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The Classification of Medicines adopted by Dr. Wood in the University of Pennsylvania.

- Medicines acting on the living body
  - General
    - Stimulants
      - Permanent
        - Astringents
        - Tonics
      - Diffusible
        - Arterial Stimulants
        - Cerebral Stim. — (Inebriants)
        - Nervous Stim. — (Antispasmodics)
    - Sedatives
      - Arterial Sedatives
      - Nervous Sed.
  - Local
    - Functional
      - Emetics
      - Cathartics
      - Diuretics
      - Diaphoretics
      - Expectorants
      - Emmenagogues
      - Sialagogues
      - Errhines.
    - Organic
      - Rubefacients
      - Epispastics
      - Escharotics
    - Mechanical
      - Demulcents
      - Emollients
      - Diluents

Those medicines acting upon foreign substances contained within the body may be comprised under the heads of Anthelmintics, - Antilithics, - Antacids &c.

Notes upon Lectures delivered by Dr. G. B. Wood.

First Lecture.

From a summary view of the Introductory Lecture, it appears that Medicines operate in one of two ways, - either upon parts applied by means of their effects being carried thro' the nerves to the brain, & thence distributed by the nervous system - or by being absorbed: - v.c. - they act either by sympathy or absorption. - In the local action of medicines, they may act by Sympathy either directly by the nerves, or first by having their action transmitted to the brain, & thence distributed by the nervous system to the other parts, as in the operation of Diptalis.

Their action is different also as to the different parts to which they may be applied. - Those places are the surface of the stomach & bowels, - the external surface of the skin & the surface of the air passages. - Sometimes they are absorbed rapidly at others more slowly. - These, before mentioned, are called the primary operations, and we now

come to speak of the Secondary, which are the results consequent upon the primary operation, - as for instt. 1. Prostration following excitement. - 2. General state of excitement from sympathy with a particular part. 3. Result of the principles of revulsion, as in the treatment of diseased lungs by a blister to the external surface of the skin. 4. Cessation of morbid phenomena in consequence of the removal of the cause, as in some forms of headache arising from constipation, which are relieved by purging. 5. The operations of nature instituted to relieve the constitution from the effects of the medicine, as in applying Caustic. -

Second Lecture

The nature or character of the operation of medicines, is very different because they differ much as to the parts which they affect. Each class acts upon particular organs, no matter where they may be applied. Thus, we find, that Ipecac vomits. whether applied by stomach,

blister or per annum. The explanation that we give for this is that the human frame is so constituted that each particular part has particular susceptibilities; - the cause is the undiscovered & perhaps undiscoverable principle of nervous action.

In the human system, considered as adapted to our department, there may be regarded three minor systems, each coextensive with the whole body, viz. Nervous, Circulatory and Absorbent, & these three are found in every organic part. -

It may be viewed also as consisting of a number of distinct organs, - as the Skin, - the Stomach & Bowels, - the Kidneys & Bladder &c.

Some medicines act upon some one of the systems while others act upon some of the organs. - Thus opium acts upon the nervous system, - Carb. Ammo upon the Circulatory & Iodine upon Absorbent. - The first sets are called General Remedies, & the second, Local Remedies. -

Medicines differ in the nature of their opera-

tions upon particular parts, or in other words. we say medicines are specific in their operations. - By the term Specific, we mean that a medicine will act upon a certain part of the body & produce effects peculiar to itself, - i.e. that when different medicines are applied to the same parts they produce diff. effects. -

This brings us then to the Subject of the

Classification of Medicines.

Though producing not precisely the same effects, yet there are a number of medicines whose operations are so analogous that they may be properly divided into distinct classes. - The first grand division is into Local and General Remedies

Local Remedies are those which, either primarily or secondarily, affect the ~~function & structure~~ different individuals organs. Of these, there are 4 Sets. 1. Those which affect the functions of particular organs, viz. Emetics; Cathartics, - Diuretics, - Antilithics, - Diaphoretics, - Expectorants & Emmenagogues. There are also 2 others viz. Sialagogues & Errhines, but these seldom used & may

be more properly considered as, minor effects. -
2. Set. Act on Extraneous Substances contained
within the Organs, viz. Anthelmintics & Antacids. -
3. Alter the organization of those parts, with which
they come in contact. - Rubefacients, - Epispastics, -
and Escharotics. - 4. Act mechanically upon the
parts to which they are applied. - Demulcents & Emollients

General Remedies are medicines which operate
upon the whole system, or upon one of the minor
systems & hence have their action extended to the
others. - Before proceeding with the different sets
of Gen. Rem. - it may be proper to say a few words
respecting stimulants. - This term is applied to the
Circulatory System, when no other particular system
is specified, & hence when we use the word stimu-
lant without any other word qualifying it, we
mean an elevation of action of the Circulatory
System. - There is a great diversity of power of
stimulation, both as regards the rapidity &
permanency of their action, & hence they are di-
vided into Diffusible & Permanent Stimulants. -

Many medicines both excite and diminish the different powers of the system at the same time, & hence are either sedative or stimulant according to the predominance of either of these powers. - & those which stimulate when given in small doses, may, if given in large doses, be very powerfully sedative. - As a general rule then, we find, that the same medicines are sedative or stimulant, according to the part to which they are applied, - to the quantity given, - and to the state of the system. - Astringents have a mode of action peculiar to themselves, producing a contraction of whatever parts they may touch. -

With these preliminaries, we proceed to mention the classification of the General Remedies. -

1. Permanent Stimulants, - as Tonics & Astringents. -
2. Simple or Diffusible Stimulants, which operate upon the Circulatory System. 3. Narcotics, - which may have either a sedative or stimulant influence upon the brain. 4. Antispasmodics 5. Medicines peculiar in their action, as Anthelmintics, Mercu-

Third Lecture. –

There are a variety of modes for administering medicines, & it is happy for a physiccan to be able to select that form best adapted to his patient. – They are given in the solid state, in the form of Powders, Pills, Troches, Electuary or Confection. In the liquid, – either in Mixture or Solution. – and as Liniments, Cerates (Ointments), and Cataplasms (Plasters). – We shall add a few remarks upon each of these.

Powders. – Deliquescent substances should never be prescribed in the form of powder. – A light powder may be given in a little Water or the like, but a heavier powder, as Calomel, should be suspended in Molasses, Syrup, Honey &c. –

Pills. – Substances may be given in the form of pills, which are not given in large doses, – which are not deliquescent, – or which do not become too hard in that shape to prevent their being digested. – Liquids should never be prescribed in this form, unless given in very small doses. – Efflorescent substances, should

be first deprived of their water of Crystallization. The mode of making pills is very important & should be well understood. - Some substances require no trouble, but can be moulded with ease, as some of the soft Extracts, - Mals. Hydrarg. &c. Others can be made into a mass with a little water, - as Rhubarb, Jalap &c. - But there are some which are more difficult, & require some discrimination in the agent. - In making this choice, we should take those substances which are not chemically incompatible, - or which will not make the pills too hard. - The best articles for immediate use are Pulv. Gum Arab. & Syr. Simp. - Soap is good to meet any acid in the stomach, when it is not incompatible with the medicine prescribed. - Confect. Ros. is much used. Crumb of Bread (Mica Panis) is very good for absorbing liquids which are to be given in very small doses, - as Croton Oil, - Solutions of Argent. Nit. - or Cup. Sulp. - To prevent their adhering together the best substance that can be used is Pulv. Rad. Glycyrrh. -

(First dissolve the substance, (if soluble) in a small quantity of Water, then make up the crumbs with this solution.)

With respect to the size of pills, we may say that those made from Veg. powders should not exceed ℈ss ℥ij in weight. - A good size is about ℈ss ℥ij. - Those from metallic substances, however, may weigh from 4 to 8 ℈s. - —

Troches, - are not much employed. - They are designed to be held in the mouth, while they gradually dissolve, consequently they should be prepared with substances which are slowly soluble in the saliva. (Farina, Gum & Sugar)

Electuaries, — are soft masses composed of powders mixed up with syrup or honey.

Conserve, or Confect - is a preparation made much in the same way for the purpose of preserving recent vegetables. Both these latter, Elect. & Conserve, are embraced under the terms Confection, in pharmaceutical language. —

Mixtures. - This term is applied to those preparations in which insoluble substances are suspended in Water by means of substances which are soluble. To form a good mucilage in ℥ ℥ij mixture, add of Gum. Arab & Sacch. alb. ää about ℈ij. - The Yolk of an Egg may sometimes be used for the same purpose, - especially

formerly called Julops

in mixtures containing Oils, Balsams &c. - The yolk of one egg is sufficient for a mixt. of ℥vj. -
In the preparation, the medicines should be rubbed together first & the liquid afterwards added. - It is necessary to avoid adding too much solid. - ℥ij vel ℥j Elect. - or ℈i Extract to ℥i is sufficient. - Calculation should generally be made so as to make a tablespoonful (℥ss) to be given for a dose. - As for the liquids used, it is well to prescribe the aromatic waters, as Aq. Cinnam. - Aq. Menthæ when they are compatible. -
Solutions. - In these it is only necessary to guard against adding substances chemically incompatible.
Infusions. - Preparations in which the active matter of substances is extracted by Water either cold or hot, but without boiling. - A cold Infusion requires from 12 to 24 hours, - while a hot one is prepared in about 2 hours.
Decoction, - is when the substance is boiled in Water or other liquids. -
Wines. - are prepared by infusing the substance in Wine at the ordinary temperature.

Tinctures,- prepared by digesting in Alcohol for one or two weeks.- There are 2 different kinds of Alc. used according to circumstances:- Rectified Spirit or pure Alcohol, & Proof Spirit or Diluted Alcohol. - The balsams, vol. oils, &c. are soluble only in Alcohol.-

Vinegars,- are solutions in Vinegar, of which there are but two or three in Pharmacy, as Squills &c.-

Syrups & Honeys,- are preps. of Sugar & Honey with veg. matter.- They are made by forming a decoction or Infusion of the veg. & then adding sugar or honey. -

Oxymel. - Composed of Vinegar & Honey.

Liniments,- are preparations which are either liquid or semiliquid, & of an oleaginous consistence.

Ointments.- are soft solids, to be applied by rubbing with the finger. -

Cerates,- are of a firmer consistence, containing Wax, & are generally applied by being spredd on a rag, without requiring to be heated. -

Plasters,- are still firmer than Cerates, more tenacious, & require to be heated, before they can be spread.

Cataplasms.- Should be soft, moist & somewhat tenacious.- Sometimes they are made simply, by the addition of Water as Mustard.- Some which will not form a mass with cold, are mixed up with hot W.- as Flax-seed meal.- Substances, which of themselves will not form a poultice with water, have something else intervening:- as Hops, which are mingled with Flax seed Meal & stewed up with Water.- Other liquids besides W. are frequently used, as Vinegar, Alcohol, Milk &c.- as in the Bread & Milk Poultice, so frequently used.- In this, stale bread should be directed, & good sweet milk;- & a little fresh Lard added to soften it.-

Fourth Lecture. 4/24-1834.-

Medicines are directly applied to two portions of the Alimentary Canal,- the Stomach & Rectum. It is applied by the Rectum with 2 objects.- 1st. For irritation so as to excite purge. ~~or~~ 2nd Through the mucous coat of the rectum to produce an impression upon the system at large.- These effects are incompatible with

each other & hence care must be taken to produce the desired effect. – In both cases, the patient should be directed to resist the immediate impulse to evacuate & should be assisted by the application of a warm towel to the parts, with gentle pressure. – The enema should generally be of the warmth of the body. – As a general rule, about three times the amount of a dose by the stomach may be given by the rectum, but it is safer, especially in very active medicines, to give about twice the dose & repeat it if necessary. Neither of these rules, however, can be universally applied, because the relative susceptibility of the stomach & rectum differs in different persons. – Instances may occur from habit or other causes in which the susceptibility of the rectum may be even greater than that of the stomach, – as in opium eaters &c. –

Hence when any medicine ceases to produce any effect upon the stomach, we may resort to other surfaces. – viz. the Skin or Rectum. –

There are two modes in which medicines may be introduced, either in the state of Solids or Liquids. – The former are called Suppositories, – & the latter, Clysters, Enemata, or Injections. —

Suppositories will be spoken of hereafter, but here we will make a few remarks respecting Enemata. They consist of soluble substances & Water is generaley the vehicle used, with the addition of a little Mucilage or the like. - When administered for the purpose of being retained, - we should use as small a quantity of liquid as possible, - ℥i or ℥ij is sufficient. - Barley Water or a Solution of Starch in Hot Water makes a very good vehicle. - When given in order to produce purging, - about Oj of the liquid should be used. - - While upon this subject we may add, that the Character of the Syringe should be attended to, & that it should be good. - - - -

The Skin affords a very convenient Surface for the application of medicines. - To this, they may be used in the state of vapours, liquids & soft solids, & may be applied either to the cuticle or to the Skin deprived of its cuticle. - - A very ready method of applying vapour to the cuticle is to heat some bricks, - dip them in the liquid, - wrap them in flannel & place them under the bed-clothes so as not to touch the patient.

Raise the bed-clothes so as to form a vacant space, by means of hoops or stools. – Another method is by a tube passed under the clothes into a space made as before. –

Another method, by which the steam from herbs &c. in water may be obtained is by placing the patient in a chair over the water &c. in a tub, & then creating a steam by putting heated bricks in the water. The patient must be wrapped round with blankets & care must be taken that the steam does not become too hot, so as to scald him. –

Sulphur or other solids may be applied in form of vapour by passing a tube of a retort, to which heat is applied, – into a box containing the patient except his head.

They are more frequently applied to the skin in the liquid form; – either as Lotions, Baths, Semicupium, or Pediluvium. –

Solids thus applied, may produce local effects, or may operate upon particular organs. – Frictions sometimes

prove beneficial, & the places best adapted to it, are the inside of the legs and arms. –

But the most effectual method of applying solids to is what has been termed the Endermic Method. – The method is to deprive the skin of its cuticle, then apply the medicine to the part. – The circumstances which will warrant this procedure are, when the patient is either incapable or unwilling to take or retain the medicine, & when this method may be joined with others to produce a very speedy action. Corrosive and very irritating medicines, or those which require to be given in very large doses should not be given in this way. – The active principle of a medicine would be preferred to the medicine itself. –

To produce a blister, apply a plaster of Cantharides 3 or 4 inches Square & leave it 3 or 4 hrs. – Then take it off & dress the surface with a poultice so as to remove the cuticle more readily. – A better plan, however, is to moisten a piece of Patent Lint with strong liquid Ammonia, – lay it on the part, & keep continually dropping on more to keep it moist. In this

way a blister will be raised in about 15 minutes.-

The Powder may be sprinkled upon the surface thus prepared, either alone or mixed with wheat flour.- It may be in form of Cerate or Liquid, & the quantity should be generally 2 or 3 times that given by the mouth.-

The power of Absorption varies in different parts.- The Epigastric Region is the most effectual.- The inner parts of the limbs are good, and the anterior portions of the body generally, better than the Posterior.— We should apply beyond the morbid affections, so that during the course of Circulation, we may suppose from the direction of the absorbents, that the medicines will pass directly through the affected part.—

Substances are absorbed most readily from the bronchial passages, but it is difficult to apply them thus, for fear of irritation. They may be thus given in the state of Inhalation:- which is in 3 ways.— Either 1. By diffusing thro' the air of the apartment.- 2. By confining them in a bag with a tube attached.- or 3. By means of an Inhaler.— —

We now come to the subject of the relative doses of medicines, which vary with the age of the patient. For this, no general rule is universally applicable. A full dose may usually be given at the age of 20, but for those under that it is said that the dose must be diminished in the proportion of the age to the age +12. – Thus to find the dose for a child 4 yrs. of age, we would have 4 : 4+12=16 :: 1 : 4 – that is, – the dose would be 1/4 the quantity sufficient for an adult.

Particular persons, however, are liable to peculiar affections from idiosyncrasy &c. – & the effects of habit are very great – all which must be taken into consideration in prescribing the requisite dose. –

For 5th Lecture upon Weights, Proximate Principles &c. see Book **A** from p. 1 to 17 inclusive. –

Sixth Lecture May 1st 1834 –

Emetics are those substances which excite vomiting by an inherent peculiar property. – Their operation is peculiar, but does not immediately follow their administration; – generally after a lapse of 10, 20 or sometimes 30 minutes. – Soon after taking an emetic

the patient feels an uneasiness, which is succeeded by nausea &c. till vomiting results. - Previous to vomiting, the countenance is pale, the skin cool, moist & relaxed, & the pulse frequent, small & irregular. - When vomiting commences, the countenance becomes flushed from the pressure upon the veins so as to prevent the blood returning from the head, - & the temples appear as if filled with the rush of blood. - After vomiting, the skin is left moist, cool & relaxed, & languor succeeds, - which is consequent upon the nausea excited, & not upon any narcotic influence.

The operation of vomiting is effected by a reversion of the motion of the stomach & by the action of the abdominal muscles. - This mode is best explained by supposing that the emetic touching the mucous coat of the stomach, imparts to it a sensation which is then transmitted to the brain by the nerves, & then again the impression is transmitted by the nerves from the brain to the muscles of the stomach and abdomen. - That the agency of the brain is absolutely essential to the operation of an emetic, - appears

from the fact, that if we separate the par vagum nerve, no emesis can be produced. - or if the brain be rendered insensible to any degree, either from injury or from poisons, it will be very difficult to make an emetic operate. -

Emetics differ from other medicines in losing none of their power from repetition, but generally have a contrary effect. - They do not act upon all persons or in all diseases, equally. - In febrile diseases, they generally operate with facility, but in nervous diseases, they act less readily.

When narcotic poisons have been taken, the stomach is not easily affected, but if mineral poisons. they facilitate the action, provided they have not been sufficient to destroy the Stomach. - -

We now come to speak of the indications for the use of an emetic, which are numerous. -

1. The most obvious effect of an emetic is to evacuate the Stomach; hence it is frequently called for, for this purpose; as when any irritating substances have been taken into the Stomach, or

when the disease depends upon an over-distention of that organ, - or upon containing acrid & poisonous substances. - Mineral poisons sometimes operate themselves & then it is only necessary to give warm drink plentifully so as thoroughly to wash out the stomach. - but the Narcotic Poisons have a tendency, as before stated, to prevent the emesis & consequently more attention is requisite. We should never resort to the stomach pump, unless an emetic will not operate after waiting ½ or ¾ of an hour. - If the poison should be a solid, as Opium the Pump might not be large enough to admit its entrance & it could not be drawn out.

