La Fosso gives the following directions for castration: "In whatever manner a horse is castrated, never tear away the testicles violently; still less suffer a day or two to intervene between the commencement and the completion of the operation: because, when they lose their support, they draw down the part of the abdomen to which they are attached, and the animal perishes by the inflammation which ensues. A ligature should be preferred to every other method; fire ought never to be employed, and still less the knife."

"Castration is best performed by cutting open the scrotum, and, after turning out the stones, to tie a waxed thread round the spermatic vessels, to prevent their bleeding, and cut them between the ligature and the stone. Afterwards apply pledgets with the digestive ointment mixed with spirit of wine. When this operation is carefully performed according to this direction, there will be no danger of a great loss of blood, which is often the case when the spermatic vessels are seared with a hot iron." Ency. Persli. Vol. IX., p. 392.

Caustics are substances which burn or destroy those parts of the body to which they are applied. They are used for destroying unnatural excrescences, cleansing ulcers, &c. so as to bring them to a healthy state, and curable by more simple applications.

Strong caustics:

Rx Calcis vivæ q. s.
Rx Carbonatis potassæ impuri q. s.
Rx Argenti nitritatis q. s.
Rx Arsenici oxydi q. s.
Rx Hydrargyri oxymuriatis q. s.
This is made by dissolving quicksilver in nitric acid; it may be made weaker by adding fatty substances, so as to form an ointment.

Made by dissolving copper in nitric acid.

There are a variety of other strong caustic, but the above will suffice. The milder ones are:

- Eruginis q. s.
- Cupri sulphatis q. s.
- Hydargyri nitrico-oxydi q. s.
- Aluminis exsicati q. s. &c. &c.

Charges are adhesive plaisters; they are melted in a ladle by a gentle heat, and then applied to the part affected; which, as soon as done, should be covered with short tow, and then send the horse to grass. They are useful for windgalls and old lamenesses, arising from strains or hard work.

Charges are composed of

- Pini abietis 3vij.
- Petrolei 3x.
- Cera flavâ 3ij.
- Oxydi plumbi rubri 3v. m.

Constantly stir the mixture while melting.

Condition implies, that the animal enjoys the best of health and strength possible. As this branch of medicine belongs to that department called Hygiene, or preserving in health by a proper use of exercise, food, &c. I shall forbear saying anything, in this place, upon the subject.

Cordials are medicines that exhilarate the spirits; and, when properly applied, are very useful, as when horses are over-worked, over-ridden, &c. &c. They stimulate the stomach, increase the digestive organs, and have a tendency to prevent that fatal disease called the staggers.

Cordial balls:

- Sem. carui 3j.
- Amomii zingiberis 3ij.
- Olei. caryophylli m.xxx.
- Syr. q. s.

Make into a ball.
R Sem. anisi ½ij.
— cardomomi ½ij.
Cassieae cortex 3vj.
Olei carui m xl.
Syr. simp. q. s.
Make into a ball.

The strength of the above recipes may be increased, or diminished, according to circumstances. The following formulæ has a pectoral power, joined with the aromatic, and will be found useful in old coughs accompanied with debility and indigestion.

R Sem. carui ½îs.
Ammoniaci 3îij.
Scilæ radicis 3îîs.
Olei sulphureti ½î.
Olei anisi m xl.
Syr. simp. q. s.
Make into a ball.

Cropping. This operation is only performed on horses that have too long ears, in which case they are almost always badly placed; but it is only a partial remedy for the deformity.

Corrosives. See Caustics.

Demulcents are medicines which sheath the internal parts so as to defend them from the action of stimulant substances, such as a decoction of marshmallow root, &c.

Deobstructents are medicines that were supposed to be capable of removing obstructions, now disregarded.

Detergents are applications that cleanse foul ulcers. A variety of which are noticed in the Materia Medica, and indeed all caustics, weakened by fatty substances, have the same effect. It is needless to give any formulæ for ointments, liniments, &c. of this class, as the prescriber may make them according to circumstances when wanted.

Diaphortics are medicines that increase insensible perspiration. There are two kinds, antispasmodic and stimulant; the former is the most useful for
fevers, see *Fehrifuges*; the latter are calculated for horses that are hidebound, and have a rough and unhealthy coat, without any other appearance of disease. For this class the following will be of service:

R. Antimonii tartarizatii 3f.
Camphors 3f.
Amomi zingiberis 3ij.
Opii 3j.
Olei. carni ffi.xx.
Syr. simplicis q. s.

To form into a ball.

R. Sem. carni 3j.
Antimonii tartarizatii 3j.
Amomi zingiberis 3ij.
Olei. anisi ffi.xxx.
Syr. simplicis q. s.

To form into a ball.

Exercise and good grooming are necessary to promote the operation of these remedies.

**Digestives** are applications which promote suppuration in wounds or ulcers.

R. Adipis 3iv.
Cerei flavae 3ij.
Resinæ pini laricis 3ij.
Hydargyri nitrico-oxydi 3ij.

Make into an ointment.

**Diuretics** are medicines that stimulate the kidneys, and increase the evacuation of urine. There are formulas for diuretics in *Alterative diuretics*, which see.

**Drenches** are medicines in the liquid form. The best instrument for giving drenches is the horn of an ox, the opening being cut obliquely in the form of a spout. In giving drenches, the tongue should be held with the left hand, and when the head is sufficiently elevated the medicine is to be carefully poured down the throat, immediately let go the tongue, while the head is raised, that the drench may be swallowed.

**Drowning.** La Fosse gives the following ob-
servations: Drowning and suffocation produce nearly the same effects in animals. In the latter, a mephitic vapour enters the lungs; in the former, the air becomes so from the impossibility of being renewed, (for it is but seldom that water enters the lungs, and is the cause of sudden death in any animal). Hence follows a total cessation of circulation in the pulmonary artery; the blood is compelled to flow back to the brain, which produce apoplexy. We are the more strongly inclined to believe, that the latter cause always accompanies the former, because, whenever we have seen animals taken out of the water, with some appearance of life, we have invariably perceived the heart beat, but not the least motion of elevation of the belly; in short, not the least respiration: the jugular veins are visibly swelled, but the veins of the extremities are not. The first thing, therefore, that should be attempted, is to restore respiration, and then the circulation of the blood. For this purpose, blow down his throat with a pair of bellows, at interval, taking care not to introduce too great a quantity of air; at the same time, some persons should press upon the animal's belly, and move him about as much as possible; others should cover the rest of the body with dung; another person should administer a solution of volatile alkali, as prescribed for suffocation; another should cup him; another should give him a clyster of tobacco, and afterwards rub him on the belly with wisps of straw.

"Half a quarter of an hour after the animal is brought to himself, he should be bled on one side of the neck, and the artery of the temple should be opened on the other. The quantity of blood to be taken, should be regulated by its heat and fluidity. The warmer and more liquid it is, the less danger can arise from taking a considerable quantity. But it might be attended with very bad consequences,
to perform this operation at a time when the circulation is scarcely perceptible, and when the animal is cold throughout his whole body.

"After bleeding make the animal swallow some arquebusade water, or brandy, mixed with an equal portion of water, about a common glass to the dose.

"We must again repeat, that the three grand means of restoring a drowned horse to life are, to introduce the common air into his lungs, to imply the vessels a little, and to keep him warm. But, in order that these means may produce the desired effect, it is necessary that, when the animal is taken out of the water, some sign of circulation, or respiration must be perceived, otherwise all assistance is fruitless. We have always found it impossible to restore life after the animal has been seven or eight minutes under water, although we employed all the means above prescribed.

"We cannot agree with those who administer tobacco as fumigation by the anus; this only distends the intestines, propels the diaphragm towards the breast, and diminishes its size; still less do we approve of administering the same by the mouth.

"By way of experiment, we have killed a great number of animals by introducing this same tobacco-smoke into the lungs.

"We shall also add, that it is useless to pour volatile alkali down the throat, even if diluted, as we have lately seen practiced. Every veterinarian must be acquainted with the eruptive effects of that liquid, and therefore it would be useless to say more on that subject."

Docking. La Fosse gives the following directions: "This is amputation or cutting of the tail; which operation is performed by laying the tail on a block, and cutting it with a cleaver, with the assistance of a small wooden mallet. After the operation, the bleeding is stopped with powder of
lycoperdon, or agarick, or by cauterizing the end of the tail with a hot iron."

In this country docking is performed with an instrument resembling a pair of shears, which consists of two blades united at one end with a rivet, and the other ends each a wooden handle; the rivet being the centre of motion, and by putting the tail betwixt the blades, the operation is affected at one cut.

Mr. Reeves observes, "That the operation must be performed with a very sharp clean instrument, and the stump then seared with a hot iron. It should be case-hardened, very well polished, and carefully cleaned from any ashes or scales it may have contracted by putting it in the fire. It must not be applied while in a glowing heat, for then the sparks that may fly off are apt to cause an inflammation of the part; at least the burnt part will stick to the iron, and come off when it is taken away, and then it will be very hard to form an eschar. But as this operation puts the horse to great pain, it is best to omit it and apply some slices of the agarick oak, or the common puff ball, which will stop the bleeding effectually, and then it may be cured as a common wound."

*Embrocations* are external applications so named. The following are useful:

<table>
<thead>
<tr>
<th>Recipe</th>
<th>Ingredients</th>
<th>Preparation</th>
</tr>
</thead>
<tbody>
<tr>
<td>R Pulveris sinapis 5iv.</td>
<td>Liquoris ammoniae 5j. Olei rosmarini 5j. Aquæ q. s.</td>
<td>To make into the consistence of a cataplasm, and then rubbed well on the part affected.</td>
</tr>
</tbody>
</table>

For sprains, bruises, &c.

<table>
<thead>
<tr>
<th>Recipe</th>
<th>Ingredients</th>
<th>Preparation</th>
</tr>
</thead>
<tbody>
<tr>
<td>R Saponis duri 5ij.</td>
<td>Olei laurini 5j. Liquoris ammoniae 5j. Olei origani 5j. Spiritus rectificati 5j. m.</td>
<td></td>
</tr>
</tbody>
</table>
Embrocations for callous swellings or bog spavins, wind-galls, enlarged joints, &c.:

\[ \text{R Unguenti hydrargyri fort. } \frac{3}{2} \text{iij.} \]
\[ \text{Camphorae } \frac{3}{2} \text{iij.} \]
\[ \text{Olei rosmarina } \frac{3}{2} \text{iij. m.} \]

**Blistering embrocation:**
\[ \text{R Unguenti hydrargyri fort. } \frac{3}{2} \text{iij.} \]
\[ \text{Olei rosmarini } \frac{3}{2} \text{iij.} \]
\[ \text{Olei origani } \frac{3}{2} \text{iij.} \]
\[ \text{Pulveris lytæ } \frac{3}{2} \text{iij. m.} \]

**Emollients** are medicines that soothe or allay irritation; they are useful vehicles to administer active medicines in, or given before and after they are administered, which prevents them from injuring the stomach and intestines. The following emollient drink will be found of service for coughs:

\[ \text{R Semini linii } \frac{3}{4} \text{iij.} \]
\[ \text{Aquæ Oij. boil them together for some time, then strain the liquor and add} \]
\[ \text{Mellis } \frac{3}{4} \text{iij.} \]
\[ \text{Potassæ nitratæ } \frac{3}{2} \text{iij.} \]
\[ \text{Make into two drinks.} \]

**Emulsions** are mixtures of oily liquids and water, united by means of an alkali or a mucilage.

**Emulsion for a cough:**
\[ \text{R Olei olivæ } \frac{3}{2} \text{iij.} \]
\[ \text{Mellis } \frac{3}{2} \text{iij.} \]
\[ \text{Aquæ Oij.} \]
\[ \text{Potassæ subcarbonatis } \frac{3}{2} \text{iij.} \]
\[ \text{Camphoræ } \frac{3}{2} \text{iij.} \]
\[ \text{Opii } \frac{3}{2} \text{iij.} \]
\[ \text{Olei anisii } \frac{3}{2} \text{iij. m.} \]

**Errhines** are medicines that excite sneezing when applied to the internal part of the nose. They have been recommended in Gutta-serena, or that kind of blindness in which the eye, to a common observer, appears sound, and which is usually caused by a palsy of the optic nerve. Errhines are
sometimes applied by unprincipled dealers, at country fairs, to the noses of glandered horses, which, by drawing off the collected matter prevents the purchaser for some time from observing it.

Rx Pulv. tobaci ±j.
— euphorbiæ ±j.
— hellebori albi ±j. m.

Escharotics. This term is applied to the mild caustics, such as red precipitate.

Expectorants are medicines that excite or promote a discharge from the lungs, and thereby remove or alleviate coughs and thickness of wind. “There is another way in which it is probable expectorants relieve coughs, &c. These complaints may sometimes be occasioned by a redundant secretion in the branches of the windpipe; in such cases, medicines that diminishes the quantity of fluid in the whole system, by increasing the secretion of urine, or perspiration, will of course relieve the complaint, by lessening the quantity of fluid in the branches of the windpipe: hence we may explain the operation of the balsams, turpentines, and various other medicines that are employed as expectorants with good effect, and which manifestly possess a diuretic quality.” White.

Rx Ammoniaci ±jS.
Scillæ ±ij.
Saponis duri ±ij.
Syr. q. s.
Make into a ball.

Rx Assaefetidae ±jS.
Ammoniae carbonatis ±jS.
R. amomi zingiberis ±jS.
Mellis q. s.
Make into a ball.

Rx Camphora ±jS.
Scillæ ±ij.
Balsami tolutani ±ij.
Mellis q. s.
Make into a ball.
Eye Water is a term given to liquids that remove inflammation from the eye.

R. Liquoris plumbi acetatis 3ij.
Spiritus rectificati
Camphoræ 3ij.
Aqua rose Ojs. m.
R. Zinci sulphatis 3ij.
Aqua rose 3v. m.

Febrifuges are medicines that tend to remove or relieve fever. The following formulæ will be found of great service:

R. Camphoræ 3ij.
Pulveris antimonialis 3ij.
Opii 3½s.
Pulveris tragacanthæ 3ij.
Syr. q. s.

Make into a ball.

R. Camphoræ 3ij.
Potassæ nitritatis 3vj.
Hydrargyri submuriatis
Opii aă 2½ij.
Syr. q. s.

Make into a ball.

R. Antimonii tartarizati 3ij.
Pulv. tragacanthæ
Potassæ nitritatis aă 3ij.
Syr. q. s.

Make into a ball.

The above balls must be given every day, and if the symptoms be dangerous, oftener; bleeding should, in these cases, be regulated according to the strength of the fever.

