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No 23.

H. Hodge.

Notes on the materia medica

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by

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+ The Rhub^d from Russia is brought ~~hither~~ from China ~~by the~~ across the interior of the country —

Lecture 23rd Decr 19th 1816.

The next medicine very much resembles the Senna, it is the Cassia Marilandica - Dr Barton very much recommends this medicine I have no experience of its virtues - It is much used by our country practitioners - & is no doubt a very excellent substitute for the senna -

The Rheum Palmatum or Rhubarb is the next one to be noticed - It is called also Rheum undulatum & Rh. compactum - That which is employed in this country comes chiefly from China - some however from Russia. Its cultivation is also attended to in Europe & this country but not in sufficient quantities for use - It possesses a peculiar aromatic odour is bitter & astringent - as is proved by its infusion turning dark by the addition of any of the saline preparations of iron. In chosen the root, that should be taken which has a resinous fracture, of a weight & yellow colour is firm & compact - when cut & worm eaten it is bad, more disgusting & nauseous. Dr Hill supposes that it is a modern medicine, that employed by the ancients being a different article - It is in my opinion one of our most valuable medicines - It is mild & gentle in its operation even in large doses & has no tendency to debilitate but possesses a tonic power - It is therefore much to be used in affections of the bowels - in doses of ℈j to ℈ss: I prefer however giving it in combination with cal - ℞ grs of cal with ℞ v grs of Rhu. I have found that ~~that~~ grs x of rhub. with ℞ of cal will purge much more certainly than the celebrated ℞ d ℞ of jalap & calomel - In habitual costiveness it is more used than any other medicine - It is given in powder or in pills - From the gummy matter it contains the last are easily made with a little water - They should be given fresh

+ Equal parts of Ginger & Rhubarb being employed – the oil of Sassafras is also very useful – oil of mint &c &c

made, as when old & hard - they are dissolved slowly in the stomach & are very tardy in their operation. In chronic cases, it is sometimes advantageous to throw the solid root. In dyspepsia it will be useful to make the pills with some aromatic substance & thus by ginger from its aromatic & carminative powers is very useful. Rhubarb is useful in various chronic diseases where a gentle operation on the bowels is wanted. It has been recommended very highly in dysentery - see on this subject Gomez - Mangle Clarke & others - it possesses some astringency which acts after purgation. Cullen does not think it useful in dysentery. It has been long & justly recommended in diarrhea to which it is particularly adapted by uniting the purgative & astringent effects. Some have attributed to it a narcotic power - especially Fordyce - but it has no peculiarity of this kind. It sometimes induces alvine evacuations by relieving the high excitement of the system which had prevented the increase of this secretion. In jaundice it has been recommended but should always be combined with calomel - it then proves beneficial by increasing the action of this remedy. It has also been much used in high bilious fevers.

Rhubarb is a medicine of great value in all the diseases of children. I have frequently given immediately after birth - as in the following formula - ℞ Rhei. ʒp. magnes. ʒi. Ol: Anis gtts ij. & Aq Mentha ℥iß. m. The dose ℥ß with a little syrup. One advantage, it possesses, is that we can always determine, whether it has operated by the colour of the discharge. I prefer giving it with magnesia as there is always some acidity present in the bowels or stomach which this corrects. In cholera it is often retained on the stomach when every thing else is rejected, & in this disease it is peculiarly necessary to determine whether the evacuation is produced by

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the medicine or by the disease - The rhubarb always stains the diapers.

In all common cases this practice will ~~commonly~~ be successful, when united with a diet of arrow root - & the use of lime water with the mucilage of Gum Arabic. — It has also been recommended in worms - but it certainly acts only by its purgative power - it has no specific effect. The active principle appears to reside in a gum resin as both the watery & spirituous preparations are active. There are several preparations of rhubarb recorded in the Pharmacopoeia which I refer you - there are however two family preparations which you will not find there the first is the Spiced rhubarb - Mix of rhub. cinna & mace each two drams - boil in a pint of water to ½ pt. & sweeten with sugar - to preserve it some brandy is also added - if you are not careful the nurse adds so much as to render it a strong tincture It is best always to use it fresh - when no brandy should be added. - The second preparation is the rhub. tea - prepared by taking ½j of rhub with the same quantity of fennel seed - & boiled in a pint of water to ⅔. This is a very valuable & specific preparation in the early diseases of children especially in colic, which occurs within three months - In this the little patient suffers immensely - night & day - opium is resorted to but ineffectually - I have used ~~this tea~~ in the great success by giving ℥ss - two or three times a day for several days. Dr Barton has mentioned rhub. as a diuretic - There is another preparation which I omit notice & that is the toasted rhubarb. It is prepared by heating the powdered rhubarb, till it melts - & it should then be rummed & cooled. The fire is supposed to act on the resinous part

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& thus render it more mild and astringent – it gripes much less & is preferable in cases of diarrhoea – Rhubarb is often used as a gentle stimulus to old ulcers – It is not easy to specify the particular cases in which it may be useful, experience must determine this point.

Jalap – This is the root of the convolvulus Jalapa – so named from the place where it was first found – at Zalap or Jalap in South America – The root is firm & solid – of a roundish oblong form – of a dark ~~red~~ brown colour on the exterior but within somewhat lighter. It comes to us in slices & seldom in the ~~solid~~ entire root – The best is firm & compact – without a black but within of a dark brown colour – it is flame readily & burns briskly – possessing a nauseous taste – The fracture in this as in other roots of the resinous nature is smooth & bright – It is sometimes mixed with ~~bryony~~ bryony, which may be detected by the latter being of a lighter colour – ~~at~~ The active particles chiefly on the resin as the residuum after digestion in alcohol is nearly inert. The resin ~~the~~ of jalap acts as a drastic purge – & when given should be finely powdered – When finely powdered as with sugar or with some strong salt: its act is less irritating – it gripes much less but makes still a powerful impression – The dose of the root is ʒß – but in smaller quantities it opens the bowels – It is seldom given by itself but usually in combination – in equal proportions with cream tartari – it forms the colic powder the dose of which is from ℈ii to ʒß – It is also very useful in the bilious diseases & other cases where long purging is required as its effects are not diminished by repetition – in such cases I add a few drops of mint to the above powder – & give a dram every hour till it operates – With cal. jalap is much used in bilious fevers; in the yellow fever grs x ch

† It comes from America; ~~Asia~~ Europe Asia Africa

We seldom if ever have the Lacotoring but use the Barbados
salvia officinalis is nearly as good.

cash was very much employed & with the most advantage -
From the quantity of fluid matter discharged by it - it has been con-
sidered as a powerful hydragogue & much used in dropsical affections
The resin of jalap has been neglected - from its active effects - these can
be moderated by the tube & it then possesses very active powers but acts
mildly & certainly. I have frequently used it as in the following for-
mula - ℞ - of the powd root of jalap - & of rhubarb grs xxiv - of the resin
grs xx & ij. with 2 or 3 drops of the oil of anise, make it into 64 pills.
Each of these therefore contain 1 gr of jalap & rhub. & gr ß of resin -
I have found it very useful to administer one or two pills at a time
as an alterative -

Lecture 24th Decr 20th

Aloes perfoliata or Spicata - The aloes is the inspissated, or
pressed juice of the plant - & is a gum resin. There are 3 kinds of
aloes - 1st The Socotarine Aloes - which is of yellowish red colour -
& when powdered of a bright yellow - 2nd The Hepatic or Barbadoes
aloes - this is more dark & more exceessively bitter than the former & not so good - it is more of a
liver colour, from which it has been called hepatic - it is also bitter
nauseous & has not the aromatic smell of myrrh which belongs to the
other - 3rd The Cabbaline or Horse Aloes - this is more impure & of a bad
smell & should not be used. The aloes has been early used in medicine - It
does not produce much irritation - & is slower in its operation than
any other article we possess - from which circumstance it has been
supposed to act on rectum only - it has therefore been thought best fit
in costiveness; but Dr Cullen thinks that the costiveness for which it
is given is a much more frequent cause - It has been supposed to
act on the uterus - probably from its stimulating the rectum

It is generally 10 or 12 hrs. before it operates. In doses of grs j to ij it proves laxative, but does not purge. Dr Cullen observes that in a dose of a scruple it produces liquid stools, but always with considerable griping & should therefore be only used as a laxative to evacuate the intestines.

It was formerly much used in the formula of the elixir proprietatis, as Cullen observes upon the doubtful authority of Paracelsus. The present Tincture of aloes with myrrh is somewhat similar, & is substituted for it. This is prepared by taking ℥ij of the myrrh, ℥iss of aloes to ℔ss of alcohol. The dose is ℥ss. Cullen also considers aloes as a tonic & antispasmodic.

Gamboge. This is procured from Cyam & Ceylon, & is the concreted juice of the hypericum. It comes to us from the East Indies in large masses of a bright olive colour, becoming when powdered very yellow & affording a beautiful pigment. The taste is bitter & acrid. It has no smell. In large doses it operates violently both as an emetic & cathartic. It is one of our most active & drastic purges. It is generally combined with calomel or jalap, ~~which~~. It produces very liquid stools & has been used in dropsy — as also in various cutaneous affections, & in the case of tænia or tape worm. Its dose is from two to ~~four~~ grains with eight or ten of calomel. By itself it acts powerfully in doses of grs. v. or vij. Cullen has used it by itself in divided doses — he gives 3 or 4 grs. triturated with the sugar, & in this manner found it to operate mildly without vomiting or griping. Professor Murray of Getingen has made many experiments with a view of Clemens's Purgative Draught, but without no effect. — The attempt is useless, as the whole value of the medicine depends on this property. If we want milder purges we have others which answer ones purpose & this is very small.

+ Hippocrates employed it - were I to use it - it would be in Mania & Philpay &c - It is a fact when given in combin^n with aloes - Rhub: &c —

Scammony. This is the concrete juice of the convolvulus Scammonia. It is procured from Syria - from Aleppo & Smyrna - that from Aleppo is the best. This is very friable & easy powdered. It has a faint unpleasant smell & bitter taste - it contains more resin than Gum - It is but little used in Europe but much more among the Eastern nations - It was employed by the antients to discuss tumours & in tænia capitis: but it has no particular powers in these respects. Among the objections to this remedy is the uncertainty of the dose - sometimes in a powerful manner it acts in a small dose, irritating & inflaming the bowels. 2nd While in a large dose it has operated mildly - 2nd That it gripes violently - producing occasionally bloody stools - Cullen observes that it is not pure if pure, its dose is from 3 to 10 grs. —

Colocynthida - or the Cucumis Colocynthidis. It is procured from Turkey & is the medullary part of the fruit. It is nauseous, bitter & acrid - resembling gall - I have never used it - but it acts most powerfully in a dose of grs iij to vi. It is said to purge when applied externally to the abdomen.

Hellebore Niger - see Melampodium. This was employed in antient times even by the Spartans - but it is a severe medicine & is neglected in more modern ages - The root is the part employed, it is procured from Germany & Italy - & purges in a dose of grs x. Half a dram may however be taken - the purgative property resides in a gum resin - & can therefore be in some measure extracted by

Mr Ferriar recommends this article in dropsy - & speaks of it very highly.