In bilious fever, when the accumulations are acrid & unhealthy, & the bile is not properly secreted, - emetics are often very effectual. - But it is very necessary to distinguish between a case when vomiting occurs from the irregular biliary secretions, and when it arises merely from an irritable stomach, because it would be of much importance in practice. ——

2. Emetics act favourably by exerting a mechanical pressure upon the liver & other abdominal viscera, in the act of vomiting. - It often happens that congestion of blood takes place in those parts; - the patient experiences great oppression in that region, attended with depression of spirits &c. - & then an emetic may frequently be given with advantage. -

The well known utility of an emetic in Jaundice, is generally ascribed to the compression excited by the vomiting, upon the biliary ducts, thus forcing out the bile which had been secreted in too large quantities; - but we consider this, an erroneous view, & that in a great majority of cases, Jaundice arises from the bile not being secreted at all by the proper vessels, but instead of that, is taken up by other absorbents & carried thro' the System, - & that emetics act in such cases by arousing the liver to its proper function, & exciting its secretions. -

3. Emetics act favourably by the production of Nausea, which is attended with a general relaxation & prostration of the system. There are several

beneficial effects resulting from Nausea. 1. Most obvious effect is a prostration of arterial action, or a reduction of the force of circulation; - hence its use in inflammatory diseases in an early stage; - but it must not be relied on in a case where the disease has become confirmed. - 2d. Effect is an increase of the power of absorption, - which has been demonstrated to be in inverse proportion to the reduction of the force of circulation. 3. - Relaxation of muscles, - hence it is useful in spasmodic affections &c. - 4. Relaxation of the skin & consequently perspiration. - & 5. It probably produces an increase of biliary secretions. —

4. Emetics exert not only a local power, but by the concussion or shock which they give, they exert an influence over the system, so as sometimes to break up a morbid action which may exist there. - In this way, we account for their benefit in Remit. & Intermit. -

Seventh Lecture. May 6th 1834 -

5. Another favourable mode in which Emetics act, results from the principle of Revulsion. - We know that by irritating one part of the system, the excitement is

increased in that part, while at the same time, it is drawn off or diminished in other parts. If them, during any inflammation, you can produce a flow of nervous action & consequently of the exciting cause to any other part of the system, you relieve the disease; - thus it is that emetics act by revulsion as in Mania, Amaurosis, Tic douleureux, Bronchitis, Uterine Hemorrhage &c. -

We must bear in mind, that all Emetics are apt to purge when given in small doses, - & that given in exceedingly small doses, they excite diaphoresis. -

6. They evacuate the bloodvessels, - directly, by exciting diaphoresis, & other secretions & indirectly, by cutting off the supply of food from the stomach: - but for this purpose, they are seldom or never given. -

7. The irritation of the stomach produced by their operation is sometimes useful, - as in dyspepsia, but this is rather dangerous, lest gastric irritation might lead to unexpected results. - Thus we find that diseases present various indications for the use of certain medicines, & more especially for the

use of Emetics, which we find answer so great a variety of purposes.- But to complete our view of Emetics, we must also remember those circumstances which contraindicate their exhibition.-

1. Acute inflammation of the stomach, bowels &c.- This evidently forbids them from the gastric irritation which they are known to produce.-

2. In some complaints, in which the susceptibility of the stomach is diminished, it becomes necessary to increase the dose to produce any effect. In such cases, we wish particularly to warn the practitioner against the danger which may result from the reaction of the system;- for, if those emetics be then given in large doses, which are apt to excite inflammation,- when the system reacts, great danger will arise from the gastric irritation. Even tho' the effects of large doses may leave no impression upon the stomach at first, yet when a reaction ensues, the secondary effects will be gastric irritation, terminating perhaps fatally.- It is proper in such cases of insusceptibility of the stomach,

from whatever cause it may arise, to use those medicines which are calculated to produce no such injurious effects.- as for instr. Ipecacuanha.
3. A determination of blood to the head, forbids the use of an emetic without previous depletion:- for we have before stated, that from the pressure upon the veins, the blood is prevented from returning freely thence there is a rush to the temples &c.- Hence it is evident that in cases of full arterial excitement, or where there is a tendency to apoplexy,- blood to the head &c.- it would not be advisable to administer an emetic without previous depletion.- It is from this principle of diminishing the flow of blood to the head, that benefit results from dashing Cold Water upon the head of a person labouring under a Narcotic Poison.-
Bleeding also increases the susceptibility of the Brain, & causes Congestion.-
4. Advanced stages of pregnancy contraindicate their use, & they should be then avoided, if possible.- In early stages, they may be given with safety, unless in women prone to abortion.-

5. Hernia forbids them;- but if, from urgent necessity, they must be administered to such subjects, the patient should be directed to place his hand upon the hernial orifice, during emesis.-

They are generally administered diffused or dissolved in Water, & it is a good rule to give them in divided doses, every 15 or 20 minutes till they operate. When the design is only to evacuate the stomach, give the patient plenty of warm drink;- but if the object be to produce a powerful effect, & give a shock to the whole system then little or no drink should be given, but let nausea, retching &c. continue for some time. Sometimes, either from constitutional or other causes, an inordinate degree of vomiting is excited, & it becomes necessary to check it.- This is done by giving 10 or 15 drops of Laudanum or a little of Sol. Morph. Sulph.- & by applying a Spice Plaster or Warm Fomentations over the Stomach.- If this do not succeed, inject about 60 drops of Laudanum with 2 or 3 tablespoonfuls of Solution of Starch, & if these fail, we may resort to the application

of a Mustard Plaster to the Stomach, which seldom fails to arrest the violent vomiting. -

Having said thus much concerning Emetics in general, we must now proceed to consider them individually. - First, The Vegetables & Secondly The Minerals. - The first and most important is Ipecacuanha, - which is the product of the Cephaëlis Ip. - or Calicocca Ip. - and comes from Brazil. - For botanical account see Book A from page 23 to 33 inclusive. -

Eighth Lecture. May 8th 1834. -

Upon Ipecac, - Gillenia, - Euphorbia Ip. - Lobelia - Sanguinaria, - Squills, - Tobacco, - Chamomile Flowers, - and Mustard Seed; - for which see Books A and B. -

Ninth Lecture May 12th 1834

We next proceed to consider the Mineral Emetics. Tartrate of Antimony & Potassa or Tartar Emetic - Antimonii et Potassa Tartras. - or Antimonium Tartarizatum are the officinal titles. - The same rank, which Ipecacuanha holds among the vegetable emetics, is sustained by this among the Minerals.

It is the only one given for other than emetic properties.
It was first made known in Paris in 1631. It is prepared by boiling Potas. Bitart. with Protof. of Ant.- & should always be obtained in the State of Chrystals,- to prevent its being in an adulterated State.- The most common impurities are Tartrate of Lime, & Cream of Tartar.- The crystals are in the form of Octahedral or Trihedral Pyramids, & contain a small proportion of Water of Chrystallisation, hence they effloresce on exposure.- Taste is metallic & slightly styptic.- When entirely pure, it is dissolved by about twice its weight of Water, making a transparent solution,- but if Tart. Lime is present it will soon precipitate.- If the solution remains too long, Tart. Ant. undergoes spontaneous decomposition, but this is prevented by the addition of a certain proportion of Alc.- In pure Alcohol, it is insoluble.- It is decomposed by the Mineral Acids,- alkalies & their Carbonates,- Alkaline Earths,- Soaps,- Hydrosulphates,- & astringent Infusions,- such as Bark, Galls &c. and hence these should not be prescribed together.- The decoction

of Bark is especially incompatible, & hence may be administered as an antidote in cases of poison from an overdose of this mineral. - Common Green Tea also has the same effect & is more convenient. —
The value of this mineral as an Emetic, depends upon the certainty, strength & permanence of its operation. It remains longer in the Stomach than Ipecac. & produces a greater impression upon the system, - hence it is to be preferred, 1. When we wish to make an impression upon the liver and abdominal region, - 2. When we wish to divert irritation by revulsion. & 3. To break up a chain of morbid action in the system. —
It exceeds Ipecac. in producing nausea & prostration. Its action often extends to the Duodenum & evacuates the bile secreted there, - hence it may be advantageously used for that purpose, when there are no contraindications. - It is a good emetic adm in various forms of fever, especially those of a bilious character, - in jaundice, - nervous complaints as Amaurosis, Mania &c. - obstinate dislocations, - & in some inflammatory disorders, - such as Sore Throat, Diarrhœa, &c. —

Sometimes it is beneficially continued with Ipecac. and we may say that when we wish to produce a mild effect give Ipecac. – if a powerful one, give Tartar Emetic, & if doubtful which is necessary, give both.

Besides emesis, Tart. Ant. is frequently given with a view merely of exciting Nausea, & this has been found very beneficial in cases of high excitement, – in moderating the hysterical effects of mania, – & in convulsions. Give it just in sufficient doses to keep the patient constantly feeling its nauseating influence, & happy results often follow in convulsions, – nervous complaints &c. –

It is more apt to purge, when insufficient to excite vomiting, than any other of the Emetics. ––

It is also diaphoretic & expectorant, & sometimes diuretic & indeed seems to stimulate all the secretions. –

When given in very minute doses, insufficient to produce any effect upon the secretions, it appears to exert a sedative influence upon the Heart. – From this cause, some modern Italians have considered it as powerfully sedative, but this is incorrect, for it is well known, from the very principle of its action, to be powerfully ir-

irritant to the Stomach.- Brodie found that large doses of it administered to animals suspended the action of the heart altogether, altho' artificial respiration was kept up,- showing that it has a direct influence upon the heart, & that it proves fatal not only as the other Narcotics, by depressing the powers of the heart, but also by the irritation which it excites in the Stomach & other organs. —

The poisonous effects of Tart. Emetic, are Violent vomiting,- burning sensation of heat about the stomach,- hypercatharsis,- hiccup &c. & terminating in death.

Remedies in such cases are mucilaginous, or oily drinks in ord'er thoroughly to cleanse the Stomach,- and Decoction of Bark or Tea to counteract any that might remain.- Leeches may be applied to the abdomen if gastritis ensues. —

The medium dose is 2 or 3 grs, given in doses of ½ gr. each at intervals of 15 or 20 minutes till it operates.- When combined with Ipecac, the form is about

Ipecac grs XX

Ant. Tart grij mfp. Pulv. No ij. Div2 one ℥ept. if necessary

It will produce Nausea in the dose of from ¼ to ½ gr. every hour, & gradually increase it if necessary.- It proves diaphoretic in dose of ⅛ or 1/16 gr. - & still less is given as an expectorant. — For these purposes, it should generally be given in solution, - but for its purgative effects, it is generally united with Cathartics in the form of Pill. —

To facilitate the administration of this medicine in small doses, more especially to children, an officinal preparation called Antimonial Wine is recognised in the Pharmacopeia. - It is made from grs ij Tart. Ant. to ℥i Best Sherry Wine, which should be a clear solution: - if any precipitate is found in the bottle, it should be rejected, as it is evidence either of the use of inferior Wine, - or of impure Tart. Emetic Dose for an adult, ℥ss. every hour till it operates, but should not be given if avoidable. - Dose for a child ½ or 1 teaspoonful. - Within the month, to 2 yrs. - 1 yr. 8 or 10 gt.

Sulphate of Zinc. or White Vitriol. —

This emetic is useful for the promptness of its operation, as it vomits almost immediately without any

nausea.- Its action is confined to the stomach, & it is seldom used except for producing speedy vomiting in cases of Narcotic Poison.- It is then advantageously combined with Ipecac.- Medium dose 10 grs.- but in cases of Poison ℈ss may be given. but this quantity should be seldom repeated.

Sulphate of Copper. or Blue Vitriol.— This acts also very speedily, with no nausea & but little succeeding languor, or effect upon the System at large.- It is used in narcotic poisons, but being so violent, we prefer the Sulp. Zinc. & Ipecac. Dose 2 or 3 grs.— In cases of Poison from 5 to 15 grs. but never exceed the latter portion.- In overdoses it occasions violent vomiting,- irritation of Stomach,- hiccup,- fetid eructations,- prostration,- convulsions and death.- The best Antidote is the White of an Egg or Albumen beat up with Water.—

Acetate of Copper is never used as an Emetic.- Hydrargyrum Sulphuretum Flavus, or Turpeth Mineral was formerly used, but not now on acct of its violence & tendency to salivate.- Medium dose 5 grs.

South Lecture May 15th 1834

Cathartics are medicines which evacuate the contents of the stomach & bowels by purging.

They operate in three ways. 1. By making an impression upon the internal mucous coat, which is thence conveyed to the muscular coat, and increases the peristaltic action. - 2. By increasing the secretions of the lining membrane of the bowels, & 3. By increasing the secretion of the bilious & pancreatic fluids which is poured into the intestines, & hence increase the evacuations. - Calomel may be considered the only medicine belonging to the last class, - but other medicines operate by one or both the former methods. -

Cathartics differ as to the portion of the bowels which they affect, - thus Gamboge acts upon the stomach, - Aloes more particularly upon the large intestines, - while the neutral salts & oils influence the whole canal. -

Hence we find the nature of the discharges to vary according to the medicine employed, - being either natural, - liquid from action upon the upper portions

of the intestines, — watery, — bilious, — or mucous & bloody from the irritation of the medicine.

Cathartics differ in the degree of force with which they operate, — & hence they have been divided into Laxative & Purgative, of which the latter are the more powerful, — & those of them which are very severe in their action are termed Drastic Purgatives. The division, however, into these two distinct classes, is not a very good one, because there is no medicine so weak, but that it will become more active in large closes, — nor any so powerful, that it will not operate slightly in small closes. — Hence they are Laxative or Purgative according to the object & method in which they are given. —

Cathartics answer several indications, as follows; 1. The most obvious & perhaps the most advantageous use of them is for the simple evacuation of the bowels, — merely for the removal of constipation or of unwholesome accumulations. Thus in dyspepsia, cholic, — hemorrhoidal affections &c. — & sometimes together with the faeces, some irritable matter may

be lodged & even remains so long as to be acted on by the absorbents, & given off in the cutaneous exhalations; — these Cathartics are very beneficial in removing all such offensive matter. — They are given in low forms of fever, — to prevent torpor of the intestines, — diarhea, — dysentery, — when poisonous or noxious articles have entered the stomach & passed beyond the reach of emetics, &c. —

The French have recently adopted a theory which forbids the use of Cathartics in fevers, because they say fevers depend upon an irritation of the mucous surface of the stomach &c, & that Cathartics will only increase the irritation. But experience shows that these views are erroneous: — the cathartics act favourably by driving out the irritating faeces. —

2. They act advantageously by a reduction of the general arterial excitement from the quantity of fluid which they cause to be poured out from different sources. — Directly, by depletion of the blood-vessels, & indirectly by expelling the chyle before it is taken up. —

3. They act in promoting the absorption of effused fluids. This, we have already stated, takes place in proportion to the depletion, & it is accomplished also by diminishing the serum of the blood, by other secretions. Thus in a case of dropsy, the Hydragogues would be preferable. —

4. They act favorably upon the principle of Revulsion. We know that when a powerful action takes place in one part of the system, the nervous excitement is drawn from other parts to that. — hence we often find great benefit resulting from purging in Apoplexy, Hemiplegia, Hemicrania, — in local inflammations, when it is not in immediate contact with the bowels, — in Rheumatic, Hip complaints, — Catarrhs. — &c. — of Brain; —

5. Cathartics act upon the Liver by increasing the secretions, & by removing congestion of the vena portarum, Hence we find Congestion preceding attacks of Bilious Fever, — Cholera, — Cholic, — Hepatitis &c. relieved by Purging. It is for this reason also that a dose of Calomel or of Tr. Catth. Comp. — proves very beneficial in the early part of Summer complaints. —

Sometimes Cathartics produce good effects by acting in several of these different ways, at one & the same time. Thus in a case of Dropsy, where the whole cellular membrane may probably be in an irritated condition, the Hydragogues act not only by producing an evacuation of the bloodvessels, so as to cause absorption, but also by irritating the stomach & by the principle of Revulsion, withdrawing the irritation from the cellular membrane. — & by depletion

A few words remain to be said respecting the methods of prescribing and administering cathartics. The powers of Cathartics are modified by combination hence by uniting several severe Purgatives in small doses, we obtain the full cathartic, but the irritation being more extensively diffused over the whole surface, is not so much felt. — Their influence is promoted sometimes by the addition of Tonics, - sometimes by small doses of an Emetic. - When they operate powerfully, producing griping &c, this may be obviated by the addition of aromatics. - Salts may be given in Mineral Water &c. —

Medicines operate more effectually when given upon an empty stomach, hence it is advisable to take them in the morning before breakfast, or on going to bed at night. If a prompt operation is desired, the best time is before breakfast, but if we merely wish a laxative effect, - in the evening. Warm drinks of farinaceous food, molasses & water facilitate their operation, & prevent griping. — Hypercathartis subdued by 5 or 15 drops Laudanum.

We now come to speak of individual Cathartics. - The least active of these, is common brown Sugar, upon which produces this effect slightly. - Molasses from the plantation also acts as a Cathartic, - hence we find a diet of Rye Mush & W. India or Orleans molasses an excellent laxative in cases of recent piles, - prolapsus ani &c — Wheat Bran, in form of Bread or Mush —

A medicine more frequently used & approximating in its nature to Sugar is Manna, for an account of which see Book B. p. 205. —

Eleventh Lecture May 19. 1834

Upon Figs, Tamarinds, Purging Cassia, Castor Oil, Olive Oil analogous in its operation to Castor Oil, but inferior. – Dose ʒi or more. – Melted Butter a still milder cathartic, adapted to chronic dysentery, after the irritation is subdued. – It is prepared by putting it in a mug of boiling Water, stirring it up & skimming off the melted portion. Dose a tablespoonful every hour or two. –

For Rhubarb. see Book A p. 43. –

Twelfth Lecture May 22. 1834

Upon Rhubarb &c. and Senna, see Book B. p. 33.

Thirteenth Lecture May 26. 1834.

On Cassia Marylandica, – Juglans & Aloes; – for which see Books A and B. –

Fourteenth Lecture May 28. 1834

On Jalap, – May Apple, – Scammony & Black Hellebore. –

Fifteenth Lecture June 2. 1834

On Colocynth, – Gamboge, – Elaterium and Croton Oil. –

Sixteenth Lecture June 5. 1834

Sulphur,- is found in volcanic countries mixed with earthy impurities, from which it is purified by fusion & sublimation. The best Sulphur comes from Sicily, Italy &c.- In England it is obtained from Copper Pyrites,- but is apt to contain the Sulphuret of Arsenic. - It comes to us in rolls.- Roll Sulphur is sublimed & washed,- to clean it of Sul^{ous} & ^{ic} Acid.- then called Flowers of Sulphur, Sulph. Sublimatum or Sul. Lotum.- the latter is meant in the Pharmacops.- It is of a yellow colour,- nearly tasteless,- has no smell except when heated or rubbed,- insol. in Water, ~~&~~ & in Alc^ but soluble in the vol. & & fixed oils,- fusible & inflammable & volatilized

It has long been a favorite laxative amongst physicians;- it seems to act upon the lower bowels, & sometimes to produce more griping than other laxatives, which perhaps depends upon the Sulph. Hyd. formed.- It has also a tendency to the Skin,- to the lungs,- & in fact, seems to exert a general alterative influence.- It is useful in costiveness,- also given in slight hemorrhoidal affections, with an equal part of Cream of

Tartar, a tablespoonful or teaspoonful at bed-time, - also in dyspepsia accompanied with constipation & acidity it is combined with Magnesia. - in Chronic Rheumatism, Gout, & various cutaneous affections. - Hence the Warm Sulphur Springs contain Sulph. Hyd. are very beneficial for Rheumatic patients. -

Dose as a Laxative 3i or 3ij, given in Syrup or Milk. It is usefully applied in the form of an ointment, of 4 parts Lard & 1 part Sulphur, in cases of Itch, Tinea Capitis &c. - A solution of the Sulphuret of Potassa (3ij to ℥viij Water) is sometimes used. -

Lac Sulphuris Sulph. Precip. is made by boiling Lime & Sulphur, in Water straining & adding Muriatic Acid. - It is nothing more than Hydrated Sulphur. - Dose & use same as former. Sulphuric Acid & often used. Since the Lac Sul. is adulterated with Sulph. Test of purity, is to throw it on a hot iron, - it should all be consumed. -

Carbonate of Magnesia. - formerly called a Subcarbonate: - is usually obtained from the Bittern or Mother Waters remaining after the Crystallization of Common Salt from Sea Water. - This contains the Sulphate & Muriate of Magnesia. - It is heated & impure Carb. Pot. added, - when double decomposition

takes place, from which results Carb. Magnes.
This is washed, dried & cut in cubical masses.
It was first introduced into practice by Count Palmar in Rome. It is white, light, smooth, moderate, little taste, (less than Magnesia) insalterable in air, & insol. in Water, except to a very slight extent, when the Carbonic Acid of Water, forms it into a Bicarbonate. (Sometimes it is adulterated with Stone; - detected by dissolving in Lig. Sulph. Acid, & add Mur. Acid -)
Magnesia Water is a solution of it in Seltzer Water.
It may be found in other forms than masses & heavier. - Dose for an adult ℥ij, but not much prescribed on account of its being liable to produce flatus. - Efficiency is owing to acid in the Stomach & Bowels. -
Magnesia or Calcined Magnesia, (or Usta) - is obtained by exposing the Carbonate to a high heat. ℥i (Carb.) yields only about 200 grs. Magnes. -
Taste is disagreeable, (alkaline) - soluble in 1000 parts Water. -
Exposed to the air, slowly absorbs Carb. Acid & is converted into a Carbonate. -
We meet with a preparation called Henry's Magnesia, which is essentially the same with.

the Calcined, differing only in being denser, & smoother to the touch. — 4 times as heavy

Magnesia is a mild aperient, supposed to operate by forming a salt with the acid with which in the stomach, it meets. — Used in Dyspepsia, Costiveness with debility, — Diarrhoea, of children — Sick headache &c. Sick Stomach after debauch. —

Dose for an adult ℥i ℈, — for a child 2 yrs. old, a teaspoonful. — It is frequently combined with Rhubarb in bowel affections. — If it do not operate, it may accumulate & form masses in the stomach or intestines.