Fomentations. This term is applied to decoctions which are employed to bathe inflamed or painful parts. There are three kinds of fomentations; the emollient, antiseptic, and anodyne; the emollient is employed for inflamed swellings, from whatever cause they may proceed, and when they cannot be procured, warm water is an useful substitute; the anodyne is adapted for wounds that are accompanied with great pain and irritability;
the antiseptic is intended to correct putridity and gaugrene in large wounds of the lacerated kind, when the matter is thin and ill coloured; in those cases it greatly assists internal remedies.

**Emollient fomentation:**

R. Radicis althaeæ lb s.  
Aqua Oij.  
Boil an hour and strain off the liquor.

**Antiseptic fomentation:**

R. Decocit althaeæ cong.j.  
Ammonia muriati 3iv.  
Camphoræ 5j.  
Spiritus rectificati 5vj. m.  
R. Aqua bullientis cong.j.  
Cerevisiae fermenti 5vij.  
Make and apply immediately.

R. Cinchonae luncifoliiæ 3iv.  
Aqua cong. s.  
Boil the above until reduced to three pints.

**Anodyne fomentation:**

R. Papaveris somniferi capsulari lb 3s.  
Conii foliæ lb 3s.  
Aqua cong. j.  
Boil the above together until reduced to three quarts.

Fomentations should be applied as hot as the hand can bear, that is about 150° Fahrenheit's thermometer, using large flannels, which should be dipped into the liquid and wrung out, one of which must be applied until it begins to cool, then the other, alternately for at least half an hour, and this repeated three or four times a day.

**Fumigations** are medicines for the purpose of emitting fumes or vapours; and chiefly are used to destroy contagion in stables, hospitals, or crowded places, where infectious diseases are, or have been, raging. When stables are fumigated, they must be emptied of every thing that belong to the infected horse; the manger, rack, &c. must be scraped and washed with hot water; the walls then whitewashed with line and a solution of glue;
Guyton de Morveau's Fumigation Apparatus.
then place as many pans of glass or stone ware as is necessary, according to the size of the stable, put in each the following mixture, then shut the door and windows, and let them remain close all night. The next morning open them to admit a free access of atmospheric air, and in a few hours it may be entered with safety.

Mixture for one pan or jar:

- Soda muriatis 3x
- Manganesei 3v
- Aqua 1.3xS
- Achil sulphurici 3xiv. gr. L. m.

Guyton de Morveau, by his indefatigable diligence, has found that the above is the best fumigation for destroying contagion; and has likewise invented a convenient apparatus to procure the gas at pleasure. The figure of which is in the annexed sketch: A a flat piece of wood in which are fixed the two uprights B B; C a glass jar glued to a small moveable board D, which slides into the groves of the two uprights; E a wooden screw passing through the cross bar F, and fastened at its extremity to the moveable horizontal piece G, which slides up and down the two upright pieces; H a glass plate serving for a cover, and glued to the lower surface of the moveable piece G.

When this apparatus is used, the above mixture is put into the vessel C, and when used the moveable plate G is raised by means of the screw E, to let out the gas.

La Fosse gives the following direction for fumigating a horse with herbs, in complaints of the head, &c.; but this, according to the definition and employment of fumigations given as above, ought rather to be considered as an application agreeing in its utility, &c. with fomentation:

"The manner of fumigating a horse, is to take the herbs quite hot, to put them into a bag, which
is to be fastened to the head, that the vapour may enters the nostrils and lungs. Care must be taken, 1st, That the bag should be rather long, that the vapour may not be hot; 2dly, That it should be of considerable width, so that part of the vapour may have vent, and the horse may respire with ease; 3dly, That he may have his head at liberty. The bag must be left at his nose till the plants produce no more steam. Emollient plants are for cases of inflammation; detergent ones for chancres and ulcers.

Firing consists in the application of a hot iron to the skin, so as to burn without piercing through it. It is used for sprains, ring-bones, old callous swellings on the back sinews, caused by sprains or windgall; it is likewise an effectual remedy for ulcers on the skin, which depends on farcy or glanders. When performing the operation, "The horse should always be thrown down and properly secured. The edge of the firing iron is to be rather thinner than the back of a small penknife, and of a round form. The back part of the instrument must be very substantial, that the heat may be retained a sufficient length of time. It is to be applied when of a dull red heat, which in the day time is scarcely perceptible. The operator is to draw it rather quickly over the skin in perpendicular lines; but as the iron gets a little cooler, the motion of the hand is to be slower. It may be known when the instrument is applied sufficiently hot, by its leaving a whitish or scorched line upon the skin, but on no occasion should the skin be penetrated or divided by the iron. Several irons should be employed, that the operator may be constantly supplied with one sufficiently hot. The day after the operation, it is advisable to apply a mild blister to the part. Firing, though a severe and painful operation, is often very effica-
cious; and the only one we are acquainted with for removing callous or bony swellings, which occasion lameness by impeding the action of joints or tendons; but it is too frequently made use of when milder remedies may be employed with success."

White:

After the operation has been performed, the horse must be treated in the same manner as after a blister, then turned out to grass for some time.

Gelding. See Castration.

Glyster or Clyster. There are a variety of preparations of this nature, according to the intent they are used for; they should invariably be applied about blood head. La Fosse observes, there is scarce "any disorder in which clysters ought not to be prescribed, and may be used with advantage, for if they do not alone effect a cure, they prepare a way for it, and assist it powerfully. They cleanse the larger intestines of acrid matter, which irritate them, by tempering, refreshing, and softening them, as well as the viscera of the abdomen, though they do not reach to them all."

Back raking is proper before giving a clyster. The bladder, to contain the clyster, should at least hold a gallon, or little advantage can be expected.

A simple clyster is composed of warm water with a little oil, which is useful in the first stage of fevers, to remove the fæces that may be lodged in the intestines, and in inflammation of the bowels accompanied with costiveness, and when the bladder is inflamed or irritable, which is known by pain and difficulty in stalling, &c.

Anodyne clysters are intended for pain in the rectum, obstinate diarrhœas, &c.

R. Amyli ½iv.
Opii ½j.
Aqua bullientis cong. j. m.
Cathartic clysters are used when the bowels are torpid:

R Aque bullentis cong. j.
Sodae sulphatis ʒjviij. or
Alœs spicatae extracti ʒj. m.

Gruel is extremely useful as a vehicle for other medicines, and also to support the animal when other food cannot be taken.

Laxatives are mild carthatics, for the formulæ see Alterative Laxatives.

Liniments has been noticed in the Materia Medica, to which the following formulæ may be added:

For the thrush:
R Petrolei ʒj.
Olei terebinthinae rectificati ʒiʃj.
Acidi sulphurici ʒj. m.

For sore backs:
R Liquoris plumbi acetatis ʒiʃj.
Acidi acetoci f. ʒj.
Olei olive ʒij. m.

For sprains, swellings, rheumatism, &c.
R Camphora ʒj.
Olei rosmarini ʒiʃj.
Olei terebinthinae rectificati ʒviij.
Olei olive ʒij. m.

Lotions are liquids to wash diseased parts, chiefly employed for external inflammation, and in cutaneous diseases. Those for the eye, see Eye Water. For external inflammations, as saddle-galls, inflamed tumors, &c.

R Liquoris plumbi acetatis ʒj.
Acidi acetosi ʒiʃj.
Spiritus rectificati ʒij.
Aque ʒv. m.

‘Nicking,’ says Mr. Reeves, ‘is an operation designed to make the horse carry his tail more genteely. There are particular machines or pulleys contrived to keep the tail up during the
operation. The number of the nicks are to be proportionable to the length of the tail, but generally three are sufficient. When the operation is over, the wounds may be dressed with a mixture of powdered rosin, honey, and spirit of wine; and a dossil of tow dipped in the same mixture should be laid between the nick, wrapping the tail up as usual. The next morning the covering should be cut open down the back part of the tail, and the following morning it should be taken quite off, in order to plait the hair and set the tail. You should let the tail down every second or third day, and bathe the upper part next the rump with hot vinegar, in which a bit of alum is dissolved, and mixed with honey. If the tail should happen to swell and the hair come off, it must be washed with a mixture of wine, vinegar, and Egyptian honey, (Linimentum Ærugines.) When seven or eight days are expired the horse should be suffered to stand without the machine, or pulley, for a few hours, that you may see how he carries his tail. He must likewise have his tail kept up a few hours every day, till the wounds are quite healed, or in other words till a callous is formed."

Ointments. See Unguentum in Materia Medica. Paunching is a method much used to relieve blown cattle when dangerous. Clayter directs the operation to be performed in the following manner: "Take a sharp penknife and gently introduce it into the paunch, between the haunch bone and the last rib on the left side. This will instantly give vent to a large quantity of fetid air; a small tube of a sufficient length may then be introduced into the wound, and remain there until the air is sufficiently evacuated; afterwards take out the tube, and lay a pitch plaster over the orifice. Wounds of this kind are seldom attended with danger: were it has arisen it has been occasioned
by the injudicious operator introducing his knife into a wrong part. After the wind is expelled, and the body has been reduced to its natural state, let a cordial drink be given."

Doctor Monro invented an instrument to pass down the throat into the stomach, when animals where blown, to facilitate the escape of the air. It is made of iron wire bent in a spiral tube, and covered with soft leather of at least six feet in length.

_Pectorals_ are medicines that relieve disorders of the lungs.

_Purging._ See Carthartics.

_Pulse._ "A due attention to the pulse," observes the authors of the Encyclopedia Perthenis, Vol. IX. page 332, "is so important an article to form a proper judgment in fevers, that it would appear amazing it has been so much neglected, if one did not recollect that the generality of farriers are so egregiously ignorant that they have no conception of the blood’s circulation, nor are they in general able to distinguish the difference between an artery and a vein. With such pretty guardians do we intrust the health and lives of our most valuable animals!

“All the changes which take place in the texture, quantity, and quality of the blood, being attended with a diminution or increase of its velocity, it may be no improper hint to the curious to take notice, that a horse’s pulse should more particularly be attended to than is customary; as, a proper estimate may thereby be made, both of the degree and violence of the fever present by observing the rapidity of the blood’s motion, and the force that the heart and arteries labour with to propel it round: the highest calculation that has been made of the quickness of the pulse in a healthy horse is, that it beats forty strokes in a minute; so that in
proportion to the increase above this number; the fever is rising, and further increased to above fifty the fever is very high.

"How often the pulse beats in a minute may easily be discovered by measuring the time with a stop-watch or minute sand-glass; while your hand is laid on the horse's near side or your fingers on any artery: those which run up on each side the neck are generally to be seen beating as well as felt, a little above the chest; and one on the inside of each leg may be traced with the finger."

**Raking.** This operation is performed by thrusting the hand into the rectum, to extract the excrement; previous to which the operator should have his nails cut and hand rubbed with sweet oil; care must be taken to introduce the hand gently, for fear of producing inflammation. After the operation is over, administer an emollient clyster.

**Rowelling.** Rowels for horses answer the same purpose as issues in the human body. "The method of introducing them is, by making an incision through the skin, about three-eights of an inch long, and then separating the skin from the flesh with the finger, or with a blunt horn, all round the orifice, as far as the finger will easily reach; then introduce a piece of leather, very thin, shaped round, about the size of a crown-piece, having a large round hole in the middle of it. Previous to introducing the leather, it should be covered with lint or tow, and dipped into some digestive ointment; a pledget of tow dipped into the same ointment should likewise be put into the orifice, to keep out the cold air; the parts around it soon swell, which is followed with a plentiful discharge from the orifice of yellow semm, or lymph, and in two or three days at most the discharge turns into
thick gross white matter: the rowel is then said to separate.

"Rowels should be placed (especially in some particular cases) as near the affected part as possible; and, at all times, they ought to have a depending orifice, in order to admit of a free discharge of the matter that may be discharged in them. The parts where they ought to be inserted, and are found to answer best, are the belly, inside of the thighs, the breast, and outside of the shoulders and hips; they are sometimes, but very injudiciously, put in between the jaw-bones under the root of the tongue, where they never come to a proper suppuration, on account of the constant motion of the parts in eating, &c. neither do they answer any good purpose from being placed in that situation. In some disorders it is necessary to put in several of them at once, in order to make a sudden revulsion from the parts affected; but this should be determined by the horse's age, strength, and circumstances that require them."


Refrigerants are medicines which take off unnatural heat from the body.

Restringsens are medicines which restrain increased evacuations.

Rubefacients are medicines which excite redness upon the skin.

Setons "are cords, introduced by long, thin, sharp-pointed instruments or needles, shaped like a dart at the point, and having at the other extremity an eye to receive the end of the cord, which is to be left in the tumor. The size of the instrument may be determined by that of the tumor, and the thickness of the cord which is to follow it, and which ought always to be smaller than the perforation made by the point of the needle."
A practitioner in farriery should always have a number of these needles by him, of different sizes, that is from six to fourteen or fifteen inches long, a little bended on the flat or under side.

"Setons are on most occasions preferable to deep incisions into the muscular parts, on account of the situation of some tumors, and the horizontal position of the body, which is unfavourable in many cases for procuring a depending opening, in order to carry off the matter, as in tumors on the back, withers, and upper part of the neck immediately behind the ears, which are very common. Besides the horizontal position of the body, the natural restlessness and impatience of horses, renders it impracticable to fix proper bandages on those elevated parts; the situation of them likewise will not admit of proper dressings being fixed on them with any degree of certainty of their remaining for any length of time; by which means the openings made into such tumors or abscesses are frequently left bare, and exposed to the cold air, &c. hence such openings degenerate into foul ulcers, and produce a great deal of proud flesh, which requires to be repeatedly cut away with the knife, as the strongest caustics that can be applied are not sufficient to keep it under.

"The following is the method of applying setons in cases of tumor, &c. When the matter fluctuates in the tumor, the needle, armed with a cord at the other end, is to be introduced at the upper part of it; and the sharp point of the instrument directed to, and brought out at the under or lowermost part of the tumor, including the whole length of it; or, if needful, through the sound mucular flesh on the under part, in order to make a depending orifice for the matter to run freely off; the cord should be dipped in some
digestive ointment, and then tied together at both ends with a thread, to prevent its slipping out. But if, from the length of the perforation, the cord should not admit of being tied together at the ends, a small button of wood, or some such substance, may be fixed at each end: only, from this circumstance, the cord will require, when shifted, occasionally to be drawn upwards and downwards; whereas, when the ends of it are tied together, it forms a circle, and may always be shifted downwards to the lower orifice.