Carbon or Charcoal has been employed as a Purge, I refer you to Sir Chapmans Most ingenious account of it - to which I have nothing to add -

water or alcohol - but what is rather singular - the distilled water possesses some active cathartic powers. It has been celebrated in Mania - there is no reason to suppose that there is any thing specific in its action - it must be merely by its purgative power - it has since fallen into disuse. It is very useful in high action of the heart & arteries. In Amenorrhoea - it has been said to be very serviceable in the form of tincture - but it is not much employed as it is a very drastic purge. I might here introduce the Veratrum album - but I shall content myself with observing - that it operates so violently as to be laid aside even in mania in which it has been celebrated. The dose was grs x to xv.

Cucumis agrestis or Momordica Elat. — wild cucumber

Elaterium. This is the most violent of the expressed juices - it comes in thin plates which are brittle & friable. It comes from South of Europe & is not to be found growing in U.S. States. It is given in the dose of gr ss to gr i - till it operates. It was supposed to be the active ingredient in the aqua Medicinale - but the colchicum autumnale as already mentioned appears to have the best title.

This concludes my list of Vegetable Cathartics - to which I had thought of adding others - but as they are not employed but very slightly at the present day I thought it would be useless to notice them. I now proceed to the Mineral Cathartics - these are not so numerous as the former - but many of them are very valuable - and first Calomel - known by various other names as the mild muriate of mercury - the sub muriate &c. There are various modes of preparing it - but the result is always very similar - be careful however that the corrosive sublimate is in no case present. The

X — This is very much lessened when given in combination, ~~&c~~

usual method of preparing it is by triturating ℥iv of the corros. sub. with ℥iij of the pure metal - untill the globules are destroyed - it should then be sublimed - powdered & washed with warm water to remove any of the corros. sublim. which might have been reformed. There is no one article so much employed - Its dose is from gr. vi to ℥i. There is a peculiarity in its operation which should be further noticed - & that is the little difference in the operation of a large or small dose - I have known gr. ß to purge freely - & also that a scruple, ℥ß or ℥ij produce no greater effect -- Dr May made the following experiment on himself - which in perfect health he took grs. iij of the medicine - it purged him - 2 weeks after he took ℥iv. it did not purge any more than the 3 grains. This is an important fact as it shows the safety of the medicine. As a cathartic it stimulates the exhalants - it is slow in its operation by 24 hrs & generally nauseates X to some persons it is so irritating that they cannot retain it, I am one of these - I have fainted from taking grs. iij of this medicine & suffered the most violent pain I ever experienced - This does not lessen its value - From its slow operation it is very useful to be given at night so that the patient need not be disturbed, till the morning - it very seldom fails in evacuating the bowels - In the Southern States, it is much used in the bilious complaints which are there prevalent - for which it appears to be well calculated - It is generally combined with other medicine, as with jalap - &c It is sometimes used with nitre - as in the antimonial powder - ℞ Vitr. ℥i - cal - grs. iij - tart - emet - gr. i. m - div. in dos. xiij - As being gently given it is used in many infantile diseases - it is best in such cases with some mucilaginous substance - or when there is any difficulty, put it on

† It is insoluble in water or alcohol but soluble in oils.

bread premiums to its being spread with butter. Be careful in giving it to children that ptyalism is not induced - which is very dangerous at an early age - The dose at 6 months - is grs ij - at 3 yrs - grs iij or iv. After 5 - yrs - 10 grs - may be given - I have known grs x in a young lady produce a violent ptyalism which lasted for a fortnight - such idiosyncrasies sometimes occur. In croup it is a very valuable remedy after bleeding & emetics - grs ij of cal. should be given every 2 hours - till it operates - large quantities in such cases are frequently employed. Dr Hulme has given upwards of a ʒi to an infant of a few months.

Lecture 25th Dec 23rd

Of the mineral cathartics Sulphur is the next to be considered. This is far inferior to calomel - it is light, inflammable of a straw colour - it is found in a pure state or combined with metals - It is sublimed from them by sublimation - It is found in the neighbourhood of Volcanoes. It is said sometimes in the pure state of flowers of sulphur - but this is almost incredible - as the heat in the atmosphere necessary for the ~~[illegible]~~ formation of them would probably convert it into sulphuric acid - It is crystallizable - & unites with the alkalies, earths & metals + It has been long used in medicine Hippocrates used it in cases of catarrh asthma &c - & also in cutaneous diseases. In doses of ʒi or ʒij it proves laxative acting chiefly on the large intestines increasing their peristaltic motions producing the evacuation of feculent matter with very little increase of the fluid discharge. It has therefore been used in cases of torpor of the bowels & in hemorrhoidal affections - In diseases of the skin it has long been considered

+ Ramsie 1st noticed it in 1717. Black gave some account of it - but Henry 1st noticed its Chemical Nicity It is procured by precipitg ~~the~~ it from the solutn of the Sulph: mag,n - by the Carb: Pot: - In preparing the calcind Magnesia - be careful that no lime is present - as the caustic lime would be very dangrus

Its use in calculous affects - will be lucrative - it is said long contind use not safe as concretns have been foun'd in the alimy canal - This however is a solitary case -

as a specific especially in Psora - Dr Chapman recommends it in tinea capitis, but I have been disappointed in it; as indeed with most other remedies in this disease - One of the best I think is the dated bustic. In gout & rheumatism sulphur has not answered in this country - In remittent fevers - the flowers of sulphur have been useful; I prefer giving it two or three times a day in small quantities say a dram - Dr Granger recommends it just before the paroxysm from which I think no advantage can be obtained, he also advises it to be given in brandy, which is a powerful stimulant not to be used in our febrile diseases at least - To prevent spasm of the muscles, it has been grasped in the hand upon the supposition that its electric properties would relieve the spasm - I have never seen it of any effect in this way & consider this practice as on a level with other popular superstitions. Combined with Cremor tartari it is a useful purge which is very popular Callen observes - that it produces a very fœtid discharge - & therefore should not be much used in genteel families - The opinion that it is apparent in the perspiration is without foundation.

Magnesia, is an earth much used as a laxative - It is found in the shops in two states - in that of a carbonate & calined. These may be used indiscriminately - except where there is great acidity or much flatulency when the calined is preferable - The magnesia was first known as a secret remedy - but when it became more generally known it was adopted as a mild & useful medium. Combined with rhubarb it forms a useful laxative for children - as also with cream of tartar. When the bowels are to be moved & acidity is present magnesia is preferable - Chalk is to be chosen when no cathartic effect is wanted -

The Neutral Salts - These have been considered as intermediate between laxatives & purgatives, but there is little foundation for

† This is made by saturating the cremor tart. with soda.

the opinion, as by a variation of the dose they act either as laxatives or purgatives. They all promote more or less the secretions into the intestines, they must therefore be well calculated for vermants & are much used in febrile affections, whence they have been called refrigerants. The Chemists supposed that this was owing to the cold they produce during solution in the stomach - but this was overthrown by the fact that the same effects were produced when they were previously dissolved. The most useful of these is the

Sulphate of Soda or Glauber's Salt. This produces little nausea or griping & promotes a great discharge of fluids. The dose to an adult is an ounce. ℥ss to a child above 4 yrs. When deprived of the water of crystallization it loses half its weight & consequently only ℥ss of the effloresced salt should be given for a dose. Its taste is very disagreeable; to disguise this it has been given with vinegar, lemon juice & mineral waters. It is often given in divided doses, ℥i of the salt with grs. j. of tart. emet. being divided into eight equal portions. This combination often proves diuretic diaphoretic & purgative. It should always be dissolved in boiling water - as when the whole is dissolved it is merely tepid & much more is taken up - it should then be combined with the lemon juice & sugar or with the Seltzer water. It is difficult from its nauseous taste to give it to children.

Sulphate of Magnesia or Epsom Salt. This is very similar to the former - it is no less nauseous to the taste & in my opinion possesses no advantage whatever - the dose is the same. It is employed in the same diseases & with the same intention. Both of them are very excellent additions to calomel & the more drastic purges when they operate slowly.

The Tartrite of Pot ash & Soda - Rochelle Salt. This is much used in France, it is less nauseous to the taste. The dose is ℥i. It is also

+ Its taste resembles that of the mur: sod: The French Prest ℥j in their soup instead of the common salt when they use it as a purgative but it is less revolting.

less active & is not much used in the diseases of this country.

The Supertartrite of Potash - the Cremor tartari is a very useful & agreeable purge - It is not nauseous, the acid which exists in excess renders it very pleasant - It is very well to mix it with molasses & to give ½ oz of the mixture every 2 hours till it operates - with jalap & the oil of mint it forms a compound which is very useful when long continued purging is required - as it occasionally produces flatulency, it is not to be used in dyspeptic & gouty persons - It may be given to children with sugar - as lemonade to which it is very like.

Tartrite of Potash - & double tartar - This is a salt formerly much used but not at present - it differs from the former in containing less quantity of acid being a neutral salt - It acts as cathartic & diuretic in the dose of ½ to viij.

The Phosphate of Soda is similar in its effects - it is not so cooling & often induces thirst & uneasiness.

This finishes what I have to say on individual Cathartics - The list which I have given is sufficiently long - I have omitted several which have been mentioned by writers, & I do not wish any new one to be added unless it possesses some peculiar powers - I will take this opportunity of saying a few words on the combinations of medicines - The most ancient prescriptions contained a great number of articles Even in more modern times Mecham has combined upwards of ~~[illegible]~~ 400 articles in one prescription - In this variety of articles there must certainly be some whose chemical action will change the property of the medicine especially when we consider the ~~[illegible]~~ little knowledge of chemistry which was then known - Driven from this practice many have gone to an opposite extreme which is equally ridiculous - that of admin

injuring medicines altogether by stomachics, without necessary combination. That medicines should in some instances be combined is very evident. ~~They are given a great~~ Jalap & rhubarb are an excellent combination (Dr Cullen) vitriolated tartar purges - rhubarb simply evacuates the intestines but also possesses a tonic power - by mixture the union of both virtues is obtained - On my mind the manifest advantage of an essential oil joined to a cathartic is of great weight. Thus jalap produces nausea & vomiting so energetic by itself - the addition of an oil prevents each of these & its cathartic power is undiminished - These two points should then be noticed - 1st The absurdity of the large combinations of the patients - & 2nd The importance of mixing some substances to obtain a desired effect.

Glysters - are substances injected into the rectum - This by the stimulus of distension contracts & expels its contents with the injection. The whole colon is also often evacuated - & I believe frequently the small intestines which are excited sympathetically - They seldom if ever penetrate beyond the valve of the colon - In Europe injections are frequently used in habitual costiveness - tepid water is generally sufficient - a great objection however is that the rectum becomes accustomed to this stimulus & will not contract upon its natural contents - A very excellent common injection is to take, ℥ss of mur. soda - ℥ss sweet oil & ℥ss molasses also each ℥ss water 1 pt. This is very useful in expediting cathartic medicines - I do not think any thing is gained by injection of other salts - the mur. soda is always at hand - It is fully equal to any other - In some cases injections of great power are wanted as in Hernia - the only injection I have seen in such instances (as bran tea to have which sometimes produces very alarming effects - The particular

1 2 0
2 4 1
3 0 0
1 2 0
1 8 0

cases in which it is to be used you will learn from the professor of Surgery. It is prepared by infusing ℥i of the leaves in a pt of water ℞ which is to be injected at a time.