It is not known that it is purgative in itself, hence if it do not operate, it is proper to aid it by giving lemonade &c. — The best method of administering it, is by diffusing (suspending) it in Water, & it is important that it be equally diffused & not left in little lumps, lest they should get between the teeth, & leave the taste in the mouth. — first then, rub it up in a mortar with a little Syrup, then add the Water to it. — or it may be taken in Soda Water, by first rubbing it up with a little Ginger Syrup. —

Saline Cathartics

The Neutral Salts as a Class are the most important of the Cathartics.- They are given generally in the same complaints & preferable to one another only for convenience, cheapness, taste or some other adventitious circumstance.- They may be considered as holding a station between the Laxatives & Purgatives;- they act upon the intestinal exhalents,- produce little watery evacuations,- are refrigerant & well adapted to inflammatory & febrile complaints:- but in acute attacks, the more active Cath. should be used first & these afterwards to continue the impression, if needed.-

Soda Sulphas.- Glauber's Salts:- this not long since was extensively employed, but is not now.- It is found in the bottom of Springs & lakes, but not in large quantities:- all that is used is artificial. It is a kind of chance production resulting from the processes for obtaining other products as Sulph. Acid, & Chlor. Sod. for Mur. Acid.- Its great source is Sea-Water. After the deposition of common Salt, this contains Sulph. Magnes. & Mur. Soda, & if it be reduced to a very low temperature, a double de-com-

position ensues, resulting in the formation of Sulphate of Sod. & Mur. Magnes. - & while so cold, the Sulph. Soda is precipitated. - Hence in Russia, in the Winter, it is found at the bottom of lakes. -

Its Crystals are in 4 or 6 sided Prisms with dihedral Summits; - situated by efflorescence, they give off their Water of Crystallisation, & when thus effloresced are 2 as strong as in Crystals. - It is soluble in 3 times its weight of water at 60°; - in ½ its wt. at 88° - & less sol. in boiling water than in water at 100°. - Crystals melt, when heated - insoluble in Alcohol. -
most sol. in W. at 91°. - but as a general rule, in 2 or 3 times their wt. of Water. -
It is disagreeable & seldom prescribed. Dose ℥i. -

Magnesiæ Sulphas. - Epsom Salts: - exists abundantly in nature, - in Sea Water, - Springs, - Caves &c.
It was first procured from Epsom Springs in ~~1717~~ 1675. -
It was once obtained from Bittern, but not pure & frequently contained Mur. Magnes. - It is now manufactured in Baltimore from a Magnesian rock which yields it abundantly by adding Sulphuric Acid -

Crystals are in 4 sided prisms with dihedral

summits, but as found in the shops, it is usually in slender, needle like crystals, & very slightly efflorescent. - It contains about 50 pr. Ct. Water of Chyst. - soluble in Water, - insol in Alc, - with a saline, bitter taste. - It is frequently given in Soda Waters. - Dose 3i. — Disting. from Sulph. Sod. - by adding Carb. Ack, - to the sol. - It will ppt. sulp. Carb. Mag. - if Sulph. Mag —

Seventeenth Lecture June 9. 1834

Potassæ Sulphas. - or Vitriolated Tartar; may be obtained by the direct union of its constituents, or by saturating Carb. Pot. with the Supersulphate which remains from distilling Nitric Acid from Nitric & Sulp. Acid. It is in Chystals of various sizes, - form. 6 sided prisms, - hard, - contain no W. of Chystallisation, - Sol. in 9 pts. Water at 60° & 4 pts at 212°, - insol. in Alcohol. When heated, it decrepitates from water entangled like Common Salt. By the addition of acids, it is converted into a Bisulphate. (requires half its bulk) Its taste is nauseous, somewhat bitter. - Though cathartic in its effect, it is seldom employed for this purpose, on account of its difficult solubility. Dose about 3ß. - Seldom used for any thing except the formation of the Dover's Powder. ℞ Ipecac. -

Potassa Supertartras or Cream of Tartar, - consisting of Pot. (a Bitartrate) & an excess of Tartaric Acid. - It exists in the juice of the grapes, & is deposited from new wine during fermentation, because it is insoluble in Alc. hence when by fermentation, the sugar is converted into Alc. - the Crude Tartar is precipitated. - This when purified by solution & crystallization, becomes Crystals of Tartar. - These we receive from S. of France, in small, irregular, semitransparent masses, - sour, - sol. in 60 parts Water at 60° & 15 parts at 212°. - insol. in Alc. & containing but little N. of Crystallization.

The Crystals when ground form the Cream of Tartar of the Shops. This is rendered more soluble by boiling it with Borax, - forming a compound sol. in an equal or less weight of boiling water. - (used in Amblosis, - Inj. affections, - Scurvy, - & with Sulphur, for Piles. -)

Potassa Tartras. or Soluble Tartar, - is prepared by dissolving Carb. Pot. in boiling Water, - then adding the Supertartrate till effervescence ceases, - then evaporate to dryness.

It has a bitterish, cooling taste, - is deliquescent, -

in Chyst als, sol. in its own wt. of Water, but in granular form, sol in 4 times its wt., - sol. in Alcohol. Its aqueous Solution, when long exposed to the air is decomposed. - It should never be prescribed in combination with acids. - It is a Cathartic, sometimes combined with Senna, but seldom used. Dose ℥ss to ℥i. -

Soda et Potassa Tartras or Rochelle Salt. obtained by saturating Super Tart. Pot. with Carb. Soda. - It is in form of Chyst als, of right rhomboidal Prisms, - slightly efflorescent, sol in 5 prts. Water at 60°, & much less boiling.

It has a saline, bitter taste, - was introduced into practice by Seignette of Rochelle. - It resembles the other neutral salts, but its principal use is as an ingredient in forming the Seidlitz Powder, - composed of Rochelle Salt ℥ij

Bicart. Soda ℥ij in a blue paper, - & Tartaric Acid grs XXXV in white. -

Dose of Rochelle Salt ℥ss to ℥i.

Result of Seidlitz, - is Tart. Pot. & Sod. - & Tart. Sod. -

Soda Phosphas. - is obtained by taking some calcined bones, acting upon them with Dil. Sulp. Acid, & a precipitate of an insoluble Sulphate of Lime falls, while a Superphosphate of Lime remains in solution. Filter this & to it add Carb. Soda, - when effervescence & double decomp. takes place, - & Phosphate of Soda remains in solution, - which filter & evaporate. -

It chrystallises in the form of Rhomboidal Prisms, effloresces, - undergoes the watery fusion by heat, - is soluble in 3 parts Water at 60° & 2 pts at 212°. -

It contains 62 pr. ct. Water of Chrystallisation. In the Shops it is generally found in the State of powder. - It has a slightly saline, but no unpleasant taste, & ℥j of it may be given in a bowl of soup without the patient's knowing it. The chief objection to its use is its costliness. -

Calomel. - Of its Chemical History, we shall speak at a future period. - It is termed a Proto Chloride & Submuriate, in some Pharmacopeias. - The U. S. officinal title is Hydrargyri Chloridum Mite, - distinguished from Hyd. Chlo. Forte; -

The dose of it is from 10 to 20 grs. - but much larger doses have often been given; - it is found that Cal. does not act in proportion to the quantity administered more than a regular dose; probably, because, the system will absorb but a certain proportion of it, & this acting upon the hepatic organs, will only produce a certain effect. It acts with little harshness or severity, producing bilious stools of different colour, according to the quantity given. Sometimes, however, it affects the stomach with violent spasms & vomiting, & this is believed to result from the quantity of viscous bile, which it causes to be secreted & poured into the stomach. - Its direct effect upon the mucous coat seems to be rather soothing than irritating, & it will often remain on the stomach, when other Cathartics have been rejected. - If it do not operate in 6 or 8 hours, it should be carried off, by a purge of Salts or Oil. - Children require larger doses in proportion than adults, & a child 3 yrs. old may take 4, 6 or 8 grs. It is slow in its operation, hence the dose & the many follow it. -

When a speedy & powerful action is desired, it should be combined with more active Cathartics.- Thus combined, it is frequently employed in the Autumnal & Bilious Fevers,- Jaundice,- Hepatitis, & in fact, whenever active purging is desired.- It sometimes proves beneficial in Dysentery, Enteritis,- Gastritis,- by its action upon the Liver.—
In cases of Children, it is much used in Remittents Worms.- [illegible]

It is generally prescribed in the form of Powder or Pills. Never combine in Pill, with Soap or Magnesia.—

Purgative Enemata.

The uses of injections are to promote the evacuation of medicines given by the mouth, or to administer medicine to a patient having a very irritable Stomach &c, or when the Stomach is in a State of inflammation, or when there is danger of injuring the tone of the stomach.- They are also useful in constipation depending upon a collection of feces in the lower part of the intestines.- A very common injection is made

of Common salt, - Molasses, - Lard or Sweet oil, each a tableskoonful & a pint of warm water. -
If a more active one is needed, use Castor Oil or some one of the Neutral salts. - If one still more active, use Senna Tea Ji to Oj boiling Water, or Jalap diffused in Water, 3 times dose. -
Ol. Jerob. - tablespoonful to Oj warm Water, - or in Flax seed Tea, with Yolk of Egg to diffuse it. -
Assafetida may be given in flatus. -
Tobacco, - to overcome spasms, as in Colic, Hernia &c. but with great care as to its Strength. - The proper proportion is Ji to Oj of boiling Water, - give ½ when cool, & the remainder in ½ hour if necessary. -
Suppositories are sometimes employed as Purgatives. Soap is generally used, - some take Molasses Candy.

Eighteenth Lecture June 12 1834.—

Diuretics are medicines which increase the secretion of urine.- This they do in three ways.

1. As Nitre for inst.- by entering into the circulation & then coming in contact with the vessels of the kidneys & stimulating them to action.- This is evidenced by the saline medicines taken, having been detected in the urine.- The active principle is that which is absorbed, while the remainder is digested & passes off. Thus in Turpentine, the vol. oil only is the portion absorbed.—

2. Their action is extended by sympathy from the stomach to the kidneys;- of this class, we can name none which act in this way alone, but these are many medicines which act by both these ways combined.

3. Some medicines act by promoting the action of the absorbents, hence they throw more fluid into the circulation, which must be eliminated through the urinary organs, & consequently increase the

discharge. Digitalis is said to act in this way.

There are many circumstances, besides these, which influence the urinary secretions. - Thus diaphoresis & diuresis are directly opposed & hence when one acts, the other will not, - as in Winter, we know that more urine is secreted than in summer when we perspire more freely. Cold Water then & cool skin promote diuresis. —

Active purging and diuresis are directly opposed; - hence when the exhalents are pouring out fluid into the intestines, Diuresis does not occur.

Dilluent drinks promote Diuresis or Diaphoresis according to the state in which the patient is kept.

It was formerly thought that in dropsy, copious drinking must be avoided, - but we now find the reverse to be the best method of curing, & consider the patient may drink without restraint, so as long as the discharge equals or exceeds, what is drank. -

In using diuretics, the pulse must always be attended to, - if it is large, first deplete, for an increase of circulation above a certain point, diminishes

rather than increases the urinary secretion. -

Another reason for attending to the state of the circulation is that the secretion depends upon the nervous energy, - hence if the brain be pressed upon by the fulness of the vessels, the nervous power must be diminished. -

Mental emotions have also much influence over the secretion of urine. - Thus anxiety increases it, as every surgeon well knows, who has been labouring under great anxiety respecting an operation which he was about to perform! - Fear also has a similar effect, tho' probably it acts rather by relaxing the Sphincter muscle.

Diuretics operate upon the principle of Counter-irritation. - (Eng.)

The diseases in which Diuretics are applicable, are those attended with effusions, as Dropsy. They operate by diminishing the quantity of fluids, either by stimulating the absorbents, - by moderating the exhalents, - or by a union of both. - Hence they are advantageous in Dropsy, which, we know, may occur either from a diminution of the power of absorption, - from an increase of the effu-

sion, - or from an increase of effusion & diminution of absorption combined.

They may also act upon the principle of revulsion, - for Dropsy may occur on account of a kind of sub-excitement over the whole surface & consequently if medicines will draw this irritation to the kidneys, they cure the disease.

In inflammatory diseases of the kidneys or any of the urinary organs, they act favorably after depletion. In these the saline diuretics are particularly applicable. -

They are useful also, where we wish to decrease the arterial excitement.

In selecting those most applicable to particular diseases, great care is requisite, & much must be left to the discretion & experience of the physician. Some are better adapted to peculiar cases than others. -

We shall now speak of them individually: &

1. Of Digitalis, - for which see Book B p. 53. -

Nineteenth Lecture June 16-1834

On Squill & Colchicum,- See Book A p. 67 & 77.-

Twentieth Lecture. June 19. 1834

On Veratrum,- Jarapacum,- Juniper Berries.- Erigeron Philadelphicum,- Eric. Heterophyllum,- Carrot Seed,- Apium Petroselinum,- & Chimaphila Umbellata,- for which see Books A. & B.-

Twenty-First Lecture.- June 23. 1834.

Turpentine is a name applied to a peculiar vegetable juice, consisting of resin dissolved in an essential oil,- & generally obtained from some species of Pine.- There are several kinds found in the shops.-

1. White Turpentine.- Terebinthina (U.S.) is obtained from the Pinus Palustris,- which is a native of N. & S. Carolina & Georgia.- It is called sometimes the long-leaved or Pitch Pine,- is about 60 or 70 ft. high, & supplies nearly all that is consumed in the U.S.- as well as sent to other countries.- White Turpentine has a peculiar, somewhat aromatic odour,- a warm, pungent & slightly bitterish taste,- is of a white colour, mixed with yellow;- consistence varies with the temperature, & it

long exposed becomes hard & dry. - That in England & France comes from a different plant. -

2. Canada Balsam or Balsam of Fir. - is improperly so named, because it contains no Benzoic Acid. - It is called also Balm of Gilead, - or Am. Silver Fir. - derived from the Ab. Balsamea, growing in the N. parts of this country. - It is obtained on the bark of the tree, and little blisters filled with the liquid. - It is liquid, like Honey, has a strong, not disagreeable odour, - bitter taste, whitish-yellow colour & semitransparent, becomes thicker & darker by exposure.

3. Venice Turpentine. - so called from the Port whence it was formerly shipped, - is the product of the P. Larix. - This, however, we do not find in our market. - That which we have under this name, is probably a factitious article, made from White Turp. - Pitch, of Spruce & Strasburg Turpentine. comes from Hamburg. -

4. Chian Turpentine is never brought into this country. - It is thick, tenacious liquid, - pale yellow colour.

The Turpentines are inside, inflammable, - burning with a white flame & much smoke, - impart their flavour to Water, but are insoluble in it, - soluble in Alcohol, - consist of Oil, Resin & perhaps some Succinic Acid.

They are all stimulant, diuretic, & in large doses cathartic, but have been superseded by the Oil of Turp. - irritate urinary passages -

They are given with advantage in Chronic cases of Inflammation of the mucous membranes in different parts, & also in Sciatica, Lumbago, - Piles, - Chronic Catarrh &c. Dose grs X to ℥ij - May be given in Pills or Emulsion. - Externally for Plasters. -

There are several substances used in medicine, which consist of Preparations of Turpentine, & may here be introduced with propriety.)

Tar. - Pix Liquida, - is Turpentine partly decomposed in the preparation of it. - It is procured from the P. Palustris of N. Carolina, - by burning the dead billets in piles, - like Charcoal Pits, & collecting the Tar. It has a peculiar empyreumatic odour, - with a bitter, resinous taste; - of a dark colour; - consists of Resin, Empyreumatic Oil & perhaps Acetic Acid, - coloured with Charcoal. It yields a very small portion to Water forming Aqua Picis Liquidæ, - or Tar Water. - Which is used in Chronic Cough, &c - ℔ij per day. - Tar may be given in Pills or Emulsion, - or as an Electuary with Brown Sugar.

Tar Ointment is an excellent remedy for Scald Head & and in scaly eruptions of the Skin, we have found nothing so beneficial as equal parts of Citrine & Tar Ointment mixed. — Tar & Sulph. Oint. for Scald Head &c. -

Pitch. - Pix Nigra. (L) is Turpentine deprived of a great portion of its oil by evaporation to dissolid - It is seldom used. - Of Burgundy, & Canada Pitch, we shall speak hereafter. —

Resin. — commonly called Rosin, - is that which remains from the Turpentine, after the oil has been separated by distillation. - It is solid, brittle. semitransparent. - There are 2 varieties in the Shops, Yellow & White. - The Yellow is semitransparent. - when melted & worked up with Water, it forms the White. — Water good evap. - if exposed. — Resin is not given internally. -

Cerat. Resinæ, Basilicon Unit. - composed of Resin, Wax & Oil, - is used for keeping blisters open. - It is the best application to Burns, to prevent an ill-looking scar. —

Ol. Terebinth. - or Spt. of Turpentine, is the most important as an internal remedy. - It is colourless, limpid, - has a strong, peculiar odour - pungent taste,

– is sparingly soluble in cold Alc. – readily in boiling. – It has a strong determination to the urinary organs, & is slightly stimulant, so that if long continued, it will produce strangury, – or bloody discharge. – It is useful in Chronic Nephritic complaints, – Leucorrhœa, – Sciatica, – &c. &c. – Heat – Debility of Urinary & Genital organs. Dose 10 or 15 drops 2 or 3 times a day. – It purges in the dose of ℥ss to ℥ij. —

There is a method in which Turpentine has been very beneficially employed, – of which we have not yet spoken. It is in the form of fumes arising from Resin or Tar, – which have proved very serviceable in chronic affections of the throat, – or of the mucous or bronchial membranes, – & in the first stages of consumption, before tubercles are formed.