"When the needles for introducing the seton is to pass near any large blood vessels or nerves, to prevent their being wounded it may be concealed in a case open at both ends; and after an opening is made at the upper part of the tumor, sufficient to admit the needle with its case, it may be directed with safety to pass the blood vessels, &c. it may then be pushed forward through the canula and the opposite side of the tumor, and having only the common teguments to perforate, all danger will be avoided. When the matter of the tumor appears to be wholly discharged or dried up, and no thickness appears but where the cord is, it may then be cut out, and the orifice suffered to heal up." - Ency. Perth. Vol. IX. 391.

**Sedatives** are medicines that diminish muscular motion, of which class are opium, and the vegetable poisons.

**Sialogues** are medicines that increase a discharge of saliva.

**Stimulants** are medicines that stimulate and increase the motion of the heart and arteries. This term may be applied to almost every article in the Materia Medica. Those who wish for more on the subject may consult Dr. John Brown's and Dr. Darwin's works.
Stomachics are medicines that strengthen the stomach and create an appetite. The compounds generally used are composed of bitters with some aromatic.

Styptics are applications which suppress hemorrhages.

Tonics. See Alteratives.

Before I close the Materia Medica and composition of drugs, I deem it necessary to inform the practitioner, that he must be careful to procure good drugs, or his intention will be defeated. I have not given their external character, as it would greatly exceed the limits of this work. They who wish for more information on the subject may consult Dr. Duncan's Edinburgh Dispensatory.—To guard against sophisticated drugs, the veterinarian must observe the following rules: 1st, never purchase them in a powdered state; 2d, never abridge a druggist of his price.
IN commencing the Therapeutical part of my work, I have first attempted to arrange the disorders incident to neat cattle. It is but of late years that any attention has been paid to this branch of veterinary medicine, and, at the present day, there is no work that can be denominated a compleat treatise on the subject. The following chronological list, exhibits the principal authors who have illustrated the subject.

The first in this country, that I have been enabled to discover, who noticed the disorders attendant on neat cattle, was Leonard Mascal, in the following work:

"The First Book of Cattle, wherein is shewed the government of oxen, kins, calves, and how to use bulls and other cattle to the yeake, and fell, with remedies. The second booke treateth of the government of horses, gathered by L. M. The third booke intreateth of the orderin of sheep and goates, hogs, and dogs; with such remedies to help most diseases, as may chaunce unto them."
Taken forth of learned authors, &c. and are to be sold by John Harrison, the elder, at the White Greyhound, in Pater-Noster Row. Printed by John Wolf, 1590, 4to.” This book was new edited and enlarged by Richard Ruscam, near a century afterwards, under the following title:


p. 390 besides dedication and table.”

“Cheap and Good Husbandry, for the well-ordering of all Beast and Fowls, and for the general Cure of their Diseases. Containing the natures, breeding, choice, use, feeding, and curing of the diseases of all manner of Cattle, &c. The thirteenth edition. London.” 1676, 4to. p. 156. Dedicated to Richard Earl of Dorset, and signed G. M. (Gervase Markham.)

“Master-Piece, concerning the Curing of Horses, to which is added, the Curing of Lesser Cattle. London. 1662—1675—1717. 4to, &c.”

“Epitome, concerning the Diseases of Beasts and Poultry.” 8vo. These two are also by Gervase Markham.

In France, Vitet in his work “*Medecine Veterinaria,*” published in 1776, has given the anatomy of the cow; a translation of a great part of which is given in the *Encyclopaedia Londinensis*, and as the subject is but little known, I shall select a sufficient part to give the student a general idea of the abdominal viscera.

In 1787 Mr. Topham published a work on “*The Diseases incident to Cattle.*”

Downing, of Fairfield, Worcestershire, about the year 1798, published “*A Treatise on the Disorders of Horned Cattle, with their Symptoms and Cure,*” 8vo. This work contains some useful observations. The appendix on the extracting of calves is valuable. Mr. Blain has given a valua-
ble critique on this work, in the introduction to the following treatise, "Outlines of the Veterinary Art, or the Principles of Medicine." in two volumes 8vo. 1802. This is a valuable work and contains the anatomy of the horse, and the diseases of horses and cattle.

"The next writers that I shall notice are Alexander Macnab, and Duncal Stewart, Esqs. whose two papers on "The Disorders of Black Cattle," were published in the "Prize Essays and Transactions of the Highland Society of Scotland," Vol. II. 1803.

In Feron's New System of Farriery, 4to. 1803, there are some short observations on various diseases of oxen, cows, sheep, &c.

The next that appeared was "A Treatise on the Diseases of Cattle, with Modes of Cure, by Richard Boothby, of Doncaster," 1809, 8vo. p. 58.

The most recent work was written by F. Clayter, of Retford, entitled "Every Man his own Cattle Doctor," 8vo. 1810. As this is the last work on the subject, and ushered into the world with all the pomp of forty years' experience, and likewise author of a work that has passed through betwixt twenty and thirty editions, ("Every Man his own Farrier," ) I deem it my duty to the public to make some observations on the same; in these observations I am not actuated by prejudice to the author, who, I believe, is a very honest and meritorious person; but purely to expose the present state of "Cow Doctoring," and as such the public are requested to receive them:

In peripneumony, the author orders bleeding and opening medicines, which is, so far, judicious, had he not followed it by some strong stimulants, as ginger, &c. (No. 5 and 6,) which must certainly counteract the beneficial effects of the former.

In the yellows or jaundice, Mr. C. directs cum-
min seeds, turmeric, &c to be given, which, I believe, no one ever tried with success; on the contrary, the judicious practitioner will not depend on any thing but cathartics and grass.

In nephritics Mr. C. orders bleeding, and then as quickly directs a powerful diuretic medicine, which, from its stimulant powers, must urge the kidneys to immediate gangrene or suppuration; such is the nature of this complaint, that the death of the animal would not be more accelerated by giving arsenic. These are but a few instances of the fallacy of his directions, and the prescriptions are such undigested mixtures that they could only be tolerated in the days of Galen, and not the composition of the nineteenth century.

Introductory to the classification of diseases, I have inserted St. Bell's Lecture on the Duty and Qualification of a Veterinarian, which ought to be treasured up in the memory of every practitioner.

In this part of my work I have given a scientific arrangement of the Diseases of Horned Cattle, as far as we are acquainted with them; and such formulae of prescriptions as many years experience in most of the disorders to which they are liable, has warranted me to give. For some of the complaints, which seldom occur in this country, I have selected the best formulas that appeared, to my judgment, in the writings of others. I thought it more proper to do so, than hazard any alteration of my own, on those points where personal experience did not justify me to give a better. It will be the business of future enquirers to ascertain better modes of cure.
Observations on the Art of Veterinary Medicine,

By C. V. De St. Bell.

1. Disease is the lot of all organized bodies; of man, of brutes, and even of plants. It is a deviation from health, which disorders, in different degrees, the animal frame; and unless prevented, by some critical effort of nature or art, finally destroys the fabric.

2. Health, then, being the regular, free, and perfect discharge of all the animal functions; and death, on the other hand, being their entire extinction; we can form no other conclusion respecting the interval between the one and the other, than that it constitutes precisely what is generally known by the name of disease.

3. To prevent, as much as possible, the origin of those disorders in animals which do not arise from accident or contagion, by attaining to a knowledge of that kind of food and treatment which is conducive to health, and, by adhering to it, to mitigate the violence of those disorders which reduce the value of animals, and also to endeavour to subdue and eradicate others, by every proper method, are the objects of the veterinarian.

4. This art is truly a branch of general medicine; for the very same paths which lead to the knowledge of the diseases of man, lead equally to those of brutes. An accurate examination of the parts of animal bodies, a studious survey of the arrangement, structure, form, use, and relation of these parts, and of their laws of action, and also of the nature and properties of their various aliment and remedies; these form, in a great measure, the
sure foundations of all medical science, whatever living animal may be the subject of our consideration.

5. It is evident, therefore, that the branch of medicine styled veterinary, requires an extent of knowledge equal at least with any other branch; and we may venture to assert, without being wanting in that respect due to the medical faculty, that the veterinarian is, in very many instances, obliged to engage in more minute researches, and in longer and more laborious investigation. He is not, like the practitioner in human medicine, limited to the study of one species; his art comprehends the care and preservation of every kind of useful animal. It is indeed true, that researches multiplied in the examination of different subjects, whose respective mechanisms all conspire to produce nearly the same effects, afford great advantage to the veterinary physician, by enabling him, from comparison, to throw additional light on many subjects.

6. If, in pursuing the fascinating track of investigation, we wish to avoid falling into error, we must studiously guard against the illusion of self-conceit, and of that presumption which seems ever to take delight in concealing from our reason the impassible line nature has drawn between herself and us. We must reject all speculative inference concerning the structure and functions of the different parts, however apparently well-founded, discard all prejudice and mere authority, and admit for truth that only which has been faithfully deduced from facts, and from steady, constant, and unprejudiced observation. In a word, we must guard ourselves against mere systematic opinions; which, though they impose for a while, will sooner or later submit to reason and experiment.

7. Principles confirmed by practice, and from
which none but just and natural consequences are attempted to be drawn, can never mislead. An accurate and quick eye, a ready penetration, a sound judgment, are qualities rarely concentrated in one person, though indispensable to eminence in physic or surgery. How exquisite must be the discernment and touch, to judge and determine, with a degree of certainty, the existence of particular diseases, their causes, seat, state, and progress; to draw from different appearances the proper inference, and, by analogy, among a multitude of varying symptoms, to anticipate the issue, and attain the proper means werewith to subdue it.

8. Nor is less judgment required in our attention to every step of nature, when oppressed, in order to discover the method she designs to adopt for relief; or, if she fail in her indication, to urge her, by a seasonable interference, to discover it, and to second it, when attained, by every skilful aid; but if her indications are of an unpropitious nature, to endeavour to moderate and control them. Thus, led by a cautious skill, we shall not interfere with what entirely depends upon nature, but confine ourselves scrupulously within the limits of art, so far as relates to her indications and her relief.

9. No one, therefore, who reflects, can be so absurd as to imagine that it is possible, without previous study, and a due course of investigation and experimental knowledge, to attain to the great ends before mentioned. Without these, medicine is an hypothesis, which neither natural endowment, nor mere instinct, can sanction; and of course liable to such perpetual error, as must lead to consequences the most dangerous. On the other hand, we are not to place implicit confidence in mere theory, in the grand questions of life and
health, nor in practice alone; but in those solid acquirements only, which are the joint result of study blended with practice and investigation.

10. It is from this combination alone, that we can hope to obtain the solid effects and advantages of enlightened and successful science, which embraces all that is beneficial and consolatory to afflicted nature.

11. Unhappily for veterinary medicine, it is at present lamentably deficient in all these acquirements: yet, having equal access with his brethren of the faculty to the great mine of knowledge, derived from philosophic and original investigation, the veterinarian may find not only substantial information, but be induced to open the wonderful page of modern discovery, so far as relates to the human structure: but in pursuing his researches, he ought to use every caution not to graft upon analogy what may be productive of error; to guard against which, recourse must be had to actual experiment, to comparison and inference accurately made, and cautiously deduced.
ANATOMY
OF THE
ABDOMINAL VISCERA, &c.
OF THE COW,

Selected from the Translation given in the
"Encyclopaedia Londinensis;" of that part of
"Vitet's Medecine Veterinaire, 1776."

UTERUS.

The form of a cow's uterus differs from the
human, in having two large cornua. This is com-
mon to it with other brutes; for a bitch has two
long cornua uteri. But these again differ (as
being multiparous and uniparous) in this, that
in the bitch's cornua the foetuses are contained;
whereas here there is only part of the secundines,
being mostly the allantois with the included liquor.
The muscular fibres of the uterus are more easily
discovered; its internal surface has a great num-ber of spongy, oblong, protuberant, glandular
bodies, fixed to it. These are composed of vessels
of the uterus terminating here. In an impregnated
uterus, we can easily press out of them a chylous
mucilaginous liquor; they are composed of a great
many processes or digituli, and deep caverns, an-
wering to as many caverns and processes of the
placenta. Their resemblance has occasioned the
name of *papillae* to be given them; and hence it was that *Hippocrates* was induced to believe that the *fœtus* sucked *in utero*. The papillæ are found in all the different stages of life, in the various stages of pregnancy, and likewise in the unimpregnated state. It is not easy to determine whether the uterus grows thicker or thinner in the time of gestation. The membranes, it is plain, (by stretching of the parts) must be made thinner; but then it is as evident, that the vessels are at that time enlarged, upon which principally the thickness of any part depends; so there seems to be as much gained the one way as is lost the other.

The *osuteri* is entirely shut up by a glutinous mucilaginous substance, that is common to the females of all creatures when with young; by this the external air is excluded, which would soon make the liquors corrupt; it also prevents the inflammation of the membranes and the hazard of abortion. By this means also the lips of the womb are kept from growing together, which they would otherwise certainly do at this time. There are mucous glands placed here to screen this gluten, which on the breaking of the membranes with the contained waters make a sapo that lubricates and washes the parts, and makes them easily yield. The first of the proper involucra of the *fœtus* is the chorion.

**CHORION.**

The *chorion* is a strong firm membrane, on whose external surface are dispersed a great many red fleshy bodies of the same number, size, and structure with the papillæ, with which they are mutually indented. They have been called *cotyledones*, from κοτυλήν, "cavity." This is greatly disputed by some authors as a name very improper; but we think without reason, since the surface that is connected to the papillæ is concave.
though when separated it appears rather convex. To shun all dispute they may be called properly enough *placentulae*, since they serve the same use as the placenta in women. The separation of these from the papillæ without any laceration, and our not being able to inject coloured liquors from the vessels of the glands of the uterus into the placenta, seem to prove, beyond a reply, that there can be here no anastomoses between the vessels; on their coats run a great number of vessels that are sent to the several placenta, on the external side next to the uterus; whereas in creatures that have but one placenta, as in the human subject, cats, dogs, &c. the adhesion is somewhat firmer. The placenta are likewise joined to the papillæ in the cornua uteri.

**ALLANTOIS.**

The *allantois* is a fine transparent membrane contiguous to the former. It is not a general involucrum of the fetus in the mother, for it covers only a small part of the amnois. It is mostly lodged in the cornua uteri. The sac is probably formed by the dilatation of the urachus, which is connected at its other end to the fundus of the bladder, through which it receives its contents; and a great quantity of urine is commonly found in it. The membrane is doubled at the extremity of the canal, to hinder the return of the urine back into the bladder. Its vessels are so excessively fine and few, that we cannot force an injected liquor farther than the beginning of this coat. This membrane is so far analogous to the cuticula, as not to be liable to corruption, or easily irritated by acrid liquors.