Lecture 26th Decr 24th

Diuretics are those medicines which augment the secretion of urine. The quantity of urine is increased either by augmenting the quantity of fluid in the blood vessels or by stimulating the action of the kidneys. The quantity of fluid in the vessels is increased by checking other secretions especially that by the skin: & by drinking large quantities of liquor. Copious drinking is a very effectual method of increasing the flow of urine, is the most certain & should be employed when not contraindicated. Diuretics are frequently employed to carry off effused fluids in such cases it has been the practice to interdict all fluids as drinks. This was done by Hippocrates & most of the older physicians under the supposition that it would augment the disease. This idea has been shown to be erroneous to order a total abstinence from drink is a very painful measure & very inefficient & injurious. Believing this, some have resorted to a contrary practice & have ordered great quantities of fluid: water is the basis of all these. Cullen has added the vegetable acids & spirits. I however think that this practice is as injurious as the former. & prefer a medium between each extreme. A large quantity of fluid must fill the blood vessels & in a great measure prevent absorption. Besides on such occasions not only the urine is increased but also the other secretions & there is no reason to believe that the fluid is not also effused into the cavities of the body, increasing the quantity already accumulated. There is

The consequences ~~for~~ following the use of a diuretic, as stated by Dr Duncan - are, a change in the balance of the circulation a diminution in the circulating fluids, especially of the serous parts - an increased absorption - diminution of the perspiration & an increase of the flow of urine.

great prudence & good sense in Dr Cullen's observation, "that when the quantity of fluid taken in, is equal to the wine discharged & no greater there is no injury, at least, & perhaps considerable advantage." To administer diuretics without drink is altogether useless. During the reign of the humoral pathology, diuretics were much employed. They were considered as of great importance in carrying off the vitiated fluids. There is certainly some foundation for this opinion, although it has been carried to an extravagant length. The serum of the blood contains more salts at one time than at another, & as we see that these are constantly eliminated from the system, we may suppose, that when accumulated they may prove injurious. This abused theory still holds in my opinion, more importance than has usually been granted to it. Who for instance will deny that urinary calculi often arise from too great a quantity of the lithic acid present in the blood. —— Perspiration is in the inverse ratio to the action of the kidnies. so that when the former is checked the latter is increased. on this account we discharge more urine in cold weather & thus cold applications to the feet or to the pubis excite a discharge of urine. This however I attribute rather to a sympathetic contraction of the coats of the bladder, from the stimulant power of colds. as we find the application of cold is one of the best remedies for suppression of urine from debility. + The time necessary for the action of a diuretic is various. By experiment it has been found by Mr Home that in 17 min. the colouring principle of the beet will be found in the urine. that in 30 min. it will be deeply tinged. stronger in 41 min & very deep in one hour & 10 min. & in 2 hrs the effect had nearly subsided. The quantity of urine secreted by the kidnies varies very greatly in some

+ Cases are recorded by Parr of persons having no urinary evacuation for six weeks.

cases as diabetes it is greatly increased - In other cases no urine is discharged for a long time. Although the kidneys are the usual & chief organs by which urine is produced, yet there have been great doubts whether the ureters are the only passages to the bladder - Some circumstances favour the idea that there is a more direct communication between the stomach & bladder than by the circulation. Wine, after being taken into the stomach, quickly induces the flow of urine; the colouring matter of several substances, as logwood, is speedily detected in the urine, & also the odours of certain substances - These induced the suspicion that the circulation is not the only course - & Haller from his experiments also imagined that there was another route - When the ureters of a dog were tied some urine was nevertheless conveyed to the bladder - Dr Darwin observes that both kidneys have been destroyed yet the fluid was formed - I have seen a dissection in which one kidney was entirely obliterated by disease and the other so far gone that it was difficult to conceive that its function was performed. Mr Everard Home secured by ligature the spermatic & found that when rhubarb was taken, it could be detected in the urine - the vessels of the stomach did not absorb, as they were in no instance manifestly distended, the spleen was thought to be unusually large & it was surmised that this organ might have had some effect - In another experiment the thoracic duct was tied & rhubarb thrown into the stomach in 1 hour & a quarter the animal was killed - and on opening the urinary bladder, which was highly coloured with the rhubarb, was found in the bladder - rhubarb was used in these experiments as it can be so easily detected - one drop of the tincture can be found in 3ss of serum - In another experiment of the same kind on a dog the bile was found to be affected - In all these the lacteals were found ruptured in several places - affording a clear proof that the thoracic duct had been

† The fluid in the absorbents was ~~[illegible]~~ unaffected by the heat?
no traces of it could be discovered

secured - & in the chyle discharged through those ruptures no rhubarb could be detected. These facts go far to show that there must be some communication besides that through the circulation. Dr Darwin maintained that the absorbents of the stomach & bladder communicated. & that it was by an inverted action of these that the urine was coloured. This is altogether a fanciful supposition which he cannot support either by facts or by analogy - It is contradicted in my opinion 1st That no urine is discharged by the absorbents - 2nd That in Mr Home's experiments, that although the urine was tinged, 3rd That however it might vary in its properties, it remains a fluid sui generis differing from every other - 4th The valves in the absorbents are entirely overlooked by the Dr. Wenzel appears to remember them, when he mentions a paragraph of Mr Hewson where that gentleman observed "that in fishes the absorbents appeared not to have any valves or that they easily gave away - Dr D - setting it down as a fact that they have no valves - 5th There is no anastomosis between the lymphatics of the bladder & stomach - He here again misapplies an observation of Mr Hewson's who says, that in birds some small branches would seem to anastomose - Dr D - has actually made them unite in birds & in the human species - — (The question whether there is any other communication than the circulation is not yet settled & I recommend it to gain further examination - The rapidity with which the urine is changed is no proof of the fact - but the experiments of tying the thoracic duct appear very specious - I by no means am prepared to say anything positively on this point - but I will make one or two observations 1st If the thoracic duct is tied if any of the contents of the stomach is transmitted to the bladder it must be by some other passage - but 2nd - no vessels but the ureters & absorbents open into the bladder

3rd Dr Darwins theory is entirely erroneous. 4th It is probable that there is some undiscovered channel. Now I think that whatever this be it is through the medium of the kidneys - as to the absorbents we know that the opening of the thoracic duct into a vein is not the only instance of the kind the absorbents of the right arm & right side of the head unite & enter into another bloodvessel - now we have no proof that these are the only two instances of the kind there may be many others {In the horse there are several opening into the blood vessels}

Diuretics have been much employed from the earliest ages & are of course very numerous - Of the vast number ~~to~~ modern practitioners retain but very few. Dropsy is the disease in which they have been most celebrated - but our practice here is more uncertain than in other cases if we wish merely to evacuate the effused fluids by promoting absorption they would be useful & more certain but dropsy proceeds generally from a diseased action existing in the system or is a consequence of some disease It was formerly customary to use powerful evacuants that absorption might be promoted by emptying the bloodvessels - but this is now abandoned we find it much better to employ medicines to stimulate the action of the absorbents & at the same time merely to increase the evacuation by urine - for this reason Dr Fordyce has recommended a mixture of our medicines as being much superior in their effects than when given singly - This observation is very correct -

+ formerly it was supposed to be of a different nature &
more Officacious when procured from certain plants –
some we have the salt of wormwood & al absinthii –
salt of tartar &c but all of &c

Lecture 27th Dec 26th

Diuretics have been used in fevers with other exanthemata - but are not a great deal employed - also in the scarlet exanthemata with advantage. In the pulmonary complaints they were formerly much employed - the saline diuretics - & digitalis & the squill are still not unused. In asthma - Dyspnoea, they are much used but are not as useful as has been supposed - When effusions have taken place they are no doubt very serviceable - In nephritic complaints they are celebrated: as also in morbid states of the bladder - especially as arising from Gonorrhoea: they have been very serviceable in this disease also, by the Gonorrhoea - by acting on the urethra & perhaps by communicating some virtue to the urine -

Diuretics have been divided by Dr Cullen into three classes, the stimulating, the laxative & narcotic; but as I do not think much advantage is to be gained by this last & that it is better, that these properties should be noticed under the individual substances I shall observe no particular arrangement. I begin with the Neutral Salts - Most of these act on the kidneys - the Nitr. alkali perhaps excepted. They at the same time possess a laxative property which is generally advantageous but sometimes inconvenient & uneasy. All saline matters promote the secretion of urine - most of the acids - & 2 of the alkalies - but the combinations of them are much more active — Potash - has long been used & under ~~a great variety of forms~~ which are very similar, however, although celebrated under different names as the salt of wormwood, the salt of tartar &c all of them are subcarbonates of Potash & have been extensively employed - Potash

+ The Bitters are supposed to increase the diuretic effect of the articles - Cullen adopts this opinion - This may be the case - my own theory however would be, that the bitters operate merely by obviating & doing away debility - ~~that~~ thus the cure is accelerated & the diuretic properties of the salts are apparently increased. The Alkalies sometimes purge - this effect is to be restrained by opium -

produces diuretic in doses of ℥i to ℥ss in a large quantity of water; but it is often inconvenient & sometimes produces nausea, vomiting, indigestion. The caustic potash is not used in this manner. Soda is generally allowed to be a good diuretic, but is more effectual as a lithontriptic. The Volatile Alkali is too active to be employed as a diuretic. Some persons have doubted, whether these alkalies ever act by themselves, but that meeting with acids in the alimentary canal, they form active combinations. The acetic acid is often met with & it is supposed to form the celebrated "sal diuretic" of the antients. That this is sometimes the case I make no doubt; but I believe that they often operate by themselves. This is rendered probable, by their being detected in the urine. Bitters and salts are sometimes combined by Pringle in dropsy. of this more hereafter. The Acetite potash was long relied on as one of the most powerful diuretics. but it is so uncertain that it is little employed & I have no wish to see it revived. The Nitrate of Potash or Nitre, I consider as one of our best medicines. It is often found lying on the surface of the earth in calcareous places. large quantities are brought to the U. States from the East Indies, but it is found in several parts of our own country. Dr Murray thinks that its powers are too inconsiderable for dropsy. My experience is entirely opposed to this. it may be given alone or in combination. Alone it is given in doses of grs viij to ℥ss. q. 2. o.h. & may be gradually increased. It requires, that ℥iij or iv should be administered in the 24 hrs to promote a copious discharge from ℥ss to ℥i acts on the kidneys. These doses are perfectly safe, when commenced small & gradually increased. Nitre is employed as

the basis of a great number of preparations. Dr Rush's anti cinnamonial powder has much of it. This powder is very useful, it acts as a diu-retic, diaphoretic, & laxative when properly employed. In making this, I take ℥j of nitre. Cal gravij. cremor tart. grss. m. & divide into 8 powders & I send almost daily by me in various diseases. In making the powder I always prefer it to the sulph. of potash. It is a very common medicine in dropsy & is given by dissolving ℥ij in a quart of water & taking ℥ss at a dose which contains grs xij or xiij, which proves very useful. The Super Tartrite of Potash or the Cream of tartar is the next one to be noticed. From the excess of acid in this it is more pleasant to the taste & sits easier on the stomach than the neutrals above mentioned. It differs from that procured by scraping old wine casks, only in being purified. The crystals are small & irregular, not easily soluble in the mouth & have a gritty feel. It is highly extolled as a diuretic in dropsy by Ferriar, who has cured 33 out of 40 cases by it, a proportion much greater than our experience affords. As it operates as a cathartic it is very useful in those cases of dropsy with fever. It is most beneficial when it promotes a flow of urine & a discharge of fluid by the bowels. Murray says that it operates in 2 ways. First as a diuretic when ℥ss in solution is given in the day or secondly in substance, by being diffused in water, in larger doses as a hydragogue cathartic. It is generally supposed that drinking freely will prevent its cathartic effects. This I have never seen. I never use it when purging is contra indicated as I believe that half its value depends on its operation on the bowels & otherwise its diuretic effects can hardly be obtained.