It is probable that the air of Pine forests, proves beneficial to consumptive invalids for the same reason, – for the odour which Pura prevails. —

Copaiba. – Product of Copaifera Officinalis, – for an account of it, see Book C. p. 25. —

Twenty-Second Lecture June 26. 1834

Cantharid.- Of the History of this we shall speak hereafter when we come to treat of its vesicating properties:- now we have only a few remarks respecting its diuretic properties. —

The testimony of the ancients & modems concurs in pronouncing it diuretic.- It is stimulating & sometimes produces strangury by its irritating effects upon the mucous membrane.- The symptoms of strangury are a frequent disposition to pass urine, only effecting the passage of a few drops of a red colour, with a great deal of pain. —

Tinct. Cantha. is useful in dropsy;- also for irritating the urinary organs in suppression or retention of urine. — If retention depends upon a stricture or upon spasm at the Neck of the Bladder, Canthar. would certainly be improper; — but if it depended upon an inability of the bladder to expel its contents then Tinct. Cantha. would probably excite it to action.- In suppression, - Cantha. may be employed for Stimulation. —

In Incontinence of Urine, - when it depends upon paralysis or want of power in the Sphincter muscle, Tr. Cantha is useful. - Thus in Children, who are constantly prone to discharge in bed, this has acted very beneficially. — It is useful also in Leucorrhea, amenorrhea, Fleet, - Seminal Weakness, &c. -

Dose 10 or 15 drops 2 or 3 times a day. In substance, 1 gr. may be given morning & evening. -

Mineral Diuretics. —

Carbonate of Potassa. - This Salt is contained in the plants which were formerly so much employed for the cure of Dropsy. -

The Salts of Pot. are supposed to operate upon the vessels of the kidneys. -

The Carb. Pot. employed is a purified Pearl Ash, - prepared by making a saturated solution of it in Water, - filtering, - evaporating, - & stirring it till it granulates. - This however is by no means pure, it contains Muriate & Sulphate of Pot. & Silica. — Silicate precips. from solution. -

The name, Salt of Tartar, applied to this, belongs properly to the Carb. Pot. obtained from Cr. Tart. by heat. -

It is composed of 1 Eq. Carbonic Acid & 1 Eq. Potassa, was formerly, but improperly called Subcarbonate.— It is always granulated, - deliquescent, - an alkali, changing vegs. blue to green - forms soap with oil, - insol. in Alc. - sol. in Water. -

It is used as a diuretic in Dropsy. - also in Stimulating hepatic secretions in Jaundice. - Dose 10 to 30 grs. in solution, 2 or 3 times a day. —

Bicarbonate of Potassa is a more pleasant preparation, - formed by passing a stream of Carbonic Acid through a solution of Carb. Pot. - then evaporating by heat below 120°. - It chrystallizes in 4-sided Rhombridal Prisms, - are white, - permanent, - soluble in 4 times its weight of water at 60°. - in 5/6 boiling. - Dose ℥ss. to ℥i 2 or 3 times a day. —

The best form of giving the Carb. Pot. - is in Carbonic Acid Water. - Take about ℥ss of Carb. or Bicarb. Pot. - & ℥i Ginger Syrup, put it in a bottle of Selzer Water & give ℥3 at a time, - keeping the bottle well Stopped. Carb. & Bicarb. Soda, - not important. —

Acetate of Potassa, is but little used, - it is made by adding vinegar or acetic Acid to Carb. Pot. —
It is white, texture, - deliquescent, - sol. in its wt. of water at 60°, & Alcohol. - & decomposed by Acids. — It is Cathartic & Diuretic. - Dose as diuretic ℥ss. 2 or 3 a day.

Supertartrate of Potassa, is the best saline diuretic, which we possess. - It should be given in large quantities of Water to the amount of ℥ss or ℥i per day. It is refrigerant, - antiphlogistic, - & adapted to a febrile condition of the system. - It is proper to begin with about ℥ss per day in divided doses. —
It is ill adapted to Sarsaparilla with excited circulation. —

Nitrate of Potassa, is found in various parts of the world. - It is most abundant in the plain overflowed by the Ganges. - The ground is scraped together & lixiviated. - & process repeated till Nitre crystallizes in 6 sided prisms, - containing no Water of Crystallization. Taste is sharp & cooling; even offending to the stomach. It is soluble in 4 or 5 prts. of cold, - & its own wt. boiling H. - insol. in Alc. - Dose 10 or 15 grs in Solution, sufficiently often to give about ℥i to ℥iij in 24 hrs. - This will promote diuresis, by stimulating the urinary vessels. -

Nitre has sometimes been accidentally taken for other salts & proved poisonous. The symptoms are a strong feeling of coldness in the Epigastrium, - spasms, bloody stools, - hypercatharsis &c. - The remedy is to wash out the stomach thoroughly & guard against intestinal irritation. —

Sweet Spirit of Nitre. — Spir. Aetheris Nitrici. - has often been found advantageous as a diuretic. - It is sol. in W. & Alc. - often adulter. with Alc. as then Sp. Gr. is nearly equal. - It is often grateful to the stomach, when others are not. Dose ℥ss to ℥i. - Chapman gives from ℥ij or ℥iij to ℥j. - It should be administered with large quantities of liquids. - It becomes sour if long kept, tripsy Nitrous Acid. -

Antilithics

The Antilithics are medicines which were supposed to prevent a deposition in the urine, producing gravel. but we are very sceptical respecting the propriety of arranging these in a distinct class. - for as the vessels in connection with these organs are diseased, general treatment is as proper as in other cases; - upon the same principle that we would class Antilithics, - we might form also classes of Antiscorbutics, - Antidysenterics &c. &c. —

We think, therefore, that this class might be justly omitted in the Materia Medica. —

It was supposed that some medicines would enter the circulation, - come in contact with the stony deposition, & dissolve them, & hence we have a class called Lithontriptics, - but it is not so. There is no solvent for the stone, while the stone is in the bladder. —

The only method in which we can act is to obviate the Lithic Diathesis, & thus we may sometimes relieve or correct the unpleasant symptoms. -

The urine abounds in saline matter, of different kinds, & we find that there are 2 kinds of Calcareous Deposition. - The one which is most frequent is Uric Acid, - the other, a compound of an insol. salt of Phosphoric Acid. -

That state of the system, predisposing to the former is called the Lithic Acid Diathesis, - & that, to the latter, the Phosphoric Acid Diathesis. —

Whenever there is a red sediment in the urine, we may suspect the first Diathesis, - but if

there be any doubt, - take a piece of Litmus & immerse it, & it will be changed to red, if there be Uric Acid present. — In a healthy state it always exists, in combination with more alkali. - Thus the Sub lithate of Ammonia will remain dissolved as long as the Alkali is in Excess, - but if the acid exceeds, this is then deposited. - Hence in persons of the Lithic Acid Diathesis, - it is improper to accumulate acid in prima viæ, - or to live upon acescent food. -

Deficiency or suppression of Perspiration also is said to be improper in such persons, because according to Dr. Wilson Philip, it contains an acid. -

The remedies or Antilithics in these cases are Alkalies & Alkaline Earths, to neutralise the acid, in the blood, - urine &c. — — Simple Bitters also, to strengthen the Digestive Powers; - & Diaphoretics, by causing Perspiration. — —

In the Phosphatic Diathesis, - the case is directly the reverse, - & too little acid is the cause of the stony deposition. - The calculous matter

is such as to be soluble only when there is a certain portion of Acid, - but when this proportion diminishes, a white sediment deposites. - This state is also connected with disorder of the Digestive Functions. - Acids here, instead of Alkalies, are requisite for the cure, - & Mineral Acids are preferable

Hard Cider has enjoyed great reputation among the vulgar for the cure of the Gravel, - but we readily perceive that it is applicable only in this Diathesis, - while in the former Diathesis, it would prove very injurious. - Tonics also are applicable -

Carb. Pot. & Soda, - Calc. Magnesia, - Lime Water &c.

Bicarb. Pot. & Soda are preferable to the Carbonates, - & the Bicarb. Soda to Bicarb. Pot. - Dose ℥ß to ℥i - Dose of Carbonates 15 to 30 grs.

Some prefer Magnesia, but it is probably inferior when it is desirable that the Antacid should reach the kidneys. - Dose 15 to 30 grs. 3 times a day.

Lime Water may be given with Milk, Oij per day.

The Mineral Acids employed are the Nitric,

Sulphuric & Muriatic, - all of which are Tonics. -
The two last of these are preferable. —
All the vegetable tonics are sometimes useful. -
Uva Ursi has obtained great reputation, & seems
well adapted to those cases where the organs are
incapable of performing their duty from relaxa-
tion or debility. — It has, however, no specu-
liar adaptation to gravel.

Twenty - Third Lecture June 30. 1834 —

Diaphoretics, - are such medicines as increase
the cutaneous discharge. - The skin always, when in
a healthy state, is carrying on a secretion, which gen-
erally evaporates as fast as it is formed, - but when, from
an increase of secretion or from different states of the
atmosphere, - it retains its liquid form it is called
sweat. - At one time, it was supposed that some
medicines had the power of increasing the moist se-
cretions & others the dry, - & hence they were divided
into Sudorifics & Diaphoretics, - but these distinc-
are now lost, & both are comprised by medical men
under the head of Diaphoretics. —

These medicines operate in different ways. -
1. By relaxing the constricted capillaries which are often found, as in cases of febrile excitement - In diseases, attended with such consequences, the diaphoretics are calculated to relax these vessels & thus promote perspiration. - This may be accomplished by nauseating doses of emetics, - by cold or warm ablutions &c.
2. By entering the circulation, & then coming in contact with the vessels of the Skin, & stimulating them as the diuretics do those of the kidneys; - as Cr. Pot. &c.
3. By increasing the general circulation & consequently, the cutaneous secretions: - as Carb. Ammon. but these can only be given in languid circulation, with a cool, dry skin, & not in cases of high arterial excitement. -
4. If the Skin be in a healthy state, any thing which moderates the excitement of the heart and arteries, will produce sweating, - hence warm teas &c are said to be useful. - It is said also that the perspiration produced by entering hot or cool has been known to cure the Dropsy. - But the application of dry

heat is apt to produce febrile action, - while a moist heat usually produces diaphoresis. -

Dry heat can be borne at a higher temperature than moist. -

These medicines are applicable to a great variety of diseases, - & rank high in the list of curatives. -

They operate favorably by removing the hot & dry surface, - by depleting the blood vessels, & consequently moderating the arterial excitement; - & also by eliminating the noxious matter from the blood.

They act also by revulsion, - by directing the flow of blood to the surface & abstracting it from the inner parts, - thus in Dysentery, Diarrhea &c. -

They are useful also in Congestion, Rheumatism, Gout, &c. - They are said to increase the action of the absorbents, - as in Dropsy but for this are not very useful.

They sometimes merely change the action of the capillaries, - as Sulphur, Sarsaparilla &c. -

We may add a few words respecting the mode of administration. - If copious perspiration is desired, - put the patient to bed, & do not allow him to be uncovered, - advise flannel to be worn next the skin, - or in Summer, the knit elastic substance. -

When the pulse is strong & full, - the medicine should be preceded by a lancet or a purge. - After the sweating has commenced, give warm teas, & avoid purging, vomiting, or diuresis. - If the skin be hot & febrile, - cold drink may be given.

1. Relaxing Diaphoretics. —

Ipecacuanha & Sup. Perfol. - see Books A & B. - The Antimonials used are Tartar Emetic, Pulv. Antim. - & Precipitated Sulphuret of Antimony.

Ant. et Pot. Tartras, - given in small doses, produces profuse perspiration in two ways. - 1. By overcoming the capillary constriction by nausea, 2. By entering the circulation & stimulating the vessels of the skin to increased action. —

It loses its sedative power, in any disease, - when it nauseates. - (Chapman)

It is useful in excited febrile complaints, in eruptions of the skin, - chronic scrofulous complaints &c. Dose 1/8 to 1/4 gr. - As an alterative 1/10 to 1/8 gr. - Also in the commencement of consumptions, with frequent pulse &c. & in catarrhal affections generally - Dissolve about 1/2 gr. in 8j of water & let the patient take it as his only drink thro' the day.

Pulvis Antimonialis. - was intended as a substitute for James' Powders. - It is made by mixing the Sulp.r Ant. with Shavings of Horn & exposing them to heat. - Then we have an Oxide of Ant. combined with Phosphate of Lime as the result. — It is a very uncertain & variable preparation. — If we were sure that it was a Protox. of Ant. - we would then know that it would unite with the acids of the Stomach & form some salt of Ant. - but if it be a Perox. it will not. - It is of a dull white colour. - inodorous, - insipid, - insol. in Water, - slightly sol. in Alcohol. - Dose 3 to 6 grs. every 4 hours. — Febrile symptoms. -

Sulphuretum Antimonii Praecipitatum; is formed by boiling Sulp. Ant. with a sol. of Carb. Pot. - Then Straining & adding Sulp. Acid & we have an orange-coloured precipitate. — If no Sulp. Acid be added, the precip. which falls spontaneously is Kermes Mineral of a dark brown colour & after the Kermes is obtained we add to the remaining solution Sulp. Acid, - was then have Golden Sulphur. — Ant. Sulp. Precip. is a mixture of both

The Precipitated Sulphuret is similar to Antimony

in its effects upon the system, - but is very uncertain in its operation. - It is seldom or never employed in this country. - Given sometimes for Scrofula & cutaneous diseases, in dose of ½ gr. or 1 gr. 2 or 3 times a day & may be combined with Calomel. - It is said to be less injurious when long continued than Tartar Emetic. - Dose as a Diaphoretic 1 to 4 grs. - Emetic 8 to 10 grs. —

Twenty Fourth Lecture July 3. 1834.

Citrate of Potasse - is seldom kept in the Shops, but is prepared extemporaneously for prescriptions &c. It is made by saturating a solution of Citric Acid or Lemon Juice with Carbon. Pot. - Then we have in a solution of Carbonic Acid Water, Cit. Pot. - Its taste is not unpleasant, - called Neutral Mixture. The common formula is to take ℥iij fresh Lemon Juice & add gradatim Carb. Pot. - the effervescence ceases. - Dose tablespoonful every 1, 2 or 3 hrs. - with a little Water. - It is well calculated for Remittents & Intermittents, - if it produces pain in the bowels or purges, give a few drops of Laudanum.

Another form in which this is given is the Effervescing Draught, - which differs from the former, only in being given in a State of effervescence. - Make a solution of Carb. Pot 3ij to f3iiij Water, filter, - then a tablespoonful of this with a tablespoonful of Lemon Juice & also one of Water, - will make the mixture. - Sometimes the reason that no effervescence takes place; is, because only part of the Carb. Pot. is decomposed, & the Carbonic Acid goes over to the other portions & forms a Bicarb. - if however, the Bicarb. Pot. be used, - we shall always have an effervescence, but at the same time, we cannot be always sure that we have a saturated solution. - Never Carb is used, - then add a little more.

When Lemons & Limes are scarce, a solution of Citric Acid may be used - of 3ij to f3iiij Water, & added to Lemon-juice - Guard against the trade of selling Tartaric for Citric Acid. - Distinguished by adding & adding Carb. Pot. - the former will precipitate as Bitartrate.

The precipitate of Silicate of Pot. may be avoided by using the Bicarb. Pot. - 3ij to f3iij Water. -

To increase the Diaphoresis, Sal. Enustic or Sweet Spt. of Nitre may be added. -

Acetate of Ammonia is also employed only in solution, when it is called Liq. Ammon. Acetatis U.S. Spt. Mindereri It is made by saturating Distilled Vinegar with Carb. Ammo. - It is a limpid, colourless fluid. - When Ammo. is in excess, it is injurious on acct. of its stimulating effects. - Fixed Alkalies, - Strong Acids & Salts. Magnes. - are incompatibles - Dose f3ij, every 2 or 3 hrs. -

Citrate of Ammonia possesses no superiority.

Potassa Nitras.- It is doubtful whether Nitre possesses any diaphoretic properties,- but it certainly exerts an influence upon the arterial excitement.- It is advantageously given in fever,- as in the following Rx Potas. Nit. ℥i / Calomel grs XII / Tart. Emetic gr i

Usually our Intermittents do not require as large doses of Calomel.

Mft. Pulv. No VIII.- Give one every 2 or 3 hours.-

Dose of Nitre is 10 grs. frequently repeated.-

Syr. Sp. Nitros.- to quiet nervous derangement in fevers,- as in Children.- ʒii to ʒi.-

We next come to the Stimulant Diaphoretics -for Guaiacum,- Xanthoxylum,- Meterenum and Sassafras,- see Books A, B. & C. (L. 47, A. 213, M. 209, P. 25)

Twenty-Fifth Lecture July 7. 1834

Sarsaparilla.- See Book A. p. 107.-

Expectorants,- are those medicines which facilitate or increase the discharge of mucus from the air-vessels of the lungs.- - This they do in several ways.- 1. By relaxing the constricted vessels of the lungs.- it is in this way the nauseating emetics act as Expectorants.-

2. By reducing the quantity of the secretion, which may sometimes be so great, & the fluid so abundant that the patient cannot cough it up. -

3. By entering the circulation, coming in contact with the secretory vessels, & stimulating them to proper action. —

Hence we find there are 2 Classes of Expectorants. one when the lungs are excited & require depletion as in Catarrh, - Pulmonic Irritation & Inflammation &c. & the other when the vessels of the lungs are relaxed & pour out more than a proper quantity of fluid, - as in Asthma, - Consumption &c. -

During the use of Expect. keep the surface of the body warm. - Purging is not incompatible. -

Expectorants may act in another way: - by mechanical influence, - as in cases of great debility, where the power of the pectoral & other muscles, is insufficient to accomplish the desired object; - these, then must be stimulated, in order to call into action the nervous influence, - as by Wine Whey, - vol. Alkalis, - Ammonia &c. —

The best of the whole class of Expectorants to be given in cases of an excited character is Tartar Emetic. - It is useful in Asthma, - Pleurisy & the like. -

Dose 1/6 gr. - of Inv. Ant. from 15 to 30 drops. -

For Ipecac & Squill see Book A.

Twenty Sixth Lecture July 10. 1834

On Allium, - Senega, - Ammoniacum, - Assafatida, - Galbanum, - Myrrh, - Turpentine, - Copaiba, - Tolu, - Balsam of Peru, & Benzoinum. - See Books. - &

On Emmenagogues. —

The Menstrual fluid is a peculiar secretion of the uterine vessels. - A retention or irregularity of this discharge sometimes occurs, & then the intervention of medicines called Emmenagogues is necessary. As with other organs, & from analogy we may suppose that there are medicines which have a peculiar affinity for the vessels of the Uterus, - but not many of these are yet known. - In practice, at present, - those circumstances producing Amenorrhea are considered, in order to discover the particular Emmenagogue requisite in each case, & prescribed accordingly. - —

thirs, when it is the result of debility, Tonics, by giving tone & strength to the system, act as appropriate Emmenagogues, - as, - Preparations of Iron, - Bark, - Myrrh &c

It may be the result of general excitement, then evacuants become proper. -

Sometimes it arises from a diseased state of the system, - as in Consumption, - Dropsy &c. - & it is evident that until these are cured, it will remain. -

Sometimes it may arise from that state of the bowels which we find in Constipation, - then of course, Purgatives are appropriate.

B209 Aloes. - From the great affinity which this has for the large intestines, - we may suppose that the irritation which it causes, may be extended by sympathy to the Uterine Vessels. - or it may have a specific tendency to the Uterus. - It is often given in combination with Iron, - Myrrh &c. -

A. 63 Helleborus Niger. - The Tinct of this in the dose of 60 gtt. 2 or 3 times a day has proved very beneficial in Dr Mojs[t] treatment of Amenorrhea. -

Dr Wood has found Aloes & Iron, long continued Cap. 99 a very efficient remedy. — Also in Dysmenorrhea. -

The Chalybeates are excellent Emmen. - of these Ferri. Carb. Præcip. appears most efficient. -

In the treatment of Amenorhœa, if any disorder in any one of the other functions of the system exist, first remove that disease & then give Emmenagogues - Sometimes it may be proper to give the Emmenagogue in conjunction with remedies suitable to the cure of the original disease. - Thus if constipation existed, Aloes & Iron might be joined with the remedies for constipation. -

Aloes & Iron should never be given in an excited state of the System, without previous depletion. -

Twenty-Seventh Lecture July 14 1834. -

On Madder. - Senega, - Guaiacum. - Sabina. - Ergot, & Tinct. Cantharides as Emmenagogues. -

There yet remain 2 classes of medicines to be noticed, - which act, not upon the viscera themselves, but upon their contents, & these are Anthelmintics & Antacids. Adjourned July 23d to Sept 7-1835. -

Anthelmintics are medicines used either to destroy worms or drive them from the body. There are 4 species of worms. - Lumbricoides, - Ascarides, - Fecinis & Tenia or Taper-Worm. -

They operate in different ways.- Cathartics may act as such by operating upon the bowels, - & Tonics, by imparting tone to the systems, as well as by poisoning the worms. - The worms may either be poisoned so that they are induced to change their place, - or they may be killed by the medicine mechanically. - —

Calomel is the most efficient anthelmintic & probably may act by increased the flow of acrid bile, which is very disagreeable to the worms, - they change their place, & are carried off by a subsequent dose of oil. - Dose for child of 2 yr. 3 grs. —

Twenty-Eighth Lecture July 17. 1834

Dr Spigelia Marylandica: - Azedarach or Pride of India - or Pride of China. - A. 65 of which the bark of the root is used. - It is a native of Syria, Persia & India & cultivated in this country. - It is used extensively as an Anthelmintic in Georgia. - It has a bitter, nauseous taste, & is generally given in decoction, made from boiling 3iij in Oij to Oj, - of which the dose is a tablespoonful every 2 or 3 hours, until it affects the bowels, - or morning & evening for several days & follow it with an active Cathartic. —

also on Chenopodium, - Bark of Geoffroya Inermis, - B.177 A.207
Dolichos, - Filix Mas, - Pomegranate, - Oil of Turpentine; - which latter is one of our most powerful B.177 A.181 B.139 C.29
Anthelmintics & especially useful in expelling the Taenia. The dose is from ʒʃ to ʒij or ʒiij. - This generally heats the Stomach, & even excites giddiness &c, - together with acting upon the bowels. - If it do not purge in 3 hrs. after it is taken, give a dose of Castor Oil. -

Some combine the Oil of Turpentine & Castor Oil together so as to be more certain of its operation. - This answers very well, especially in Lumbricoides.