**AMNIOS.**

The third proper integument of the fetus is the
anmnois. It is thinner and firmer than the chorion; it has numerous ramifications of the umbilical vessels spread upon it, the lateral branches of which separate a liquor into its cavity. This is the proper liquor of the amnios; which at first is, in a small quantity, afterwards increases for some months, then again decreases; and, in a cow near her time, the quantity of this liquor is not above a pound. This membrane does not enter the cornua uteri in this creature, being confined to the body of the uterus; whereas the allantois occupies chiefly its cornua. There are two vena umbilicales, and but one in the human subject; because the extreme branches coming from the several placentulae could not unite so soon as they would have done had they come all from one cake as in the human. There is a small round fleshy body that swims in the uterus of cows, mares, &c. which is the hippocmanes of the ancients. Several idle opinions have been entertained as to its use; but that seems to be still unknown, or how it is generated or nourished, for it has no connection with the foetus or placenta.

UMBILICAL VEIN.

The umbilical vein joins the vena portarum in the capsula glissoniana, without sending off any branches as it does in the human subject. This vein soon after birth turns to a ligament; yet there are some instances where it has remained pervious for several years after birth, and occasioned an haemorrhage. We may next observe the duct called canalis venosus, going straight from the capsula glissoniana to the vena cava: this turns also afterwards to a ligament. The umbilical arteries arise at acute angles from the internal iliacs, whatever some may say to the contrary; these also become impervious.
PULMONARY ARTERY.

The pulmonary artery coming from the right ventricle of the heart divides into two: the largest, called canalis arteriosus, opens into the descending aorta; the other divides into two, to serve the lungs on each side. The foramen ovale is placed in the partition between the right and left auricles, at the edge of the hole is fixed a membrane, which, when stretched, will cover it all over; but more easily yields to a force that acts from the right auricle to the left, than from the left to the right. After what has been said, we may easily understand how the circulation is performed in a foetus. The blood, being brought from the placenta of the mother, is thrown into the capsula glissoniana, where it is intimately blended with the blood in the vena portarum: then part of this blood goes directly into the vena cava by the ductus venosus; the rest passes through the liver. First, then, the whole is sent from the vena cava into the right auricle, from whence part of it is sent by the foramen ovale into the left auricle; the rest passes into the right ventricle, then into the pulmonary artery; then the greatest share it receives is sent immediately into the descending aorta by the canalis arteriosus, and the remainder circulates through the lungs, and is sent back by the pulmonary veins into the left auricle; which, with the blood brought there by the foramen ovale, is sent into the left ventricle, from whence it is driven by the aorta through the body. The great design of this mechanism is, that the whole mass of blood might not pass through the collapsed lungs of the foetus; but that part of it might pass through the foramen ovale and canalis arteriosus, without circulating at all through the lungs.
DENTES INCISORES.

We now come to consider the cow as a ruminant animal. There are no dentes incisores in the upper jaw; but the gums are somewhat hard, and the tongue rough. This roughness is occasioned by long sharp-pointed papillae with which the whole substance of it is covered. These papillae are turned towards the throat; so that by their means the food, having once got into the mouth, is not easily pulled back. The animals, therefore, supply the defect of teeth by wrapping their tongue round a tuft of grass; and so, pressing it against the upper jaw, keep it stretched, and cut it with the teeth of the under jaw; then, without chewing, throw it down into the oesophagus, which, in these creatures, consists of a double row of spiral fibres decussating one another. All animals which ruminate must have more stomachs than one; some have two, some three; our present subject has no less than four. The food is carried directly down into the first, which lies upon the left side, and is the largest of all; it is called

VENTRICULUS,

And by the vulgar paunch. There are no rugæ upon its internal surface; but, instead of these, there are a vast number of small blunt-pointed processes by which the whole has a general roughness, and the surface is extended to several times the size of the paunch itself. The food, by the force of its muscular coat, and the liquors poured in here, is sufficiently macerated; after which it is forced up hence by the oesophagus into the mouth, and there it is made very small by mastication; that is what is properly called chewing the cud, or rumination; for which purpose the
dentes molares are exceedingly well fitted: for, instead of being covered with a thin crust, the enamel on them consists of perpendicular plates, between which the bone is bare, and constantly wearing faster than the enamel, so that the tooth remains good to extreme old age; and by means of these teeth the rumination is carried on for a long time without any danger of spoiling them. After rumination, the food is sent down by the gullet into the second stomach, for the oesophagus opens indifferently into both. It ends exactly where the two stomachs meet, and there is a smooth gutter, with rising edges, which leads into the second stomach, from thence to the third, and also the fourth, however the cow has a power to direct it into which it will. Some tell us, that the drink goes to the second, but that might be easily determined by making them drink before slaughter. The second stomach, which is the anterior and smaller, is called reticulum, honey-comb, the bonnet or king's hood; it consists of a great number of cells on its internal surface, of a regular pentagonal figure, like to a honey-comb. Here the food is further macerated; from which it is protruded into the third, called omasum vulgo the mangles, because the internal surface rises up into a great many plicæ or folds, and stratum super stratum according to the length of this stomach. There are numberless glandular grains like millet seeds dispersed on its plicæ, from which some authors call the stomach the millet. From this it passes into the fourth, whose names are abomasum, caillé, or the red, which is the name it commonly has because of its colour; this much resembles the human stomach, or that of a dog; only the inner folds or plicæ are longer and looser; and it may also be observed, that in all animals there is only one digestive stomach, and that has
the same coagulating power in the foetus as the
fourth stomach in this animal; whence this might
not improperly be called the only true stomach. 
*Caille* signifies *curdled*; and hence the French
have given that as a name to this fourth stomach,
because any milk that is taken down by young
calves is there curdled. It is this fourth stomach,
with the milk curdled in it, that is commonly taken
for making runnet; but, after the bile and pan-
creatic juice fully performs their functions, this
coagulating power becomes much weakened, which
shews the use of these liquors. There are other
creatures which use the same food, that have
not such a mechanism in their digestive organs.
Horses, asses, &c. have but one stomach, where
grass is macerated, and a liquor for their nourish-
ment extracted, and the remainder sent out by the
anus very little altered. From this different struc-
ture of the stomach in these creatures, a rumi-
ating animal will be served with one-third less
food than another of equal bulk: graziers are
sufficiently acquainted with this. The reason is,
that ruminating animals have many and strong
digestive organs, all their food is fully prepared,
and almost wholly converted into chyle: but a
horse's stomach is not fitted for this; so that he
requires a much greater quantity of food to extract
the same nourishment.

**DUODENUM.**

The duodenum is formed here much the same
way as in a dog, and the general intention kept in
view with regard to the mixture of the bile and
pancreatic lymph. The great guts here hardly
deserves that name, their diameter differing very
little from that of the small ones; but, to compen-
sate this, they are much longer proportionally than
a dog's, being convoluted as the small guts are.
The cœcum is very large and long. The digestion of a cow, as well as some other animals, is accompanied with a peculiar kind of action called *rumination*; the intention of which seems to be, that the food may be sufficiently comminuted, and thus more fully acted upon by the stomach; for it is not observed that a calf ruminates as long as it is fed only upon milk, though the action takes place as soon as it begins to eat solid food; but it is to be observed, that, as long as a calf feeds only upon milk, the food descends immediately into the fourth stomach, (which, as has been mentioned, seems only capable of performing the operation of digestion,) without stopping in any of the first three. The rumination does not take place till after the animal has eaten a considerable quantity; after which she lies down, if she can do it conveniently, and begins to chew; though the operation will take place in a standing posture, if she cannot lie down. In this action a ball is observed to rise from the stomach with great velocity, almost as if shot from a musket; this ball the animal chews very accurately, and then swallows it again, and so on alternately, till all the food she has first eaten has undergone this operation. This is easily explained from the structure of the esophagus, which has one set of fibres calculated for bringing up the grass, and another for taking it down again. By means of rumination, the cow extracts a much larger proportion of nourishment from her food than those animals which do not ruminate; and hence she is contented with much worse fare, and smaller quantities of it, than a horse; hence also the dung of cows, being much more exhausted of its fine parts than horse-dung, proves much inferior to it as a manure.
Spleen and Urinary Bladder.

The spleen differs not much, either in figure or situation, from that of a dog's: but it is a little more firmly fixed to the diaphragm, there not being here so much danger of this viscus's being hurt in the flexions of the spine. The liver is not split into so many lobes in this creature as either in a man or dog; which depends on the small motion this creature enjoys in its spine, which made such a division needless. The vesica urinaria is of a pyramidal shape; it is very large, and more membranaceous than that of a dog; for, the urines of these creatures not being so acrid as that of carnivorous animals, there was no such occasion for expelling it so soon.

The male is provided with a loose pendulous scrotum, and containing the testes. The female organs differ from those of a bitch mostly as to the form of the cornua uteri, which are here contorted in form of a snail. In this, and in all uniparous animals, they contain only part of the secundines; but in bitches, and other multiparous animals, they run straight up in the abdomen, and contain the foetus themselves.

Heart.

The situation of the heart is much the same with that of a dog, only its point is rather sharper: in us, the heart beating continually against the ribs, and both ventricles going equally far down to the constitution of the apex, it is very obtuse; but here the apex is made up only of the left ventricle, so is more acute. The aorta in the cow is justly divided into ascending and descending, though this division is ill-founded either in a dog or man; and it has certainly been from this subject that the
older anatomists took their descriptions when they made this division; for here the aorta divides into two, the ascending and descending.

A compleat system of the anatomy of neat cattle, with plates drawn from dissections, would be a desirable work; as it would add considerably to our stock of information; for, without a knowledge of anatomy the medical part is little better than empiricism.
THE CLASSES, ORDERS, GENERA, AND SPECIES OF DISEASES THAT ATTACK NEAT CATTLE.

CLASSES.

Class I. *Pyrexia.*

Syn. febrile diseases.

After cold shivering, a frequency of pulse, with increase of heat, and especially, among other impaired functions, a diminution of strength.

Affections of sense and motion, disturbed; without either idiopathic pyrexia, or topical disease.

II. *Neuroses.*

A depraved habit of body; without pyrexia, and indeendent of neuroses, as original disease.

III. *Cachexia.*

Morbid affections, which are partial.

IV. *Locales.*
ORDERS.

Class I. Pyrexiae.

I. Febres. Pyrexia, without primary local affection; Syn. fevers.
II. Phleghmasiae. Pyrexia, with topical pain & inflammation. The blood after venesection exhibits the buff coat.
III. Exanthemata. Contagious diseases, beginning with fever, and followed by an eruption on the skin.
IV. Haeomorrhagiae. Pyrexia, with a discharge of blood, without any external injury, the blood on venesection exhibiting the buff coat.
V. Profuuvia. Pyrexia, with increased excretions.

Class II. Neuroses.

I. Comata. A diminution of the powers of voluntary motion, with sleep, or the senses impaired.
II. Adynamiae. A diminution of the involuntary motions of either vital or natural functions.
III. Spasmi. Amorbed contraction, or motion of muscular fibres.

Class III. Gachexiae.

I. Intumescentiae. General swellings.
Cachexia, deforming the external parts of the body with tumors, eruptions, &c.

Orders.

I. Apocenoses. A superabundant flux of blood, or humours, without pyrexia.

II. Episceses. A suppression of excrections.

III. Tumors. Partial swellings, without inflammation.

IV. Ectopias. Parts displaced.

V. Dialyses. A solution of continuity.

Genera.

Class I. Pyrexiae.—Order I. Fèbres.

1. Fèbres continua. No intermission.

   Synocha. Heat increased, pulse frequent, strong, and hard, urine high coloured, &c.

Order II. Phlegmasia.

2. Phlogosis. Redness, heat, pain, tumor on the surface of the body.

   Phlogosis often terminate in
   1 Impostume.
   2 Gangrene.
   3 Sphacelus.


5. Cynanche. \{Pain, deglutition and respiration, difficult.  

6. Pneumonia. \{Pyrexia; difficult respiration, cough, and pain in the thorax,  

Which contains two species.

1. Peripneumonia. \{Inflammation of the lungs.  

2. Pleuritis. \{Inflammation of the plura.  

7. Gastritis. \{Inflammation of the stomach.  

8. Enteritis. \{bowels.  

9. Hepatitis. \{liver.  

10. Naphritis. \{kidnies  

11. Hysteritis. \{womb.  

12. Rheumatismus. \{Rheumatism.  

13. Ubicritis. \{Inflammation of the under.  

Order III. Exanthemata.

14. Pestis. \{Typhus, contagious in the extreme; prostration of strength; buboes and carbuncles petechiae, hemorrhage, and colliquative diarrhoea.  

Species, 1. The pestis highly infectious.  

2. The black leg, spud, &c. by some considered not infectious; or, if so, but in a small degree.  

15. Vaccaeva.\* Cow pox.  

Species, 1. Naturalis. The natural cowpox.  

2. Inoculata. The inoculated cow, from the grease in horses heels.

Order IV. Hæmorrhagiae.

16. Hæmorrhoids. Flux of blood from the anus, called the blood- flux.
16. Hæmaturia. Bloody urine, called the bad, black, and red water.

Order V. Prostuma.

18. Catarrhus. Increased excretion of mucus from the membranes of the nose, &c. attended with fever, cough, &c.

Class II. Neuroses.—Order I. Comaia.

20. Apoplexia. Abolition of all power of sense and motion.

Order II. Adynamiae.

22. Dyspepsia. Want of appetite, debility in the organs of digestion.

Order III. Spasmi.

23. Trismus. Spasmodic rigidity of the jaw, called locked-jaw.
25. Diarrhea. Frequent liquid stools with the natural excrement.
GENÉRA.


Class III. CACHEXIE.—Order I. Intumescentie.

27. Pneumatosis,ce- nata.

28. Tympanites.

Order II. Impetigines.

29. Icterus.

30. Gonorrhœa.

Class IV. Locales.—Order I. Apocenoses.

31. Obstipatio.

32. Ischuria.

Order II. Epischeses.

33. Ecchymoma.

34. Sarcoma.

Order III. Tumores.

35. Vulnus.

36. Ulcus.

37. Psora.

38. Fractura.


40. A wound.

41. An ulcer discharging pus or ichor.

42. The itch. Small pustules with watery heads, contagious.

43. The fracture of bones.

Superabundant discharge of urine.

Air collected in the cellular texture under the skin, caused by poison.

Elastic distentions of the abdomen, not readily yielding to pressure.

Yellowness of the skin and eyes, urine high coloured.

Preternatural discharge from the urethra.

Costiveness.

Suppression of urine.

A black and blue swelling from a bruise or morbed extravasation of blood.

A soft excrescence not painful.

A wound.

The itch. Small pustules with watery heads, contagious.
Class I. Pyrexie.—Genera 1. Synocha.