There is often severe pain in the back & bones which circumstance has given it the popular name of the break bone fever —

like other diuretics it often fails when some other succeeds. One part of salt of tartar & two of cream of tartar forms the tartrite of pot-ash or the soluble tartar. Dr Physic is very fond of this & considers it as one of the best - in doses of ℥ss or ℥ij - q.i.d. No acid drinks should be taken during its operation, as it is very easy of decomposition. If soda be added to the cream of tartar it forms the famous Rochelle salt or the tartrite of Pot ash & Soda. This is a purgative but is not so valuable as a diuretic.

Spiritus Aetheris Nitrosa. This is colourless, of a fragrant smell, lighter than water & very volatile. When kept it is injured as a portion of the nitric acid is reformed: it may be restored to its primitive condition by adding lime water & again distilling it. It is frequently prescribed as a diuretic & often without any precise object. This is very wrong for it is very similar to ether & is much too stimulating for febrile diseases. When there is considerable debility & when febrile symptoms remain, after bleeding & other evacuants have been employed, this becomes a most admirable medicine. It is often given with an equal quantity of antimonial wine to produce a diaphoresis in coughs &c. I prefer administering ⅓ of the wine to ⅔ of the Spt nit. dul. In doses of gtts xxx to ℥ss. the Spt by itself proves diuretic. Dr Chapman recommends ℥ij to ℥iv in the day, but this dose is too large for the activity of the medicine. gtt xx to xxx proves diaphoretic to a child from 3 yrs of age. gtt v may be given. In some cases after an attack of bilious fever, ~~the bowels are affected with dull pain~~ gtt xxx q.n.h. has a very pleasant anodyne effect, relieving the pain very greatly.

† In choosing the ~~green~~ dried leaves - those which are most green are the best.

‡. From my experiments with the colchicum - this article I find is more effectual & more prompt - in reducing the pulse than the digit. (See Cathartics).

The digitalis purpurea, of the vegetable diuretics, comes to be considered. It grows in the U. States & is frequently cultivated in our gardens on account of the beauty of its flowers. It is called "pur purea", from its flower being of a purple colour generally. Some species have the flower of a white colour. Dr Barton proposes calling it on this account the digitalis officinalis. Its appearance is very like the common mullein, it grows in a dry sandy soil, flowering in June & July. Every part of the plant is useful, but the leaves are the part usually employed. They are bitter, nauseous & acrid, they have little or no odour. Dr Withering directs, that it should be gathered while in flower, that the stalks & middle rib of the leaf be removed & that it should be dried in the sun or by the fire. By drying it loses about 4/5 of its weight & should be kept in close bottles. Digitalis is one of our most powerful diuretics, but this is not its only property. It acts powerfully as a narcotic, & reduces the pulse very suddenly, so that in a short time its strokes will be brought from the natural standard to 30 or 40. On this account it has always been considered till very lately as an excellent example of a direct sedative. I do not always consider the pulse as the best guide in judging of the stimulant or sedative operation of a medicine, as by the same medicine it will sometimes be increased & sometimes diminished. Dr Moore at present of this city some years ago instituted some experiments to determine this point. In his first he

took a grain & a half of the powdered leaves. His pulse being at 72. In 10 min^s it was 74 - in 35' it was ~~the same in~~ 78. & in 2 hours it was reduced to 60 - showing that the first operation was to accelerate the pulse. In another experiment he took grs ij. with nearly the same effect - the greatest increase was 12 strokes. In each of these at the inspiration of 15 min^s he had a head ache & some heat at the stomach, in 25 min^s the head ache increased & the pulse was fuller in 60' the uneasiness at his stomach was augmented & also a greater flow of saliva ensued. In 84 min^s nausea was produced, in some cases his urine was increased in quantity. Digitalis when given in very large doses - immediately depresses the system, nausea, anxiety, vertigo, syncope, convulsions, coma & death are the consequences. Its effects vary in different persons - some are made sick from very minute doses, & others are not affected in this manner. One peculiar property of this medicine is, that it will remain a long time in the system without any manifest effects - when suddenly the pulse sinks & the most alarming symptoms are produced. On this account after I have given 20 or 40 grs of it without effect I am always very careful in administering any more. Another singularity is, that it is influenced by the position of the body. Sometimes after its exhibition the pulse will be at 100 while the patient is standing - when sitting it will fall to 75 - & when lying down it will be at 60. Some authors have however observed a contrary effect that the pulse has been at 50 in the erect position - & at 75 when in an horizontal one wondering it probable, that it is owing to some other cause

x as in whatever form administered its effects are seldom often & powerful – I have known gtts: x, ~~in~~ taken in divided parts at intervals in 12 hrs – produce almost fatal consequences in the person of Dr. Physick.

Digitalis is given in substance in powder - in tincture & in infusion. I prefer the powder - generally mixing it with nitre, grs x of nitre & grs or grij of the dig. It is always safest to begin with a dose of grss, as gr i often produces very disagreeable consequences. Pills are not a good form to administer it. The infusion is sometimes employed which is prepared by infusing ℥i. of the leaves in ℥viij of ~~the~~ boiling water till it is reduced to ℥viij, then adding an ℥i of spirits with or without aromatics according to circumstances, This perhaps no advantage. Dose ℥i.

The Tincture according to the Edinburgh dispens. ℥ij is prepared by taking ℥i to ℥viij of alcohol - at the end of a week strain, the dose is from 10 to 20 drops, A saturated tincture has been often directed by taking ℥ij to ℥viij of alcohol. the dose being nearly the same - as it is not much stronger than the former - Some have objected to it in substance as being apt to remain for a long time inoperatual; this I have never seen happen - having used it in this manner very often - Great caution is necessary in its administration, X the pulse is perhaps the best guide, as I do not know, that without previously affecting the pulse, it acts on the kidneys or stomach - When it purges, opium should be joined with it. To ~~ob~~ overcome the injurious consequences of an excessive dose, vol alkali, wine, brandy, opium - & in apoplexy &c should be had recourse to.

As to its employment, there have been various ~~conj~~ opinions - Some condemning it, as a pernicious drug - while others warmly recommend it. In 1775 Dr Withering first employed it in dropsy - & found it a powerful diuretic - He remarks that nausea is not necessary to its operation

+ but that like all other diuretics - it will frequently fail.

on the kidneys - on the contrary the flow of urine has been checked by nausea being produced - Purging prevents its action as a diuretic; Dr was employed by Dr Stokes - & by Dr Darwin - This latter particularly recommends it in conjunction with Tart. & opium - in dropsy from intemperance - Besides these it has been employed by Dr Percival - Dr Bathe Dr Ferriar. — Dr Currie of Chester has not been so successful in its employment - But there can be no doubt, that it is very powerful in every variety of dropsy. It has been much used in anasarca & with great success In ascites - it like other medicines often fails, from the organic disease which generally exists in such cases - In hydrothorax it is very useful - I however prefer in this case - nitre with squills & calomel. Dr Withering recommends it in these cases - & Dr Hamilton of has been very extravagant in its praise, in which he will not be imitated by any other practitioner; I have generally found it inefficient in hydrothorax. In dropsy the condition of the system should be particularly attended to. If fever is present venaesection is to be resorted to - no one will resort to digitalis in active states of the system, at least in this city - Dr Withering also notices this - he says that it seldom succeeds in persons of a tense fibre. & of a plethoric habit but it is eminently serviceable in those having a pale countenance soft skin - flabby flaccid with other marks of a lax delicate constitution - Palsy of the limbs - calculus in the bladder do not forbid its use - By Dr Withering & several writers it has been highly recommended in the adema which results from long con-

× It has been warmly recommend by Dr Currie & Dr Ferriar to subdue the Pulse in cases of considd excitement They consider it as a most important remedy.

tinued fevers - I have always succeeded in these cases by cremor tartari & other saline diuretics. Dr Withering states in the following expressions his opinion of our medicine in dropsy - 1st That it as well as other diuretics, is not universally successful. 2nd But that it acts more frequently than any other - 3rd It is often effectual after every other has been tried - 4th That little is to be expected from any diuretic if this fails - This last, I do not believe. I have known cases relieved by nitre &c when digitalis has failed.

The Fox glove has been employed in many other diseases, from its remarkable power of lessening the circulation - Many practitioners are so prejudiced against the lancet, that they are continually looking for some medicine as a substitute - They think they have found one in digitalis. Therefore they have employed it in hemorrhagies & they say with advantage - But this is very uncertain as hemorrhage often, very often, ceases of itself - but again breaks forth - On this account, many have been the reported cures - But, certainly digitalis in common, active hemorrhagies is not to be relied on - it acts too slowly & with too much uncertainty - I would not condemn it altogether but would restrict it to its proper place, it is very useful after the system has been reduced by bleeding &c - to destroy irritation which may remain or to prevent a return - It has been used in hemoptysis - in menorrhagia - especially in Europe - here it has been tried in the last disease but with no decided advantage, on the contrary Dr Chapman has one case in which it was increased - indeed it is not a medicine adapted to bleedings - as it relaxes, instead of constringing the ves-

acts - For inflam.n it is laid aside by the practitioners of this country - indeed it is astonishing why practitioners should so indiscriminately hunt after & seize upon any medicine as a substitute, no matter how poor - for bloodletting - This is a remedy which is often indicated by nature - is natural, safe, & certain & we want no other -

Lecture 29th Dec 30th

We come now to speak of digitalis in diseases of the thorax in which it has been employed most extensively - In Asthma, accompanied with effusion, it is very useful - in spasmodic asthma its use is not so well ascertained. When there is an edematous state of the lower extremities in Asthma there is always more or less fluid in the chest - & digitalis in such cases proves a powerful remedy - It is also useful in other cases of Asthma - Dr Dunces employed it with success - several of the common cases without effusion as in the following formula - ℞ Infusi folia - ℥i - Infusi cap. ℥i. Tr dig. Sotter ℥ss - m. dose gtts x - 3 times a day till the pulse is in pulse ~~[illegible]~~ ~~[illegible]~~ ~~[illegible]~~ gtts.