The Oil of Turpentine, in small doses, is often given with advantage to children, who complain of pain in the Stomach, without any fever &c, - when worms may be suspected. The worms in the Stomach are destroyed & digested. —
Whether there actually be worms present or not, it often operates very favourably. — Copaiba acts similarly

Cedar Apple operates in much the same way. -

Pulv. Stanni
Filings of Tin, have very strong testimony given in favour of their anthelmintic virtues. - By some, they are said to act mechanically by their rough, grating surface, - but if this were so, Sand would act as well.

Others say, Tin acts favourably on account of the Hydrogen which is evolved, - but if this were so, - Iron or Zinc would answer the same purpose. -
Others suppose that it is from the Sulphuretted Hyd. generated, - but we might suppose that the worms had become sufficiently accustomed to this Gas, to feel no inconvenience from its presence. -
Others suppose that it acts by the Arsenic contained in the Tin, - but Arsenic itself will not act thus.
Why, then, may we not suppose that the Tin is a medicine noxious to the worms, & consequently acts in this rational manner. — Dose is very indefinite, varying from ℈i to ℈i, - given in the morning for 2 or 3 days, then followed by a Cathartic. -
Aurum Mosaicum, was a compound of Sulphur & Oxide of Tin. — Dose 10 grs. twice a day. —
Pomegranate - Bark of Root - see B. 139
Adjourned till September. —

Twenty-Ninth Lecture Sept. 1-1834.

On Antacids. — Antacids are those medicines which are given to meet the acids which are sometimes found in the stomach & bowels, and convert them into harmless substances. —

The acids arise not only from the gastric juice in health, but also more copiously in a diseased condition of the stomach. —

The diseases in which this state is generally found are Dyspepsia, Diarrhea, & Bowel Complaints of Children; — but an acid state of the stomach may accompany almost any disease. —

All the salifiable bases may be considered as Antacids, — but those generally employed are the Alkalies & Alkaline Carbonates. —

Potassa in its pure state is not adapted to internal administration. —

Carbonate of Potassa or Salt of Tartar is frequently given as an Antacid. — It is often added to bitter infusions, — & that while the acidity is corrected, a tonic impression may also be made upon

the stomach. - The dose of it varies with the acid contained in the stomach, - generally from 10 to 30 grs. & repeat it if necessary. - A pleasant form for administration is in solution in Cinnamon Water with a little Sugar. -

Another form in which it may be given is by taking a teacupful of Soot, - & 1 quart of Hickory Ashes, - shaking them together in 1 Gallon of Water, let them stand ~~2~~ 24 or more hours, - then pour off the liquid. - Besides the Carb. Pot. this liquid contains Carb. Ammo. & some other ingredients perhaps Creosote &c. - The dose of it, is a Wineglassful 3 or 4 times a day; if it is rendered more agreable by adding 10 or 15 gtt. of Aromatic Ammoniated Alcohol. - This a very effectual preparation for the prevention of sick headache, which frequently arises from acidity of stomach, if taken, when the symptoms warn us of its approach. -

Bicarbonate of Pot. - is used as the Carbonate. The only objection is the evolution of a larger quantity of Gas in the Stomach. -

The preparations of Soda however, are better than those of Potassa; because of the less quantity necessary to neutralize a certain portion of Acid & of the less disagreeable taste. —

Soda, - like Potassa, - is not given pure. —

Carbonate of Soda is obtained from Seaweed, or from the decomposition of Sulph. Soda by Charcoal & Carb. Lime. - It chrystallizes in Octohedrons. - Effloresces on exposure, - because it contains about 62 pr. ct. Water of Chrystallization, - hence its strength is constantly varying. - The chrystals are soluble in about 2 parts of Cold, & less than their own weight of boiling Water. -

It is less disagreeable to the taste than Carb. Pot. - Is useful in Jaundice to assist a mercurial action, probably by exciting the circulation & stimulating the secreting vessels of the liver. — The dose varies according to the variety of its strength before stated. - Generally from 10 grs. to ℈i may be given in Solution or in Pill. - If the latter, it should first be deprived of its Water of Chrystallization by heat.

more properly Sesquicarbonate

Bicarbonate of Soda is formed by passing a stream of Carbonic Acid through a solution of Soda, - then driving off the gas by heat below 120°; - or by introducing the Gas into a cask containing the Crystallised Carbonate. - It contains about 10 per ct. less Water of Crystallisation than the Carbonate, - and is soluble in 10 times its weight of Cold Water. - Dose of it is from ℈ss to ℈i. - It may be given in Carbonic Acid Water.

Ammonia, when pure is gaseous. - It is obtained by mixing Mur. Ammo. & Quick Lime. Water impregnated with it forms the Aq. Ammo. of the Shops; - it is colourless, - with a pungent taste & smell, - corrosive & caustic, if applied to the Skin. - It should be kept in well-stopped bottles to prevent the access of Carbonic Acid. - Externally it is used as a Rubefacient, - & it may be employed as an errhine to prevent fainting.

A better preparation for internal use is the Aromatic Ammoniated Alcohol made by impregnating

or

Aromatic Spirits of Ammonia. — If the patient should take the Aq. of Ammo. without dilution, the mouth & throat may be injured. The gas gle in the dilute vinegar, & smear the part with Oil.

Alcohol with Ammonia & adding some Aromatic volatile Oils. - This a delightful Antacid, - pleasant to the smell & taste & grateful to the stomach. - The dose of it is from 15 to 30 drops. but must be diluted before it is taken. —

Carbonate of Ammonia: is much used as a Stimulant & will be treated of hereafter. p. 144 —

Lime: - is seldom used in its Caustic State except in the form of Liquor Calcis, which is a saturated solution of it in Water. - Water takes up 1/778 part of its weight, - & it is more soluble in Cold than Warm Water. - It has an acrid, alkaline, unpleasant taste, - but when mixed with an equal proportion of milk, loses these qualities & becomes one of our best remedies for nausea & vomiting arising from gastric irritation. - It corrects that disposition by calming & giving tone to the stomach. —

Of the Carbonate of Lime, there are several varieties, - all nearly tasteless, - insoluble in Water unless impregnated with Carbonic Acid. - They -

are all composeds of 1 Equiv. Carb. Acid & 1 Eq. Lime.

Creta Preparata, - one form of it, - is prepared by levigating ordinary Chalk. — Other forms are Testa Prep. - Testa Cancrorum Prep. (Crab's Claws) - Ovorum Testa Prep. — said to be preferable to Cret. Prep. on acct. of the animal matter which they contain, - are more minutely divisible. —

Carb. Lime is useful in Diarrhea on account of its Antacid as well as its astringent power. Dose varies from ~~varies~~ 10 grs to 3ij. - From 10 to 20 grs may be given every 2 or 3 hours. - It is usually administered in the form of the Chalk Mixture or Tulet, - consisting of Cret. Prep.

Tinct. Opii
Acac. Gum.
Sacch. Alb.
Aq. Cinnam. & Aq. Pura. -

In making mixtures &c. the Cinnamon Water should always be diluted with simple Water otherwise it is too strong. —

Magnesia & its Carbonates are both excellent Antacids, especially in cases connected with Constipation; & may be given in Dyspepsia, - Gout & the Complaints of Children. - Sometimes it offends the stomach. —

We next come to speak of those Local Remedies which affect the Organization of the Parts. –

Rubefacients, produce a redness of the surface, – when there is much irritation, the vessels pour out a serous fluid & blisters are the results. – But this serous fluid is not secreted equally from every irritation, – thus we find less of it from Mustard than from Cantharides, – & hence we have the different names of Epispastics & Rubefacients. – Some substances destroy the parts to which they are applied & are called Escharotics. – Hence we have these three classes, – Epispastics, – Rubefacients & Escharotics. –

When an Epispastic is applied to the skin, it excites the subcutaneous vessels & causes them to throw out a serous fluid, under the cuticle. –

This local irritation produces a general excitement which in the case of Cantharides is probably owing partially to the absorption of some portion of the Cantharides. –

There are 7 Indications for the application of Blisters. - 1. To rouse the dormant powers of the system. & 2. To break up the chain of morbid action. For the first, they are useful in typhoid diseases; but when these diseases have assumed a chronic form & have nearly exhausted the powers of the system, they cannot be applied with advantage because there is nothing to sustain the excitement & the system sinks lower than it was before. - But in acute diseases, where there is sufficient dormant power to keep up the excitement, they often act very favourably. - Hence we find that in typhoid diseases, judgment is requisite, to determine the time proper for their application. They are apt in very low cases to produce sloughing & even gangrene; - & if applied, it should be to the inside of the thigh, rather than the leg. -

For the second indication, they are used in Intermittent & Remittent Fevers. - They make a violent impression upon the system which breaks up a chain of morbid action & institutes that

which is most healthy. - They should be applied during the interval of Paroxysms, so that their action may take the place of the expected attack. -

Blisters sometimes compose the nervous system in disease, - as in Chronic forms of Fever, - when the patient is very restless, - tossing about &c. - he will often be composed to sleep by applying a pair of blisters to his legs. -

3. They act favourably also upon the Principle of Revulsion, - as in Chronic Opthalmia, - Pleurisy, - Hepatitis &c. - Nausea & Obstinate Vomiting. -

A good rule for the locality of Blisters is, if it be an Inflammatory disease, apply them as near as possible to the part affected, - but if it be some nervous affection, apply them to a more distant part so as to draw off the nervous influence. Hence in Hemoptysis, after checking the Hemorrhage, blisters may be applied to the extremities to draw the blood down from the Chest. -

One caution however is very necessary, which is, Never resort to blisters in cases of acute Inflamma

tion without previous depletion, - because the general excitement which they produce will only aggravate, instead of cure the disease. -

It is from this principle of drawing off the nervous excitement that they are so beneficial in Spasmodic Affections, as in Cholic & Cholera. - These are nervous affections, & when not connected with any Inflammation, Sinapisms are better than Blisters. —

4. They sometimes prove beneficial in Tinea Capitis & other complaints by introducing a new action. -

5. - Blisters are depletory in their action. - They should not be applied however in dropsical cases because they are apt to become ulcers or Gangrene -

6 - The pain from blisters is sometimes useful when the mind is diseased; - quieting the nervous excitement.

Case of a Sawyer who put a blister on his back, whenever he attempted to plead. -

7. Another use of blisters is for the Endermic application of medicines to the denuded surface.

Thirtieth Lecture Sept 4. 1834

Cantharis Vesicatoria. - Lytta Vesicat. - Meloë Vesicat. Spanish Fly. This insect is found in Spain, - Italy, - Sicily, - France & the warmer latitudes of Africa, - is of an oblong shape, - 3/4 in. in length & about 1/4 in width, - having a fetid odour when alive, compared to that of mice, - & is of a beautiful green colour. - They are gathered by shaking or beating the trees on which they feed, and collected on linen cloths spread beneath. - They are then killed by immersion in vinegar & water, - then dried & carefully packed for market. - They are sometimes adulterated with an insect of a square shape. If preserved in well-stopped bottles, they will keep a long while & retain their virtue a number of years. - Sometimes they are attacked by worms and injured. - If kept in damp places they soon putrefy. - —

They have a disagreeable odour & an acrid taste. They yield their active principles to Water & Alcohol, & contain a crystalline substance called Cantharidin

idin, - which is insoluble in Water & Cold Alcohol, but soluble in boiling Alc. - from which it precipitates when cool, - sol. in Ether & vol. oils. - In the insect, it exists combined with a yellow matter which renders it sol. in W. & Cold Alc. - It is said that if the flies be boiled, - they will not produce strangury when applied. — Dr. M. B. Smith prevents Strang. by giving a Tea sp. of Ulva Mixt during the operation of the Cantth. -

The most extensive use of the Cantharides is in the form of Blistering Plaster, - (See Dispensatory) Cerat. Cantth. (U.S) - Emp. Cantth (British) - It is well worthy of notice that a Plaster will keep for a long time & that its virtues are not exhausted by one application. - U. Cantth. is not used. -

There is a weaker preparation (Ung. Cantth.) used as a stimulating application to keep open blisters &c.

We have also Emp. Picis cum Cantth or Emp. Calefaciens. - or Warming Plaster, - consisting of 1 part of Cerat Cantth. to 7 parts Burg. Pitch, - which is an excellent application ~~constitute~~ used in chronic Catarrh, - Rheumatism of Intercostal muscles &c. -

Linimentum Cantth. - consists of Decoct. Cantth &

Spt. Terebr. — There is also a Tinct. Canth. —

Cantharides whether applied internally or externally are apt to produce Strangury. - When we have reason to apprehend this, - give freely of demulcent drinks, - remove the Plaster & make some emollient application to the part, - as for inst. - a soft Bread and Milk Poultice, with a little Sand spread over it. - In this manner, sometimes if the Plaster be removed in 6 or 8 hrs. & a Poultice applied, - we shall frequently find a fine blister. - This caution is requisite in blistering over the eye lest the long continuance of the Plaster should create too great irritation. - But to return to Strangury, - as before stated, - remove the Plaster & give mucilaginous drinks, - & if these fail, give an anodyne injection of about 60 gtt. Laud. with 2 or 3 tablespoonfuls of Starch, - & repeat if necessary. - If these do not succeed, the last resort is to the Catheter. —

When a blister is left on too long, - a sloughing may ensue, - more common in children than in

adults, - as in low cases of typhus or scarlet fever. -

With respect to the size of the Plaster, - it should be generally as large as the place to which it is applied will admit. - The largest size is 10 by 12. -

It should be always cut to fit the part neatly. -

When applied to the head, it is desirable that the head should be shaved 10 or 12 hrs previous if time will permit, - so that the abrasions may heal up. - The usual size for arms or legs, - 6 by 4. -

After shaving the part, apply the blister & confine it by adhesive strips to prevent its slipping. -

On the scalp, it should be left longer than on any other part, - generally from 18 to 24 hrs. -

On children, a blister is generally produced in from 4 to 8 hrs. -

When the serous fluid has discharged so as to separate the cuticle, if it is desirable to heal it up immediately, do not destroy the cuticle, but make only small punctures to allow the fluid to escape. -

Sometimes the sac contains a gelatinous mass, which is the serous fluid coagulated. -

When the blistered surface becomes much inflamed & painful, - apply warm milk & water, - soft Poultice, - Cream, - very weak Lime Water, - or some such soothing application; - the best in Dr Hood's Practice is Goulard's Cerate, - mixed at first with about an equal quantity of Simple Cerate. -

If it be desirable to keep the Blister running, destroy the Cuticle, - & use some stimulating ointment

Canthans Vittata. Potatoe Fly. - is another species, - found in this country, - & first introduced into practice as a vesicatory by

It is found on Potatoe tops &c. in the morning & evening, feeding on the leaves. - It has a reddish brown head, - & brown wing cased with a Stripe of yellow upon the edge. - along the sides

They are procured by shaking them in Hot Water, - carefully drying &c. -

There are also other species. - Canth. Atrata

Several vegetables possess the property of producing vesication when applied to the Skin. - Some however are employed except Mezereum. - for which See Book A p. 209. - Seda

Ranunculus Bulbosus. Butter cup. - has a root possessing the properties of producing vesication, - but it is uncertain, it has different effects upon different individuals, - consequently it is seldom or never used. -

Rubefacients should be preferred to blisters in cases of very violent & sudden prostration, - when an immediate excitement is desired; - as in the sinking spells which occur in Typhus Fever, - in the cold Stages of malignant Intermittents, - in prostration from Concussion of the Brain, Syncope, &c. - But blisters, as before stated, are used to subvert morbid associations, - compose the patient, - for local inflammation &c. -

Rubefacients are very useful in Spasmodic affections.

At the head of the list of the individual Rubefacients, we place Mustard. - see Book B. p. 125. - Thirty-First Lecture Sept. 8. 1834. —

Capsicum. - See Book B. p. 163. —

Ol. Terebinth. is a very good Rubefacient in low States of the system. - It should be heated (with great care, lest it take fire) and applied either by friction or by flannels steeped in it. — If it gives too much pain, remove

it, for it sometimes produces unpleasant effects. -
From idiosyncrasy, it is very irritating to some persons, even poisonous to some persons, -
It is useful as a revulsent in deep seated in-
flammation accompanied with prostration, - as in Puerperal Fever, - tympanitic abdomen, - as a
Liniment in Chronic Rheumatism &c. - See p. 142. -

Pix Abietis. Burgundy Pitch. The prepared concrete juice of the Norway Spruce Fir. - It exudes spontaneously on the bark of the tree, whence it is scraped, - heated in Water & Strained. - It comes to us from Germany & Switzerland. - It is brittle, o-
paque - brown externally - yellowish internally. -
This is hardened spontaneously exuded juice of the P. Abies. -
It differs from the Turpentines in containing
less volatile oil. - It softens by heat, - & by contact
It consists of Resin, - Vol. Oil & Water, - becomes dark by exposure. -
with the Skin, it is just sufficiently softened to ad-
here. - When thus applied, excites a sufficient de-
gree of irritation to increase the perspiration. -
In one case of an old gouty patient, Dr Ward knew
it to produce violent inflammation & even ulcers wher-
ever it touched him. - It is useful in Rheumatic
affections, - Chronic Catarrh, - Dyspnea, - and other
Pectoral Complaints.

Pix Canadensis. Hemlock Pitch - derived from the Pinus Canad. or Hemlock Spruce of N. America. The juice exudes spontaneously from old trees upon the bark, - this is then stripped, - boiled twice & strained. It is of a brown colour, - more yellow internally. - It consists of Resin & less vol. oil than Turpentine. - It is used similarly to Burg. Pitch: - by some preferred.