A continued fever, commonly called a bad cold, attended with fever.

Symptoms. Shivering succeeded by loss of appetite, dejected appearance, quick pulse, hot mouth, debility, sometimes costive, quickness of breathing, &c.

Cause. Cold, &c.

Treatment. Bleed according to the symptoms, keep the bowels open with castor oil, or the cathartic recommended for cattle in the article Cathartics, Part I. Chapter II., then give the following:

\[
\begin{align*}
\text{R Cort. cinchonae lancifolii } & \text{ rivul.} \\
& \text{Divide it into four papers, and take one every morning.}
\end{align*}
\]

Or, \( \text{R Nitratis potassae } \text{ } \frac{3}{5} \).

Campbea.

\[
\text{Antimoni tartarizati a } \frac{3}{5} \text{ m.}
\]

Give in one dose.

Or, \( \text{R Pulv. animonialis } \text{ } \frac{3}{5} \).

Cort. cinchonae lancifolii } \text{ } \frac{3}{1}j.

Campbea } \frac{3}{1}.

Amyli } q. s. m.

Divide into two doses.

Genera 2. Phlogosis.

An inflammation on the body.

Symptoms. Inflammation of a bright or dull red colour, tumor, throbbing, heat increased, tending to suppuration, oft terminates in impostume, gangrene, sphacelus. When the inflammation is on the udder at the commencement, it is called the downfall, and as it advances to a suppuration it is termed gargle.

Cause. Bruises, &c.

Treatment. At the commencement, bleed according to symptoms; rowel near the part, blister. —Internally, give antiseptics, see Part I. Chap. II. If the inflammation does not remove, but appears likely to suppurate, forward it by fomentations, &c.
afterwards separate the dead matter with a knife; dress the wound with antiseptics, as *cataplasm fermenti*, *cataplasm dauci*.

Genera 3. *Ophthalmia*.

Inflammation of the eye.

*Symptoms.* In those cases that proceed from cold, an inflammation is perceived upon the globe of the eye, and internal surrounding parts, as the edge of the eye-lids, &c. Instead of its former transparency, the eye has a thick cloudy appearance upon its outer covering, and is constantly discharging an acrid scum, which, in a short time, excretes the parts in its passage. The effects arising from blows or bites, assume different appearances, according to the severity of the injury sustained.

*Cause.* Most of the cases which occur, that admit of a cure, are inflammations caused by cold, blows, bites, or other external injuries.

*Treatment.* Bleed if the symptoms are very inflammatory; a gentle cathartic, wash the part with one of the eye-waters, see *Eye-water*, Part I. Chap. II.; if very painful add a little tincture of opium. If, from external injury, violent inflammation or swelling succeed, apply poultices of bread and milk, moistened with a little of the eye-water and olive oil.

Genera 4. *Phrenitis*.

Phrenzy, or inflammation of the brain.

Of this disease some writers have named three species. One of them the lethargy, is rather the apoplexia to which I beg leave to refer. 1. Inflammation of the brain resembling madness. 2. Giddiness or swimming of the head.

1. Inflammation of the brain, resembling madness.

*Symptoms.* A kind of madness, attended with
ravings and constant watchings; slow respiration; a strong pulsation in the temporal arteries, and sometimes irregular; running at the nose; the animal appears in a very fierce state, as if seized with a turbulent kind of madness; the eyes appear much inflamed, and ready to start from their orbits; the beast often falls down of a sudden, and risen again with the same volatility, until nature is quite exhausted; a constant trembling and starting of the tendons; a dry and harsh skin; a suppression of the urine; grinding of the teeth, and a total want of rent; these last are unfavourable symptoms. Clayter.

Cause. "Too great an efflux of blood pressing upon the temporal arteries, from which an increased action of the vessels takes place;" wounds or contusions in the head; suppression of natural evacuations.

Treatment. Bleed freely according to the violence of the symptoms, and the strength of the animal, in the jugular vein; keep the bowels open with castor oil, or the cathartic for neat cattle, see Part I. Chap. II., repeated as occasion may require; dash cold water over the animal's head frequently.

R Pulveris antimonialis Œ.
Camphora 5fS.
Nitratis potassæ 5j. m.

For one dose, repeated twice a day till the symptoms are removed.

Or, R Cortis cinchonæ lancifolii 8j.
Nitratis potassæ 8fS. m.

Divide into sixteen papers, one to be given twice a day.

Blister the side of the neck with flies and spirit of turpentine. Sometimes in this complaint the locked-jaw makes it appearance; for the cure see Locked-jaw. It may be known when it appears by an inflamed swelling taking place upon the jaw, and as it increases they gradually close so as not to be opened. To prevent the swelling termi-
nating so fatally, the following mixture has been found servicable:

\[
\begin{align*}
R \text{ Camphora } & \text{ } 3ij. \\
\text{Olei origani } & \text{ } 3ij. \\
\text{Spiritus rectificati } OfS. \\
\text{Saponis duri } & \text{ } 4fS. \\
\text{Liquoris ammonis } & \text{ } 4fS. \\
\text{Tincturae opii } & \text{ } 3x, m.
\end{align*}
\]

Use as a liniment to the external parts of the jaw.

Give the beast some scalded bran or oats, and warm water, when better sparingly. If the animal do not take sufficient nourishment, make some gruel of the following, and give it with a horn:

\[
\begin{align*}
R \text{ Lemini } & \text{ } 3ij. \\
\text{Pulveris avenae } & \text{ } 8ij. \\
\text{Nitritis potassae } & \text{ } 8ij. \\
\text{Aquae } & \text{ } 8ij. m.
\end{align*}
\]

Boil the whole together and strain, mix the liquor with Sacchari bifiS. Give a quart at once.

Fresh air is very necessary.

2. Crosses, giddiness or swimming in the head.

\textit{Symptoms.} They appear giddy and stupid, and seem to have lost their natural instinct; they eat little or nothing, and disregard all objects that fall in their way, and will run their heads against a wall or a tree, thrusting with all their force till their strength is exhausted. \textit{Downing} says, “that it is a distemper chiefly belonging to the cavities of the eye, and the optic nerves.” It is certain, from the appearance of the brain on dissection, that an inflammation is the cause of the disease.

\textit{Treatment.} \textit{Boothby} directs “blistering on the back of the head, and a seton put in the dewlap.” Bleeding and the same treatment is necessary as directed in the other species of \textit{phrenitis}.

Though I have given two distinctions of this complaint, complying with the custom of authors on the subject, yet I think it is one and the same.
disorder in its different stages; consequently the same mode of treatment should be pursued in both.

Genera 5. Cynanche.

A complaint in the throat called the blain, muir-ill, murrain, &c.

Symptoms. The disorder is known by a swelling of the head and eyes; running at the mouth; fever; difficult breathing; pants and breathes quick; eyes swelled and inflamed; blisters arising on the root of the tongue, and sometimes the blisters may be seen at the fundament.

Cause. Duncan Stewart, of Kintyre, says, “That the muir-ill is caused by some poisonous vegetable or insect common in muir grounds,” and that the murrain (the symptoms of each being the same, I have classed them together) is caused by cattle being fed with rotten grass or hay, or pasturing them on wet or flooded land.”

Treatment. Steward says, that it is his practice “to draw forth its tongue, remove the blisters, and rub the part with salt and oatmeal, or with vinegar and urine.” Bleed, a little gentle physic, as the salme cathartic, cort. cinchonae lancifoliae; seton in the dewlap; and febrifuge mixtures given till the symptoms disperse. Great care is necessary in this complaint to keep the body cool with cathartics; bleeding is of the utmost consequence at the commencement.

Genera 6. Peneumonia.

Contains two species, 1 Peripneumonia. 2. Pleuritis.

Specie 1. Peripneumonia.

Inflammation of the lungs.

Symptoms. Difficulty of breathing attended with a cough; opening the mouth; a discharge
from the mouth and nose of a glutinous nature; the inside of the nose is red; eyes dull; pulse hard; mouth harsh and dry; skin stiff; cold extremities; body full, as if swelled with herbage; holds its head low; and moves with difficulty; costive.

Cause. Dry cold winds; drinking too much cold water; heat; or when removed from a very poor to a luxuriant pasture.

Treatment. Bleed according to the violence of the symptoms, which must be repeated till the inflammation is removed; to keep the bowels open, castor oil or the cathartic mixture, see Part I. Chapter II. Give the febrifuges recommended in Phrenitis. Give any kind of food in moderation; warm water and fresh air is very necessary; blister the chest; digetalis in proper doses. Blaine recommends nauseating the stomach, which, he says, decreases the action of the arteries, for which purpose he prescribes the following:

R Tobacco 3ij, infuse in a quart of boiling water; to half a pint of this infusion add 3j of tartarized antimony, and give every three hours.

Specie 2. Pluritis.

Inflammation of the plura.

Symptoms. The symptoms of the plurisy and peripneumony are much the same; only the animal is more restless and uneasy, and oft turns his head to one side; the fever is sometimes very high, and every other symptom of peripneumony.

Treatment. In every respect the same as in peripneumony.


Inflammation of the stomach.

Symptoms. Violent pain in the stomach; large blisters rise sometimes on the inside of the mouth;
the animal is very restless, and appears to have the pain increased by every thing that is swallowed, and frequently brings a cough; body feels clammy with sweat; difficulty of breathing.

*Cause.* From over loading the stomach; cold water; acrid matter, or poisonous substances; not sufficient water in dry summers, &c.

*Treatment.* Bleed freely, every day if necessary; keep the body open with castor oil, &c: afterwards give febrifuges as in other cases of inflammation. When the animal is recovering; observe, give her food sparingly and rather warm, as scalded malt, &c. with warm water.

**Genera 8. Enteritis.**

**Inflammation of the bowels.**

*Symptoms.* The beast lies down frequently and rises with difficulty; eats little or nothing; body full; eyes dull; and pulse strong and frequent, which forms a distinction between this complaint and the gripes, being sometimes hard but seldom quickened.

*Cause.* Costiveness, improper purgatives, drinking cold water, &c.

*Treatment.* Bleed according to the violence of the symptoms; give one pint of castor oil, repeat it if no effect is perceived; rake, and administer the cathartic clyster twice a day, see *Glyster*, Part I. Chap. II.; as soon as a free passage is procured, give febrifuges till the complaint is removed. To support the animal, give the gruel recommended in *Phrenitis*, or thick water gruel, with warm water to drink. The liquid blister, or any other powerful stimulant, applied under the belly, would tend to lessen the internal inflammation.

When inflammation of the bowels take place by improper purging, the treatment must be rather different: attempts must be made to lessen the irri-
tation by emollient and anodynes, combined and given freely; if the inflammation is not very high, do not bleed so copiously; use stimulant applications to the belly.


Inflammation of the liver.

Symptoms. Difficult breathing; swelling about the short ribs; pulse hard, full, and frequent; thirst; yellowness of the eyes; costiveness, &c.

Cause. Fat beasts are most subject to this complaint in hot weather, by being over heated in driving, or running about in the pasture; by being exposed to severe cold when hot.

Treatment. Bleed according to the symptoms; give cathartics, clysters, febrifuges, &c.; Diet, marshes made of scalded bran and malt, or the gruel before recommended in Phrenitis; blister the sides of the belly and rowel underneath.


Inflammation of the kidneys.

Symptoms. A burning heat attended with great pain in the region of the kidneys, or across the loins, and perceptible to the hand when applied to the part; the urine high coloured, in small quantities, and discharged with difficulty; the pulse at first hard and frequent, afterwards very low as the disease increases; shivering, or trembling of the whole body.

The symptoms that are of a favourable nature are, urine high or of a coffee colour, discharged in large quantities; afterwards copious, thick, and mixed with mucus. The unfavourable are, sudden cessation of pain; urine dribbling away in small quantities, of a black and fetid colour. These are certain signs of a mortification having taken place.
Cause. Violent blows across the loins; small stones or gravel being lodged within the kidneys; violent motion or hard driving in hot and sultry weather.

Treatment. Bleed at the commencement of the disease according to the symptoms, and the strength and condition of the animal; after which give one octarius of castor oil, and, if necessary, repeat it the next day.

R. Seminum lini ḃj.
Aqua ferventis Olij.
Let it stand an hour, then strain and add
Tincturae opii f.5s. m.

Give a pint of the above twice or three times a day till the symptoms disappear.

Clyster every four or five hours; febrifuges with moderation are useful. The practitioner must avoid giving any diuretic medicine or blistering; as both would increase rather than diminish the inflammation. Keep the body warm, but not too much so. If the animal cannot eat, give it the gruel before recommended, omitting in its preparation the nitrate of potash and giving much liquids.

Genera II. Hysteritis.

Inflammation of the womb.

Symptoms. Pain in staling, which is frequent and in small quantities; shivering; extremities cold; high fever; lies down much; foetid discharge from the parts; the animal appears very much distressed.

Cause. It comes on in a day or two after calving, by pulling the calf away, or otherwise bruising the uterus.

Treatment. The same as inflammation of the kidneys, excepting that a little camphor may be used, combined with niter.

Rheumatism, or the joint felon, cold felon, chine felon, wood-evil, &c.

*Symptoms.* The animal appears stiff in the joints, afterwards they swell, which increases so much that they are frequently unable to rise when down without assistance; loss of appetite; fever; and frequently costive.

*Cause.* This disease of the joints chiefly affects milch cows and young cattle, at the spring of the year; frequently caused by the animals being kept in a state of poverty during the winter; severe cold in the spring; low situations.

*Treatment.* The animal must be put into a warm cowhouse or stable; the leg bound round with hay bands and the body covered; afterwards rub the joints with the white or camphor linement, Part I. Chapter II. Give inwardly diaphorics, see Part I. Chap. II., or

\[ R \text{ Camphora } 5f, \]
\[ \text{Spiritus rectificati } q. s. \]
\[ \text{Semen anisi } 5j. \]
\[ \text{Pulv. ammoni zingiberis } 5f. m. \]
Repealed every four hours.

Sometimes the complaint is violent with high fever, in which case it is necessary to open the body with castor oil or the saline cathartic, and treat the animal the same as in fevers; bleeding is frequently of service.


Inflammation of the udder, commencing with milk fever, so called.

*Symptoms.* Cold shivering fits and sickness; pulse quick; tongue parching and dry; restless; depression of spirits; loss of strength; the extre-
mities cold; costive. It oft terminates in Paralysis or Phlegosis, for the symptoms and cure of each see the respective articles.

Cause. Those cows that have large udders for some days before calving, are liable to be attacked, particularly in the summer months, and those in high condition; it commences, in general, about twenty-four hours after calving.