In Consumption it has gained much attention. Some have regarded it as a specific in this terrible disease - An answer however to this opinion, is, that consumption is still a fatal disease very much so in our country & perhaps still more so in the Island of G. Britain where Dr Weberden observes 1/4 of the ~~[illegible]~~ deaths are produced by Phthisis Pulmonalis. The wasting of the body in this disease is common with it & others - every injury of the breast - accompanied with cough & difficult breathing does not form a consumption, Pinel defines it to be cough mucous, hectic fever - & sometimes purulent sputa - ration. There have also occurred in violent cataract

as a consequent to Pleurisy in which cases the patient often recovers. The reason why the lungs in consumption are so backward to heal somehow attributed to a want of curative power in the lungs. But this is not the case for the lungs heal as rapidly as any other part of the body. sometimes by the first intention, by the adhesive inflm & by suppuration & has also the usual terminations of inflmn. These facts, I could prove by numerous cases of injury to the lungs, but which I refer you to surgical writers, lately I dissected, a bullet from the lungs, where it was lodged in a cyst as in other parts of the body. Therefore it is not in the inability of the lungs to heal that the incurability of consumption consists. The action of the lungs in this case is peculiar. it is different from the morbid action occurring in other parts of the body. It generally arises from tubercles, which are of a nature analogous to, yet different from, scrofula, which are very slow & tedious in all their progress. this progress is sometimes completed & the tubercle heals but it is succeeded by a multitude of others, which in succession inflame & suppurate. it is this constant disease, to which there is no end that wastes the system & renders the disease incurable. There are however some cases without tubercles. Sauvages relates 20 different species of consumption but no use is derived from this which is certainly erroneous. Dr Rush considered tubercles as the produce of inflmn. but we have nothing analogous occurring in other parts of the body as the effect of inflmn & consequently we have no reason to suppose that it occurs in this case. Dr by rejecting entirely the old opinions. of the absorption

X & that ~~for~~ Consumption is a pure instance of the Fever arising from the local irritation in the lungs.

H. It is often found, that an increase of the urinary discharge relieves the pulmonary organs — hence the importance of this or thile in cert ain catarrhal cases.

O the dose may be increased till the pulse is affected or till it produces some of its peculiar effects — when it should be omitted.

H but chiefly by injuring the tone of the digestive organs. but this is not the universal opinion — some considering it as highly important in all stages & under all circumstances — as Dr Darwin Baker &c — but none has published so many successful cases as Mr ——— Dr Hamilton says that making every allowance his success is unprecedented I may add that we have nothing like it here — & that I must believe that those were not genuine cases of Phthisis,

of Pus. I believe that hectic fever in this case arises from the sympathy of the system with the disease of a part. Therefore the treatment if successful must remove the local cause. now digitalis cannot do this; but although this celebrated medicine will not cure pulmonary consumption, it may greatly alleviate the symptoms by reducing the force of the circulation which some have considered as almost the whole disease, but it is merely symptomatic. The reduction of the pulse therefore will not cure. It is also useful by promoting the urinary discharge & in this manner relieving irritation. In many cases of chronic catarrh, where all the symptoms of consumption exists but where there are no tubercles digitalis is a very powerful remedy in conjunction with others & often effects a cure.

The manner of exhibiting the medicine is of importance. a late writer advises gtts viij or x. of the Stat. officinalis to be given with a saline draught that all nausea may be avoided. In exhibiting it, always be very cautious. pay strict attention to the pulse, especially in the different positions of the body.

In incipient Phthisis it sometimes proves useful. In the advanced stages many respectable practitioners in England have declared it useless. I will go still further & declare that it is injurious, by exhausting the little strength of the patient. Many however think it beneficial by promoting absorption, by promoting the flow of urine or by reducing the pulse.

In this country very little can be said in its favour although much used. Dr Rush declares it to be a poisonous weed. Dr Barton knew of but one case in which it appeared to be useful. This is pretty much the experience of others. It effects no cures in consumption but is useful in many chronic affections. When a patient in consumption sleeps or passes the night in one position & turning in the morning on the opposite side brings up

× In organic affections of the heart it is said to prove beneficial – Abernethy ~~of~~ relates several cases of this kind. I have lately received a letter from Virginia relating the case of a boy – of a strong healthy constitution after some exposure having attacked by symptoms similar to Pneumonia – the practitioner when consulted – found that altho' his breathing was difficult – the pulse was but slightly affected – the countenance was flushed – the heart sometimes beat very violently – so as to jar his whole frame – he could not lie down being instantly roused by a sense of suffocation – the symptoms altogether, says he, led me to believe that the disease was exactly similar to that described by Abernethy – he soon died & on dissection ~~there~~ it was found, that the aperture of the pulmonary artery as it leaves the heart was exceedingly contracted – exactly as in those cases detailed by Mr Aber[nethy] ~~–~~ Digitalis may possibly ameliorate the symptoms in such melancholy instances – by diminishing the force of the circulation: but this is all –

a large quantity of pus. I look upon such cases as beyond the reach of any medicine, the patient dies invariably. In cases about to end in consumption I have seen digitalis do wonders in conjunction with various depleting remedies. Remember, never attack a disease with one remedy. Bring up all your forces. make your onset boldly, & you will be much more likely to succeed. The conclusion then is that our medicine is useful in many chronic affections of the lungs. in incipient Phthisis. & in the sequel of acute infl. of the thorax. but digitalis will not cure consumption.

Lecture 30th Decr 31st

In Epilepsy Waller has recorded several cases in which it has been useful. this disease arises from several causes, & in some cases is hereditary, in all which it is in the present state of our knowledge incurable. In every case in which I have seen digitalis employed in Epilepsy it has been utterly useless. In mania it has also been used. Some authors have supposed this disease to depend on effusion but this is not the case as is now well established. Ferriar observes that it is of no service & it does not enter into the treatment of the late Dr Rush in these cases which I believe is the best. In hydrocephalus from analogy to other dropsies it has been employed. I will read to you what the Dr Cheyne says on this subject. He observes that its use has been established in hydrocephalus from its analogy to consumption. that in a few cases in which he has employed, in some it has been of service; in others not. Great attention he observes should be paid in its exhibition as it acts differently in different persons. I have

+ I have not tried it as an applicatn to ulcers – & perhaps we should as yet be cautious in doing it – it is stated that digitalis inserted into a wound on the thigh of a dog proved fatal –

known cases in which an adult could not bear gtts xxx. of a tincture which a child was taking 120 gtts. Its effects differ from other narcotics in this - when a small dose of any of them is given an effect is produced of the same nature as when a large one is given, thus a small dose of opium induces a slight degree of languor - not so, with digitalis - an under dose goes for nothing, no effect is produced until a dose of sufficient size is given when it acts powerfully. It also does not act uniformly even in the same individual - after a sufficient quantity has been administered to make an impression on the brain stomach or bloodvessels, it cannot be increased; the system does not become accustomed to it - as it does to other narcotics. It is also more permanent than most others - a flow of urine being produced, it will often continue for several days after the exhibition of the medicine - Dr Cheyne after making these observations states, that out of the few cases which fell under his notice two cases of hydrocephalus were undoubtedly benefited by it. This is a small proportion - I have already stated my views on this subject - that hydrocephalus is a purely inflammatory disease & demands more powerful depleting remedies than digitalis such as bleeding & purging.

In Rachitis it has been recommended by Waller as being of some service - Happily this disease is very rare in this country - & I have no experience of our medicine - but I cannot conceive how it can be useful here - tonics, cold bath - & with proper surgical supports are the proper remedies - Digitalis has been made into an ointment & employed as an external application to Ulcers, & also in gout

+ In irregular gout - & in all cases where there are dys-
-peptic symptoms - the digitalis cannot be useful -

+ which operate in ~~the~~ the same way - namely by warming
the Sig. & Colchicum autumn. ~~of~~ operate on a different
principle -

I have had no experience of it in these cases, it may possibly be of some service in relieving pain from its narcotic power.

Nicotiana, Tobacco. This as a diuretic is somewhat analogous to the digitalis but is by no means so active. When administered with this view an infusion is made of ℥i of the leaves in a pint of water. The dose being gtts L or LX. but it should be given with great caution, as I have seen very direful effects from this medicine in injections: although I have not used it as a diuretic I must confess, that I never wish to see it thus employed as we have other remedies which are safer.

Scilla - or Squill - this is one of the oldest diuretics we possess the anymel of squill was employed by Pythagoras. Dr Cullen does not consider it as stimulating the kidnies particularly, but that it is a general stimulant, acting on all the secretions. Thus on the lungs promoting expectoration - on the skin inducing perspiration, on the bowels increasing the evacuations - on the heart & arteries accelerating the pulse - &c. of other parts as well as the kidnies. But although its effect is to stimulate the arteries - yet by the evacuations it occasions, it quickly lowers the pulse - & according to Dr Withering more powerfully than any other medicine. It has been used with great success in all kinds of dropsies whether anasarca - ascites or hydrothorax. In the latter I think it is most effectual - & I find that my medical friends are generally of the same opinion. Perhaps one reason of this is - that there is generally less organic derangement than in ascites - The dose as a diuretic is from gr i to grs iij. I prefer giving it with nitre which assists its operation - & facilitates the reduction to powder. It is

sometimes given in pills with gum ammoniac, & occasionaly ginger or some aromatic is added to prevent vomiting. I usually begin with one grain 3 times a day & increase it till nausea is produced. I find that the stomach will never bear more than grs. ter die. Some have advised larger doses but this is the extent to which I have been able to go. It should be remembered that there is a great variety in the quality of the squill some being almost inert. I am of course speaking of the most active to be had in this city. By some physicians it vomiting is considered as necessary for its operation as a diuretic. Dr Home urged this opinion very far. Dr Cullen maintained that the only advantage of the nausea was as a test that the medicine had made an impression on the system. Whether this is the case or no I will not decide but I always find that it is necessary to push the medicine till some impression is made on the stomach. When it purges or gripes opium should be used, as also when it is given to children. It is often given with several of the mercurial preparations as blue pill, corros. sublimate, turpeth mineral, & calomel. The latter of which I always prefer. Dr Cullen alludes to the combination of calomel & squill as more likely to purge than that of the corros. sublimate with squill. but I am glad that he speaks from theory & not practice. The squill & calomel is a most admirable combination & is more useful than any other in cases of organic disease. When it purges a gr of opium may be given with each dose. The calomel may either be given seperately or combined with the squill according to circumstances. It often induces salivation & generally more quickly than when given alone. this is always very useful. Frictions have also been used. Murray of Edinburgh thinks that it acts by stimulating the absor-

70.

* The Pyrola Umbellata requires more investigation before we can admit it among our diuretics.

H. It is usually given in coffee milk wine &c — I prefer a little sugar & water —

bents, but this is not the case, as it would then be equally effectual without the squill. This combination I am very much pleased with, forming in my opinion one of our most certain & powerful diuretics.

Balsamum Copaiba is a resinous juice procured by incisions, in the trunk of a tree growing in South America & the W. Indies. It is thick, clear & transparent, of a yellowish colour, has a peculiar odour to most persons very disagreable & a pungent bitter nauseous taste. Like the resins it is soluble in alcohol & the essential oils. The best comes from Brazil; tis I believe, often adulterated. It stimulates the kidnies, increasing the urinary discharge, & communicating to it a violet odour. The dose is about 30 drops ter die; it is best to begin with 20 gtts. It may be increased to 40 - but no farther without vomiting. The diseases in which it has been celebrated is Gonorrhoea & Gleet, as also an analagous affection Leucorrhoea. In London it is exclusively employed in all the stages of this disease, as also by some of our most respectable practitioners. But in this, as in all other diseases, I am repugnant to the practice of neglecting existing circumstances. In the first stage there is generally more or less inflammation, which should be treated sometimes by bleeding & always with purging. Injections & bougies, although they have been much abused, are entirely useful in alleviating the symptoms. The Balsam may be used in the early stage of this disease, & should not be restricted to the latter, as some have done, but it should always be used in conjunction with others. Its effects have no doubt been exaggerated. it does not cure ardor urinae, the inflam^n of the prepuce, chordee or swelled testicle - its use notwithstanding is very valuable - It not only increases the flow of urine - but medicates it

+ I have frequently succeeded with the rosin – I usually direct my patient to scrape it very finely & to take about a tea spoonful of 3 times a day – It not pine – it is apt to gripe –

communicating probably some degree of astringency. Sometimes it may nausea & vomiting - in which case the following prescription of Dr Chapman's is very useful ℞ Bals. Copaib. ℥ss - ~~Laud.~~ lavend. comp. & Opt & Ipec. dulc. a a ʒij - laudan. ʒi. G. Arab. ℥ij. Aq. ℥iv. m - Dose ℥ss. If this should also bring on vomiting it must be omitted for some time & again return. - Other bals ams have been used - but none is as valuable as the Copaiva - It is said also to be useful in Piles & to relieve the Strangury ~~of~~ produced by Piles &c.