Aqua Ammoniæ - is seldom used alone but generally in the form of the Vol. Liniment, i.e. combined with Olive Oil; usually in the proportion of 1 part Aq. Ammo. to 4 parts Oil, - but this varies according to circumstances. - It is useful in Catarrh, Rheumatism, - Sore Throat &c. of Infants especially. - Aq. Ammo. is very uncertain in its strength, sometimes so weak that it will not unite with Oil to form a Liniment: - it should then be rejected. -

A plaster can be made of common Lead Plaster Soap & Mur. Ammo. - which will last for about 24 hours, & answer the same purpose with the Liniment. - A decomposition takes place & the Ammo. is slowly given off. —

Tartar Emetic. - for the history of this see page 28. -
It is often applied externally as a Rubefacient. -
From one to three days generally elapses after
it is applied, before any effect is produced. - at
length an itching & prickling sensation is felt, fol-
lowed by small red pimples, which increase and
become pustules, - & afterwards even ulcerate if the
application be continued. - It acts upon the prin-
ciple of Rubefacients & Epispastics. -

There is however one advantage in its use; -
we know that a <u>recession of eruption</u> of tentimes
produces internal inflammation & disease, - &
hence if when the eruption can be again brought
out, the diseases disappears, - thus the Tart. Emetic
by producing this pustulous eruption, alleviates the
complaint, - having a much better effect than the
discharge from Blisters. -

It operates too more deeply, - affecting not only
the Cuticle, - but extending the pustules down to the
cutis vera, & consequently, we may suppose, produ-
ces a greater effect upon the system at large. -

With respect to locality, Dr Turner thinks the arm a preferable place, - but probably it is more efficient when applied to the back. - In inflammatory affections, however, as a general rule, - apply it as near as possible to the inflamed part. -
It is useful in obstinate chronic Pleurisies, - Hepatites, &c. - & an excellent application to the Spine, when there is Tenderness upon pressure, - Nervous Derangement, - Hysterics &c. - First apply Cups to the part then apply the Ointment or Plaster. - It must be remembered, however, that when applied to a cupped surface, instead of requiring 2 or 3 days, - it becomes almost insupportable in from 1 to 3 hours.

It may be used in the form of Lotion, Ointment or Plaster. The Lotion is the least favourable mode & seldom used. Ointment is made by mixing ℥j more if necessary ℥ij - ℥iij of Tartar Emetic with ℥i Simple Cerate. - Rub a little on every 4 or 6 hours, - or spread it on linen & apply it. The most convenient form is that of the Plaster. - This is simply a Plaster of Burg. Pitch, - covered over with Tart. Emet. - except at the edges so as to allow it to adhere

It is generally left on 3 or 4 days, - then removed. - if it will not come off readily, - apply a little Olive Oil.

Almost all the Volatile Oils are Rubefacients, - but seldom used. - One sometimes employed is Ol. Monardæ Punctatæ. - or Rosemint Oil. -

Croton Oil has been recently recommended, mixed with 4 parts Olive Oil —

Escharotics are those substances which destroy the life of the parts to which they are applied & produce a sloughing. - They operate in 2 ways. - either by their direct influence, or by chemical decomposition. - When they operate in the first manner, the life of the part is lost, because the part is unable to bear the application. - In the second, the life is destroyed because of the chemical disorganization of the parts.

They are employed for forming Issues - opening abscesses. - & subverting diseased action by destroying the part diseased and substituting an action of its own. -

Of the individual Escharotics, - none are more severe than the Heated Iron, or Actual Cautery. This is used for arresting Hemorrhage &c. - but seldom in this country, - unless in Hemorrhage from the Fauces where no ligatures &c. can be passed. -

Another mode of applying it is by Moxa.- This, too, is seldom used in this country.- It is made of Pith of Sunflower, Much contains Nitre, or other similar plants,- or of Rolls of Linen,- Cotton &c. imbued with Nitre,- or as to continue the combustion.- or with Bichromate of Pot.-

Potassa is next in power - as a caustic.- It is obtained from Slaked Lime & Carb. Pot.- found in cylindrical pieces - Kept in paper & in well-stopped bottles.- It is deliquescent.- Caust. Commune Acemonum old)

It is applied as follows.- A piece of adhesive plaster with a hole about the size of the place required, is laid upon the part.- Then take the caustic,- wet it & rub it on until the part is black.- remove the plaster, & wipe it off with a piece of Sponge, then apply a poultice.- 4 in 8 or 9 days, an ulcer will form, into which Issue Peas may be introduced to keep open the Issue.- Sometimes the Pot. is mixed with Lime, Water & Soap, & formed into a Plaster,- but this is not so good.- Issues are adapted to Chronic diseases &c.- Caustic is sometimes used for opening abscesses,- for removing flesh from poisonous wounds &c.- & dissolved in Water, it has been recommended for Tetanus by Dr Hutchinson

Thirty-Second Lecture Sept. 11. 1834 —

Nitrate of Silver or Lunar Caustic (Argent. Nit) is formed by dissolving Silver in Nitric Acid, drying & moulding it &c. — It is white & semitransparent, but when exposed to the air & light, it becomes dark by decomposition & oxidation. —

It affects only the surface to which it is applied, forming an insoluble which prevents it from acting deeply. — & does not penetrate like the Potassa, — hence it is employed only for destroying sores &c. — as old ulcers, chancres &c. — In solution, it may be used as a stimulant to ulcerated surfaces, — as in ulcerated Cornea, — sore opthalmia, — soreness & running from the Ear, &c. — for which it is almost a sovereign remedy, if properly applied. —

A work has lately been published recommending it in arresting cutaneous inflammation. —

It is generally applied by rubbing it over the surface. — The proper proportion for an Eye-Wash is ½ gr. 1 to ℈j to ℥j Distilled or River Water. But when the Cornea is ulcerated, its Strength may be increased, — or a better plan is to apply it with a camel's hair —

penal. - For the Ear, - begin with a Solution of about grs ij to ℥j & increase it, if necessary, to 3 or 4 grs to ℥j. - distilled water - If ℔ should be applied by injection, always use a Silver Syringe, as others will decompose it. -

Arsenious Acid or White Oxide of Arsenic, - obt. by sublimation from the Ore - is sometimes used for Cancerous Affections, & is the basis of most of the empyrical remedies for that disease. - There is danger, however, of the poison being absorbed, & hence it is seldom prescribed by a regular physician; - more danger in a dilute than caustic state.

Sulphate of Copper (Cup. Sulph.) is sometimes employed as an Escharotic; - generally in Dilution; A Solution of grs XX to ℥j Water is an excellent application to Cancers &c. - ℔ i per day will often completely destroy them. -

A solution of it is also used for ulceration which is often seen in the mouths of Children, - accompanied with fetid breath, - Sordes on cheeks &c. - it proves a very effectual & certain remedy. -

Verdigris, - is sometimes used as Escharotic. -

Corrosive Sublimate or Bichloride of Mercury, is seldom used as an Escharotic, - but as a stimulant in syphilitic affections &c. -

A ~~solution~~ mixture of it, however, is very efficient in arresting a disease of the Fingers & Toes, called Onychia Maligna, - once considered incurable. - Take equal parts of Corrosive Sublimate & Sulph. Zinc; mix them together, & sprinkle them over the surface of the diseased part. - Then apply a Pledget of Lint & over that Linch Myrtle or Sand. - For about ½ an hour, the pain is very severe; when the part becomes destroyed, & soon heals again kindly. - For Syphil. ulcers in the Throat, apply a sol. of grs V to X to ℥i - Cutan. eruptions grij to ℥i -

Alumen Exsiccatum, - Burnt Alum, is applied in the State of powder to the fungous flesh to which sometimes appears upon ulcers. - It acts as a gentle escharotic. - It has been recommended in Sore Throat, to be applied by the fingers; - or in solution - grs XV to ℥i -

The Mineral Acids may all be considered as Escharotics, - especially the Sulphuric & Nitric. - Dilute Sulph. Acid is sometimes used for cutaneous eruptions ~~of~~ in ointment. Dil. Nit. has been used for ulcers. - It was also used for speedily blistering in Cholera - but is not much at present.

Equal parts of Nitric Acid & Water. -

Demulcents act by a mechanical power.

They are generally mild, mucilaginous substances, soluble in Water, & usually consist of gummy, saccharine, Farinaceous & Oleaginous Principles.

They are used for 2 purposes.- 1.- To defend the surfaces with which they come in contact from irritating substances,- as in Catarrh &c.-

2. They mingle with the acrid matter secreted, & obtund its acrimony.- hence they prove useful in Dysentery, Diarrhea & other irritations of the bowels.- also in Nephritis, Strangury, Gonorrhea, &c. —

We next notice the individual Demulcents.- Gum Arabic,- Tragacanth,- Ulmus Fulva,- Flax-Seed,- Pith of Sassafras,- Quince Seeds and Liquorice Root.- for which see Books A, B & C. —

C.51 C.53 A.215 B.135 B.25 A.115

Thirty-Third Lecture Sept. 15. 1834

Iceland Moss,- Sago,- Tapioca,- Maranta & Barley,- for which see Books B & C.

B.169 C.55 C.53 C.55 B.133

We next come to the General Remedies,- & the first Class comprises the Astringents.- These are medicines capable of contracting or corrugating the

living fibre, - as is obvious to the senses. - for will the mouth become puckered by chewing an astringent. -

It does not act merely by a mechanical power, but every living fibre possesses a property of contractility, - & the astringent affords the stimulus necessary to produce the effect. - The influence of different medicines upon the stomach is soon communicated to the whole system, - & it is by this general sympathy, that we account for the operation & general effects upon the system at large, of Astringents taken into the Stomach.

The indications for the use of Astringents then are evident from their method of operation -

It is plain that they would be injurious when the discharge depends upon some foreign cause, unless that cause first be removed. -

As they are somewhat excitant in their nature, they would be injurious in an irritated or inflamed state of the system.

They would prove beneficial, then, - when the morbid discharge depends upon a weakness of the vas-

sels, after the exciting cause has been removed. — when there is no inflammation in the part. — or when a suppression of the morbid discharge even without arresting the disease, would be of less serious consequence to the patient, than to allow its continuance, — as for inst. Suppression of Diarrhea in Consumption.

They are used chiefly for the purpose of restraining Diarrheas, & arresting Hemorrhages; — but they are not proper to be given in Fever, — with excited arterial action.

They are generally used as External, or Local Applications. — When given with a view of arresting Hemorrhage, depletion may first be used with advantage, as in blood from the Nose, — from ruptured vessels, — from wounds &c. — tho frequently it is not necessary. —

There are 2 Classes of Astringents, the Vegetable & Mineral. — The Veg. Ast. — owe their property to Tannin. The Mineral, to a peculiar Specific Influence. —

We next come to treat of the Individual Astringents. — First — Oak Bark, — derived from different species of Quercus. — & Galls, — for these, however, see Book B. p. 15 & p. 17. — . —

Thirty-Fourth Lecture Sept. 18. 1834.

Ku Catechu. C.57 - Kino. C.59 - Rhatany. A.125 - Logwood. A.153 - Geranium Maculatum. A.131 - Rubus villosus & trivialis. A.129 - for which see Books **A** and **C**.

Thirty-Fifth Lecture Sept. 22. —

Uva Ursi. B.49 - Black Alder Bark. - Rosa. B.95 - Tormentil. A.135 - Bistort. A.127 - Alkanet. A.183 - for these see Book B & A. —

The unripe fruit & the bark of the Persimmon, Diospyros Virginiana, - have been used as Astringents. -

Tannin, itself, in a pure state, has recently been used as an Astringent. - It is of a brown colour, brittle - uncrystallizable, - sol. in Water & dil. Alc. - but not in pure Alcohol. - Dose 5 to 15 grs. —

Mineral Astringents. —

Alum: - is a double Salt, consisting of the Sulph. Alumina & Sulp. Pot. - with about 50 pr. ct. Water of Crystallization. - Sulph. Ammo. - or Sulp. Sod. may be substituted for Sulph. Pot. in forming the Crystals. It has an astringent taste accompanied with sweetness, - is soluble in about 8 times its wt. of water at 60° & 3/4 its wt. boiling Water. — When exposed to heat,

it melts, loses its H. of Cly. Crystallisation & falls into powder.

Its incompatibles are the Alkalies & their Carbonates, - Lime, - Magnesia & Carb. - Acet. of Lead, & the Mineral Salts. — also Vegt. infus. as Galls, - Kina, - Bark &c

It is employed with advantage in obstinate chronic Diarrhea, - in the relaxed state of the bowels which follows Dysentery, - in Passive Uterine Hemorrhage, when not connected with an excited state of arterial action. — Also in Cholica Pict: & it has been prescribed for cases of Intermittents. - mixed with some aromatic, - as Rhubarb

Internally, its powers are feeble, & hence we cannot rely upon it in Diabetes, - Leucorrhea &c. — When thrown it is apt to offend the Stomach, - combine it with Aromatics & some other Stimulus.

Recently its powder has been recommended to be applied with the finger upon the inflamed fauces, in Scarlatina - Cynanche tonsillaris &c - Also in strong solution 9 15 to 20 gr to ℥j, as an injection for Epistaxis, - Bleeding from Rectum &c. -

Alum Whey, - is made by boiling ℈ij Alum in ℔j milk. - Dose ℥j or ℥ij. - A gargle for relaxed Uvula may be made of grs V or X to ℥j Water. - An injection of this solution into the nostrils will arrest Epistaxis. - It may be used in Leucor. - Fluor Albus &c.

Alum Curd, - made by agitating White of Egg with Alum, good application for Inflamed Eye, - Ecchymoses &c

The Preparations of Lead, - although they are Astringent, - yet they have a peculiar & specific actions. The Symptoms which they produce upon the human System, are numerous, - but the most prominent are such as appear in Cholica Pictonum, - where, besides the Pain in the Abdomen, - costiveness &c, - we have pain in the external muscles, - partial palsy, & sometimes an affection of some of the organs of Sense. - These preparations produce immediate nervous derangement, - as well as act as Astringents. -

Litharge: - Ox. Plumb. Semivit. - is a Protoxide. - It is made by exposing Lead to heat in a reverberatory furnace & it is found in small scales of an orange yellow colour, It is used chiefly for forming the Lead Plaster, - Emp. Plumbi. - This is done by boiling it with Olive Oil & a little Water. - The Water united with the Oil, so as to form Oleic & Margaric Acid, - & these uniting with the Ox. of Lead, - form the Oleate & Margarate of Lead, - of which the Plaster is probably composed. - It is used principally for forming other Officinal Plasters, - sometimes

If & undercoloured applications to prevent ulcerations from pressure in low fevers, long continued, - or applications to excoriated surfaces - but seldom.

Carbonate of Lead or White Lead, is formed by exposing lead in thin plates to the action of the vapours of vinegar. — It is a powerful astringent, & often produces Cholica Pictonum. - It is never given internally, - but sometimes is applied to excoriated surfaces in the form of an ointment made of ℈i to ℈ij simple ointment. —

A plaster has also been directed by Pharm. as a substitute for May's Plaster, - the principal ingredients are Lead Plaster & Carb. Lead. -

But the most important of the Preps of Lead is the Acetate. - Plumb. Acet. - Saccha. Saturni; - made by boiling vinegar & Carb. Lead. - It is a neutral acetate, - consisting of 1 Eq. Acid, - 1 of the Base & 3 of Water. It has a sweet, astringent taste, - when dissolved in W. generally gives out the odour of vinegar, on account of Subacet. - but when pure is inodorous, - efflorescent, - Sol. in W. & Alcohol. - Incompatibles, - are the Alkalies & Alkaline Earths, & their Carb. - substances which with these Alks - form Insols, - Sol. Sulphates & Muriates, - the Acids &c. - Tart. emet. & Tart. Iron; - Sulphurets. so that the first plan when it is given is to allow the patient to

take nothing but Water or a Solution of Gum &c. -

Different opinions prevail among practitioners respecting its efficacy; some considering it as a poison too dangerous to be given, & others prescribing it in a great variety of diseases. - The tenors, however, which some have conceived respecting it, are unfounded, - altho' in too large doses, or in small ones long continued, it certainly is dangerous. -

When given in small & continued doses, it acts upon the nervous system, more gradually, - producing its peculiar effect, - will bring on Cholera Sooner than if administered in larger doses. - But by avoiding excessive or long-continued doses, - by combining with Opium, when not contra-indicated, - by attending to the costiveness &c. - it is safe, & frequently a very beneficial remedy. -

In cases of Internal Hemorrhage from the Lungs or Uterus, it is well adapted, - but even though it may be given in an exalted State of the System yet it must not exclude depletory remedies. -

In Uterine Hemorrhage, unconnected with Pregnancy, it acts favourably, combined with Op. or Specac. It cannot be relied on, however, in Intermittents, Hooping Cough, - Epilepsy &c. -

Dr Irvin of Charleston published a paper in 1820 recommending it strongly in Yellow Fever, & D-W. has tried it once & was well pleased with it. The time for its administration in this disease is when Gastritis is at its highest point, - when the patient begins to turn even a little yellow. - D-W. believes that it acts by coming in contact with the inflamed surface of the Stomach, upon the same principles, that it acts upon inflamed parts externally. - It may also be beneficial in the same way in Dysentery. It is useful in arresting the profuse Diarrhea in Cholera. - D-W. gives 2 grs Cal. & 1/2 gr Opii every hour, & in the intervals gives 2 grs. Acet. Lead. - Parrish uses it in combination with Kino to arrest internal Hemorrhage. - From its influence over the Nervous System, it might probably prove beneficial in Hydrophobia. -

The dose of it varies according to different authors. From 1 to 2 grs. - & may be repeated every 2 or 3 hrs. After 10 or 12 grs. have been taken, suspend it, - so that it may produce no injurious effects. -

It may be given in Pill with Crumbs of Bread -

Lead Water is made by dissolving Ʒij in Oj distilled Water. - This is a useful application to inflamed surfaces, - by dipping wet with it, but must not be applied to excoriated surfaces. -

A Poultice may be made of it, by mixing it with bread, - & enclosing it between linen. This is a good application to inflamed Eyes &c. -

A solution of 1 or 2 grs. Acet. Lead to Ʒi Wr. - is a good Wash, for Opthalmia, - Gonorrhea, - Fluor Alb.

Goulard's Extract of Lead, - is made by boiling Litharge in Dist. Vinegar, - & filtering the resulting liquor, - or by boiling Litharge in a solution of the Acet. of Lead. - It is said to be a Subacetate. (probably a comp. of Bis. & Trisacet. of Lead. -) Sometimes it is of a greenish straw colour, owing to the impurity of the Vinegar, - but usually is colourless, - alkaline in its properties, - & decomposed by

those substances which are incompatible with the Carb. Lead, already noticed with Gum Arabic & Mucilages. Even distilled Water produces a milky appearance with it, on account of the Carb. Acid which it contains. —

This is the best test for Mucilages — or Gum. —

It is used only as a Lotion in Eruptions & Local Inflam. —

Lead Water should contain about ½ Dij Goulard's Ext. to Oj Water. —

Goulard's Cerate, is made by mixing ~~this with the~~ Goul. Ext. with Oil & Beeswax ~~Simple Cerate &c.~~ — is a useful application to abraded surfaces, & especially beneficial to blisters indisposed to heal. —— also Herpetic eruptions

Sulphate and Acetate of Zinc, are used as Ext. Ast: Also the Mineral Acids, which, are rather tonics. —

Lime Water & Carb. Lime, are sometimes useful in the Diarrhea, — Cholera Infant. — & the latter Stages of Dysentery. ——

We next come to the subject of Tonics, upon which we will make some general observations. ——

By this term, we designate those substances which have the power of producing & maintaining a gentle

exaltation of the actions of life, in sudden & great prostration without necessarily causing any apparent increase of these natural actions. - Unless taken in large doses, the action of tonics is not manifested by any immediate & obvious excitement. - The vigour which they impart to the system is the result of a slow operation on the Animal Economy, - & altogether different in its character from that temporary augmentation of force which is the immediate consequence of the operation of stimulants properly so called. -

When Tonics are employed in a debilitated state of the system, their operation is evinced by a gradual & permanent increase of the force of the circulation, - and an invigoration of the digestive powers & of the general energies of the System.

There is no term which expresses their operation as well as Corroborants, - for their most prominent effect is to produce strength, - but as strength does not depend upon tension of the muscular fibre as was formerly supposed, - the old name Tonic, - is not a suitable one. -

When the system is in a healthy state, Tonics are not needed to exalt its powers to proper action, hence they become injurious. - By long continuance, they establish irritation & chronic Inflammation & diminish the susceptibility of the organs to their impressions. - But, as sometimes happens, when the disease is kept up by debility, they are useful. -

Tonics are not applicable to all states of the system. - They are improper, when there is an increase of action beyond the natural standard in health. - They act injuriously in two ways, - if given for a long time and steadily. -

1. They produce a certain degree of excitement which at length degenerates into Inflammation. -

2. They cause a momentary elevation of the powers of the stomach by their action upon the nervous system, & this is succeeded by a subsequent diminution of its power, so that it cannot perform its duties.