Treatment. Bleed freely at the commencement; keep the bowels open with castor oil or the saline cathartic; and administer emollients and cathartic ointments; febrifuges continued till the symptoms disappear; when a swelling and hardness of the udder, and other symptoms of a mortification, appear, see Phlegosis. To prevent the complaint terminating in so violent a manner, when it is observed to be coming on before calving, bleed; milk the cow and keep her in a bare pasture, or put her into a cowhouse and give but little hay, &c. a little emollient ointment, would probably soften the udder and be of service. Great care and attention is necessary in this disease, as the animal is frequently in a state unable to take sufficient nourishment; when that is the case, the gruel recommended in Phrenitis must be horned into them; repeated three or four times a day. Cows that have calved should not have any cordials given them, as is too frequently practised, for it frequently produces the complaint.


The plague, murrain, or pestilential fever.

There are two species according to some authors, 1. The Pestis, highly infectious. 2. The Black-leg, Quarter-evil, Black-quarter, or Spud; which some writers say is not infectious, or, if so, in a small degree.
The 1st specie highly infectious.

_Symptoms._ Shivering and trembling of the limbs; decreased appetite; difficulty of swallowing; eyes dull and shed tears; in a few days the breath, and also the dung, of the animal becomes highly fetid, and affects the air to some distance; head, horn, and breath very hot; body and limbs cold; mouth full of blisters; as the disorder advances an inflammation of the stomach and bowels take place; morbed tumor, across the loins or some other parts of the body, and if the hand be pressed upon the part, makes a crackling noise, similar to that of a bladder when dry and full of wind.

In the Gentleman's Magazine, for Feb. 1747, there are extracts given from Dr. Mortimer's paper on the Plague among Cattle, which says that the Doctor's report of the disease, on dissection, was, "The inflammation was very great; the cawl was greatly inflamed, and the paunch, and its inner coat peeled off; the liver was inflamed in some parts, and turned livid in others. The gall bladder was very large, and the gall very liquid. The lungs adhered to the plura, were greatly inflamed, turgid, and black; but there were no watery bladders, nor had the cow a purging."

_Prognosis._—Favourable. The tumor gradually fills and forms good pus, and is discharged in a proper manner; the crisis is from the sixth to the ninth day, though some die before; if the animal be alive at the latter time, it will probably get better.

_Unfavourable._ When gangrene or mortification takes place, the symptoms are: the inflammation loses its redness and assumes a dusky or livid colour; the tension of the skin goes off and feels flabby; the complexion of the tumor changes from that of a livid to a more dark appearance;
the pulse irregular, accompanied with cold sweats; death.

Cause. The putrid effluvia received from infected matter. The plague among cattle in 1745 and 1746, was brought from Holland by means of two white calves, which a farmer at Poplar, near London, sent for in order to mix the breed. It is related, by Dr. Mortimer before named, that Mr. Collinson had been informed, that “A farmer in Essex, who had the distemper among his cows, invited a neighbouring farmer to come and assist him in given drenches to some of his sick cattle; the good-natured man went accordingly and spent best part of the day with his neighbour, to lend him his help in his distress, little dreaming of the ill consequence for being so many hours with the diseased cows; so much of the infectious effluvia adhered to his clothes; that, as he was walking home, though a mile and a half, through a field in which several of his own cows were feeding, he no sooner entered but they left off grazing, ran to the further end, snorting and flinging up their noses, shewing the greatest uneasiness at their master’s approach, and endeavouring, as much as possible they could, to avoid him, as though they smelt something very disagreeable; and so indeed it proved to them, for the very next day many of them fell sick, and died in a few days.”

Treatment. Bleed freely and repeat the operation every other day, if found necessary; saline cathartics or castor oil, in some cases a little alkali may be added; febrifuges, as peruvian bark or tartarized antimony, &c. &c. repeated till the symptoms disappear; Wash and fumigate the animal with vinegar, and support him with the gruel recommended in Phrenitis. The hovel should be daily fumigated. The tumors that arise in this complaint on the loins or other part of the body,
should be made to suppurate as soon as possible, and afterwards dressed with antiseptics, see Ulcus. The mouth may be washed with alum-water, or a solution of nitrate of potash. When the animal is getting better, give it scalded bran, oats, &c. or other marshes; warm water, &c.; great care and attention is necessary.

In the Gentleman's Magazine, for Jan. 1747, there are instructions given to the farmer, to prevent and cure this disease, from which I shall select what is really useful:—First. Avoid the infection with the utmost diligence. Secondly. Trust to none of the celebrated remedies that may be proposed to you, unless founded on experience; most that have been offered by farriers are known to be ineffectual, and many of them extremely injurious. Thirdly. If your cattle are attacked, bleed plentifully, repeatedly, and keep their bodies open. Fourthly. Give them no dry meat from the commencement of the attack till the fever abates; let their marshes be thin, given warm, and very often, a little at once; keep them dry and warm. Fifthly. Give no warm spicy drenches, at the commencement of the disease.

At the above period (1747) tar-water was much recommended, and some writers spoke highly of fumigations of camphor and assafétida burnt on hot coals, &c.

The 2d species is called by various writers Black-leg, Quarter-evil, Black-quarter, or Spud, not infectious, or, if so, but in a small degree.

Symptoms. Sudden depression of the whole animal frame, as if seized with the palsy; a swelling on some part of the body, as the legs, shoulders, under the belly, or on the loins; a crackling noise is heard when the hand is pressed upon it. The mouth and tongue full of blisters; high fever.
Cause. It proceeds from a redundancy or overflowing of the blood, which is very great, and frequently causes them to drop, and die suddenly in a state of putrefaction. This species of Pestis is peculiar to young animals, which attack them soon after they are put to grass; therefore the greatest care is necessary to prevent it making its appearance.

Treatment. The treatment is exactly the same as the last; and, unless something is done at the commencement, little hopes can be had of their recovery. It is advisable, before all calves are put to grass in the spring, to bleed and put a seton in the dewlap.

Genera 15. Vaccævara.

Cow pox.

There are two species, the one natural to the cow, and the other implanted or inoculated.


Symptoms. "Pustulous sores frequently appear spontaneously on the nipples of the cow, sometimes the hands of the milkers become affected with sores, and even feel an indisposition from absorption. Pustules very mild in their nature, free from the bluish or livid tint so conspicuous in the inoculation of the grease to the cow; nor do they show any phagedenic disposition as the other do, but quickly terminate in a scab without creating any apparent disorder in the cow." Jenner.

Cause. Comes on at various seasons of the year, but principally in the spring, when taken from their winter food to grass; also when they are suckling their young; it it quite dissimilar to the inoculated pox, and incapable of producing any specific effects on the human constitution.
Specie 2. Vaccævara inoculata. The inoculated pox, or that disease implanted into the cow from the grease in horse's heels.

This disease was first brought into public notice by Dr. Jenner, in the year 1798, in a publication intitled "Variolae Vaccine," 4to. As this subject has caused considerable attention, I shall briefly state a few particulars of the controversy:—Dr. Jenner says, (in the above work,) "He supposes that it is the thin darkish looking fluid, oozing from the newly formed cracks in the heels, similar to what sometimes appears from erysipetalous blisters, which gives the disease."* This fluid liquor is communicated to the cow by inoculation, or by any other mode that puts the same in contract with the animal, and from the cow to the human subject, there generating a disease capable of resisting the contagion of the small-pox. Some writers contend that the true cow-pox, which is capable of resisting the small-pox, is the one before named, which is peculiar to the cow. This I shall leave to time and abler nosologists to decide:

"Symptoms in the cow. "It appears on the nipples of the cow in the form of irregular pustules; at their first appearance they are commonly of a palish blue, or rather of a colour somewhat approaching to lid, and one surrounded by an erysipelatus inflammation. These pustules, unless a timely remedy be applied, frequently degenerate into phagedenic ulcers,† which prove extremely troublesome. The animals become indisposed, and the secretion of milk is much lessened."

* Dr. Jenner's opinion concerning the original of the cow pox, has been further confirmed by observations made by Dr. Sacco, of Milan, and Dr. Joseph H. Marshall. See Appendix No. 1, to Mr. Bryce's "Observations on the Cow Pox." 8vo. +A little calx cum half pure applied to the part will prevent it.
Symptoms in the human subject. 1. "Inflamed spots appearing on different parts of the hands of those engaged in milking, and sometimes on the wrists, which run into suppuration, first assuming the appearance of small vesications produced by a burn.

2. "Most commonly they appear about the joints of the fingers and at their extremities, but whatever parts are affected, if the situations will admit, these superficial suppurations put on a circular form, with their edges more elevated than their centre, and of a colour distinctly approaching to blue.

3. "Absorption next takes place, and tumors appear under each axilla."
   The system then becomes affected.
4. "The pulse is quickened.
5. "Shiverings are succeeded by heat.
6. "General lassitude, and
7. "The pain about the loins and limbs, with
8. "Vomiting, and
9. "The head is painful, and the patient is now and then affected with delirium."

These symptoms varying in their degrees of violence, generally continue from one day to three or four, leaving

10. "Ulcerated sores about the hands, which heal slowly, and frequently become phagedenic. No eruption arises from the absorption of the virus."—Thornton's Facts, page 67.

Dr. Pearson's Aphorisms on the Nature of the Cow Pox:—1. "The cow-pox communicated in the accidental or natural way (i.e. from the teats of the cows to the hands of the milkers), renders the persons, who experience the specific fever, &c. of that disease, incapable of ever receiving the small-pox.

2. "The cow-pox communicated by inocula-
tion, renders the persons who are affected with the specific fever and peculiar local disease, unsusceptible of the small-pox.

3. "The matter of the cow-pox, whether taken from the brute or human subject, produces the same disorder by inoculation, and with the same certainty; and when several persons have been inoculated from each other in succession, such removal from the original source of the matter, produces no change in the nature or appearance of the disease.

4. "The cow-pox may occur in the same man or brute repeatedly, if the matter of it be applied to them, though both are equally unsusceptible of the small-pox.

5. "A person who has been affected with the small-pox, may, nevertheless, take the cow-pox.

6. "The cow-pox cannot be communicated by any other means than by the actual contact of the matter of a pustule.

7. "Is the cow-pox a shorter, safer, or pleasanter disease than the inoculated small-pox, when conducted in the most approved manner?

8. "The cow-pox never excites or predisposes to other diseases, which the small-pox has too frequently been observed to do.

9. "The cow-pox does not prevent the small-pox, unless the constitution be affected with fever, &c. during the disease."

Soon after the publicity of this discovery, Dr. Mosley (a writer well known by his many valuable publications,) wrote some papers hostile to the practice; he contended that it would only prevent the system from the susceptibility of the small-pox for a short time. And many other writers have attempted to prove, by numerous cases, that it will not entirely prevent the small-pox taking place after the constitution has been saturated with the cow-pox.
In consequence of which a controversy was commenced, and so numerous were the writers on each side the question, that it may be justly said "The press groaned with their weight." To give a statement of each of the assertions for and against it, would fill a volume; therefore they who wish to see a more circumstantial account of it, may consult the works written upon the subject, a list of which is subjoined. The sum of all their arguments are simply an answer to the following question:

*Can it be affirmed, on the basis of experience, that the cow-pox is a perfect security from the small-pox?*

If this question can be answered in the affirmative, it most assuredly is a valuable discovery; but if in the negative, the practice ought to be condemned, as it will most assuredly entail on our posterity a lasting misery; it is therefore adviseable, that every parent should be satisfied in his own mind, that it is a preventive, before he submits his children to the operation of inoculation with the cow-pox, to the exclusion of inoculation with small-pox.

The works in favour of Vaccævara are,

**Dr. Jenner's Inquiry into the Variola Vaccinæ, 4to.**

**Dr. Pearson's Observations on the Cow Pox, 8vo.**

**Mr. Ring's numerous publications.**

**Dr. Thornton's Facts, 8vo.**

**Vaccine Vindicta, 8vo.**

**Dr. Woodvill's Tract on the Cow Pox, 8vo.**

**Dr. Willan on the Cow Pox, 4to.**

**Mr. Bryce on the Cow Pox, 8vo.**

**Medical and Physical Journal.**

**Edinburgh Medical and Physical Journal.**

And numerous other minor publications.
Anti-Vaccævara:
Dr. Mosley on the Lues Bovuella or Cow Pox, 8vo.
Dr. Mosley's Commentary on the Cow Pox, 8vo. &c.
Dr. Rowley's Facts in favour of the Small Pox, 8vo.
Dr. Squirril on the Cow Pox, 8vo.
Mr. Birch on the Cow Pox, 8vo.
Mr. Goldson's Pamphlet on the Cow Pox, 8vo.
Mr. Brown's Inquiry into the Anti-ariolous Power of Vaccination.
Mr. Brown's Letter, &c.
Medical Observer.
And many minor publications.

A flux of blood from the anus, commonly called bloody-flux.

Symptoms. Generally commences with diarrhoea; stools bloody, and sometimes fetid; if not timely stopped a mortification takes place.

Cause. This complaint generally attacks young calves after their diet is changed from milk to others too precipitately.

Treatment. When the complaint has taken place, give the following:

R Acid sulphurici f. m. xv.
Tinct. opii $\frac{1}{8}$ m.

Repeated the next day if found necessary.

Moderate bleeding in some cases is necessary.—Boothby directs, rhubarb roots boiled in water and given in water-gruel; port wine, &c.; absorbents, combined with astringents, are sometimes necessary; starch clysters; in some cases, at the commencement, a little castor oil is requisite to empty the bowels; support the animal with a little scalded bran and oats, or gruel.
Genera 17. *Hæmaturia*.

Bloody urine, called the bad-water, black, or red water.

1. **Symptoms.** The beast will make bloody water, which at first is of a fine purple colour; afterwards, as the symptoms advances, black. The animal frequently attempts to stale, especially if a cow, when she is milked, or goes into a pool to drink.

**Cause.** Weak relaxed vessels; thin blood; cold; change from a poor to a rich pasture; scarcity of water in a long and dry summer; blows across the loins; some animals appear to have the disease hereditary.

**Treatment.** Remove the animal from the pasture to one that is very bare, and give a little hay; empty the stomach and intestines by giving the cathartic for neat cattle; repeat if necessary, as they are very liable to get sapped (obstipatio) as the country people here term it. Then give the following:

\[ \text{R} \text{ Acidi sulphurici } \text{f. in } \text{xx.} \]
\[ \text{F. } \text{opii } \text{S in } \text{m.} \]

Repeat every day till well.