Lecture 31 January 2 1817.

Ol. Terebinthinæ is a very active medicine - It is considered as an essential oil procured ~~from~~ by the distillation of Venice turpentine the residuum being the common rosin of the shops. The rendered is diuretic but this property resides chiefly in the oil, which is light, pungent, volatile & inflammable, but slightly soluble in alcohol in which it differs from other essential oils - It communicates a violet odour to the urine - It does not then must used in dropsy - In gluts it has frequently been given in doses of gtts v. to x. but to prove beneficial it must be given in larger doses, In many other diseases as will afterwards be mentioned I have given ʒi at a dose, so that the quantity may be safely increased. Rosin is sometimes employed in gonorrhœa from x to xv grs rubbed up with sugar or Gum Arab but I always prefer the bals ams Copaiba - sometimes however it has succeeded when the bals ams failed. ×

Polygala Senega grows plentifully in the U. States - the root is the part employed, it is very much contorted & jointed & from each joint resembles the tail of the rattle snake - It has also been named snake root. When first tasted it appears to be farinaceous & insipid, after-

The Colchicum Autum^l has been recommended by Baron Stork of Vienna — that it promotes the secretion of urine there can be no doubt — but it possess other properties — which forbid its employment — solely as a diuretic. —

it in parts some degree of pungency & astringency showing that it possesses con-
ective powers. In the year 1789 Dr Fennat published an essay on this plant
& asserted that it would cure the bite of the rattle snake, this however I would
be very much inclined to doubt, although I have had no experience in this country.
The medicine acts as a general stimulant - proving, cathartic, diuretic expec-
torant, diaphoretic & emmenagogue - As to its diuretic property it is of no
great importance & it is certainly not to be depended on. Dr Percival has
used in ascites & hydrothorax with some success - as also Dr Barton in many
hands the dose could not be sufficiently increased without great nausea - The
dose of the powdered Senega is from grs x to ℈i. several times in the day -
of the infusion prepared by taking ℥ss to ℥ss. of water - ℥ij may be given
a young child & from ℥iv to ℥ij to an adult. It has been used in several in-
flammatory diseases in pleurisy we have more powerful evacuants - it is not
necessary in my opinion, although it has been recommended by several au-
thors - In Cynanche tracheali it has been advised by Dr Archer of Mary
land - I have found it too nauseous a dose for children - they will not
take an sufficient quantity - in this disease, as it has been found useful
in proportion to its evacuating power - its effect I would explain upon gen-
eral principles, & think that we have more powerful remedies. It
has also been employed in Gout - rheumatism & many other inflamed diseases
which I cannot now mention but in my opinion with no great advantage.
In headache it has been said to be useful in doses of grs. ? to that a scruple or ℥ss. be taken daily.
There are many other vegetable diuretics, which possess some slight
powers - but which are not of sufficient importance to be noticed here

† Dr Chalmers of South Carolina relates a case of dropsy cured in one night by this article.

‡ The Meloe Americana produces nearly the same effects.

I therefore pass to one from the animal kingdom viz the melo vesicatorii. This is the common blistering fly & when applied so as to raise a blister or when taken internally often produces a strangury showing a determination to the urinary organs. It often promotes the secretion of urine when ℥iij or ℥iv have been gradually given. Dr Morton has considered it as a specific in diabetes. Drs Eaton & others do not consider its diuretic powers as very considerable. It is said to increase the venereal propensities. In large doses the bladder & kidneys are greatly irritated. The intestines become inflamed & ulcerated with a bloody purulent discharge. The Fries prepared by taking ℥i to the ℔ of water of which the dose is gtt x. It has been employed in Tetanus hydrophobia & typhus besides other diseases. In gout & lumbago Dr Robertson says he used it with success, takes ℥ss of the tr & mix with ℥vi of water. Dose ℥ss t.d. to be gradually increased till an effect is produced which will be evident by the discharging becoming more thick. Large doses have indeed suppuration, inflammation & nearly death. In two or three cases of Yellow Fever, I have used it when I despaired of the recovery of my patients, & though with some advantage. Dr Rome states that it gives fullness & strength to the pulse in typhus fever. In Tetanus it produces no good effects. H.

Antilithics. These are medicines which relieve the symptoms or prevent the formation of a stone in the bladder. I prefer this name given to them by Dr Barton to the old one of Lithontriptic as we have no medicines which destroy the stone when once formed. To discover some medicine which would do this has been a great desideratum in medicine for several ages but all attempts have been

ineffectual. This substance is found in the most healthy urine, & would be deposited on any nucleus, as is shown by calculous matter forming on any substance accidentally introduced. When very abundant in the urine a stone will be formed without a nucleus. This formation of calculus is not confined to the urinary organs. other parts occasionally have them. What is the cause ~~tax~~ has not been ascertained, they are produced by disease, or they are found in the most healthy person. To ascertain the nature of these calculi the Chemists have exerted all their powers, & have attained different results, from which however they venture to arrange them into different classes, but all such arrangements are well for in practice, we have no solvent for the stone which can be introduced into the body, acids & alkalies are too powerful when injected into the urethra. Supposing that the action of an animal fluid would produce less irritation, I made for my inaugural thesis several experiments with the gastric liquor of the hog injected into the urethra, although unsuccessful in my main object, I proved 3 points. 1st That the gastric liquor would dissolve the stone out of the body. 2nd That the bladder would bear injections of this. 3rd That portions of the stone was discharged, but I found that although the stone was partially affected the accretion went on faster than the dissolution. From the effects of the alkalies on the ~~earth~~ urine when given internally great hopes were entertained of their being able to effect a destruction of the calculus, but they have only alleviated the symptoms, ~~but~~ in some instances so completely that it was thought the stone was gone, but subsequent

amination ascertained its existence. Some cases have been recorded in which the stone was actually dissolved in the urine, one of these occurred to Dr Physick - you may rely on the accuracy of the case - A Gentleman who had suffered a stricture in the urethra with symptoms of a stone, Dr Physick sounded & distinctly as he ever did felt a stone; & only delayed the operation, till the patient's health should recover, this did not take place & in 8 months he died, I examined the body & in no part, either in bladder urethra or kidnies could I find a stone. Here the patient had taken no remedies whatever & the calculus must actually have been dissolved in the urine. This shows that we need not altogether despair in yet finding a solvent for urinary calculi.

Lecture 32nd Jany 3rd

Some of our medicines enter the bladder and changed, & are useful in relieving the symptoms of calculus. This disease comes on by paroxysms or fits having often considerable remissions. To relieve these fits there are many remedies employed which act only on the general system & on general principles & therefore do not come under the head of lithontriptics. Such as bleeding, purging, the warm bath &c &c There are several articles supposed to act on the stone itself & there are others which without having any effect on the stone, still relieve the symptoms, these are the proper lithontriptics. The Alkalies act very powerfully in relieving the symptoms of the stone & a solution of them is capable of dissolving the stone out of the body. Fourcroy maintains that a caustic solution of potash will destroy all urinary calculi out of the body. It is also found that Carb potash & soda when taken in large quantities will impregnate

B2.

the urine with their properties. Moreover the urine of persons who have no calculous affections & who have taken large quantities of these alkalies will dissolve the stone out of the body. These things being so Why will not the alkalies dissolve the urinary calculi? One reason is that they cannot be given in sufficient quantity. Besides there are numerous circumstances altogether unknown to us which must influence any such action; but they will undoubtedly relieve the symptoms & we may suppose that the lithic diathesis or disposition to form stone may be destroyed as the inflammatory diathesis is destroyed by V.S. purging &c. They may also dissolve the stone in some measure, till it becomes smooth & thus prevent irritation.

Mr Murray has followed Mr Brande in supposing that the softness of the calculi was not owing to a partial solution but that a deposition of phosphate of lime took place because the alkalies had saturated the acid which held the lime in solution. This however is found to be determined by no data & is contrary to all that we know on the subject. There is one fact also in direct opposition to it. Mr a European Chemist has detected in the same urine the disengaged soda & also the phosphate of lime, why in this case did not the soda decompose & dissolve the phosphate of lime, as out of the body? This shows the impossibility of applying chemistry in its full extent to the animal body, the bladder is not a retort or receiver in which chemical changes can take place from the usual laws of affinity.

Potash - Before Chemistry was much known or perhaps excited we have the testimony of the efficacy of this in relieving the symptoms of calculus. The caustic potash must necessarily be given in very small doses - the aqua potassæ is usually prescribed. 3 of which gtts xx are

to be given twice a day till the urine becomes alkalescent. It is usual to exhibit mucilaginous drinks with it, but this now ascertained to be unnecessary as the mucilage acts only by the water it contains, which may therefore be prescribed. Bad prefer to the caustic potash, the common salt of Tartar or subcarbonate of potash, and it is turned. It is necessary to begin with small doses as the stomach is apt to reject it, at first grs v may be the first dose & gradually increase to grs xx. once twice or thrice a day. The supercarbonate is still preferable to this, a good way of preparing it is by dissolving grs. lvi of the subcarbonate in a glass of Seltzer water, so that ℥viij of the solution may be taken 4 or 5 times a day. I have often used this with great benefit & Dr Physick prefers it to all others. Soda not often used in its caustic state - but generally in the state of subcarbonate - It is an efflorescent salt & may therefore be made into pills with soap. ℥ss to ℥j being given every day. Dr Bostock relates a case of a young lady afflicted with calculous complaints who took after a short time ℥ss a day, this was increased to ℥iss & to ℥ij. & finally to ℥iij a day - which produced some uneasiness. when she again decreased to ℥iss which she continued for several months & with considerable advantage - It is also given in solution & with an excess of carbonic acid forming a supercarbonate - this is analagous to the sup. carb. pot. & is given in the same doses. These medicines relieve the symptoms but do not cure the disease - Mr Home relates a case of a person who used them for four or five years & became entirely free from any calculous symptoms, & he was considered as cured - He died some time after & in less than 350 stones were found in his bladder, which no doubt must have been forming even when he was taking the medicine - Not they enter in-

× Two circumstances contributed to the destruction of Barbierent on this occasion – First their very fault – & secondly that the symptoms of stone will often disappear – owing to the calculus being lodged in a pouch formed by the separation of the muscular fibres of the bladder – that this sometimes occurs dissects has fully proved – Since this time Mrs Stevens remedy – in the form of lime water has been much employed in calculous cases but that it has no effect on the stone is shown by a case related by De Haen – in which 800. quarts were taken in six months – it was found by dissection that the stone was unaffected –

the urine there can be no doubt as is evinced by the following experiment. Bij of the solut. of potash was taken on an empty stomach, in 6 min. it could be detected by the litmus paper in the urine. Their use is not only to saturate the acids & precipitate the phosphates but also to give the urine alkalescent properties. Bostock observes that in the case of the young lady above mentioned the serum of the blood also possessed alkaline properties as it took 30 gtts of muriatic acid to saturate the quantity in an ounce of the serum. Soap is much used, but is only useful by its alkaline properties; it is therefore to be given in substance as a convenient vehicle for soda in the form of pills. It may contribute some aid, but cannot be relied on by itself.