Thus with the celebrated tonic, - Portland Powder, - it has been remarked by Cullen, that the use of it was always sooner or later followed by Dropsy. -

Tonics, therefore, should be given only when the natural powers of the system are depressed, - & should not be continued too long, - or given during local inflammation. - They act as Corroborants in two ways.

1. When the Stomach is debilitated, - the food introduced into it is not digested, & the body is weakened from the loss of its natural support; - then tonics restore the digestive energies & enable the Stomach to pass the food properly into the circulation. -

2. Tonics may also impart tone to the system by exciting a peculiar action in the part to which they are immediately applied, & thence propagating a similar action to other parts of the body thro' the medium of the nerves, - or they may strengthen by being absorbed into the circulation, & thus acting directly on the whole organisation thro' the medium of the blood. -

Tonics are by no means equal in the degree of their sensible power, - some producing but little change, while others approach to stimulants.

This class of remedies may be divided into three

subdivisions. - 1.- The Simple Bitters. - Bitterness is a property possessed by all the vegetable tonics. - Cullen supposed it to be the tonic power. - It does not reside exclusively in any one proximate principle, - thus Quassia, Gentiana &c are tonic, - while Morphine &c. is narcotic. -

2.d - Set unite an aromatic or other property with the bitterness as most prominent, - as in Serpent. - Angust. Bark, - Cascarilla &c. - The aroma is owing to an essential oil. - These are more stimulant than the first set. -

3.d Set are purely Aromatic, & depend for their efficacy upon an essential oil, but in some instances the property of a stimulant is united to some other property which renders them Tonic. - They accelerate the action of the heart & arteries, ~~but do~~ & produce an increase of heat, but do not act on the cerebral nerves. - They are employed in combination with other tonics to cover their taste, & render them more acceptable to the stomach. - Some of them might form a distinct class. - Some are astringent: -

36th Lecture. –

We shall next notice the Individual Woods, –

~~the Mrs. Prince Particularly, Bark Class~~

and shall arrange them according to their Stimulant powers, – first treating of the simple Bitters & afterwards of the Aromatics. –

Columbo, – Frazera Walteri or Am. Columbo, – Gentian. & Quassia, – for which See Book A. –

Thirty-Seventh Lecture Oct. 2. 1834 –

Simaruba, – Chamomile, – American Centaury, – Serpentaria, – Eupat. Perfoliatum & Cinchona, – for which see Books A B, – also upon Artemisia or Wormwood, – Trefoil, – Blessed Thistle, – Horehound, & Sassy, – which are all bitter tonics & applicable to similar cases. They are used only in the absence of the others, or to suit the prejudice of the patient, so that his faith may cooperate with the remedy. –

Thirty Eighth Lecture Oct. 6. 1834

On Cinchona & its constituents. – See Book A –

Thirty-Ninth Lecture Oct. 9 1834 –

On Augustura Bark, Cascarilla, – Dogwood, – Prunus Virginiana, – Myrtle, for which see Books B & C.

Also upon Aromatics; — which is a term applied to those products possessing a fragrant odour, — & a peculiar spicy flavour, — not mixed with any other properties. — Their efficacy depends upon a vol. oil. & as all oils affect chiefly the circulation, — they might be called stimulants, — but their influence which they exert is rather more of a tonic nature, — & besides, their stimulant effects are rather local than general, because of the difficulty, with which the oils are taken up by the Absorbents. —

Aromatics exert a peculiar cordial influence upon the stomach, — obviating sickness, — expelling flatus, — relieving spasmodic pain, — & also obscuring in some degree the taste of nauseating medicines. —

They are generally joined with other remedies, — with purgatives, to prevent their griping, — with tonics, & stimulants to increase their power, — they render medicines more acceptable to the stomach. —

They should never be exposed to a continued heat, hence should not be prescribed in Decoctions. —

The Oils are concentrated forms of the Aromatics, & are variously termed Vol. - Ess. - & Distilled Arom. Oils. -

Their taste & colour are various. - Sp. gr. generally lighter than that of Water, - sometimes heavier, - & sometimes equal. - They are Volatile, - inflammable, - & when exposed to the air, deteriorate, & become changed into something of a Resinous nature. -

They are sparingly soluble in Water, - but all of them can be made to unite with it, - by means of Sugar or Gum Arab. - or by rubbing them first with Carb. Magnes. - then adding Water & filtering. -

They are often adulterated, - & this can only be detected by the odour, - Sp. gr. - or Volatility. (Solubility) (& stain on paper)

They are employed as the Aromatics themselves frequently they are used dissolved in Alcohol. - then, improperly called Essences. -

Of Individual Aromatics. - as Orange Peel, - (p. 165) Lemon Peel, - (p. 169) & Cinnamon, - (p. 19) for which see Bottle B. -

Fortieth Lecture Oct. 13. 1832

Of Canella, - (p. 29) Cloves, - (p. 101) Nutmeg, - (p. 153) Piper Nigrum, - (p. 159) P. Longum, - (p. 161) Cubebs, - (p. 161) Allspice, - (p. 157) Cardamoms, - (p. 147) Car-

away, - Coriander, b. 150 - Anise Seed, b. 147 - Fennel Seed, - Lavender, b. 105 - Rosemary, b. 103 - Sage, is an aromatic bitt. and hence an infusion of it is used as a Gargle for Sore Throat. - sometimes warm is given in Amenorrhea. - Peppermint, b. 197 - Spearmint or Mint, b. 199 - European Pennyroyal, b. 201 - American Pennyroyal, - Balm, b. 205 - Gaultheria, b. 51 - Ginger, a. 163 - and Calamus, a. 171 - for which See Books A & B

Forty-First Lecture Oct. 16. 1834

On Mineral Tonics, - the most important of which are the preparations of Iron. - These are most extensively employed among practitioners. - There is a strong resemblance between all of them in their action upon the System; - they increase the force of circulation, - in long continued doses are said to diminish the spleen, - to relax Portal Circle. - evaporate the powers of the Stomach, - produce a permanent corrobative effect upon the System. - When, however, active inflammation exists, - when the Stomach is in an irritable condition, - or when the liver is unhealthy, secreting unhealthy bile, - they are improper & injurious. - They prove advantageous in Dyspepsia, - in nervous & hysteric diseases, - and that long train of complaints arising from debility. -

A long use of them in health, produces Inflam. Diathesis, - hence Chalybeate waters injurious to healthy persons.

Iron & Preps. have a great tendency to Ulcers. -

Cheltenham Salts are an excellent remedy for Chronic Hepatitis, - teaspoonful daily before breakfast not too long continued, - as Iron may produce excitement. -

ing from debility of the alimentary canal, - or from general debility of the system, - as Chlorosis, - Amenia with swelled waxy countenance &c. - menorrhea, Hysteria, - Apepsy, - Scrofula, Phthisis &c.

They are the best remedy for Amenorrhea, connected with general Debility. -

With regard to their modus operandi, - there is much dispute, whether they act by first depressing the powers of the Stomach, - & then carrying this action by sympathy through the nervous system, - or whether they enter the circulation & are thus distributed. - Iron has doubtless been detected in the blood, & it may act in that way, - but the probability is that it acts by both the abovementioned methods. - The richness of the blood does not depend upon the Iron contained in it, as some have supposed, - but upon the invigorated action of the Lungs. -

Iron in its pure metallic state, has been said to be medicinal, - but its effect, when thus given, is probably owing to some change which it undergoes in the Stomach from the acid &c. which it meets. - The simplest form in which it is given is that of Filings Ferri Rameuta. - Dose 10 to 30 gs. - but seldom given intervals produce constitutions of Sickle. Hydro &c. -

Black Stools always follow. -

forming Salts. -

Supp. Elixir. Simp.

Squamæ Ferri, - are made by heating Iron & pounding it. - They are a combination of Iron & oxygen, - dark, brittle, - pulverizable, - insol. in Water, - readily soluble in acids. - Not much employed in Medicine. -

There are 2 Carbonates of Iron used in medicine

1. Ferri Carb. Sapar. - or Rubigo Ferri, - made by exposing Iron Wire to air & Moisture, - it is a Mixture of the Protocarbonate & Red Peroxide of Iron. -

2. Ferri Carb. Precip. - made by adding a sol. of Carb. Sod. to a sol. of Protosulph. Iron. - It is a fine, red Chocolate powder, - less apt to offend the Stomach than the former, because more minutely divided. -

The Precipitate is at first Protocarb. of green colour, - but on exposure, it attracts Oxy. - & changes a solution of the Protocarb. & Peroxy. - of a reddish colour. -

Both these Carb. are insol. in Water, - but soluble with effervescence in Acids, - & partially sol. in water impregnated with an excess of Carb. Acid, - hence they are generally present in the Chalybeate Springs. -

They are used in all cases where the preps. of Iron are indicated, - and lately, - have proved highly serviceable in Tic Douloureux, - Neuralgia etc, - given in doses of ℈ss. to ℈i, - 3 times a day, - gradually increased. - The usual dose is from 5 to 20 grs, - as a Tonic. -

Dr Pulte was very partial to a prescription containing equal parts of Rubiæ Ferri
Pulv. Colomb.
" Zingib. — —

The effect which this Carb. Iron has in Tic Doulx may most reasonably be ascribed to its action upon the whole nervous system. — For this, dose ℥ss to ℥ij.

F. Sulphas. — Sal Martis, — is made by acting on Iron Filings with dil. Sulph. Acid — It has a strong styptic taste, — is in prismatic Crystals, — sol. in Water, — insol. in Acids, — when exposed to heat loses its W. of Crystallization & becomes a dirty white powder, called F. Sulph. Exsiccat. —

Exposed to the air it becomes a Persubsulphate. — At first its efflorescence is White, — the sulphate, — afterwards attracts Ox. becomes Peroxy. — brown Colour. —

Incompatibles are all sol. salts which form insol. compounds with its acid, — earths, — alk & carb. — Pot. Sit. — acet. of ammo. — & all vegetable astringents. —

It is a good Chalybeate, — & has an advantage by being soluble, — & it may be given in smaller doses. Use the Dried always for Pills. — Dose is from 10 to 5ss. Uses of the dried. —

Generally given in combination — with Purgatives &c. —

For medicinal purposes, Iron Wire should be used, as this is purer. —

Tinct. Ferri Muriata, - consists of a Muriate of Iron dissolved in Alcohol. - It is made by dissolving Carb. of Iron in dil. Mur. Acid, - adding 3 times as much Alcohol. - It is of a brownish yellow colour, - has an ethereal odour, - from the reaction of Alc. upon the salt of Acid - and is decomposed by alk. & Carb. - & by astringents. -

It is the most active of the Chalybeates, - given in Dysuria, depending upon Spasmodic stricture of the Urethra, - for Venereal Warts &c. - Dose 10 to 30 M. in a wineglassful of Water, - 2 or 3 times per day. - It is given also in Dyspepsia, - Amenorrhea &c. -

Ferrum Ammoniatum, - is made by subliming Mur. ammon. & Peroxide Iron. - It is of an orange yellow colour, - seldom used. - Dose 3 to 15 grs.

Ferri Phosphas, - by adding Sol. of Phosp. Sod. - to Sol. of Prot. Sulph. Iron - At first it is a Proto Phosphate - afterwards Peroxide of Iron usually find it a mixture of both. - It is of a light blue colour. - By Carmichael it has been recommended for Cancer. Dose 5 to 10 grs. Ter die. - Insol. in Water. - 1 - 2 grs. -

Tartrate of Iron & Pot. made by boiling Carb. Iron, Bitart. Pot. and Dist. Water. - It is inodorous, - has a At first Prot. - afterwards Peroxide Protartrate
styptic taste, - of a greenish brown colour, - Sl. in W. - It is a mild Chalybeate, - supposed to be diuretic, - hence given in Atonic dropsy. - Dose from 5 to 20 grs. - This

is an ingredient in Vinum Ferri, because Tart. Pot. is contained in Wine, & this by its action on Iron Filings forms this salt. - Hence Vin. Ferri possesses & It is a much more available preparation -
no advantages over a sol. of Tart. of Iron & Pot. -

Iodide of Iron; - a preparation upon which little In solution in Water. - Mixture contains it with malts in antiseptic affections &c. with Syr. Sarsap. -
or no confidence can be placed. - 3 Ferruginous instead of almost tasteless

Copper, - in its metallic state, seems to have little effect upon the system, - but its salts sometimes produce unpleasant consequences; - & are even poisonous, - from the irritation excited in the mucous surfaces. -
Hence care is requisite in preparing food in Copper vessels of any kind. - & in drinking Mine Water from Copper Reservoirs

Cupri Sulphas - is a Bisulphate. - It is in Rhomboidal crystals, - has a harsh, styptic taste, - is sol. in Water, - insol. in Alc. - is decomposed by alk. & Carbonates, - Nit. Silver, - Perchl. Mercury, - & all astringents. -

When given in small doses, it excites the Stomach to an increased action, - but the danger attending it In large doses, it produces very violent vomiting & the patient has a copperey taste in the mouth. - The stomach must be washed out freely, & Albumen administered
has circumscribed its use. - In that form of Intermittents called Quotidian it is sometimes given as follows. -

Cupri Sulph. gr. i
Quinia Sulph. gr. ij
Opii gr. i
M. ft. Pilulae No iij
S. One 4 times a day. -

It is used advantageously also in Chronic Diarrhea depending upon Ulceration of the Intestine, - Epilepsy &c. - In Germany it has been recommended for membranous Croup. -

Cup. Ammoniatum, - is made by rubbing up Sulphate Copper with Carb. Ammon. - It is of a deep blue colour, - with a hot, styptic taste, - changes to green by exposure to the air. - It has been much recommended for Epilepsy, - but its use is disputed.

It is given also in Hysteria, Chorea &c. - but never without previous depletion. - Dose gr. ss. 2 a day and gradually increased, if necessary. - In form of Pill. -

Zinc itself, exerts no sensible effect upon the system, - but there are two Preparations of it used in Medicine as Tonics. - They are employed in Hysteria, - Epilepsy, - Chorea various other diseases. -

Sulphate of Zinc, - is made by adding dil. Sulph. acid to Zinc. - It crystallizes in 4 sided prisms, - efflouresces slightly, - is very sol. in Water, cold or hot, - with a metallic, styptic taste, - It is decomposed by Alk. - Earths, - Sol. astringents. - It not much used as a Tonic. - It has been given in Diarrhea, - Chorea &c. Hooping Cough, - Colica Pictonum, but more as an Emetic.

A solution of gr ss or 2 gr to ℥i Water formed an

excellent injection in Gonorhea, & weaker for Chronic Opthalmia. — Dr. W. has never failed to cure the Ulceration of the Mouth occurring in Children by touching them with a solution of from 5 to 15 grs. to ℥i Water. — Also useful for Cutaneous emptions. 10 grs to ℥i —

The dose internally is 1 or 2 grains. — When taken in poisonous doses, it produces great constriction & vomiting &c. — The skin is relieved as soon as it is evacuated. —

Oxide of Zinc, — may be made by burning Zinc. — It is white, — inodorous, — tasteless, — insol. in W. & Alc. — unalterable in the air. — Dose 5 grs. — gradually incr.

Tutty, — is an impure oxide of Zinc, — made by burning the ox. — with Clay & Water. — It is inodorous, — tasteless — brown externally, but the inside of a pale yellow. Used for excoriations &c. by sprinkling, — or in form of Ointment. —

Calamine is an impure Carb. Zinc. — has an earthy fracture. — When roasted & elutriated, — it is sprinkled on excoriated surfaces, — or made into an ointment, & then applied. — Turner's Cerate. —

Bismuth — is used in medicine, — by first making a solution in Nit. Acid, — then add Water. — A precipitate is formed which was formerly called an Oxide, it is now called Subnitrate of Bismuth. It

is white, insoluble, inodorous, & unalterable in the air. It has been highly recommended in Dyspepsia with violent pain unaccompanied with ~~[illegible]~~ Inflammation. It imparts a black colour to the stools, like Iron. Dose 5 to 10 grs. 3 or 4 times per day.

Nitrate of Silver has a strong, metalic, bitter taste. It is sometimes used internally, & has been highly recommended in Epilepsy, but disputed. It is given also in Chorea, Angina Pectoris, & sometimes in Leucorrhea, but perhaps with no benefit. Incompatibles. Alk. & their Earths, Soaps, Sulph. Muri. & Nit. Acid & their salts. Arsenite Pot. Sulphuretted & Tannic. An objection to its use is that when long continued it communicates a dark colour to the skin. The rationale is that Nit. Silver is decomposed by light, hence when it enters the circulation, it is carried into the cutaneous vessels & there decomposed.

Probably, however, it is inert, because there is sufficient salt taken into every Stomach to decompose it, & produce an insol. Chloride of Silver. The dose usually given is ½ gr. 3 or 4 times a day, made into pill with bread containing no salt, or with Pulverised Liquorice Root, which is preferable to the former. first dissolve it in Water

Preparations of Gold are not used in medicine at present.

The Mineral Acids sometimes employed are the Sulphuric, Nitric & Muriatic. —

Sulph. Acid, is tonic & astringent, - hence it is given in Debility accompanied with morbid discharges, as in Hemorrhage from the Lungs and Uterus. - It is also a good remedy for Hectic in Consumption, - Night Sweats &c. - & in loss of appetite, connected with an asthenic state of the Stomach. - It is often given in combination with Tonic bev. Infusion. —

It is used diluted, as a Gargle in Sore Throat, - or locally, for cutaneous eruptions, - Sora, - White Blisters in the Mouth &c. - When prescribed, it should be Ac. Sulph. Dil. - which is only 1 part to 7 parts Wat. Dose is 10 to 20 gtt. in a wineglass of Water, - taken thro a quill. - In hemorrhage ℥ss. to ℥i may be given. —

Elixir Vitriol is generally used internally. —

Nitric Acid, - of which there are 2 kinds, - the coloured & colourless. - This is given in simple gastric debility, - in convalescence &c. - It is said to have a specific influence like Mercury. - Dose of the strong acid is 2 or 3 gtt. in ℥ss tumbler of Water, - but varies in strength. -

Muriatic Acid is seldom employed in medicine. Sometimes it is given in Malignant Scarlatina, & in Typhus Fever. - Also for Worms. - Dose 5 to 20 ℳ. in ½ a tumbler of Water. - A Gargle is ʒi to ℥vj Water. -

Forty-Second Lecture Oct. 20 1834

Nitro-muriatic Acid, - is a mixture of Nitric & Muriatic Acids; - producing a third compound which owes its efficacy to Chlorine. - The acids should be highly concentrated, - otherwise they do not act upon each other, - but merely form a mixture. - If they are not sufficiently strong for the purpose, - add a little Sulphuric Acid. -

Besides being a tonic, this is also specific, bearing a close resemblance to Mercury in its action, - producing sometimes Ptyalism & even wasting of the Gums, - its direction to the Hepatic system is shown by the increased secretion of Bile. -

It was first introduced into practice by Dr. Scott. - It is useful in Chronic Inflammation or Disorder of the Liver, - Scrofulous affections, - Cutaneous Eruptions & Secondary Syphilis &c. - It may be given internally

or externally, - similarly & in like doses with Nit. Acid
A bath is a desirable form of using it, if there be
much gastric irritation. - This may be either gen-
eral or local. - It should be strong enough to produce
a tingling sensation upon the skin, - generally the
proper proportion is about, ℥j to Congj Water. -

Stimulants. -

Simple stimulants are those medicines which
increase the action of the heart and arteries without
exciting the brain & nervous system. - They are used
in cases of debility, unaccompanied with organic
disease, as in the common consequences & termina-
tions of Idiopathic Fevers, of a Typhoid nature, -
Also in Cholera, - profuse Diarrhea &c. -

But they are not used exclusively in cases of sim-
ple debility - often prostration attends local inflam-
mation, - organic lesions &c, - when stimulants become
requisite to support the system, - as in Typhus Pneu-
monia, - Typhus Dysentery, - low forms of Small Pox, -
& other diseases, - where, tho' the inflammation &c would
seem to contraindicate them, - yet they are neces-

sary evils. - It must be used with great caution. -

In that debilitated state of system, which we often find during the ulcerative or suppurating process, stimulants often prove beneficial by enabling the vessels to perform their proper secretions, & promote a healthy action. - Of Individual Stimulants. -

Oil of Turpentine - is distilled from Turpentine. - is a stimulant of considerable importance, - there being few, which act more upon the circulatory, & less upon the cerebral & nervous System. - When pure, it contains no Ox. -

It is useful in low forms of disease, - especially those in which the head is so affected that narcotics are forbidden. - Besides this, it has a peculiar effect upon the mucous membrane of the Stomach, - hence proves beneficial in some forms of Diarrhea, - Dysentery &c. -

Probably the Turp. operates by changing the morbid action & substituting its own. -

It has proved peculiarly useful in those typhoid fevers, where the tongue cleans suddenly, - smooth, red & moist, - or sometimes it becomes dry & not completely clean, - & the abdomen is somewhat tympanitic, - then also, there may be some delirium, - but the extent

not sufficiently low to require other Stimulants. In cases of this kind, it is plain that there is a disease in the small intestines & that this disease is ulceration, - then 5, 10 or 15 drops given every 1 or 2 hours, will produce a very happy effect. - In 24 or 48 hrs. you will find the tongue become moist, - a little fur will appear, - which soon after passes off, & the patient recovers. -

It is useful also in the last stages of Gastritis, - Enteritis, & also Yellow Fever, - Dysentery &c. -

It has been recommended by Dr Bretton in Puerperal Fever, - but W. thinks it must be of that form which is not connected with Peritoneal Inflammation.