If a fever should come on, which is sometimes the case, proceed as in fevers after the redness of the water disappears. Downing orders the following:

\[ \text{R} \text{ Dragons blood (Pterocarpi draconis) } \text{Si} \text{ij.} \]
\[ \text{Prepared steel (Ferri carbonatis) } \text{Si} \text{ij.} \]
\[ \text{Nitre (Nitratis potassae) } \text{Si} \text{ij.} \]
\[ \text{Diapenta } \text{Si} \text{ij.} \]
\[ \text{Sp. turpentine (Olei terebinthinae rect.) } \text{Si} \text{ij.} \]

Mix for two doses.

Genera 18. *Catarrhus*.

A catarrh, called by some the fellon, epedemical cold, &c. *Catarrhus a frigore,* common cold. *Catarrhus contagiosus,* the influenza.
Symptoms. Impeded respiration; watery inflamed eyes; cold shiverings, succeeded by transient flushes of heat; cough; increased secretion of mucus from the mucus membrane of the nose and bronchiae; sudden depression of the milky secretion; oft terminates in Icterus, Paralysis, Rheumatismus, &c.

Cause. Cold applied to the body; contagion, &c.

Treatment. Bleed according to the symptoms; gentle cathartics; mucilaginous and oily demulcients, as the gruel before recommended in Phrenitis; mild expectorants and diaphoretics; when the feverish symptoms are removed, give the animal cordials, corn, &c to restore its strength.


Symptoms. Cold shiverings, and other symptoms of fevers; costiveness; bowels unusually flatulent; frequently attempting to dung; loss of appetite; strong pulse; discharge of fetid matter from the anus, and sometimes mixed with blood; unmixed blood; great debility; quick and weak pulse.

Cause. Specific contagion; unwholesome and putrid food; cold applied to the surface of the body; collection of indurated faces, or of calculous concretions in the alimentary canal, &c.

Treatment. Remove the fever with febrifuges, &c.; empty the bowels with cathartics, as the saline one before named, or rhubarb root boiled in water; castor oil and clysters; mucilaginous demulcients in large quantities; after the bowels are emptied, and there is a discharge of blood from the anus, give astringents, &c.; after the symptoms are removed, restore the strength of the animal with nourishing food and cordials.
Class II. Neuroses.—Genera 20. Apoplexia.

Apoplexy.

*Symptoms.* Dull sleepiness, so as to deprive the animal of all sense or motion.

*Cause.* Inflamed state of the brain, proceeding from the blood; too good feeding after being pinched in the winter season.

*Treatment.* Bleed according to the symptoms; keep the bowels open; diaphortics or antispasmodics are frequently of service.


Loss of motion and numbness in certain parts.

*Symptoms.* Abolition of voluntary motion, or sensation, or both, in certain parts of the body only; slow pulse; vertigo.

*Cause.* Compression of the brain, from whatever cause; suppression of usual evacuations; rheumatism; too great a quantity of blood; very often attends on the milk fever.

*Treatment.* If the beast be plethoric, bleed; gentle cathartics to prevent the animal from being costive; give diaphortics, &c.; apply to the legs and thighs some stimulant embrocation; cover the animal with a blanket or rug, and place her in the following position, as directed by Boothby: "First let her be placed in such a manner, with her feet under her, as healthy cattle are generally found to lie in when they are in a pasture; then let her be propped up or supported in that posture, with trusses of hay, or straw firmly placed against her, to prevent her from struggling, so as to throw herself on her side with her feed extended, which would cause her to swell and be of dangerous consequence. Any other means may be used that will make her lie easy and keep her from rolling down on her side."
Genera 22. Dyspepsia.

Symptoms. Loss of appetite; flatulence; costiveness; fever; cold extremities, &c.

Cause. Every thing that debilitates the system.

Treatment. Remove the cause, which must be ascertained before a remedy can be given; strengthen the stomach with gentle stimulants and tonics. The remedies must be regulated according to circumstances, and care must be taken to select them.

Genera 23. Trismus.

Locked jaw.

Symptoms. A contraction of the muscles of the neck; rigidity of the lower jaw, which increases till the jaws are so fast closed as to render it impossible to open them.

Cause. Wounds in the head; poisonous herbs, &c.

Treatment. Bleed freely; stimulanting liniments, cataplasms, and fomentations applied to the lower jaw; at the commencement, give inwardly the most powerful antispasmodics; mercury, both internally and externally, have been of service; cinchonæ lancifolii cortex, in large quantities, has been given to advantage.


Colic.

Symptoms. The animals frequently lie down and rise up of a sudden, and sometimes strike their horns and hind feet against their belly; the pulse seldom appears to be much affected at first, but, if the disease continues for any length of time, it becomes quicker and harder than usual; this, in general, indicates the approach of inflammation.
and is accompanied with considerable tension of
the belly, costiveness, &c. if not removed ends in
inflammation in the stomach, &c.

*Cause.* Costiveness; the stomach overloaded
with dry, hard, and indigestible food; cold water
given when in a state of perspiration; stomach over-
loaded with succulent grass.

*Treatment.* If the animal be costive, remove
the contents of the stomach and intestines with a
cathartic and elyster; then, if the symptoms con-
tinue, give the following:

R. Tinct. opii 3ij.
Sp. utheris nitrici 3ij. m.

If the above does not give relief in a few hours it
may be repeated; but first of all be particular to
assertain that it is not an inflammation of the
stomach or the intestines; if it should have the
symptoms of an inflammation the above must not
be given, but be treated as in that complaint di-
rected. Sometimes elysters are extremely service-
able, and bleeding is in some cases found necessary.

**Genera 25. Diarrhæa.**

A continued looseness, called slimy-flux, &c.

*Symptoms.* A frequent and liquid dejection of
the intestines, caused by an irritation therein; the
excrements are slimy, bilious, or black; sometimes
they are limpid and fluid like water, at other times
they are frothy, greasy, and mixed with a fat clay-
like substance; this disorder is generally attended
with a bad appetite; a weak depressed pulse;
harsh dry skin; dull countenance; and sometimes
a slow fever.

The fatal symptoms are, the dewlap hanging
down and having a flabby appearance; the dung
running off, with a putrid and offensive smell, and,
as it falls to the ground, rising up in bubbles; the
hair all over the body appearing *pen-feathered*, or erect, as if the animal was enduring a severe cold.

*Cause.* Application of cold to the body; perspiration suppressed by any cause; putrescency of the aliments. This complaint most commonly attacks cattle that have been starved during the winter, and when they are put to grass in the months of April or May they are seized with a diarrhoea, particularly if the weather is wet or cold, and grass plentiful.

*Treatment.* Remove the irritating cause by gentle cathartics, as oleum ricini or glauber salts; administer absorbents; alkalies; diaphortics or astringents; afterwards, when the disorder is removed, strengthen the stomach and intestines with bitter tonics joined with aromatics; light food, as malt, oats, and a little hay. Clayter directs that "Linseed cake be added to the other food." It will be necessary, in this complaint, to keep the animal warm.

Genera 26. *Diabetes,*

*Or* immoderate flow of the urine.

*Symptoms.* Frequent discharge of urine, voided in a quantity far exceeding that of the aliment or fluid introduced; continued thirst; generally of a voracious appetite; dry skin; swelling of the legs; emaciation of the body; fever.

*Cause.* All those causes inducing debility of the system in general; cold applied to the body; immoderate evacuations, &c.

*Treatment.* The diet must be dry meats, corn, &c. Give, at the commencement, the following:

\[ \begin{align*}
\text{R Opii } & \frac{5}{15} \text{lb.} \\
\text{R. Amomi zingiberis } & \frac{3}{15} \text{lb.} \\
\text{Corticis cinchona: lancifolia } & \frac{3}{15} \text{lb.} \\
\text{Syr. q. } & \frac{1}{2} \text{ lb.}
\end{align*} \]

To form two balls. Repeat this medicine till it has the desired effect.
When this complaint is far advanced there is little hopes of a cure; if the above does not succeed, try the following:

R. Antimonii tartarizati 5 f. 5.
Opii 3ij.
Syr. q. s. m.
For two balls.

R. Ferri sulphat. 5 f. 5.
Myrrhae 3ij.
R. Amomi zingiberis 5ij.
Syr. q. s. m.
For one ball.

Class III. CACHEXIA.—Genera 27. Pneumatosis venenata.

Swelled body from poison.

Symptoms. Air collected in the cellular texture under the skin, rendering it tense and elastic; attended with giddiness and stupidity.

Cause. Eating of some deleterious herbs; drinking water at stagnated pools, which contain poisonous insects.

Treatment. If the animal swell, introduce a penknife between the haunch-bone and the last rib on the left side into the paunch, this will give relief; if the poison proceeds from vegetables, administer the following:

R. Olei ricini O f. 5.
Carbonatis potassae 5 f. 5. m.
Repeat till the symptoms are removed.

Bleeding is sometimes necessary.


Hoven or blown.

Symptoms. The body swells, and is in danger of bursting.

Cause. The animal feeding, for a considerable time, on rich succulent food, so that the stomach becomes over charged.
Treatment. It is the practice with some people to give a stimulant drink, as a preventive, before the cattle are turned into the pasture, and with the desired success. After the swelling has taken place medicines are of little use, recourse must be had to operation, for which see Paunching, Part I. Chapter II., afterwards give carminatives, &c.

Genera 29. Icterus.

Jaundice, called fellow, yellows, &c.

Symptoms. Languor; loss of appetite; the tunica conjunctiva of the eye is of a yellow colour, and soon afterwards the whole surface of the body; the urine high coloured; obstinate costiveness or diarrhea; pulse generally low; heat of the skin increased.

Cause. Calculi in the gall-bladder, or its duct; spasmodic contraction of the ducts themselves; diseases of the liver, &c.

Treatment. If the disease should proceed from calculus, spasm, or spissitude of the bile, attended with fever, recourse must be had to cathartics, as oleum ricini, or soda sulphas; emollient clysters; opium; the following is directed by Boothby,

\[ R \text{ Olei sulphureti } \frac{1}{3} \text{iv. } \\
\text{Liquoris ammoniac carb. } \frac{3}{5} \text{j. } \\
\text{Camphora } \frac{3}{5} \text{f. } \text{m. } \]

For one dose, and repeated every other day till the complaint be removed.

Turn the animal into grass-lands which will promote the cure. If the complaint proceeds from an inflammation, treat it as there directed, if from hardened faces in the intestines, give brisk cathartics, clysters, &c. If the animal be in full condition, bleeding in most cases will be found useful; and in all it is necessary to keep the bowels open with cathartics.
Class IV. Locales.—Genera 30. Gonorrhæa.

Commonly called bull-burnt.

Symptoms. A swelling of the yard of the bull takes place, and runs with a yellowish liquor; ulcers form on the yard under the sheath, and, as the disorder advances, emit an offensive smell. In cows the vagina and surrounding parts are swollen, and discharge a disagreeable fluid; when staling the animal appears to have considerable pain.

Cause. Very high feeding, joined with excessive venery, &c.

Treatment. Give saline cathartics, or

\[
\text{R. Oleum ricini vel.}
\]

\[
\text{Nitratis potassæ, &c. q. s.}
\]

The yard of the bull and pelvis of the cow must be washed with an astringent lotion, as diluted liquor of plumbi acetatis; clean the parts well before the lotion is applied; sometimes it is found necessary to rub the parts with the mild mercurial ointment.

Genera 31. Obistipatio.

Costiveness.

Symptoms. The body appears full; the animal moves with difficulty; no evacuation is perceived from the anus, &c.

Cause. Fevers; it is an attendant on most complaints, and, if no passage be procured, brings on an inflammation of the intestines, and afterwards death.

Treatment. The medicine must be regulated according to the nature of the complaint that attends it: for neat cattle give the saline cathartic recommended in Cathartic, Part I. Chapter II., which must be regulated according to the strength of the animal and the urgency of the symptoms; clysters are of the utmost service, and raking in
some cases is necessary; oleum ricini is very useful, given from a pint to a pint and a half, and repeated if necessary.

Genera 32. Ischuria.

-Suppression of urine.

Symptoms. Violent efforts to discharge the water occurring at intervals; sometimes only able to discharge a small portion at a time.

Cause. Want of tone in the body of the bladder; spasm at the neck of the bladder; inflammation induced by stimulant diuretics; calculus in the neck of the bladder. It frequently appears after cantharides have been given in drinks to make a cow take the bull.

Treatment. Emollients, as linseed-gruel with a small portion of the nitritis potassæ dissolved in it, a little opium is sometimes an addition; clysters are of great use; keep the bowels open. When from spasmodic stricture, bleed freely and proceed as before. When inflammation is the cause, proceed in the same manner as there directed.—Care must be taken to ascertain the cause of the complaint, before any powerful medicines are prescribed; then select such as are suitable to the symptoms.

Genera 33. Ecchymoma.

Swelling from a bruise, &c.

Symptoms. A black or blue swelling on the body; as the disease proceed gangrene takes place.

Cause. By bruises, or a morbed extravasation of blood.

Treatment. When the bruise is recent, bleed near the part, or apply leeches on the swelling, and bathe the part with stimulants. If the bruise be of long standing, promote a suppuration as soon as possible, and then dress it with digestives. When
a mortification is approaching promote a suppuration, dress the wound with antiseptics, and give at the same time cinchonæ lancifolia cortex; fomentations are of the utmost service.

Genera 34. Sarcoma.

Called angle-berries.

Symptoms. Tumors growing on the surface of the skin of various sizes; they rise from a small base, soft and of a pendulous form.

Treatment. When they are small they are easily removed by caustics; but when they are large they must be cut off with a sharp knife, and anoint the part with sulphuric acid; some farriers burn them off with a hot iron.

Genera 35. Vulturus.

A wound.

Symptoms. A division of the flesh, made by either a blunt or sharp instrument.

Treatment. If the division be large and deep, clean the wound from all dirt and pour in a sufficient quantity of the tinctura benzoini composita, afterwards stitch up the edges of the wound with a proper needle and leather thong, then secure it with a proper bandage; take off the bandage once a day, and lay on pledgets of tow soaked with the tincture before named; by this treatment most recent wounds will be soon healed. After they have been neglected, they form different appearances: the inflammation is often great; pulse attended with hardness; and sometimes symptoms of a gangrene: with these symptoms it is first necessary to examine the wound in every direction with a proper probe, then take nitras potassæ and sprinkle it over the wound, rubbing it gently in; afterwards dress with the following styptic:
R. Acidii sulphurici 5 fls.
Olei lini 3 iv.
Olei terebinthinæ rectificati 5 fl. m.

Or the following ointment,
R. R. pini laris et olei terebinthinæ rect. q. s.
Or, R. R. pini laris et olei olivæ q. s.

When the wound is much bruised, bleeding, fomentations, &c. are sometimes necessary: when it has a gangrenous appearance, give the animal cort. cinchonæ lancifoliae one ounce every six hours in a little gruel.