Lime is sparingly soluble in water & in this small quantity forms a solvent for the stone out of the body in a slight degree. It is the secret ingredient in the celebrated Lithontriptic solution of Stevens, which was purchased by Parliament at an enormous price. Lime water is not as effectual as the alkalies above mentd but appears to have proved useful in the lithic calculi but will only relieve symptoms.

Magnesia has more lately been introduced by Dr Brande, as a remedy. He does not believe that the stone is dissolved, but only that its size may be kept stationary, which he thinks is often done by the magnesia preventing the formation of uric acid. By this medicine the symptoms especially in gouty persons are removed - as also in those persons who live freely & who are subject to acidities in the stomach. Sometimes it purges - which is to be counteracted by opium. It has long been known to act as an antidote but not with the tendency this Dr B's experiment is of advantage & has proved very useful in practice, especially in what are called gravelly

In an Hospital in Dublin appropriated to the reception of gouty patients – a case of Stone Bladder occurred for the last 10 yrs:

complaints, but these seldom if ever are accompanied by regular calculi.
gouty persons are very subject to gravel but not to the stone. Therefore the magnesia may be useful in one case but not in the other.
The alkalies & their supercarbonates have of late been much used to destroy the lithic acid but not with much success. From the alkalies we proceed to a directly opposite class of ~~remedies~~ antilithics viz. without attempting any explanation of the manner in which the same effects can be produced by both. I allude to the acids & first of the carbonic acid. This has been long employed. Dr Percival observes that it can be detected in the urine of persons using it: this appears from the precipitation from lime water & by the bubbles which arise from it in vacuo. But Dr Priestly has in some measure cast this aside by observing that the same effects are sometimes produced by the urine of persons not taking the acid. Dr Percival is however correct in the practical part. I have employed it in several cases & with advantage — in one very decided by. A young man about 16 yrs of age had been very much troubled for several yrs with the gravel the attacks returning at different intervals. During one of these he called upon me being in great pain. I ordered the Seltzer water freely. In 48 hours he was relieved from his complaint having discharged 42 small round & polished calculi — the largest about the size of a duck shot.
Perhaps the sup. carbonates may be preferable to the simple acid.
The nitric & muriatic acids are occasionally to be employed & have been with success. Mr Copeland relates 2 cases, in the first the patient was relieved by taking 9 to xxx of the nit. acid in water — ℞. Dilute 5 oz. till he had taken ℥j. In the 2nd case gtt xl. were given 3 times a day with a similar result.
The prefers the nitric acid —

We have been hitherto considering those substances which have been supposed capable of acting on the Stone itself & which have been termed lithontriptics. I will now notice those which no one imagines to have any direct influence on the Calculus but which by correcting the state of the secretions or changing what has been termed the lithic diathesis palliates the symptoms of stone. Of these, the first are Bitters & Astringents. The manner in which these act in this case has been much disputed. Cullen supposes it to be owing to the absorption of acid by them but this is not satisfactory as we do not know that any astringent has this power; neither do we know that acid in the stomach contributes to their formation; the probability is, that it does not, as some of the acids are among our best antilithics. Haller imagined that astringents reached the Bladder & actually robbing the stone of its mucus. Others have entirely attributed it to their tonic power, which is the most probable as tonics are more effectual, than those which act on the stomach most powerfully & as according to my observation, there is in calculous persons generally some derangement of the stomach, although not depending on acidity. The first of this class which I shall mention is the

Arbutus Uva Ursi. This grows in most of the European countries & very plentifully in the U. States it is bitter & astringent making a very deep colour with the salts of iron. It is given in powder in infusion & in decoction. The leaves are the part employed. It produces very little sensible effect either on the pulse or on the system generally.

There are no cases which are more embarrassing than chronic cases of Scrofula – you will very often fail in all your remedies –

Dr Ferriar has given it to the extent of ℥ss of the powdered leaves, this produced some nausea, From my own experience as well as that of my friends ℥ss is the proper dose. 3 or 4 times a day. I prefer the powder generally as being more certain than the infusion or decoction. Dr Barton who was generally fond of small doses prescribes grs vi or viij. but these can produce very little effect. Some have imagined that the Uva Ursi actually dissolved the stone, as the symptoms entirely vanished but we have already noticed the fallacy of this criterion. I often employed it with great advantage in palliating the pain of calculus. Dr Ferriar in his pritic calculi has used it, after very properly premising Venæ Section & purging. He has found it, he says, very useful in those cases when combined with opium. grs. 12 of the powdered leaves with gr. ss. of opium, three or 4 times a day. I should attribute in these cases much more to the opium than to the leaves. In premise P.V. is no doubt useful but is less necessary in this than in most other cases. as the Uva Ursi excites the action of the heart & arteries so little. The Uva Ursi has been employed in other affections of the urinary passages, in what has been called Ulcers of the bladder & kidneys, we do not know what was exactly meant by these expressions, as we know now that the symptoms formerly thought to indicate the presence of ulceration proceed from other states of these organs. it is probable that the catarrhus vesicæ & bloody urine are the diseases alluded to: in these cases our medicine is very useful. In all those cases which do not depend on mechanical irritation as that of a stone in which case the cause must be removed or only partial relief will be afforded. It has also been useful in

† Dr Barton's testimony of the pyrola is very strong – he states it to be equal in his hands to the Uva ursi – especially in nephritic calculous where it is eminently useful – it appears he continues in some instances to favour the expulsion of the calculi.

H – A friend of mine from Virg^a conversing with Dr Chat^m as to the advantages to be derived from this article not only in calculous complaints – but in several other affections of the urinary organs – he says permanent nurses have been supported by it –

Chronic Gonorrhœa & in Leucorrhœa - but it will generally be found that these diseases depend on certain causes, which must previously be altered, before they will yield to medicines - The first is often dependant on strictures in the urethra which must be overcome by bougies & the second on suppressed or disordered menstruation. The Rhodus operandi of the Uva Ursi is upon the same principles as other astringents.

The Pyrola Umbellata is said to have been useful as an antilithic it has been used by some of our county practitioners & has been employed in England & Ireland - but at present I have had so little testimony of its virtues that I would not rank it among our remedies in this class. X

The Humulus Lupulus or common Hop has been regarded as an antilithic - From the great consumption of Malt liquors in which it forms a principal ingredient it might be imagined that the disputes as to its efficacy would be now settled - but this is far from being the case there are many who maintain that it is useful while others deny its efficacy altogether - The number of calculous patients in France & Eng^d are nearly equal - yet in France no malt liquors are consumed - while they form the common beverage of the poorest Englishman, affording it would seem very little protection from this dreadful malady. The Hop has been given in infusion a pint every day or in Tincture the dose ℥ss. t.d. I have not had much experience of its value in these cases, but have found it useful in many others which shall hereafter be mentioned.

The wild Carrot (or Daucus Carota) Dr Chapman recommends in many cases, both the roots & seeds are employed I have no experience of its virtues. X

The Oleum Terebinthinæ has been recently introduced by Dr Physick

† I have seen them employed very extensively while I was in Europe - they then being a particular remedy but I cant say that the least advantage was gained.

as an antilithic. Begin it in doses of gtts x. or xv. with the alum cinnamo. or what disguises the taste better the ol. Sassafras. It allays the pain very quickly & soon puts a stop to the discharge of sandy matter. I have employed it in one case with some success but in the hands of Dr Physick it has proved very prompt & effectual in many cases & I do not hesitate to recommend it to your notice.

The Alliaceous plants as the Garlic & Leek have been employed, as some say with effect in dissolving the stone but of this there is no authentic case. If of any service they are only Palliatives.

Besides the common calculous cases described by Authors, you may now & then be consulted by patients who will tell you that with great pain they discharged numerous small stones, specimens of which they will exhibit to you. These you will find very different from the urinary concretions but having every appearance of the common pebble stones, chemical analysis showing them to be siliceous. These you may always consider to be as impostors, having no such disease. Dr Duncan relates the case of a young lady who was in affluent circumstances & who maintained a good moral character; she complained of great pain in the back & in the bladder & was relieved by a plentiful discharge per urethram of calculous substances. These were subject to many chemical analysis by different physicians who found them to consist of the same substances as the common gravel. Dr D. was also requested to examine them but immediately decided that the whole was an imposition.

I have seen 2 Cases. one was a negro woman who discharged a quantity of sand, having every resemblance to coarse sand. I treated

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her with many a nauseous medicine assured her of imposition but with
out any effect. A second case was a wealthy female near this place who
voided some gravel exactly resembling some that was found in her
neighbourhood. All such cases you may set down as factitious. Why
they should be feigned it is impossible to imagine. It must be a species
of Hypochondriasis.

Lecture 34th Jan. 17th

Diaphoretics are those medicines which promote the discharge
by the skin. They have been termed diaphoretics when they merely increase
the insensible perspiration & ~~[illegible]~~ when sweating is pro
duced they are termed Sudorifics, I shall con prehend the whole under
the former head. They are powerful evacuants, the skin affords an
outlet for a large portion of the fluids of the body, & medicines which
this discharge are useful in all those cases where evacuation is demanded.
Some have imagined that Diaphoretics differ from each merely in the degree
of force, how far this is true, is uncertain. The discharge from the skin
is the same which takes place in ordinary circumstances & is not al-
tered by the medicine as was formerly supposed. The natural discharge
has been divided into the insensible & sensible perspiration, the
former consisting according to some of ~~[illegible]~~ a gaseous substance &
according to others of a vapour which can be condensed. The sensible
perspirations consist of a serous fluid holding in solution chiefly glau
ber & muriat. ammoni. I think that it is probable that the exhalation
from the skin varies in different states of the system; this appears

to be formed by the discharge as it occurs in small pox & other eruptive diseases. — In explaining the operation of our medicines, Dr Cullen maintains that they act either by increasing the general circulation or only that of the extreme vessels sometimes separately & sometimes together. This cannot be altogether true as sweating often occurs, when ~~with~~ the general system is not excited & even when it is depressed, ~~and~~ & when the circulation is diminished in the small vessels: this may be seen in cynanche. It will often be seen that the heart & arteries are excited & yet that there is no secretion by the skin — also ~~that~~ there is often an increased action of the cutaneous vessels & no secretion, as in the common phenomena of blushing. This proposition must therefore be incorrect.

As depleting or rather as debilitating medicines, they act in two ways first by more evacuation & secondly by inducing a new action in the skin — In evacuating, they also act in two ways — first by lessening the quantity of fluid in the vessels, & secondly by filling the capillaries & thus emptying the larger vessels. The old opinion that they acted by inducing contriction or spasm of the blood vessels is incorrect — there is no foundation for the opinion & we have a much simpler & more satisfactory mode to account for their action. It must be granted however to the supporters of the above opinion that the constriction as they termed it, of the vessels ~~was~~ is injurious — the suppression of the perspiration is a suppression of a natural function, & must therefore undoubtedly be injurious by increasing the determination to other parts.