Also useful in Chronic Rheumatism, - Epilepsy, - Piles, - Flatulent Colic, - Gout of the Stomach &c. &c. Dose from 5 to 20 drops every 1, 2 or 3 hrs. —

For Capsicum see Book B. p 163 —

Phosphorus, is the most powerful stimulant known, & the use of it very dangerous. - Dose is 1/32 to 1/16 gr. - 1 gr. in 2 ℥ss. Generally given in Sol. in Ether or in Emulsion, - a better mode than in Pill. —

Mur. Ammo. & Carb. Lime.

Ammonia Carbonas. - or Volatile Alkali. - has more influence over the nervous system than those before-mentioned. - It is formed by subliming Carb. Lime & Mur. Ammo. - It is a Sesquicarbonate, - found in Lumps, which are hard, - solid & semitransparent, - white, - efflorescent & deteriorate by exposure. - It is decomposed by Alk. - Alk. Earths, - Acids &c. -

It increases the force of circulation & invigorates the vital functions, - without affecting the brain or Stomach. It also produces diaphoresis, - Hence it is useful in Typhoid fevers, - in the intermission between excitement & collapse, alternated with Wine Whey. - In low forms of Fever, - when the brain will not admit Narcotics, - in Typhoid Pneumonia, - Scarlet Fever, - Retrocedent & Atonic Gout, - Chronic Rheumatism, - Palsy &c. - As it is an Antacid, it acts favorably also in diseases of the Alimentary Canal. -

It has been recommended also for bite of animals, - for stings of Wasps, - Hornets - Bees &c. - Also is said to remedy Drunkenness. - Dose 5 to 10 grs. every 1 or 2 hours. - Generally given in solution. - Diffusible & Irritant. -

Antispasmodics. - are medicines which are given to relax or prevent irregular muscular contractions or Spasms. - But all medicines producing this effect, are not ranked under this head, because they depend upon a great variety of causes, & hence demand a great variety of remedies. -

They calm the restlessness & agitation which arise from nervous action, & hence prove that they act upon the nervous system. - Under this head then, we rank those which, while they stimulate the circulation, would act upon the nervous system without producing any effect upon the cerebral functions. - The name, however, is an improper one, - as well might we have Antifebriles, - Antiscorbutics &c. - a more proper name would be Nervines. —

Musk. - the product of a male animal inhabiting the Himmalay Mts. - Central Asia - of a brown or black colour & coarse; - & has a male, oval bag, about 2 or 3 ins. long posterior to the umbilicus. - The quality varies according to the situation of the animal. - The most valuable comes from China, - & least from Russia. — It is bought

Received from 3 ports: Canton, Calcutta & Russia

in sacs, is of a deep brown colour, & looks like dried blood, - taste bitter, - odour strong, and diffusible, - & it burns with a white flame to a spongy charcoal. - It is partly sol. in boiling Water, - more sol. in Alc & still more so in Ether. - From its great price, it is often adulterated, with articles not easy to detect. -

It was unknown to the Greeks & Romans, - & was introduced into practice by the Arabs.

It is a powerful stimulant & antispasmodic, - exciting the cerebral action. - It is used in similar cases with the antispasmodics, - also peculiarly applicable in prostration & irregular nervous action, - as in low fevers blended with Sublulent tendency, - Tremors, - Gout or Spasms in the Stomach without Inflammation. - hiccup, - convulsions of infants from spasm of the intestines &c. - but owing to its high price can only be employed in extreme cases. - In Tetanus, it has been recommended by Dr Hoff with Op. - 3ss Musk with 3i Op. to be given in 2 or 3 hours. -

It has also been used in Epilepsy, - Asthma, - Pertussis, - Palpitation of the Heart, - Cholera, &c. - Generally given in Pill or Julep. - Dose 10 grs. - varies from 5 grs. to 3i -

Artificial Musk is made by pouring Nitric Acid upon Rectified Oil of Almonds Amber. - It is almost inefficient. - Seldom or never used -

Castor, - is the product of the Beaver - It may be used similarly with Musk, - but seldom employed.

Dose 10 to 20 grs. - Tinct. ℥ss to ℥j

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Assafoetida, is the concrete juice of the Root of the Ferula Assaf. - an herbaceous plant from 6 to 9 ft. in height with a perennial, fleshy, tapering root, growing in Persia - and is the most important of the Antispasmodics.

When the tree is four years old, the leaves & stem are twisted off, - the top of the root sliced off, - so that the juice exudes, - & it is then concreted.

It is in irregular masses, - brownish yellow externally at first streaks of white are seen running thro' the mass, which soon when freshly broken, pale pale red in colour, - has a disagreeable change to red afterwards is brown. -
odour, bitter & subacrid taste.

It was used by the ancients; - by the Persians, - & even by some of our own epicures, - as a condiment. - Surat is said to be completely perfumed with it - It agitates by heat

By long exposure it becomes brittle. - Its principal constituents are Gummy matter, resin & vol. oil, upon the latter, its odour & probably its virtues depend. - Alc. & Ether -

It is a moderate stimulant, - powerful Antispasmodic also, an Expectorant & Laxative. - It is useful in Hysteria, - Hypochondria, - convulsions, - Spasms of the Stomach and Bowels without Inflammation; - also in Hooping Cough, Asthma, - Catarrh accompanied with Spasmodic Disease of the Bronchiæ, - & also as an expectorant, in various infantile catarrhal affections. -

From the peculiar influence which it exerts also over the nervous system, - it may be given in low forms of fever, accompanied with subsultus, - Hiccup &c. - As an Enema, it proves useful in Tympanitic Abdomen, - Hysteria, - & Irritability of Stomach. -

Medium Dose, about 10 grs. in Pill or Emulsion. -

Tinct. is more stimulating. - Dose ʒj. —

Galbanum, - Bdellium, - Ammoniacum, - and Gum Resins, - seldom or never used. -

Valeriana - see Book A p. 173. —

Amber is a fossil of vegetable origin, - found on the Shores of the Baltic. -

Ol. Succini Rectificatum, - is obtained by several redistillations, - it is of a yellow colour, - volatile, - inflammable, - insol. in Water, - partially sol. in Alcohol, - of a hot and acrid taste. -

It is a stimulant and Antispasmodic, - given in Hooping Cough, - Subsultus in low Fevers, - Infantile Convulsions

Dose from 10 to 30 drops. — It is more used externally as a Liniment, in Chronic Rheumatism Palsy, & Spasmodic Diseases. — Dr Parrish uses a mixture of Ol. succ. Rect, ℥i Laud. — ℥iij Brandy and ℥iij Sweet Oil by friction to the Spine of Children affected with Spasmodic Diseases

Narcotics. —— or Cerebral Stimulants.

This name is applied to that class of medicines which act upon the brain, — & they are so peculiar that no two of them are precisely identical in their action. — When administered, they first produce an increase of both the physical & mental powers, — exciting not only arterial excitement &c. but also energy of thought, — vividness of imagination &c.

Afterwards a reaction takes place, — the pulse becomes composed, — the muscles relax, — the senses become obtuse, — & there is a general inactivity of all the functions both of body & mind; — pain is relieved & sleep ensues. — If large doses be given, the excitement is more quickly followed, by more lasting & more serious effects. —

Sometimes there is first a slight debility, followed by nausea, - vomiting &c. These show that they operate powerfully on the cerebral functions, - & when Death ensues, - the heart ceases to act from a cessation of nervous energy from the brain. -

There are 2 distinct views taken of the operation of Narcotics. - Cullen says, their primary tendency is to reduce the vital power, - describes the primary excitement to the opposition of an innate power of the system against the poison introduced. -

Brown considered that they directly increased the action of the system, - & that prostration of the powers was a natural consequence of their elevation. - Cullen, then, considered them directly sedative, & indirectly stimulant. -

Brown considered them directly stimulant and indirectly sedative. - Each had their followers. -

But neither of these does W. think satisfactory, - but that each Narcotic operates in a manner peculiar to itself. - Altho' there is at first an excitement, yet the powers of the system are not subse-

quently depressed in a ratio corresponding to the previous exaltation. & he even went so far as to assert that the powers of the system may be directly annihilated. — & that certain ~~powers~~ functions might be diminished & others excited by the same articles of this class. —

They exercise their peculiar influence upon the system, upon whatever part they may be applied. —

Narcotics, more than any other class of medicines, lose their effect by repetition. — hence it is apparent, that in order to maintain a given impression it becomes necessary, gradually to increase the dose. —

We should also vary the articles employed. —

This class has received different names according to the objects for which they may be given: — Thus, — when given to sooth pain, they are termed Anodynes, — When given to produce sleep, — Soporifics or Hypnotics — & when for their sedative effect, — Sedatives. — &c. —

We shall next treat of the individual Narcotics. The first and most stimulating of the class is

product of vinous fermentation. - It is obtained from the dis-
Alcohol, - but this is seldom used in any other form,
tillation of Ard. Spt. - Ssp pr. 835 - purest contains 11 pr. ct. Water
than that of Proof Spirit, which contains about 50 pr. ct. W. -
Preferable forms, however, are Wine, Porter, Beer, &c - and
of Wines, the best are Sherry, Madeira or Teneriffe, which
Wines are more tonic & less stimulant proportionally than same dilut. of Alc. &c
contain from 15 to 25 pr. ct. - In looseness of the bowels,
Wine Whey. - Oj boiled Milk & Ofs Wine. -
Port Wine may be applicable. - But Porter, Ale, Beer
&c. & Food Drinks should be excluded from medical
For an irritable stomach continue W. with Spices, - by first making a hot infus.
use, - they are heavier for the Stomach & less Stimula-
of Spices & then add the Wine. -
ting than Wine. - He never prescribes them except where
patients have been addicted to their use. -
Such vary in strength when Alc. & dil. Alc. are used, - & hence important to
The use of these stimulants must be regulated by the
recollect which are made of pure Alcohol. -
symptoms; - when they increase the heat of the Skin; -
excite the nervous or cerebral derangement, - increase
the force of circulation more than proper &c. - they should
be omitted, - but if the contrary happens, & the patient
does well under their use they may be continued. -

Sulphuric Ether made by the action of Sul. Spt. Acid upon Alc. - is a narcotic stimulant, high-
ly diffusible, - hence more speedy & more evanescent
in its action. - If its vapour be inhaled, - it also pro-
duces a speedy action, - & exhilarates somewhat like
nitrous Oxide, - but a recovery from it is more dan-

gerous, - being attended with more stupor, & other unpleasant consequences. - Aeth. Sulph. Rectif. should be preferred
Cautions the patient of its inflammability. -
It is used in prostrate cases accompanied with spasmodic nervous action, - in Gout of the Stomach, - Cholic Affections, - Hysteria, - & in some stages of Epilepsis to obviate the nervous affections &c. - "sinking spells"
As it is so diffusible, it is necessary frequently to repeat the dose. - It may also be given in Asthma Hiccup, - Tetanus &c. - Dose ℥ss. to ℥j. - with Sweetened Water. -
It must be quickly swallowed, so that no vapour can arise in the mouth. -
Externally applied, - it makes a compress. -
If applied so that it may evaporate, it produces Cold hence it is used for Burns & Scalds, - Strangulated Hernia &c. - But if it be confined so that it cannot evaporate, - it produces Heat & even a considerable irritation of the skin, - hence it is applied to the Forehead for Head Ache by holding it in the hand. -
Sp. Aeth. Sulph. Comp. -
Hoffman's Anodyne, - is a preparation of this, which is often given as a Sedative. - It allays irregular nervous action & thus produces Sleep, - because it removes the cause of wakefulness. - Dose ℥ss to ℥j
To test whether it is really good & contains Oil of Wine, - pour it in Water & it should become turbid. -

Opium.- The concrete juice of the Capsules Somniferum, which grows in Europe & is cultivated in the gardens of America,- also in India, Persia, Turkey & Egypt.- The juice is obtained from the capsules by slicing them.- There are 2 varieties in commerce,- Turkey & E. Indian; but the latter is never brought to this country,- it is taken to China.- All our opium comes from the Mediterranean.- There are 3 varieties; Constantinople, Smyrna, & Egyptian,- of which the Smyrna is the best.- This is generally distinguished by being enclosed in the leaves & capsules of a species of Rumex,- when these are absent, the opium may be considered as inferior.-

Water & Alc. extract its virtues,- it is injured by long boiling.- Its principal constituents are Resin, Gum, Bitter Extractive,- volatile matter,- Gluten or Caoutchouc,- Narcotin,- Meconate of Morphia,- Meconin & Narcein.- Narcotin consists of H, C.- Ox.- Carbon & Nitrogen.- It is white, in minute crystals,- tasteless,- insol. in W & cold Alc.- sol. in boiling Alc. & Ether,- tasteless & inodorous.- Its influence upon the system is uncertain,- as it is said that 40. 50 or 60 grs have been given without any effect.-

Morphia, is the narcotic principle of Opium. It is sparingly sol in Cold Ether, freely in hot, but it precipitated when cold, - burns when heated, neutralises acids. The Meconic Acid with which it is joined, is useful only as being the means by which we can test the presence of Opium. - According to Dr Hare, - to the solution containing Op. add a sol. of Acet. Lead, - then the Meconate of Lead is precip. - to this add Sulp. Acid which will set free the Meconic, - & then by adding a sol. of a Persalt of Iron, - we get a red coloured precip. -

Orfila thinks it unnecessary to add the sol. of Acet Lead, - & merely adds first the Sulp. Acid, - then the sol of a Persalt of Iron. — See Book C. — —

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For application of Opium see Book C. p. 69. -

Lactucarium, - is sometimes substituted for Opium (concrete milky juice)

It is obtained from the common Lettuce. - Smell & taste are like Op. Dose 2 or 3 grs. - of Extract 40 to 60 gr. - (Used in Europe for Coct. Affections, - Nervous &c. —)

Camphor, - Vol. I. p. 141 Op. 2 grs, & Conium 6 gr. Hemlock, - for which see Books B and C. —

Sedatives.-

These are divided into the Arterial & Nervous.-

1. The Arterial.- The most important of this Class are the Preparations of Antimony,- three of which are used: viz. Tartar Emetic,- Precipitated Sulphuret & Antimonial Powder. - The Neutral Salts, are sedative & act also upon some of the functions.- (2. p. 28.) (2. p. 76.) (p. 76.)

Potas. Nitras (see pp. 67 & 79)- when taken internally, diminishes the action of the heart, & the heat of the surface by its own peculiar operation.- It is also Diuretic,- & acts locally as an irritant, producing Inflammation,- so that when given it should be largely diluted.- When given for a long time, it diminishes the general powers of the system.- It is useful in Inf. affections, except of the stomach & bowels,- in Bilious Fevers,- Rheumatism,- Hemor. with Pethora,- & is often combined with Tart Emetic.- A solution may be made of Nitre ℥i, Tart Em. gr j in Water of ℥ij.- Dose f℥ss. every 1 or 2 hrs

The Veg. Acids are also somewhat sedative,- & are very useful as drinks in febrile complaints,- but they may be abused, & produce Dyspepsia.- The tendency of Vinegar to produce emaciation is well known, & sometimes called into use.-

Lemon Juice is most used. - The best method of keeping it is to convert it into Citric Acid, by Carb. Lime & dil. Sulph. Acid; - it is chrystalline. - To avoid the fraud of Tart. Acid for it, test it with Carb. Pot. - (see p. 77) -
A good substitute for Lemon Juice may be made by adding ℥i of it to ℔j Water with ʒii of Oil. Limonis. -

2. The Nervous Sedatives. - Digitalis, B. p. 55. Tobacco, B. p. 57. -
Hydrocyanic Acid exists in almost all plants of the Genus Prunus, or Amygdalus. - Its odour & taste are owing principally to a volatile oil combined with it. -
The best preparation for administering or procuring it is the Oil of Bitter Almonds - Dose ℔ss to ℔j a drop. -
Pure Hydrocyanic Acid is never used in medicine, but the Dilute, - which is formed by passing Sulph. Hydrogen thro' Prussian. Merc, - forms Black Sulph. Merc. & Hydrocy. Acid, - then filter & add Carb. Lead & filter. -
It should be kept in opaque bottles. - Even smelling a bottle of the Oil of Almonds, or of Hydrocy. Acid sometimes produces the unpleasant effects of the poison.
Dose of the Pure, would be about ℔ss/12 ℔th. in a Wineglassful of Water, - of the Dilute, 1 ℔th. every 2 or 3 hours, till the

effect was produced. - It is of unequal Strength. -

Cyanuret of Potassium - dissolved in Water forms the Hydrocyanate of Pot. - which is incompatible with a great variety of substances & hence is very apt to be decomposed in the Stomach. - Dose $\frac{1}{16}$gr to 1gr. & should be given in a State of Solution. -

Iodineum. - When taken in small quantities, it seems at first to sharpen the appetite, - increase the pulse &c. - acting like a Tonic, - but if it be continued, the patient begins to emaciate, - from the stimulation of the absorbents. - It also increases the secretions, - & renders the nervous system more irritable. - It was first employed by Coindet of Geneva in cure of Goitre, - afterwards in Scrofula, - indolent swellings, - sometimes in Amenorrhea, - also in Gonorrhea & Gleet. -

Internally, dose is from 1/4 to 1/2 gr. - Generally given in Tinct. - which contains gr XXX to ℥j. - Dose 10 to 20 gtt. - given in a wineglassful of Sweetened Water. It should not be long kept, as a reaction seems to take place between it & the Alcohol, changing its property. -

Iodide of Potassium, - which in Sol. forms Hydriod. Pot. has an acrid, bitter taste. - Int. dose 1 or 2 grs. - but its effects are not like those of Iodine. - It renders Iodine Sol. in Water. - hence is useful. - as in Lugol's Solution, - consisting of Iodin. - ℥i
Iod. Pot. ℥ij
Water ℥viij. -

The Iodides of the

metals produce the effects of the metals, just as analogous compounds, & not of the Iodine.-

Externally Iodine may be used as a Bath,-or more frequently in form of an Ointment containing 3i to 3i Lard.- It leaves a yellow stain upon the skin, which gradually disappears by evaporation