Genera 36. Uleus,

An ulcer.

Symptoms of an healthy ulcer are, granulations, or little eminences, arising from the surface of a florid red colour, small in size and pointed at the top; the discharge bland, white, opake; the edges thin and even with the sore.

Treatment. Give the animal perfect rest; use mild and simple ointments; dry lint applied to the surface of the sores; mild astringent ointments and lotions, &c. An alternative given occasionally is of use.

Vitiated or unhealthy ulcers.

Inflamed state.

Symptoms. The ulcer appears of a dark colour; it is surrounded by an extensive inflamed areola; the surface is covered with a brown transparent ichor.

Treatment. Fomentations and antiseptic cataplasms till the brown appearance disappear; narcotic fomentations; leeches applied near the edge of the ulcer; saline cathartics.

Sloughing state.

Symptoms. The parts acquire a fetid smell and
become black; sudden cessation of every inflammatory symptom.

**Treatment.** Give one ounce of cort. cinchona lanceifolia every four hours, a little opium may be joined with it; fomentations; cataplasma dauci; stimulant embrocations, &c. When the parts suppurate, cut off the dead matter with a knife, afterwards dress it the same as another ulcer.

**Fungal state.**

**Symptoms.** Fungi arising from the surface of ulcers may be of two kinds; the true fungus is of irregular spongy growth; or the healthy granulations suffered, by neglect, to attain too great a height.

**Treatment.** Styptics; escharotics, as the argenti nitras. When these applications are used, dry lint should be applied to the surface of the sore. In most ulcers gentle cathartics are of great use.

**Genera 37. Psora.**

**Itch or mange.**

**Symptoms.** Small pustules, with watery heads, which afterwards incrust, and form little scabs; infectious, i.e. communicated by contact.

**Cause.** By a species of pediculas burrowing on the skin, or some such animalcule.

**Treatment.** Give the animal sulphur inwardly, and apply an ointment of the same on the skin; or a solution of hydrargyri oxymurias; or a solution of oxide of arsenic; or ointment of quicksilver; or decoction of tobacco, &c. Either one or the other will remove the complaint.

**Genera 38. Fractura.**

Broken or fractured bones.

Boothby gives the following directions for a broken thigh: "Get two or three pounds of pitch
and melt it in an iron pot, and take it to the place where the beast is, and keep it hot till you want it, either by having a fire there or a chafin-dish filled with hot coals along with you, then take a strong piece of leather, sufficiently large to wrap round the thigh, and spread the warm pitch on it like a plaister, and wrap it round the fracture, pressing it down close with your hand, having five or six splints ready, about the thickness of a tile lath, and of a sufficient length, and dip them in the warm pitch and put them on the plaister, on each side of the bone, in such a manner as is most likely to keep the bone firmly in its place, and you may use as many of the splints as you think necessary for that purpose; then take a quantity of hurdles, and dip them in the warm pitch, and there-with fill all the spaces between the splints, and bind the whole round with beggar's inkle several times, that it may be secure; lastly, get two plates of tin about ten inches long, and so broad that they will nearly reach round the limb, but let them be bent round and each have three loops soldered on it for a leather strap to go through to buckle tight, in order to keep the plates fast on.

"It is necessary to observe, that great care must be taken to place the ends of the fractured bone close together; and either of them have a tendency to go out sideways, it must be secured in a proper position by the splints; and if the bone be not only broken in two, but a piece or pieces be also split off, they must be restored to their proper places and secured as before directed, for on this a perfect cure depends."
DISEASES

Not in the preceding Arrangement.

In this class I have inserted several disorders that do not come under any genera of Cullen’s nosology, with the formulae of some preparations that are occasionally called for by the farmer and grazier. In the preceding systematic arrangement, I have classed some diseases rather arbitrarily, in consequence of not being able to ascertain the exact seat of the complaint, as Ubertitis, Psora, &c.; which proves the little improvement this branch of the veterinary art has received from its professors.

FOUL IN THE FOOT.

Symptoms. A hard crack first appears between the claws, or hoofs, attended with considerable inflammation; afterwards a fetid and offensive matter is discharged, similar to that of the grease in horses’ heels; sometimes it appears in the form of a large tumor upon the corne, between the hair and the hoof, attended with violent pain and inflammation.

Treatment. Wash the part from all dirt, and if between the claws, take a cow-hopple, or a rope of the same thickness, and chafe the part affected; afterwards dress the parts with the muriat of antimony or sulphuric acid; let the animal stand in a dry place for an hour, repeat the application every day. If the part be much inflamed rub it with some stimulant liniment, and if the tumor be likely to suppurate, linseed poultices as oft as is necessary, which must be repeated till the inflammation
is subsided; then dress the wound as directed in Ulcus. Due regard must be paid to the existing symptoms. A few doses of soda sulphas, will cool the body and accelerate the cure.

LICE IN CATTLE.

Symptoms. The symptoms require no description, as they are apparent to every one; the animals look in general very poor and thin.

Cause. A low state of body from insufficiency of food; being kept on damp land, &c.

Treatment. Dridge or sprinkle on the animal the following:

\[ \text{R Pulv. tabaci (snuff) } 3 \text{iv.} \]
\[ \text{Sulphuris sublimati } 3 \text{iv. m.} \]

Or an ointment made of the above will answer equally as well; or,

\[ \text{R Delphinii staphisagiae } 3 \text{iv.} \]
\[ \text{Aqua Oiv.} \]

Boil down to two pints, and wash the animal once a day.

Give nourishing support; perhaps a stimulant drink would be of service.

WARBLES.

Symptoms. A tumor arises on the back containing a grub, and having a small hole in the centre, that answers for a breathing place.

Cause. From the gadfly, or oxfly, puncturing a small hole on the back of the animal and there depositing its eggs; these being speedily hatched, by the heat of the sun and the animal's body, a small tumor arises.

Treatment. The country people remove them by pressing them out with their fingers; but the best way is to wash the part well with oleum tercbinthinae rectificatum.
STRAINS.

Symptoms. The animal appears lame, and sometimes the part has considerable inflammation and swelling.

Treatment. It is first necessary to ascertain where the strain is, which sometimes is found very difficult; in general if linimentum saponis compositum be plentifully rubbed on the part, it will effect a cure; or, if not sufficiently strong,

\[
\text{R Linimentis albi } 3\text{iv.}
\]

Tinct. lytæ 3ij.

Mix and rub the part.

Sometimes febrile symptoms appear, in that case a cathartic must be given, and peruvian bark afterwards employed.

---------------

A drink to dry a cow of her milk.

\[
\text{R Alumenis } 3\text{vj. vel.}
\]

\[
\text{R Super-tartris potassæ impuris } 3\text{vj.}
\]

Alumenis 3vj. m.

These drinks are sometimes called for, but they should be avoided as much as possible.

To make a cow take the bull.

Farmers frequently apply for drinks for the above purpose, but I would advise that they should never be used; as they frequently injure the animal by bringing on a variety of complaints, such as strangury, &c. In compliance with custom I have given the formulae, therefore the practitioner may either use it or not, as he pleases.

\[
\text{R Pulv. lyttæ } 3\text{j.}
\]

Pulv. anisi 3ij.

P. helebori nigri 33. m.

Repeat if found necessary.

\[
\text{Vel R Pulv. lyttæ } 3\text{j. vel. } 3\text{j.}
\]

Pulv. anisi 3j. m.
On the Extraction of Calves.

The following directions are compiled principally from Mr. Downing's work; his method is clear and concise. Mr. Skellet* has lately published an excellent work, with plates, on the same subject; he has entered at large into the method he follows, which are all clearly explained to the most ignorant by means of the plates; to his work, therefore, I recommend those who wish for farther information.—The rules I have laid down are short, and, if properly attended to, the operator will succeed.

NATURAL POSITION.

The natural position is when the calf presents itself with its fore feet spread foremost, with its back upwards, or in the same direction as the cow's back, and the nose lying between the fore feet.

UNNATURAL POSITION I.

When a calf presents its tail where its head and fore feet ought to be, with the legs quite under its belly. “Push or press the flat part of the head to the haunches or hip of the calf, till it be

* Since the preceding part of this volume was printed, I have, met with the above work, by Mr. Skellet, intitled "A Practical Treatise on the Parturition of the Cow, and on the Diseases of Neat Cattle.” The latter part of the work is, in some parts, valuable; but, in inflammation of the kidneys, he has fallen into the error that I have pointed out in Mr. Clater's work, of giving diuretics. If Mr. Skellet follows, in future, a different method, he will find the benefit of it. I shall make no further observations on this work at present; the first part, containing 204 pages, is worth the price of the book, though there are many errors, being almost inseparable from a first edition, and which I presume Mr. Skellet will in future correct,
removed back far enough to come at the hocks of its legs; when the calf is sufficiently back that the hand may raise up one of the hind feet at a time, by taking hold of the inside of the calf's leg at the hock, and pull at it there, the joint will bend so as the cleses or horny part of the foot can be inclosed by the hand, which will prevent it hurting the uterus;" bring the foot gently to the middle of the pelvis, and fix a cord to it; afterwards get the other foot in the same situation; when the cow has her pain or throes upon her, give her all necessary assistance, by gently drawing the calf away. The more expedition is used, when the calf is in this position, the better; as sometimes the calf is in danger of suffocation.

POSITION 2.

When a calf presents its two fore feet and the head does not appear. Examine where the head is; it is in general found with its head back upon its hips, or it may lie with its head against its ribs, either on one side or the other. "When the nose is not to be come at, the finger must be got into the calf's mouth, and take hold of the jaw-bone, and return the head by that means. My method (Downing) at all times, in this case, is to keep the arm in the cow to the full extent of it, when the head is so far back, till the pains or throes of the cow will enable me to fix the fingers in the nose or against the jaw of the calf; nature will greatly assist in forcing the calf nearer in this operation, if the person will keep his arm in the cow until the head can be completely adjusted."—At the time of the throes the calf may be easily drawn away.

POSITION 3.

When the calf presents itself sideways, or nearly belly upwards, the head turned back over
one shoulder or the other, with the legs appearing. Gently move the body back till you can bring the head and fore legs to the mouth of the pelvis, then proceed as in natural position.

POSITION 4.

When it presents its fore feet and head quite under its belly and brisket. In this position the calf will be dead nine times out of ten. Push the calf back till the hand can be introduced to the nose, which must be removed to its proper position, then extract as before.

POSITION 5.

When the head appears alone, or presenting one foot with it. Push back the calf, introduce the hand, and proceed as directed in the first position.

POSITION 6.

It sometimes happens, in cases where the calf is dead or dropsical in the head, that instruments are found necessary to be used. All instrumental methods of extraction should be avoided if possible, but in some cases it is found absolutely necessary. The instrument in common use is a small polished rod of iron, with a hook at the end, which is introduced with the hand and put into some part of the animal, as the eyes, mouth, &c.; great care is necessary in the use of the hook, as by improper management the animal’s life may be lost. When the calf is dropsical, it is known by its largeness; in some cases the operator is under the necessity of cutting the calf away, this requires a man to be well-skilled in the practice. The knife must be made for the purpose, and the blade so placed in the ball of the hand, with the fore finger over the point, to protect the uterus from danger of being
wounded. After the operation is over, it is sometimes found necessary to wash the passage with some such as the following:

\[ R \text{ Tinct. myrrhæ comp. } 5 \text{ iv.} \\
\text{Camphoræ } 3\text{ij.} \\
\text{Sp. rectificatī q. s. add solutionem camphoræ} \\
\text{Tinct. opii } 3\text{ij. m.} \]

Keep the bowels open, and, if the fever be strong, give febrifuges.

In extracting calves it is always necessary that the operator has his nails cut close, and his hand rubbed over with oil.

**EXTRACT THE PLACENTA OR CLEANSING.**

In extracting the cleansing from a cow, it requires the greatest care; First, let the cow be taken to a cow-house well littered down with straw; the fore parts of the cow must be placed higher than the other, which will assist the operator, take a towel and lay hold of the cleansing, every time she attempts to strain draw it gently forward, if only for a few inches at a time, till it can be dislodged; never attempt to draw the cleansing but when the animal has her throes, for it would be improper to counteract nature.

Some people give a quantity of oil to accelerate the separation, others powerful stimulants.

**NAVEL-ILL IN CALVES.**

*Symptoms.* An inflammation of the navel-string takes place between the second and tenth day; the calf leaves off sucking and breathes with difficulty; a discharge of saliva from the mouth and nose.

*Cause.* By too much of the navel-string being exposed to the air; to prevent the disease making its appearance, cut off the string about half an inch.
from the navel with a pair of scissors as soon as it is calved.

Treatment. The remedy was given in the Farmer's Magazine, by Frank Sitwell, Esq. of Barmon Castle, Northumberland. "He gave a calf one glass of port wine, one table spoonful of bark, and one hundred and fifty drops of laudanum, and ordered the belly to be well fomented every two hours, with a hot infusion of chamomile flowers and marshmallows; the next morning he administered two tea spoonful of rhubarb in a little milk, and renewed the fomentation." The same medicine was repeated: the calf did well.

FALLING DOWN OF THE CALF-BED.

The cows most subject to it are, those that rise considerably on the small of the back in the form of a curve, and begin to lower towards the tail; the hips, rump, and sirloin are for the most part straight. Cows, made in this form, when they become old, are almost sure to have this complaint if not properly managed. To prevent it, observe to have the forepart of the cow the lowest, till the cow calves, till which time she should be carefully watched. When that takes place, have in readiness a clean sheet to put underneath and round the calf-bed, if she lay down, or to support it if standing, and to protect it from dirt, &c.; then let the operator remove the placenta, and then find the middle of the calf-bag, and gently replace it; in grasping the uterus in replacing it, observe that it must be done by its upper surface or that lying next the back, for if grasped by the lower part it would be in danger of rupturing some large blood vessels and be the death of the animal. Observe, that the hand is covered with oil, and the hind parts of the cow raised during the operation.—Clater directs, that the calf-bag be washed with,
a stimulant lotion. It sometimes happens that the calf-bag comes away a second time, to prevent it put "A wire* through the lips of the womb, and bend each end of the wire, in order to prevent it falling out"; this may remain till the animal is observed to have no after pains, it must then be removed.

In those cases, gentle purges, a plentiful use of bark, combined with opium and red wine is necessary, and very great care and attention are requisite to restore the animal.

* Clater.
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FINIS.

Printed by Thomas and H恩ley, Doncaster.
ERRATA.

On a review of this volume the author is sorry to find more typographical errors than he could have expected, arising in consequence of his distance from the press; the reader is desired to correct the following, which affect the sense.

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