Various methods will excite sweating, among the most common are exercise, an increased temperature, frictions, warm clothing, warm drinks, rube

fricants, plasters - & last by medicines. The heat of the body is usually greater than the surrounding medium; this heat is chiefly derived from the decomposition of air in the lungs & is often morbidly increased. The means employed by nature to relieve this increased temperature are chiefly the evaporation from the surface of the body. This evaporation is ~~often~~ checked by a low temperature - & must be facilitated either by the direct application of external heat or by heat indirectly procured by clothing which conducts heat badly. The Kidneys & the Skin are the emunctories by which the fluids are eliminated in the greatest quantity from the body, & each of these are excited by plenty of fluid thrown into the stomach - Hence covering the body with non-conductors of heat & drinking warm fluids form what has been called, the diaphoretic regimen - Woollen clothing, for the above reason, preferable to linen or cotton & when sweating is to long continued & where the disease is of a chronic nature the wearing of flannel next to the skin is absolutely necessary. There is hardly any thing in the cure of chronic diseases more important than the flannel shirt. Sudden cold during the action of a cutaneous is very injurious - the patient should always therefore be well watched to keep him closely covered, especially when he is asleep as he is very apt, at that time to throw off the bed clothes - For this reason purging should never be employed during sweating - as the exposure which is necessary is very hurtful - Sweating is a powerful & often a very dangerous remedy from neglecting the above precautions. After the sweating has subsided the patient should be dressed clean & removed to a fresh bed, nothing is more hurtful than the filth from the human body. The kidneys & the skin act in an inverse ratio what

increases the one diminishes the action of the other, This should be remembered as it would be improper to ~~increase one~~ excite one while the other is in action. We will now notice the use of diaphoretics in the cure of diseases and first in Fevers. There are either of the Continued or intermitting form the former comprehending according to Dr Cullen Synocha & Typhus the latter the intermitting & remitting - Whether there is such a fever as Synocha, I have already expressed my doubts & shall not again enter on the subject. The most remarkable phenomena is the increased temperature, amounting to 105° in some cases which appears to be the maximum, as regards the human body in disease - & therefore the diminished secretion from the body. In intermit & remit fevers two circumstances point out the use of diaphoretics the first is the suppression of this evacuation & 2d that the paroxysm always goes off by a sweat. Cullen sometimes advises them to foment the accession of a fever - this may answer in Europe but in this country, it is very dangerous to rely on diaphoretics only - I had a very strong proof of this in a friend of mine, who had an attack of bilious remitting fever I advised him to employ V. S. & other evacuants - but he was determined to employ sweating - he did so - a train of malignant symptoms ensued & he died in a few days. It is not easy to excite sweating in very high inflam'd diseases before the temperature of the body is 105°. The heart & arteries are too much excited - V. S. &c must be previously employed as otherwise your diaphoretics are injurious as they will not effect the desired object. Formerly the most stimulating medicines were employed to promote sweating than which nothing could be more hurtful - In intermitting & remitting Fevers they have been em-

* Also in Yellow Fever — It is here that the Inspirator: Respir: was more used than in any other complaint.

†† The Dan Medici^ne^ operated powerfully in this way so also the colchicum — but the identity of these 2 articles appears now to be fully established.

ployed both during the remissions & paroxysms - The practice is useful, although the theory is certainly wrong - They act in my opinion as evacuants & by inducing a new action - In Typhus Fever they have been celebrated as affording a mode of evacuation, where others could not be used. In the Typhoid Pleurisy they have been employed with great advantage -

Diaphoretics have been employed in the Phlegmasiæ - Some have advised that they should not be employed, when the temperature is more than 103° - The simple fact is, that when the body is of this temperature it cannot be employed with success in overcoming the disease - the system must first be reduced by V.S. & to the "sweating point", as Dr Rush terms it - that is, after other evacuants have been employed sweating comes in as an auxillary. In Rheumatism the same thing is to be regarded, especially in the acute stage - & in the chronic they may be more freely used. In Gout they have been long used & are no doubt useful - especially in those cases where other depletions cannot be employed. In Peritoneal inflammations, where from some cause there is often a weak pulse with considerable debility - they prove very advantageous. In Eruptive diseases as acting on the part affected they have been often employed - but in ~~most~~ all of these the increased action should first be previously reduced - In Plague after V.S. been employed & some further plan is still demanded Diaphoretics are important - Dr Jackson recommends the Solanum Dulcamara

Lecture 35 Jan 9th

Diaphoretics have been employed in the various diseases termed Profluvia but their use in such, should be regulated by circumstances. In the Pulmonary affections they have been much employed - especially in Catarrh - This disease (catarrh) should be treated on the usual plan of other phlegmasiæ & diaphoretics are useful only as part of this plan - The common plan of sweat

ing a patient whenever he has taken a cold is seldom useful & often very injurious & dangerous. In such cases the patient does not confine himself during the continuance of the sweating ~~and~~ or if he takes the medicine at night from restlessness, he is very apt to throw the clothes off & expose himself to cold during a profuse perspiration thereupon which nothing can be more hurtful. In pleurisy our medicines are useful after V. Venæsect. ~~&~~ & after a sufficient evacuation. In dysentery they have been long employed. Sydenham & others have recommended them highly in this disease. I believe the dysentery to be purely an inflam. disease & that the remedies for inflam. are proper, among which are diaphoretics - a principal a act by their sudorific power; but we are not to trust to these remedies in dysentery. Other evacuants are undoubtedly demanded as I have already mentioned on a former occasion. Dr Moseley has been very extravagant in his praises he observes that diaphoretics are as effectual in dysentery as bark in intermittent fevers - that they will cure it ~~in~~ in every season, climate, & constitution. This I will say is impossible. One remedy or one set of remedies never effected such cures. diet alone would prevent the effects of diaphoretics or any other medicine in dysentery. Richter has published a piece on this subject in which there is a great deal of truth & erroneous. He speaks of this disease as originating from rheumatism or catarrh & accompanied with remissions & intermissions - this, I have no doubt is the same as the bilious fever directed towards the bowels & which must be cured by the remedies for fever. The secretions into the bowels Richter pointed out as the effects & not the cause of the disease - this is no new idea in this country it has long been taught that the secretions from the bowels were morbidly altered & increased. After V. Section has been freely employed, castor oil & other purgatives having been administered diaphoretics may safely be given. There is considerable originality in the above paper by Richter & it would not be difficult to show that much is erroneous. What has been said must suffice at present.

They have been employed in cholera infantum. This disease like dysentery is often excited by cold & I never attempt the cure of it without clothing my patient with flannel & keeping him in an equable temperature. By this means alone I have succeeded in keeping off a gentle diaphoresis. & with perhaps a little mucilage of G. Arabic, & lime water cured my patient in a majority of instances. Nor cold water should be allowed & the practice of exposing the children to the cool air is very injurious. In chronic cases, flannel must be worn next to the skin. Lime water be given to correct acidity & when the irritation has subsided a little rhubarb & magnesia to cleanse the canal. Diet as I formerly noticed is very important. In chronic dysentery a tonic course is usually to be employed & occasionally diaphoretics. Indeed in all bowel complaints the surface of the body is to be attended to. In neuroses they have been employed. They should not be used in coma & palsy or apoplexy: in one instance lately the mania they have proved of more service, I have seen them employed in traumatic tetanus, but with no advantage. In diabetes they are extensively & advantageously employed. I have heard lately of a case of diabetes cured by opium. The theories on this disease have been very numerous but by no means satisfactory. Cullen considered it as untreatable & generally fatal. He had never seen a case cured, although he believes that patients have in a few instances recovered. In this country the patients however are very generally cured. Dry remedies very opposite to each other; Dr Rush recommended bleeding very strongly. Dr Physick has been very successful by attending to the state of the system. Within these few days, he has had a case of a gentleman of 60 yrs of age of a vigorous habit, who has been regular & temperate in his living. About one month ago was affected by a great discharge of urine. He paid no attention to it for some time, till he was losing flesh & was tormented with great thirst, he discharged at this

time 10 pints a day. & if he drank but 3 pints he would discharge 10 pints of urine. Dr Mynie first him upon an animal diet & gave him according to the recommendation of Ferriar the uva ursi & bark as per the following prescription. ℞ Decoct. cort. ℥i. Uva Ursi ℥i. & aq. grs. m. to be taken 4 times a day. Dr Ferriar recommends that ℥ij of lime water should be taken after every time, which was also given by Dr Physick. The patient very rapidly recovered & is now growing fat & discharges his urine as usual. I have evaporated some of the urine above mentioned & obtained a quantity of sugar from it. Diaphoretics are to be employed only when the skin is dry & there is sufficient strength which is not always the case. In Dropsy it has been much depended on, but it has been supposed that they are injurious because the skin & kidnies ~~being~~ acting in an inverse ratio would oppose each other. but as the object is merely to evacuate the water, it is no matter by what channel it is discharged. In those dropsies with fever of an intermitting or remitting type they prove useful not only by evacuating but by promoting a healthy action in the skin & diverting action from other parts. They have been employed in some cutaneous diseases with advantage especially those depending on suppressed perspiration. Diaphoretics are not now employed as formerly in all diseases. we use more powerful remedies. Fevers were anciently treated by diaphoretics only, which was very injurious. the perspiration rendering the person much more weak than the disease itself.

Particular Diaphoretics. The modes of action of these are different. I think it probable that some act by increasing the force of the circulation, others by an impression on the stomach & others may perhaps act more directly on the exhalants themselves: but there is no use in this division. ~~Heat~~ External heat is one of the most efficient. they are many ways by which this is simple applied. Exercise by exciting the heat of the body & by warm

clothing, & by means of hot applications. The popular method is to dip bricks almost red hot in vinegar & then surrounded them in old blankets, dipped in the same & place to the feet of the patient closely covered in bed - & profuse perspiration is induced by the fumes of the vinegar - Jennings bath is very similar. It is merely consuming to the body of the patient closely covered heated air & the vapour from burning alcohol - warm bricks, warm water in bottles are frequently used by themselves, & however prefer the vapour, as it in some measure relaxes the skin. The vapour bath has been employed but a great objection to it is that the patient must be moved from it to his bed while he is sweating which will prove very injurious. The substances which are used ~~to heat~~ to heat the patient, should be such as retain the heat for a considerable time as hot bricks - bags of sand, oat straw cut in small pieces chaff, salt ashes &c - boiled milk & water in bottles have been used according to the prejudices of the patient - These all act in the same manner, by stimulating the cutaneous surfaces. These means are facilitated by warm drinks, & when a slight stimulus is required by wine whey - Some employ the warm bath - This as a diaphoretic simply is often injurious & always improper - Sudorificum is very common & often very useful - Cold is occasionally employed as a diaphoretic, Dr Currie of Liverpool first insisted much on cold applied to the skin & stomach - Yet it is often very useful - Dr Baltimore has introduced the application of alkalin solutions to the body & speaks very highly of them, I have not had any experience in it which would induce me to recommend but my employment of it has been confined to a few cases.